

Industrial Connectors Han® – Technical Characteristics

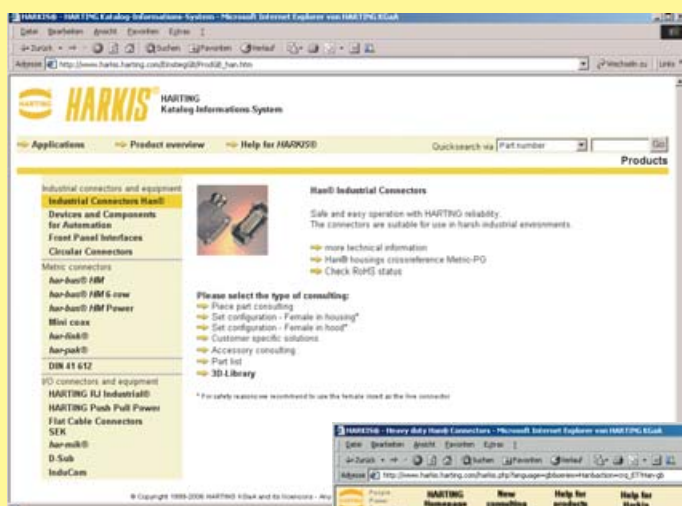
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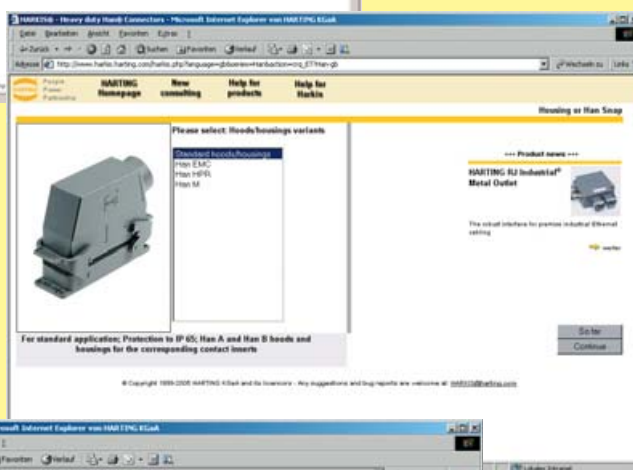
Han



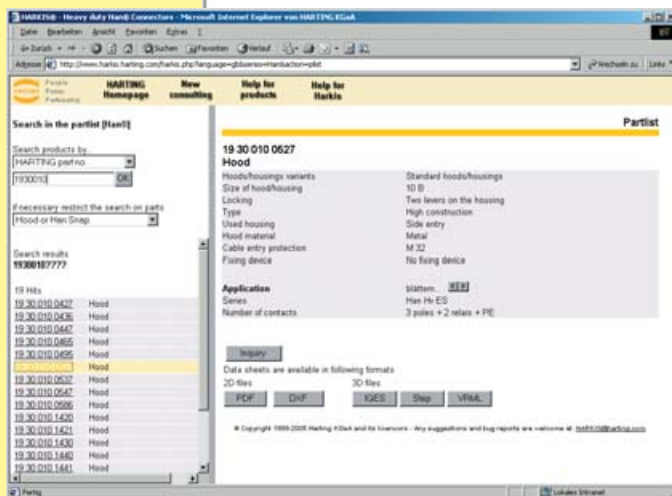
HARKIS® is the abbreviation for **HARTING-Katalog-Informationen-System** (HARTING catalogue information system).

HARKIS® is an electronic catalogue with part configuration and 3D components library. Here you can configure a connector part by part according to your demands. Afterwards you are able to send your inquiry created with the listed parts. The drawings to every single part are available in PDF-format. The parts are downloadable in 2D-format (DXF) and 3D-format (IGES, STEP). The 3D-models can be viewed with a VRML-viewer.

You can find **HARKIS®** on our homepage www.HARTING.com. It is also available on CD-Rom and DVD.



Part configuration



CAD library

Identification

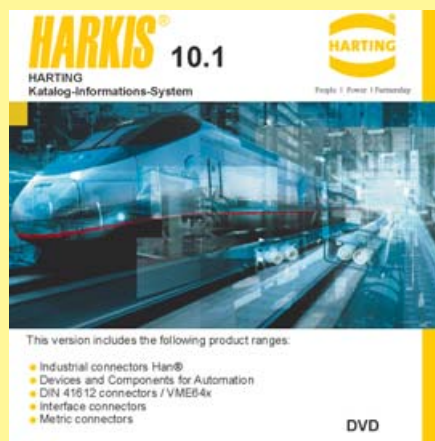
Part number

HARKIS® CD-Rom
Basic product catalogue

98 40 000 0401

HARKIS® DVD
Basic product catalogue
2D and 3D CAD files inclusive

98 40 000 0405



DVD

Size Description

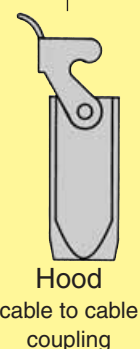
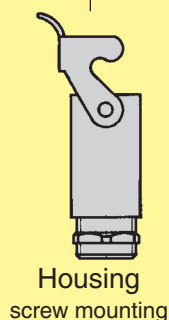
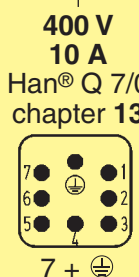
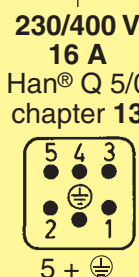
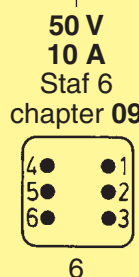
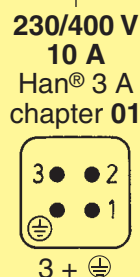
Han

A

3

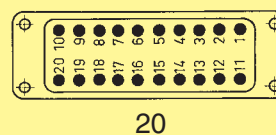
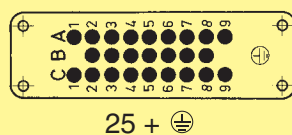
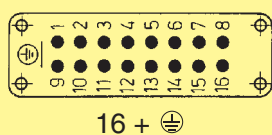
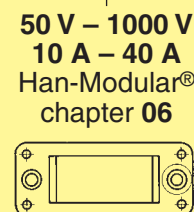
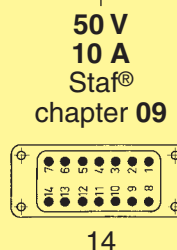
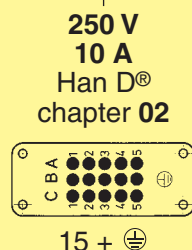
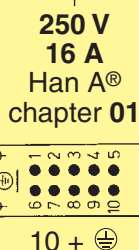
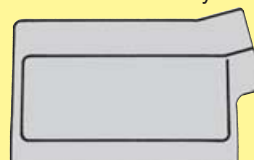
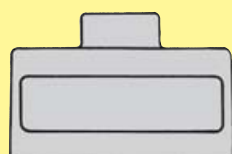
Hood side-entry

Hood top-entry



Hood top-entry

Hood side-entry

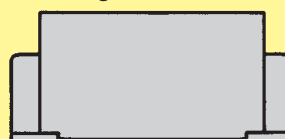
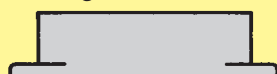


1 module

Housing bulkhead mounting

Housing surface mounting

Hood cable to cable coupling



suitable for 2 inserts of size 16 A

10

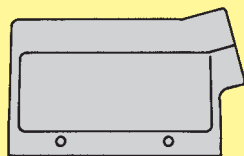
16

00
06

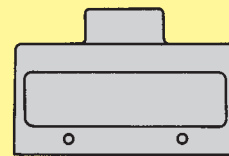
32

Size Description

B



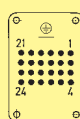
Hood side-entry



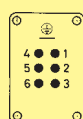
Hood top-entry

250 V 10 A Han D® chapter 02	250 V 10 A Han DD® chapter 02	500 V 16 A Han E® Han® ES chapter 03	500 V 16 A Han® EE chapter 03	400/690 V 35 A Han® HsB chapter 07	830 V 16 A Han Hv E® Han® Hv ES chapter 04	250 V – 690 V 10 A – 100 A Han-Com® chapter 05	50 V – 1000 V 5 A – 100 A Han-Modular® chapter 06
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6



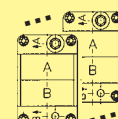
24 + $\oplus$



6 + $\oplus$

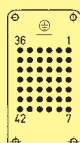


10 + $\oplus$

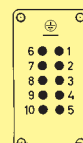


2 modules

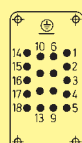
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42 + $\oplus$



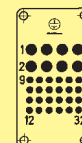
10 + $\oplus$



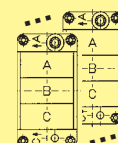
18 + $\oplus$



3 + $\oplus$

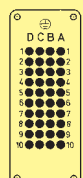


8/24 + $\oplus$

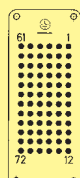


3 modules

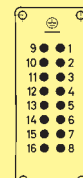
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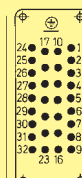
40 + $\oplus$



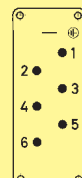
72 + $\oplus$



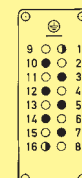
16 + $\oplus$



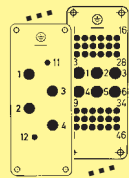
32 + $\oplus$



6 + $\oplus$



6 + $\oplus$

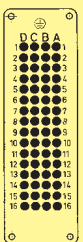


6/36 + $\oplus$
4/2 + $\oplus$

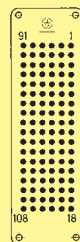


4 modules

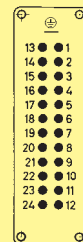
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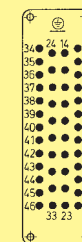
64 + $\oplus$



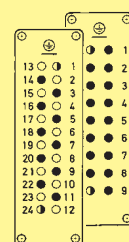
108 + $\oplus$



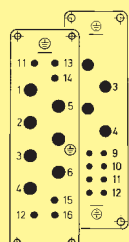
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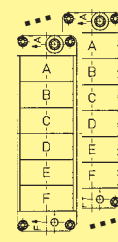
46 + $\oplus$



16 + $\oplus$
10 + $\oplus$

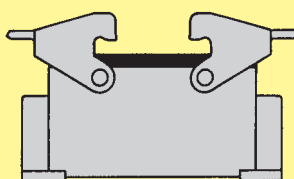


4/8 + $\oplus$
6/6 + $\oplus$



6 modules

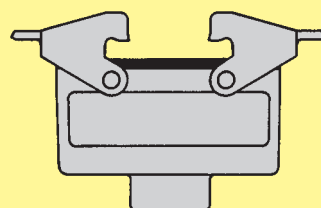
Housing surface mounting



Housing bulkhead mounting



Hood cable to cable coupling



**32
48**

suitable for 2 inserts of size 16 B
suitable for 2 inserts of size 24 B

00
07

For a complete connector components may be ordered from the following sub headings

Han

Cable entry protection

- Universal cable glands
- Special cable clamp with strain relief, bell mouthed cable fitting and anti-twist devices
- Cable gland with normal or multiple seal
- Extensive range of accessories

Hoods

- low or high construction
- top or side cable entry
- 1 or 2 locking levers

Male insert with

- screw terminal or
- crimp terminal (order contacts separately)
- or cage-clamp terminal

Female insert with

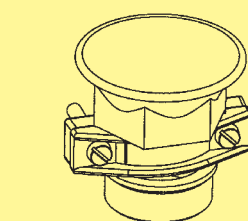
- screw terminal or
- crimp terminal (order contacts separately)
- or cage-clamp terminal

Housings

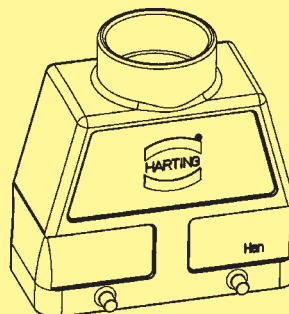
- Housing (bulkhead mounting) with or without thermoplastic or metal covers
- 1 or 2 locking levers
- Housing (surface mounting) low or high construction with or without thermoplastic or metal covers
- 1 or 2 locking levers
- 1 or 2 cable entries
- Hood (cable to cable) low or high construction for cable to cable connections

Accessories

- Protective covers available
- Code and guide pins for coding
- Special insert fixing screws for use without hoods and housings
- Label according to CSA-approval



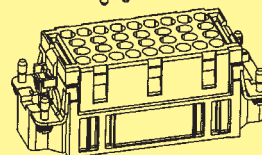
Cable clamp



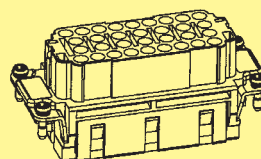
Hood



Male contacts



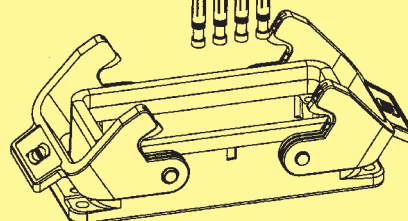
Male insert



Female insert



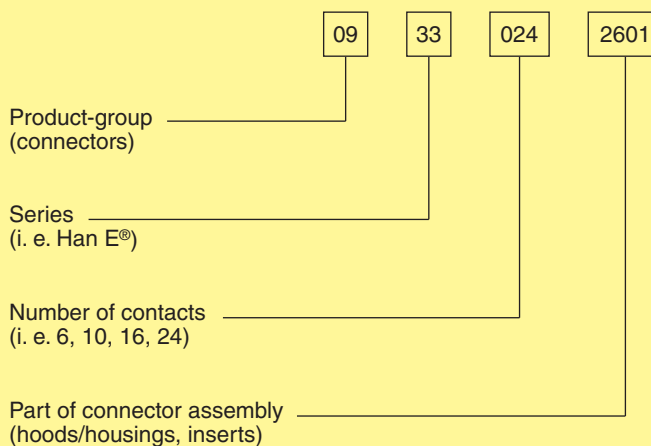
Female contacts



Housing

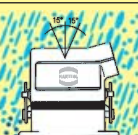
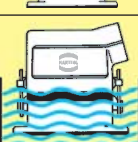
Part number explanation

Our computerized ordering system uses the following code:



The connector's housing, sealing and locking mechanism protect the connection from external influences such as mechanical shocks, foreign bodies, humidity, dust, water or other fluids such as cleansing and cooling agents, oils, etc. The degree of protection the housing offers is explained in the IEC 60 529, DIN EN 60 529, standards that categorize enclosures according to foreign body and water protection.

The following table shows the different degrees of protection.

Code letters (International Protection)			First Index Figure (Foreign bodies protection)		Second Index Figure (Water protection)		
IP			6		5		
Index figure	Degree of protection			Index figure	Degree of protection		
0	No protection		No protection against accidental contact, no protection against solid foreign bodies	0	No protection against water		No protection against water
1	Protection against large foreign bodies		Protection against contact with any large area by hand and against large solid foreign bodies with Ø > 50 mm	1	Drip-proof		Protection against vertical water drips
2	Protection against medium sized foreign bodies		Protection against contact with the fingers, protection against solid foreign bodies with Ø > 12 mm	2	Drip-proof		Protection against water drips (up to a 15° angle)
3	Protection against small solid foreign bodies		Protection against tools, wires or similar objects with Ø > 2.5 mm, protection against small foreign solid bodies with Ø > 2.5 mm	3	Spray-proof		Protection against diagonal water drips (up to a 60° angle)
4	Protection against grain-shaped foreign bodies		As 3 however Ø > 1 mm	4	Splash-proof		Protection against splashed water from all directions
5	Protection against injurious deposits of dust		Full protection against contact. Protection against interior injurious dust deposits	5	Hose-proof		Protection against water (out of a nozzle) from all directions
6	Protection against ingress of dust		Total protection against contact. Protection against penetration of dust	6	Strong hose-proof		Protection against strong water (out of a nozzle) from all directions
				7	Protected against immersion		Protected against temporary immersion
				8	Water-tight		Protected against water pressure

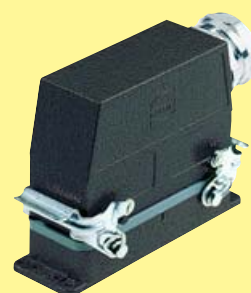
Standard Hoods/Housings

Field of application	for excellent mechanical and electrical protection in demanding environments, for example, in the automobile and mechanical engineering industries also for process and regulation control applications
Distinguishing feature	hoods/housings colour-coded grey (RAL 7037)
Material of hoods/housings	Die cast light alloy
Locking levers	Han-Easy Lock®
Cable entry protection	Optional special cable clamp for hoods with strain relief, bell mouthed cable fitting and anti-twist devices



Han® M Hoods/Housings for harsh environmental requirements

Field of application	for all applications where aggressive environmental conditions and extreme climatic atmospheres are encountered
Distinguishing feature	hoods/housings colour-coded black (RAL 9005)
Material of hoods/housings	Die cast light alloy, corrosion resistant
Locking levers	Corrosion resistant stainless steel
Cable entry protection	Special cable clamp for hoods with strain relief, bell mouthed cable fitting and anti-twist devices



Han® EMC Hoods/Housings with high shielding efficiency

Field of application	For sensitive interconnections that have to be shielded against electrical, magnetic or electro-magnetic interferences
Distinguishing feature	Electrically conductive surface, internal seal
Material of hoods/housings	Die cast light alloy
Locking levers	Han-Easy Lock®
Cable entry protection	EMC cable clamp in order to connect the cable shielding to the hood without interruption of the shielding



Han® HPR Hoods/Housings, pressure tight

Field of application	For external electrical interconnections in vehicles, in highly demanding environments and wet areas, as well as for sensitive interconnections that have to be shielded
Distinguishing feature	hoods/housings colour-coded black, internal seal (RAL 9005)
Locking parts	Stainless steel
Material of hoods/housings	Die cast light alloy, corrosion resistant
Cable entry protection	Optional universal cable clamp for hoods with strain relief, or special cable clamp with bell mouthed cable fitting and anti-twist devices (use of adapter is necessary)



Housing with 2 levers Han-Easy Lock®

- ☐ easy operation
- ☐ high degree of pressure tightness
- ☐ reliable locking guaranteed by 4 locking points
- ☐ space saving mounting
- ☐ ideal for mounting side by side
- ☐ cable to cable connection is possible
- ☐ high seal force

Details of Han-Easy Lock® see chapter 30 and chapter 31



Housing with 1 lever Han-Easy Lock®

- ☐ easily accessible, even with side entry
- ☐ possibility to lock protective covers on the housing
- ☐ cable to cable connection is possible
- ☐ 2 locking points on the longitudinal axis



1 lever in central position

- ☐ easily accessible, even with side entry
- ☐ 2 locking points on the lateral axis
- ☐ space saving mounting
- ☐ ideal for mounting side by side
- ☐ single hand operation



Screw locking / toggle locking

- ☐ hexagon nuts tightened with spanner
- ☐ highest degree of pressure tightness
- ☐ easily accessible, also with side entry
- ☐ use of tools avoids access by unauthorized persons



Hood with 2 levers Han-Easy Lock®

- ☐ easy operation
- ☐ high degree of pressure tightness
- ☐ ideal for mating to housings with protection cover
- ☐ high seal force

Details of Han-Easy Lock® see chapter 30 and chapter 31



Screw terminal

Screw terminals meet VDE 0609 / EN 60 999. Dimensions and tightening torques for testing are shown opposite.

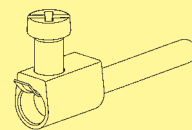
The relevant regulations state that in the case of

- Terminals with wire protection.
– the use of ferrules is not necessary
Series Han E®, Han® HsB, Han Hv E®, Han® K 6/12
- Terminals without wire protection.
The insulation is first stripped and then a wire ferrule must be used.
Series Han® K 4/x, Han A®, Staf®

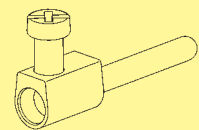
Screw dimensions and tightening torque for screw terminals

Wire gauge (mm ²)	1,5	2,5	4	6	10	16
Screw thread	M 3	M 3	M 3,5	M 4	M 4	M 6
Test moment of torque (Nm)	0,5	0,5	0,8	1,2	1,2	1,2*
min. pull-out for stranded wire (N)	40	50	60	80	90	100

* for screws without heads (Han® K 4/8)



with wire protection



without wire protection

Axial screw terminal

This termination associates the benefits of screw and crimp terminals.

- Less space required
- Easy handling
- No special tools

The axial screw termination is suitable for fine strands wires.

Remarks on the axial screw technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Background:

According to DIN VDE 0295 for cables and insulated wires the wire gauge will be determined by conductance (Ω/km) and maximum wire diameter. A minimum cable diameter is not specified! (Example: nominal wire gauge 95 mm² → real, geometric wire gauge 89 mm²)

Recommendation:

The use of cables with extreme geometric wire gauge deviation should be checked separately with the use of the axial screw termination.

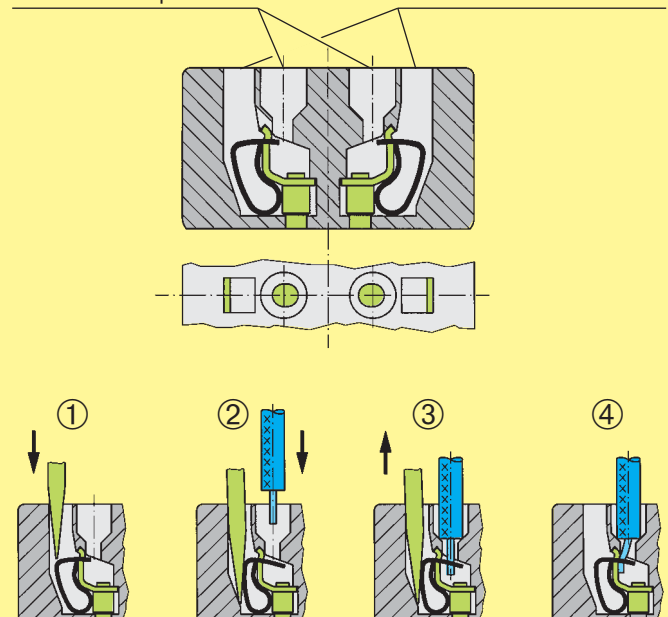
Cage-clamp terminal

This termination method requires very little preparation of the wire and no special tools, leading to a low installed cost and a high degree of mechanical security.

- For all stranded and solid wires with a cross section 0.14 to 2.5 mm².
- Ease of termination. Conductor and screwdriver are in same plane.
- No special preparation of stripped conductor.
- The larger the conductor the higher the clamping force.
- The termination is vibration-proof.
- Guaranteed constant low resistance connection of the cage-clamp terminal.
- The cage-clamp system is internationally approved. VDE, SEV, CSA, UL, ÖVE, SEMKO, LCIE (France), Germanischer Lloyd, DET Norske Veritas

One conductor per termination

Slot for screwdriver



Screwdriver width: 3.0 x 0.5 mm

Crimp connection

A perfect crimp connection is gastight, therefore corrosion free and amounts to a cold weld of the parts being connected. For this reason, major features in achieving high quality crimp connections are the design of the contact crimping parts and of course the crimping tool itself. Wires to be connected must be carefully matched with the correct size of crimp contacts. If these basic requirements are met, users will be assured of highly reliable connections with low contact resistance and high resistance to corrosive attack.

The economic and technical advantages are:

- Constant contact resistance as a result of precisely repeated crimp connection quality
- Corrosion free connections as a result of cold weld action
- Pre-preparation of cable forms with crimp contacts fitted
- Optimum cost cable connection

Requirements for crimp connectors are laid down in DIN IEC 60 352-2, Amend. 2, as illustrated in the table.

Pull out force of stranded wire

The main criterion by which to judge the quality of a crimp connection is the retention force achieved by the wire conductor in the terminal section of the contact. DIN IEC 60 352, part 2, defines the extraction force in relation to the cross-section of the conductor.

When fitted using HARTING crimping tools and subject to their utilization in an approved manner, our crimp connectors comply with the required extraction forces.

Crimping tools

Crimping tools (hand operated or automatic) are carefully designed to produce with high pressure forming parts a symmetrical connection of the crimping part of the contact and the wire being connected with the minimum increase in size at the connection point. The positioner automatically locates the crimp and wire at the correct point in the tool.

A ratchet in the tool performs 2 functions:

- ① It prevents insertion of the crimp into the tool for crimping before the jaws are fully open
- ② It prevents the tool being opened before the crimping action is completed

Identical, perfectly formed, connections can be produced using this crimping system.

Crimp-cross section



HARTING crimp profile



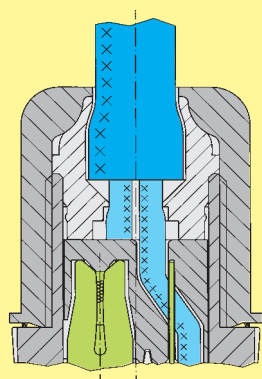
BUCHANAN crimp profile

Tensile strength of crimped connections

Conductor cross-section		Tensile strength
mm ²	AWG	N
0.05	30	6
0.08	28	11
0.12	26	15
0.14		18
0.22	24	28
0.25		32
0.32	22	40
0.5	20	60
0.75		85
0.82	18	90
1.0		108
1.3	16	135
1.5		150
2.1	14	200
2.5		230
3.3	12	275
4.0		310
5.3	10	355
6.0		360
8.4	8	370
10.0		380

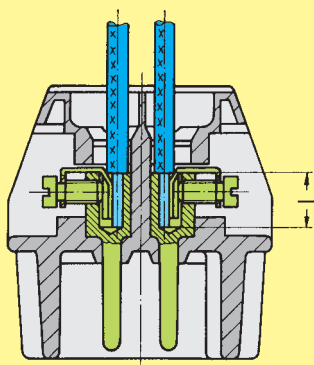
Extract from DIN IEC 60 352-2, Amend. 2, Table IV

IDC (Insulation displacement terminal)



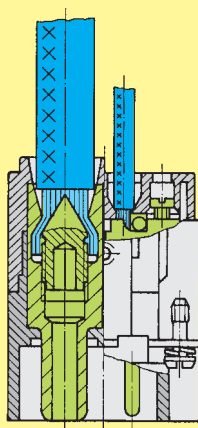
Inserts	wire gauge	
	(mm ²)	AWG
M8-S / M12-S	0.14 - 0.34	26 - 22
Circular connectors M8 / M12	0.25 - 0.5	24 (7/32) - 22
Circular connectors M12-L	0.34 - 0.75	22 - 18
M12-L Ethernet / Profibus	0.25 - 0.34	24 - 22
Panel feed through Pg 13.5 / M20	0.75 - 1.5	18 - 16
Panel feed through Pg 9	0.25 - 0.5	24 (7/32) - 22

Screw terminal



Inserts	max. wire gauge		Stripping length l (mm)
	(mm ²)	AWG	
Han® 3 A, Han® 4 A	2.5	14	4.5
Han E®, Han® K, Han A®, Han Hv E®	2.5	14	7
Han® HsB	6.0	10	11.5
Staf®	1.5	16	4
Han® K 4/. (80 A)	16	5	14

Axial screw terminal



Inserts	geometrical wire gauge		Stripping length l (mm)
	(mm ²)	AWG	
Han® K 6/12 (40 A)	2.5 - 10	13 - 7	5 ... 9
Han® K 6/6 (100 A)	16 - 35	5 - 2	13 ... 14

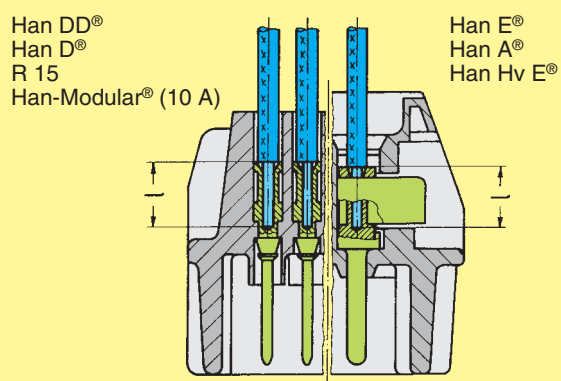
Recommended tightening torque and size of screw driver

Size of screw	Connector type	Tightening torque* [Nm]	Tightening torque [lbft]	Recommended size of screw driver
M 3	Screw terminal Han® 3 A / 4 A / Q 5/0	0.25	0.20	0.4 x 2.5
M 3	Screw terminal Han® 10 A – 32 A	0.50	0.40	0.5 x 3.5 or ± size 1
M 3	Screw terminal Han E®, Hv E® fixing screws of all kinds, guiding pins and bushes	0.50	0.40	0.5 x 3.5 or ± size 1 + 2
M 4	Ground terminal Han A®, Han E®, Han D®, DD®, Ground terminal K (8/24)	1.20	0.90	0.5 x 3.5 or ± size 1 + 2
M 4	Screw terminal Han® HsB	1.20	0.90	0.8 x 4.5
M 5	Ground terminal Han® HsB HsC (K 12/2), K 4/., K 6/12	2.00	1.40	0.8 x 4.5 1.2 x 8
M 6	Screw terminal Han® K 4/. (80 A)	see chapter 05		0.8 x 4.5
–	Axial screw terminal Han® K 6/12 (40 A)			Hexagon recess 2 mm
M 8	Axial screw terminal Han® K 6/6 (100 A)			Hexagon recess 4 mm

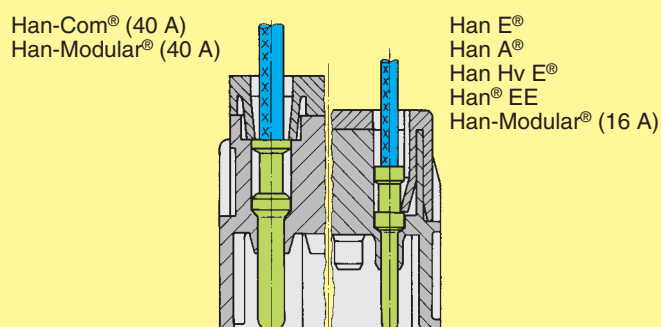
Increasing the tightening torque does not improve considerably the contact resistances. The torque moments were determined when optimum mechanical, thermal and electrical circumstances were given. If the recommended figures are considerably exceeded the wire or the termination can be damaged.

* in accordance with DIN EN 60 999

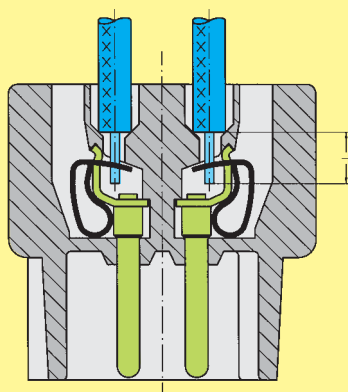
Crimp terminal



Wire gauge (mm ²)	AWG	Internal diameter Ø (mm)	Stripping length l (mm)		
			Han DD® Han D® R 15 Han-Modular® (10 A)	Han E® Han A® Han Hv E®	Han® C
0.14 ... 0.37	26 - 22	0.9	8	—	—
0.5	20	1.15	8	7.5	—
0.75	18	1.3	8	7.5	—
1	18	1.45	8	7.5	—
1.5	16	1.75	8	7.5	9
2.5	14	2.25	6	7.5	9
4	12	2.85	—	7.5	9.6
6	10	3.5	—	—	9.6



Cage-clamp terminal



Inserts	max. wire gauge		Stripping length l (mm)
	(mm ²)	AWG	
Han® ES, Han® Hv ES	0.14 - 2.5	26 - 14	7 ... 9
Han® ESS	0.14 - 2.5	26 - 14	9 ... 11

General

The choice of connectors entails more than just considering factors such as functionality, the number of contacts, current and voltage ratings. It is equally important to take account of where the connectors are to be used and the prevailing ambient conditions. This in turn means that, dependent on the conditions under which they are to be installed and pursuant to the relevant standards, different voltage and current ratings may apply for the same connectors.

The most important influencing factors and the corresponding electrical characteristics of the associated connectors are illustrated here in greater detail.

Overvoltage category

The overvoltage category is dependent on the mains voltage and the location at which the equipment is installed. It describes the maximum overvoltage resistance of a device in the event of a power supply system fault, e. g. in the event of a lightning strike.

The overvoltage category affects the dimensioning of components in that it determines the clearance air gap. Pursuant to the relevant standards, there are 4 overvoltage categories.

Equipment for industrial use, such as fall HARTING heavy duty Han connector, fall into Overvoltage Category III.

Extract from DIN VDE 0110-1 and IEC 60664-1, Para. 2.2.2.1.1

*Equipment of **overvoltage category I** is equipment for connection to circuits in which measures are taken to limit transient overvoltages to an appropriately low level.*

***Note:** Examples are protected electronic circuits.*

*Equipment of **overvoltage category II** is energy-consuming equipment to be supplied from the fixed installation.*

***Note:** Examples of such equipment are appliances, portable tools and other household equipment with similar loads.*

If such equipment is subjected to special requirements with regard to reliability and availability, overvoltage category III applies.

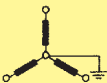
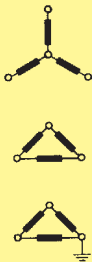
*Equipment of **overvoltage category III** is equipment in fixed installations and for cases where the reliability and the availability of the equipment is subject to special requirements.*

***Note:** Examples of such equipment are switches in the fixed installation and equipment for industrial use with permanent connection to the fixed installation.*

*Equipment of **overvoltage category IV** is for use at the origin of the installation.*

***Note:** Examples of such equipment are electricity meters and primary overcurrent protection equipment.*

Rated impulse voltages (Table 5 of DIN EN 61984)

Nominal voltage of the supply system (= rated insulation voltage of equipment)					Preferred values for the rated impulse voltage kV (1.2/50 µs)			
					Overvoltage category			
Voltage line to earth derived from the nominal voltage of the supply system to the a. c. voltage (r. m. s. value) or d. c. voltage	AC voltage (r. m. s. value)	AC voltage (r. m. s. value)	AC voltage (r. m. s. value, d. c. voltage)	AC voltage (r. m. s. value, d. c. voltage)	I Special protected levels	II Level for electrical equipment (household and others)	III Level for distribution supply systems	IV Input level
								
V	V	V	V	V				
100	66/115	66	60	—	0.5	0.8	1.5	2.5
150	120/208; 127/220	115; 120; 127	110; 120	220-110; 240-120	0.8	1.5	2.5	4
300	220/380; 230/400; 240/415; 260/440; 277/480	220; 230; 240; 260; 277	220	440-220	1.5	2.5	4	6
600	347/600; 380/660; 400/690; 415/720; 480/830	347; 380; 400; 415; 440; 480; 500; 577; 600	480	960-480	2.5	4	6	8
1000		660; 690; 720; 830; 1000	1000	—	4	6	8	12

Pollution degree

The dimensioning of operating equipment is dependent on environmental conditions. Any pollution or contamination may give rise to conductivity that, in combination with moisture, may affect the insulating properties of the surface on which it is deposited. The pollution degree influences the design of components in terms of the creepage distance.

The pollution degree is defined for exposed, unprotected insulation on the basis of environmental conditions.

HARTING heavy duty Han connectors are designed as standard for Pollution Degree 3.

Pollution degree 1

in air-conditioned or clean, dry rooms, such as computer and measuring instrument rooms, for example.

Pollution degree 2

in residential, sales and other business premises, precision engineering workshops, laboratories, testing bays, rooms used for medical purposes. As a result of occasional moisture condensation, it is to be anticipated that pollution/contamination may be temporarily conductive.

Pollution degree 3

in industrial, commercial and agricultural premises, unheated storage premises, workshops or boiler rooms, also for the electrical components of assembly or mounting equipment and machine tools.

Pollution degree 4

in outdoor or exterior areas such as equipment mounted on the roofs of locomotives or tramcars.

Extract from DIN VDE 0110-1 and IEC 60664-1, Para. 2.5.1

Pollution degree 1: No pollution or only dry, non-conductive pollution occurs. The pollution has no influence.

Pollution degree 2: Only non-conductive pollution occurs except that occasionally a temporary conductivity caused by condensation is to be excepted.

Pollution degree 3: Conductive pollution occurs or dry non-conductive pollution occurs which becomes conductive due to condensation which is to be excepted.

Pollution degree 4: The pollution generates persistent conductivity caused by conductive dust or by rain or snow.

Special ruling for connectors

Subject to compliance with certain preconditions, the standard for connectors permits a lower pollution degree than that which applies to the installation as a whole. This means that in a pollution degree 3 environment, connectors may be used which are electrically rated for pollution degree 2. The basis for this is contained in DIN EN 61 984, Para. 6.19.2.2.

Extract from DIN EN 61 984, Para. 6.19.2.2

For a connector with a degree of protection IP 54 or higher according to IEC 60 529 the insulating parts inside the enclosure may be dimensioned for a lower pollution degree.

This also applies to mated connectors where enclosure is ensured by the connector housing and which may only be disengaged for test and maintenance purposes.

The conditions fulfills,

- a connector which is protected to at least IP 54 as per IEC 60 529,
- a connector which is installed in a housing and which as described in the standard is disconnected for testing and maintenance purposes only,
- a connector which is installed in a housing and which when disconnected is protected by a cap or cover to at least IP 54,
- a connector located inside a switching cabinet to at least IP 54.

These conditions do not extend to connectors which when disconnected remain exposed to the industrial atmosphere for an indefinite period.

It should be noted that pollution can affect a connector from the inside of an installation outwards.

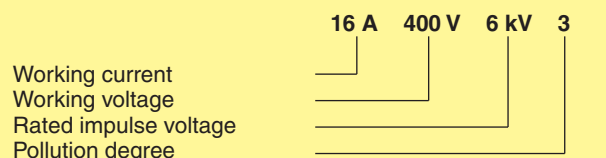
Typical applications in which to choose pollution degree 2 connectors:

- A connector serving a drive motor which is disconnected only for the purpose of replacing a defective motor, even when the plant or system otherwise calls for pollution degree 3.
- Connectors serving a machine of modular design which are disconnected for transport purposes only and enable rapid erection and reliable commissioning. In transit, protective covers or adequate packing must be provided to ensure that the connectors are not affected by pollution/contamination.
- Connectors located inside a switching cabinet to IP 54. In such cases, it is even possible to dispense with the IP 54 housings of the connectors themselves.

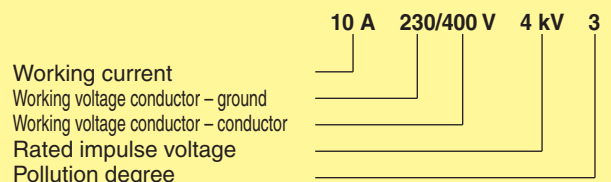
Specifying electrical data

Electrical data for connectors are specified as per DIN EN 61 984.

This example identifies a connector suitable for use in an un-earthed power system or earthed delta circuit (see page 00.16, Table 5 of DIN EN 61 984):



This example identifies a connector suitable exclusively for use in earthed power systems (see page 00.16, Table 5 of DIN EN 61 984):



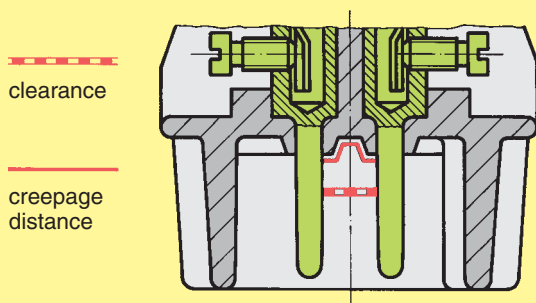
Other terms explained

Clearance air gap

The shortest distance through the air between two conductive elements (see DIN VDE 0110-1, Para. 1.3.3). The air gaps are determined by the surge voltage withstand level.

Creepage distance

Shortest distance on the surface of an insulating material between two conductive elements (see DIN VDE 0110-1, Para. 1.3.3). The creepage distances are dependent on the rated voltage, the pollution degree and the characteristics of the insulating material.

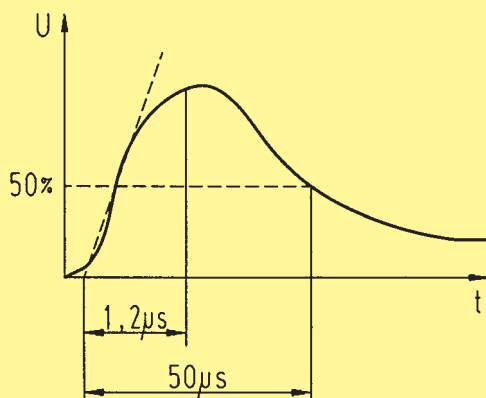


Working voltage

Fixed voltage value on which operating and performance data are based. More than one value for rated voltage or rated voltage range may be specified for the same connector.

Rated impulse voltage

The rated impulse voltage is determined on the basis of the overvoltage category and the nominal power supply voltage. This level in turn directly determines the test voltage for testing the overvoltage resistance of the connector (*Waveform voltage in 1.2/50 μ s as per IEC 60060-1*).



Working current

Fixed current, preferably at an ambient temperature of 40 °C, which the connector can carry on a permanent basis (without interruption), passing simultaneously through all contacts which are in turn connected to the largest possible conductors, without exceeding the upper temperature limit.

The dependence of the rated current on ambient temperature is illustrated in the respective derating diagrams.

Transient overvoltages

Short-term overvoltage lasting a few milliseconds or less, oscillatory or non-oscillatory, generally heavily damped (see DIN VDE 0110-1, Para. 1.3.7.2). An overvoltage may occur as a result of switching activities, a defect or lightning surge, or may be intentionally created as a necessary function of the equipment or component.

Power-frequency withstand voltage

A power-frequency overvoltage (50/60 Hz).

Applied for a duration of one minute when testing dielectric strength.

For test voltages in association with surge voltage withstand levels, see extract from Table 8, DIN EN 61 984.

Test voltages (Extract from Table 8, DIN EN 61 984)

Impulse withstand voltage kV (1.2/50 μ s)	RMS withstand voltage kV (50/60 Hz)
0.5	0.37
0.8	0.50
1.5	0.84
2.5	1.39
4	2.21
6	3.31
8	4.26
12	6.6

CTI (Comparative Tracking Index)

This figure gives an indication of the conductivity of insulating materials and affects the specified creepage distances. The influence of the CTI value on the creepage distance is as follows: the higher the index value, the shorter the creepage distance. The CTI is used to divide plastics into insulation groups.

Breakdown of insulation groups:

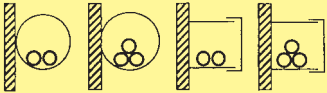
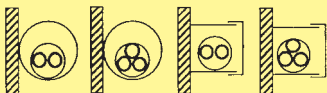
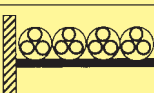
- I 600 $\leq$ CTI
- II 400 $\leq$ CTI < 600
- IIIa 175 $\leq$ CTI < 400
- IIIb 100 $\leq$ CTI < 175

Protection levels as per IEC 60 529

The protection level describes the leak-proof character of housing, e. g. for electrical equipment. It ranges from IP 00 to IP 68. HARTING heavy duty Han connectors feature a standard protection level of IP 65 (see page 00.09, Table based on DIN VDE 0470, DIN EN 60 529, IEC 60 529).

Derating diagram as per DIN IEC 60512

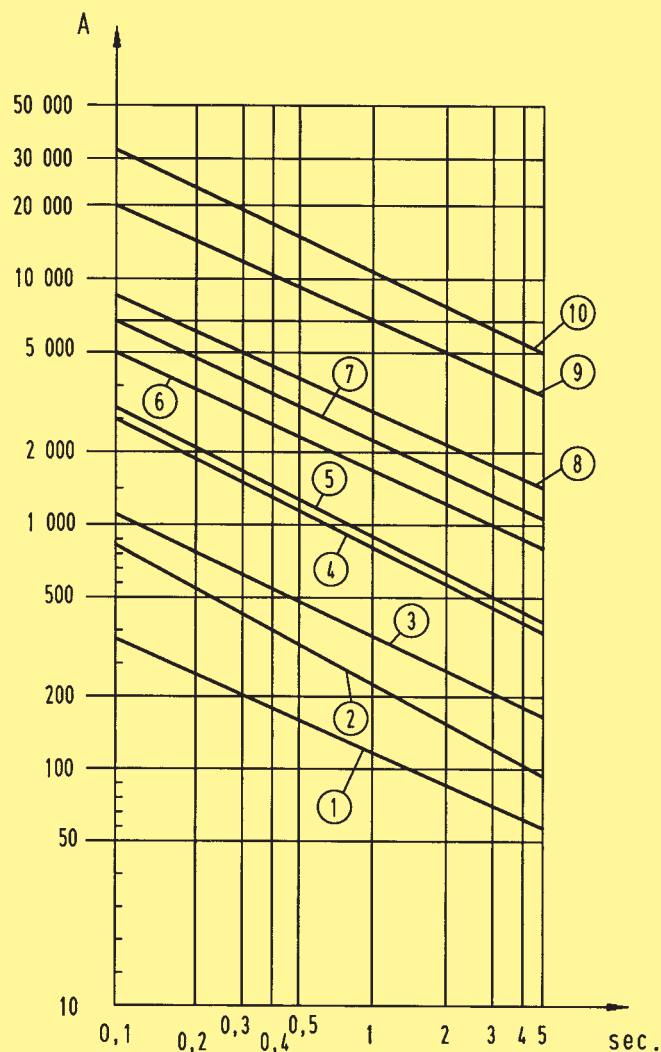
These diagrams are used to illustrate the maximum current carrying capacity of components. The illustration follows a curve which shows the current in relation to ambient temperature. Current carrying capacity is limited by the thermal characteristics of contacts and insulating elements which have an upper temperature limit which should not be exceeded.

Diameter [mm²] of single wires in a three-phase system		0.75	1	1.5	2.5	4	6	10	16	25	35
Type of installation											
	B1 Wires in protective tubes and installation conduits	7.6	10.4	13.5	18.3	25	32	44	60	77	97
	B2 Cables and wires in protective tubes and installation conduits	–	9.6	12	16.5	23	29	40	53	67	83
	C Cables and wires at walls	–	11.7	15.2	21	28	36	50	66	84	104
	D Cables and wires on a bed	–	11.5	16.1	22	30	37	52	70	88	114

Depiction in accordance with DIN EN 60 204 for PVC-insulated copper wires in an ambient temperature of + 40 °C under permanent operating conditions.
For different conditions and temperatures, installations, insulation materials or conductors the relevant corrections have to be carried out.

Transient current carrying capacity

A transient current in circuits can be generated by switching operations such as the starting of a motor or a short circuit in a faulty installation. This can cause thermal stress at the contact. These short and very high increases cannot be dissipated quickly and therefore a local heating effect at the contact is the result. Contact design is an important feature when transient currents are encountered. HARTING contacts are machined from solid material and are therefore relatively unaffected by short overloads when compared to stamped and formed designs. For guidance please see the table below.



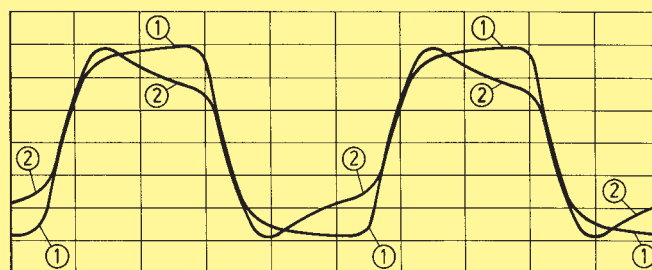
- | | |
|---------------------------------------|-----------------------|
| ① Han D® | $I_N = 10 \text{ A}$ |
| ② Han® 3 A / 4 A | $I_N = 10 \text{ A}$ |
| ③ Han A® / Han E®, Han® ES, EE, Q 5/0 | $I_N = 16 \text{ A}$ |
| ④ Han® 6 HsB | $I_N = 35 \text{ A}$ |
| ⑤ Han® C/K axial | $I_N = 40 \text{ A}$ |
| ⑥ Han® K 4/8 | $I_N = 80 \text{ A}$ |
| ⑦ Han® K 6/6 | $I_N = 100 \text{ A}$ |
| ⑧ Han® K 3/0 | $I_N = 200 \text{ A}$ |
| ⑨ Han® HC-Modular 350 | $I_N = 350 \text{ A}$ |
| ⑩ Han® HC-Modular 650 | $I_N = 650 \text{ A}$ |

Short circuit carrying capacity

Low currents and voltages

HARTING's standard contacts have a silver plated surface. This precious metal has excellent conductive properties. In the course of a contact's lifetime, the silver surface generates a black oxide layer due to its affinity to sulphur. This layer is smooth and very thin and is partly interrupted when the contacts are mated and unmated, thus guaranteeing very low contact resistances. In the case of very low currents or voltages small changes to the transmitted signal may be encountered. This is illustrated below where an artificially aged contact representing a twenty year life is compared with a new contact.

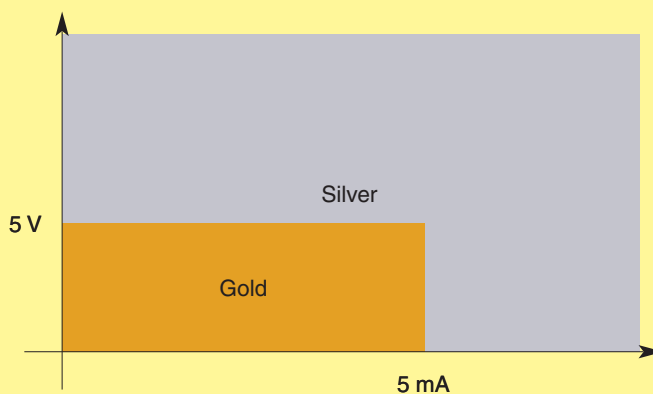
In systems where such a change to the transmitted signal could lead to faulty functions and also in extremely aggressive environments, HARTING recommend the use of gold plated contacts.



Changes to the transmitted signal after artificial ageing

- ① new contact
- ② after ageing

Below is a table derived from actual experiences.



Recommendation

The reason for the new product offerings is the publication of the international DIN EN 50262 metric thread specification. The existing PG series, PG 7 to PG 48 will be, in time, replaced by the metric series M 12 to M 63.

The adoption of metric threads considerably simplifies the understanding and specification of glands as the product type description contains the thread dimension. E.g. M 20 refers to 20 mm thread diameter.

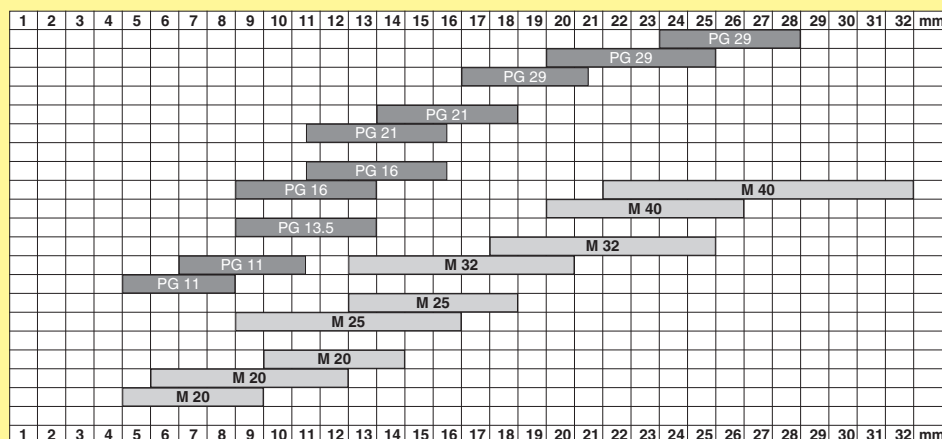
To differentiate the metric threaded hoods and housings from the previous PG versions metric types will be marked with **(M)**.

The Cross Reference table shows the correlation between the PG versions and the new metric types.

Please notice that the maximum cable diameter will be reduced by the new metric cable glands.

Cross Reference	
Pg	Metric
Pg 11	
Pg 13.5	M 20
Pg 16	M 25
Pg 21	M 32
Pg 29	M 40
Pg 36	M 50
Pg 42	

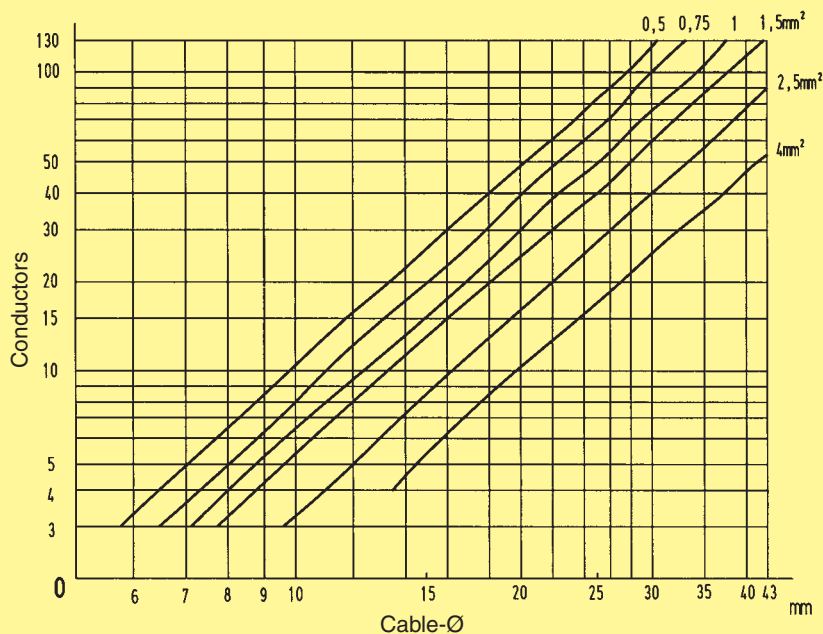
Below is shown the cable range of metric glands:



Cable

The diagram shows different cable-diameters, being dependent on wire gauges and number of conductors.

All data are averages for commercial cables.



This Declaration of Conformity is suitable to the European Standard EN 45 014, „General criteria for suppliers declaration of conformity“. The basis for the criteria has been found in international documentation, particularly in ISO/IEC Guide 22, 1996, „Information on manufacturers declaration of conformity with standards or other technical specifications“.

We

HARTING KGaA
Marienwerderstr. 3
32339 Espelkamp

HARTING Electric
GmbH & Co. KG
Wilhelm-Harting-Str. 1
32339 Espelkamp

declare under our own responsibility that the product series of

Heavy Duty Han[®] Connectors

is in conformity with the following standard(s) or other normative documents:

Connectors -
safety requirements and tests
IEC 61 984

This declaration of conformity refers to the Han[®]-series

Han A[®]	Han E[®]	Han[®] M
Han-Brid[®]	Han E[®] AV	Han-Modular[®]
Han-Com[®]	Han[®] EE	Han[®] Q
Han D[®]	Han[®] ES	
Han D[®] AV	Han[®] ESS	
Han DD[®]	Han[®] HsB	



Our testing laboratory is accredited and monitored by the German Accreditation Body Technology/ (DATech).
 Reg.-Nr. DAT-P-041/94

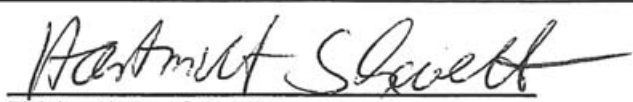


Our quality system is certified and monitored by DQS in conformity with the standard DIN EN ISO 9001.
 Cert.-Nr. 2204-02

Espekamp, 2006-02-20
 Place and Date of publication


 Dr. Georg Staperfeld
 Director of Corporate Technology-Services, HARTING KGaA

Espekamp, 2006-02-20
 Place and Date of publication


 Dipl.-Ing. Hartmut Schwettmann
 Director of Marketing and Engineering, HARTING Electric GmbH & Co. KG

Han A®

Page

Technical characteristics Han A®	01.10
Technical characteristics Han® 3 A with <i>HARAX</i> ® Termination	01.11
Han® 3 A, 3 A with <i>HARAX</i> ® Termination / Han® 4 A	01.12
Han® 10 A	01.15
Han® 16 A	01.17
Han® 32 A	01.19

Han® 3 A housing with fixed cover



Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals



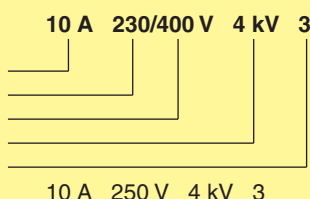
Inserts

Number of contacts 3, 4, 10, 16, 32 (2 x 16) + PE

Electrical data acc. to DIN EN 61 984

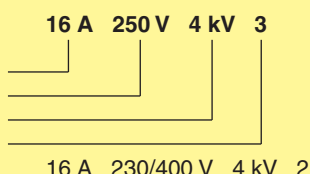
Han® 3 A, 4 A

Working current
Working voltage conductor – ground
Working voltage conductor – conductor
Rated impulse voltage
Pollution degree
or



Han® 10 A, 16 A

Working current
Working voltage
Rated impulse voltage
Pollution degree
– Pollution degree 2 also



Working voltage
acc. to UL/CSA

600 V

Insulation resistance

$\geq 10^{10} \Omega$

Material

Polycarbonate

Limiting temperatures

- 40 °C / +125 °C

Flammability acc. to UL 94

V 0

Mechanical working life

– mating cycles

≥ 500

Contacts

Material
Surface – hard-silver plated
– hard-gold plated

copper alloy
3 μm Ag
2 μm Au over 3 μm Ni

Contact resistance

$\leq 1 \text{ m}\Omega$

Crimp terminal – mm²
– AWG

0.5 – 4.0 mm²
20 – 12

Screw terminal

– mm²

1.0 – 2.5 mm²

– AWG

18 – 14

– Tightening/test torque

0.5 Nm Han 10/16 A
0.25 Nm Han 3/ 4 A

Hoods/Housings thermoplastic Han® 3 A / 4 A

Material Polycarbonate RAL 7032
Locking element Polyamide RAL 7032
Flammability acc. to UL 94 V 0
Hoods/Housings seal NBR
Limiting temperatures - 40 °C / +125 °C

Degree of protection acc. to DIN
EN 60 529 for coupled connector

IP 65 / 67

Hoods/Housings metal

Material Han® 3 A / 4 A die cast zinc
Material Han® 10 A / 16 A die cast aluminium
Locking element Han® 3 A / 4 A steel, zinc plated
Locking element Han® 10 A / 16 A Han-Easy Lock®
Hoods/Housings seal NBR
Limiting temperatures - 40 °C / +125 °C

Degree of protection acc. to DIN
EN 60 529 for coupled connector

Han® 3 A / 4 A

IP 44
IP 65 / 67 with sealing screw
09 20 000 9918

Han® 10 A / 16 A

IP 65

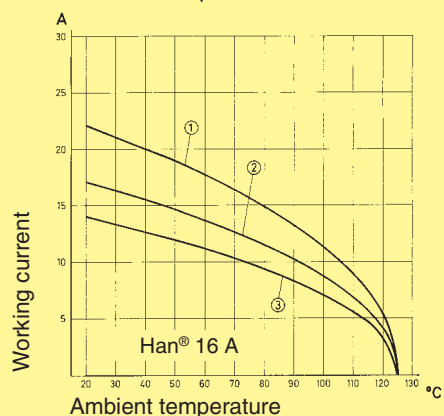
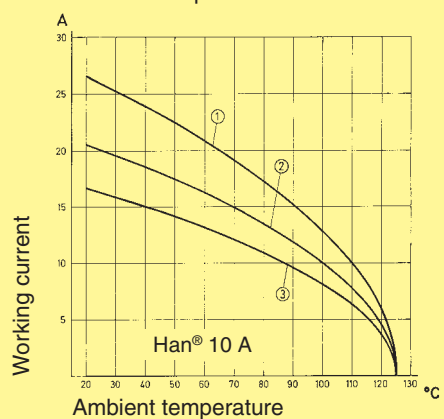
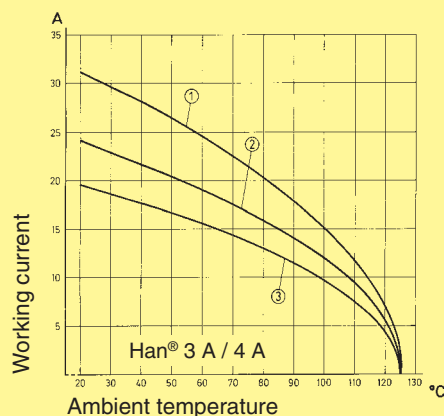
further selection
of hoods/housings

chapter 30 / chapter 31

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



① Wire gauge: 2.5 mm²

② Wire gauge: 1.5 mm²

③ Wire gauge: 1.0 mm²

Accessories

Crimping tools
Cable clamps
sealing screw
Coding of Hoods/Housings
Label acc. to CSA-approval
Test connectors

chapter 99
chapter 40
chapter 40
chapter 40
chapter 40
chapter 40

Features

- Advantages of *HARAX*® completely integrated into Han® connector
- Time saving rapid termination technology
- Reconnection up to 10 times
- Safety locking system
- Male and female version available
- No special tools required for assembly
- Hoods/housings and inserts thermoplastic see page 01.10
- Hoods/housings thermoplastic RAL 9005

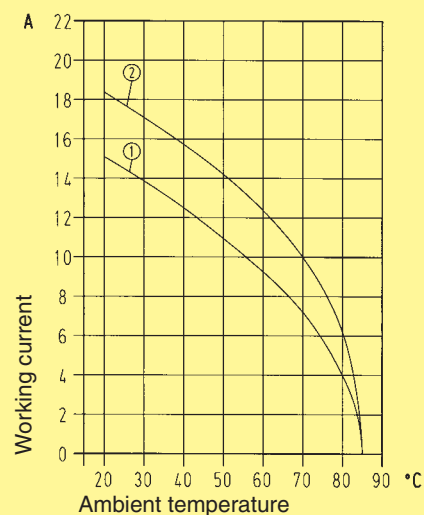
Technical characteristics

Specifications	DIN EN 61 984 DIN EN 60 352-4 DIN VDE 0110
Approval	
Conductor cross section	0.75 - 1.5 mm ²
Cable outside diameter	6.0 - 9.0 mm
Wire diameter	≤ 2.8 mm
Wire of ind. strands	≥ 0.2 mm
Insulation material	PVC
Protection degree	IP 65 / 67
Rated current	10 A
Rated voltage	230 / 400 V
Tightening torque of screw cap	8.0 Nm
Limiting temperatures	- 40 °C / 85 °C

Current carrying capacity

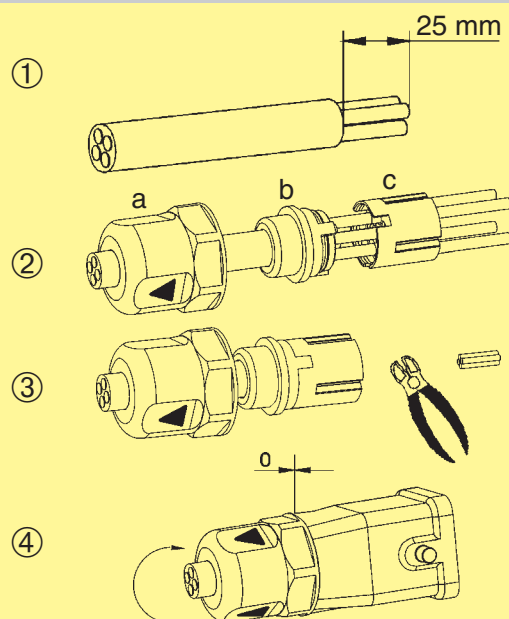
The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



- ① power supply cable: 4 x 0.75 mm²
 ② power supply cable: 4 x 1.5 mm²

Assembly instructions



1. Strip off cable mantle

2. Assemble *HARAX*® elements

3. Cut off cable ends

4. The nut must be screwed completely down until the notches engage on the contact carrier nut latch

a = Screw cap

b = Sealing

c = Splice ring

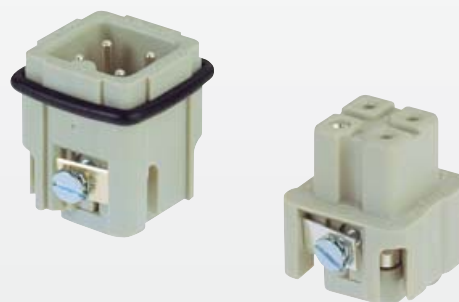
Included in delivery:
Screw cap, splice ring, sealing

Number of contacts

3 +

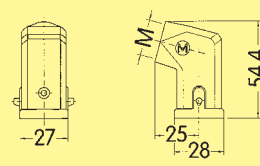
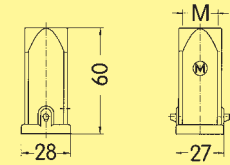
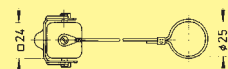
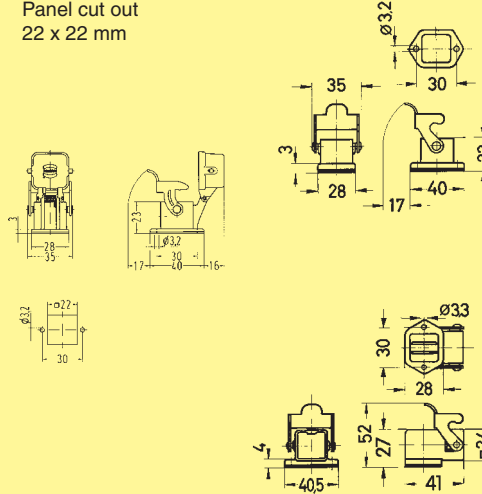
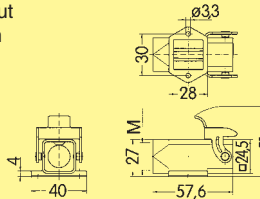
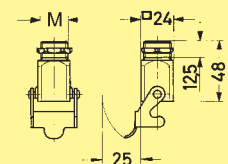
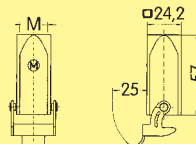
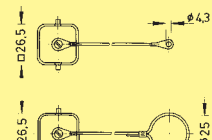
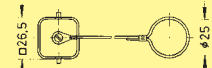
4 +

Inserts

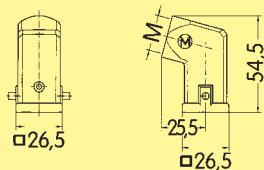
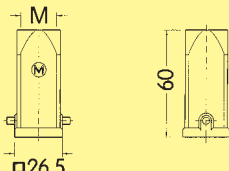
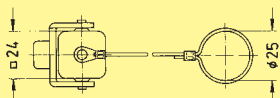
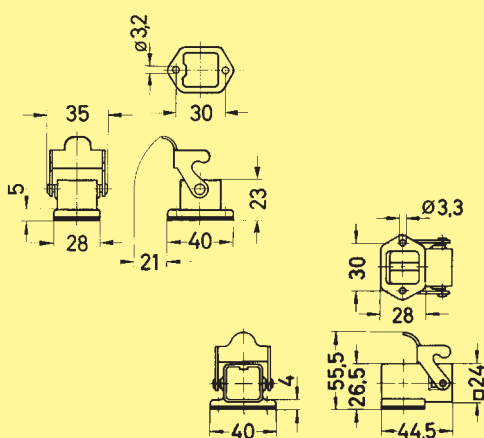
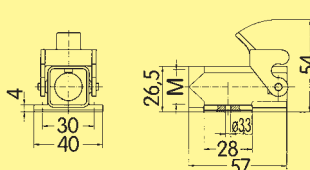
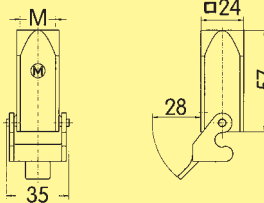
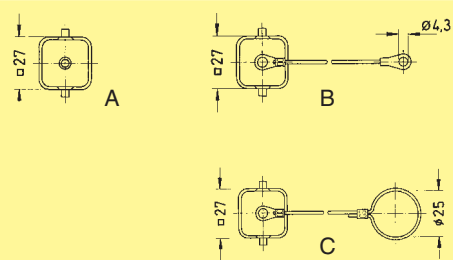


Identification	Series	Part No.		Drawing	Dimensions in mm
Screw terminal	Han® 3 A	Male insert (M)	Female insert (F)		Contact arrangement View from termination side
		09 20 003 2611	09 20 003 2711		
with HARAX® Termination	Han® 3 A	Male insert (M)	Female insert (F)		Contact arrangement View from termination side
		09 20 003 0440	09 20 003 0445		
Hood cable to cable with HARAX® Termination	Han® 3 A	Male insert (M)	Female insert (F)		Contact arrangement View from termination side
Screw terminal	Han® 4 A	Male insert (M)	Female insert (F)		Contact arrangement View from termination side
		09 20 004 2611	09 20 004 2711		

Stock items in bold type

Identification			Part No.	M	Drawing	Dimensions in mm
Hoods	Hood side-entry		19 20 003 1640	20		
	Hood top-entry		19 20 003 1440	20		
	Protection covers for hoods		09 20 003 5422 ¹⁾ 09 20 003 5421 ²⁾			
Housings	Housings bulkhead mounting		09 20 003 0301		Panel cut out 22 x 22 mm 	
	with fixed cover		09 20 003 0305 ¹⁾ 09 20 003 0306 ²⁾			
	without sealing		09 20 003 0801			
	Housing surface mounting		19 20 003 1250	20	Panel cut out 22 x 22 mm 	
	1 side-entry		19 20 003 1252	20		
	bottom closed					
	Housing screw mounting		19 20 003 1150	20		
	Hood cable to cable		19 20 003 1750	20		
Protection covers for housings			09 20 003 5426 ¹⁾ 09 20 003 5425 ²⁾			
for hoods cable to cable			09 20 003 5428 ¹⁾ 09 20 003 5427 ²⁾			

¹⁾ for mounted male insert ²⁾ for mounted female insert

Identification		Part No.	M	Drawing	Dimensions in mm
Hoods	Hoods side-entry	 grey 19 20 003 0620 black 19 20 003 0627	20 20	 □26,5 54,5 25,5 □26,5	
	Hoods top-entry	 grey 19 20 003 0420 black 19 20 003 0427	20 20	 M 60 □26,5	
	Protection covers for hoods	09 20 003 5442 ¹⁾ 09 20 003 5441 ²⁾		 □24 □25	
Housings	Housings bulkhead mounting	 grey 09 20 003 0320 black 09 20 003 0327  grey 09 20 003 0820 black 09 20 003 0827	— — — —	 Panel cut out 22 x 22 mm □32 35 30 5 28 21 40 23 □3,3 30 28 55,5 26,5 44,5 40 24	
	Housings surface mounting 1 side-entry	 grey 19 20 003 0220 black 19 20 003 0227	20 20	 Panel cut out 22 x 22 mm 4 30 40 26,5 M 28 57 54	
	Hoods cable to cable	 grey 19 20 003 0720 black 19 20 003 0727	20 20	 M □24 28 35 57	
	Protection covers for housings	 A 09 20 003 5407 ¹⁾³⁾ 09 20 003 5408 ²⁾³⁾⁴⁾ B 09 20 003 5445²⁾ 09 20 003 5446 ¹⁾ 09 20 003 5447 ²⁾³⁾⁴⁾		 □27 A □27 B □27 C □25 □4,3	
	Protection covers for hoods cable to cable	09 20 003 5448 ¹⁾ 09 20 003 5449 ²⁾⁴⁾			

¹⁾ for mounted male insert
²⁾ for mounted female insert

³⁾ for metal housings and cable to cable hoods also
⁴⁾ for mounted Han-Brid® male and female insert

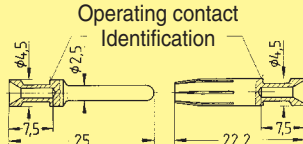
Number of contacts

10 +

Inserts



Identification	Series	Part No.		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
Screw terminal 	Han A®	09 20 010 2612	09 20 010 2812		Screw terminal
Crimp terminal Order crimp contacts separately 	Han A®	09 20 010 3001	09 20 010 3101		Crimp terminal 1) Distance for contact max. 24 mm Contact arrangement View from termination side Panel cut out for inserts for use without hoods/housings

		Wire gauge	Part No.			
Identification		(mm²)	Male contacts	Female contacts	Drawing	Dimensions in mm
Crimp contacts						
Power contacts						
silver plated		0.5	09 33 000 6121	09 33 000 6220		
		0.75	09 33 000 6114	09 33 000 6214		
		1.0	09 33 000 6105	09 33 000 6205		
		1.5	09 33 000 6104	09 33 000 6204		
		2.5	09 33 000 6102	09 33 000 6202		
		3	09 33 000 6106	09 33 000 6206		
	4	09 33 000 6107	09 33 000 6207			
gold plated		0.5	09 33 000 6122	09 33 000 6222		
		0.75	09 33 000 6115	09 33 000 6215		
		1.0	09 33 000 6118	09 33 000 6218		
		1.5	09 33 000 6116	09 33 000 6216		
		2.5	09 33 000 6123	09 33 000 6223		
		4.0	09 33 000 6119	09 33 000 6221		
Crimp contact identification						
Identification	Wire gauge			Stripping length		
no groove	0.5 mm²	AWG 20	7.5 mm			
1 groove*	0.75 mm²	AWG 18	7.5 mm			
1 groove	1 mm²	AWG 18	7.5 mm			
2 grooves	1.5 mm²	AWG 16	7.5 mm			
3 grooves	2.5 mm²	AWG 14	7.5 mm			
wide groove	3.0 mm²	AWG 12	7.5 mm			
no groove	4 mm²	AWG 12	7.5 mm			
* on the back crimp collar						

* on the back crimp collar

Stock items in bold type

		Part No.			Drawing	Dimensions in mm
Identification		Low construction	High construction	M		
Hoods	Hoods side-entry	19 20 010 1540		20		
			19 20 010 0546	25		
	Hoods top-entry	19 20 010 1440		20		
			19 20 010 0446	25		
	Protection covers for hoods	09 20 010 5423				
Housings	Housings bulkhead mounting	09 20 010 0301		—		
		with thermo-plastic cover 09 20 010 0321		—		
	Housings surface mounting	19 20 010 0251 ¹⁾		1 x 25		
		19 20 010 0290		2 x 20		
		with thermo-plastic cover 19 20 010 0295		2 x 20		
	Protection covers for housings	09 20 010 5425				

¹⁾ only metal glands

Number of contacts

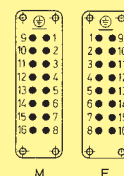
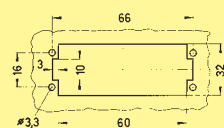
16 +

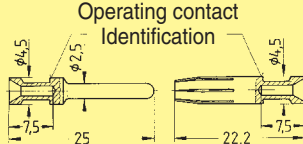
Inserts



Identification	Series	Part No.		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
Screw terminal 	Han A®	09 20 016 2612	09 20 016 2812		Screw terminal
Crimp terminal Order crimp contacts separately 	Han A®	09 20 016 3001	09 20 016 3101		Crimp terminal

¹⁾ Distance for contact max. 24 mm

Contact arrangement
 View from termination side

 Panel cut out for inserts
 for use without
 hoods/housings


		Wire gauge	Part No.			
Identification		(mm ²)	Male contacts	Female contacts	Drawing	Dimensions in mm
Crimp contacts						
Power contacts						
silver plated		0.5	09 33 000 6121	09 33 000 6220		
		0.75	09 33 000 6114	09 33 000 6214		
		1.0	09 33 000 6105	09 33 000 6205		
		1.5	09 33 000 6104	09 33 000 6204		
		2.5	09 33 000 6102	09 33 000 6202		
		3	09 33 000 6106	09 33 000 6206		
	4	09 33 000 6107	09 33 000 6207			
gold plated		0.5	09 33 000 6122	09 33 000 6222		
		0.75	09 33 000 6115	09 33 000 6215		
		1.0	09 33 000 6118	09 33 000 6218		
		1.5	09 33 000 6116	09 33 000 6216		
		2.5	09 33 000 6123	09 33 000 6223		
		4.0	09 33 000 6119	09 33 000 6221		
Crimp contact identification						
Identification	Wire gauge			Stripping length		
no groove	0.5	mm ²	AWG 20	7.5 mm		
1 groove*	0.75	mm ²	AWG 18	7.5 mm		
1 groove	1	mm ²	AWG 18	7.5 mm		
2 grooves	1.5	mm ²	AWG 16	7.5 mm		
3 grooves	2.5	mm ²	AWG 14	7.5 mm		
wide groove	3.0	mm ²	AWG 12	7.5 mm		
no groove	4	mm ²	AWG 12	7.5 mm		
* on the back crimp collar						

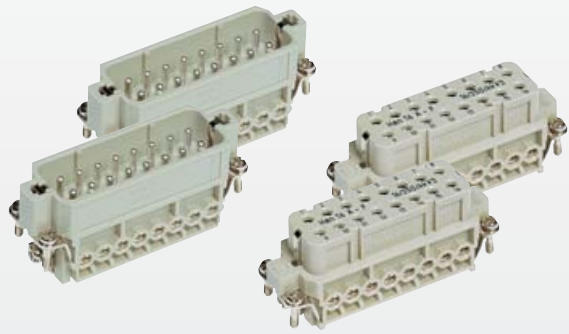
* on the back crimp collar

Stock items in bold type

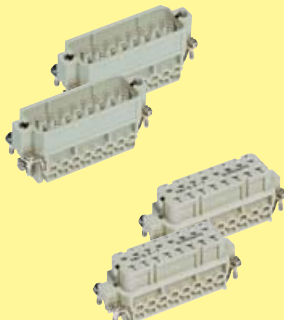
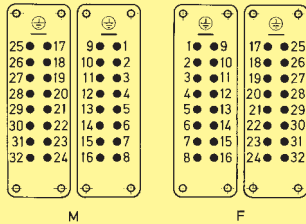
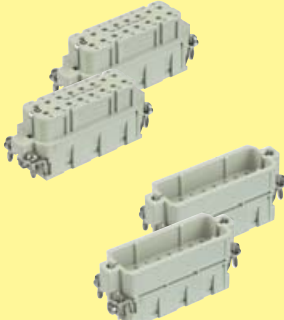
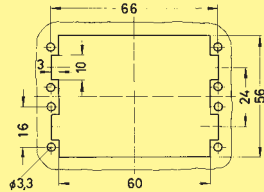
		Part No.					
Identification		Low construction	High construction	M	Drawing	Dimensions in mm	
Hoods	Hoods side-entry	19 20 016 1540	19 20 016 0546	20 25	 		
	Hoods top-entry	19 20 016 1440	19 20 016 0446	20 25	 		
	Protection covers for hoods	09 20 016 5423					
	Housings	Housings bulkhead mounting	09 20 016 0301 with thermo-plastic cover 09 20 016 0321		— —	 	
		Housings surface mounting	19 20 016 0251 ¹⁾ 19 20 016 0290 with thermo-plastic cover 19 20 016 0295		1 x 25 2 x 20 2 x 20	 	
		Protection covers for housings	09 20 016 5425				

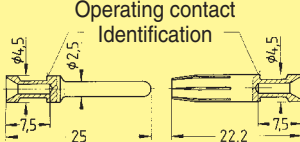
¹⁾ only metal glands

Number of contacts

32 +


Inserts

Identification		Series	Part No.		Drawing	Dimensions in mm
Screw terminal		Han A® 1–16 17–32	Male insert (M) 09 20 016 2612 09 20 016 2613	Female insert (F) 09 20 016 2812 09 20 016 2813	Drawing Dimensions for inserts see page 01.16	
						
Crimp terminal Order crimp contacts separately		Han A® 1–16 17–32	Male insert (M) 09 20 016 3001 09 20 016 3011	Female insert (F) 09 20 016 3101 09 20 016 3111	Drawing Contact arrangement View from termination side	
						
					Panel cut out for inserts for use without hoods/housings	

Identification		Wire gauge (mm²)	Part No.		Drawing	Dimensions in mm
Crimp contacts Power contacts		0.5 0.75 1.0 1.5 2.5 3 4	Male contacts 09 33 000 6121 09 33 000 6114 09 33 000 6105 09 33 000 6104 09 33 000 6102 09 33 000 6106 09 33 000 6107	Female contacts 09 33 000 6220 09 33 000 6214 09 33 000 6205 09 33 000 6204 09 33 000 6202 09 33 000 6206 09 33 000 6207		
silver plated 						
gold plated 						
0.5						
0.75						
1.0						
1.5						
2.5						
3						
4						
0.5						
0.75						
1.0						
1.5						
2.5						
4.0						
0.5						
0.75						
1.0						
1.5						
2.5						
4.0						

Identification	Wire gauge		Stripping length
no groove	0.5	mm²	AWG 20
1 groove*	0.75	mm²	AWG 18
1 groove	1	mm²	AWG 18
2 grooves	1.5	mm²	AWG 16
3 grooves	2.5	mm²	AWG 14
wide groove	3.0	mm²	AWG 12
no groove	4	mm²	AWG 12

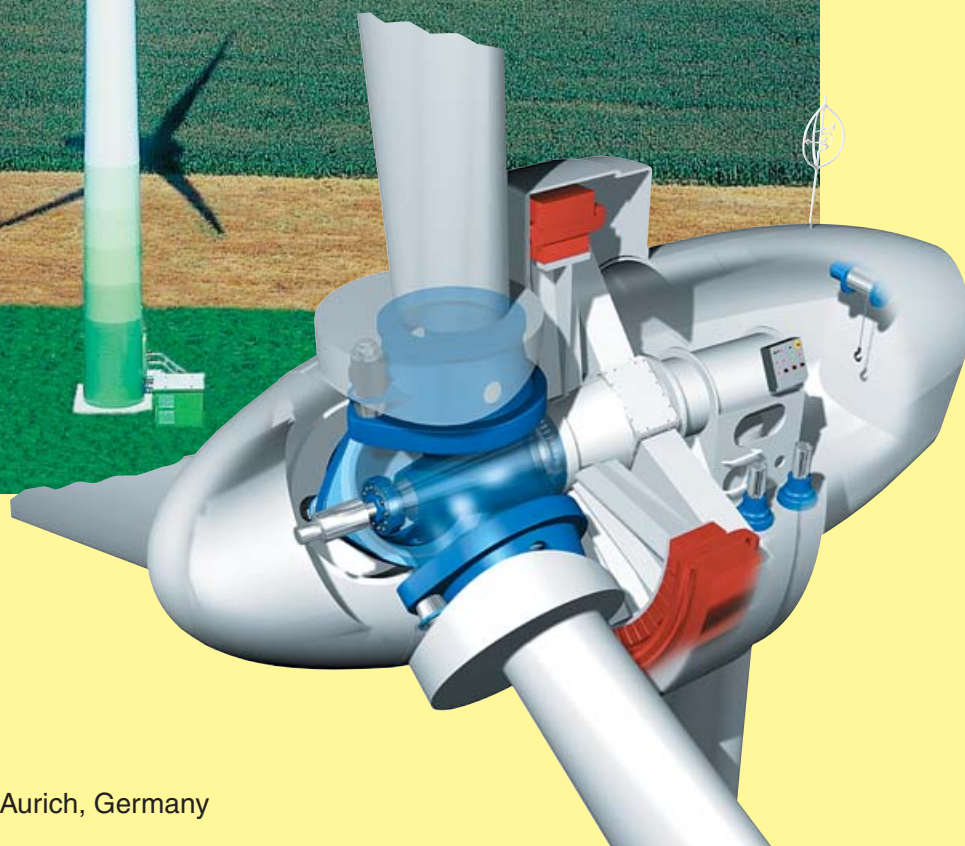
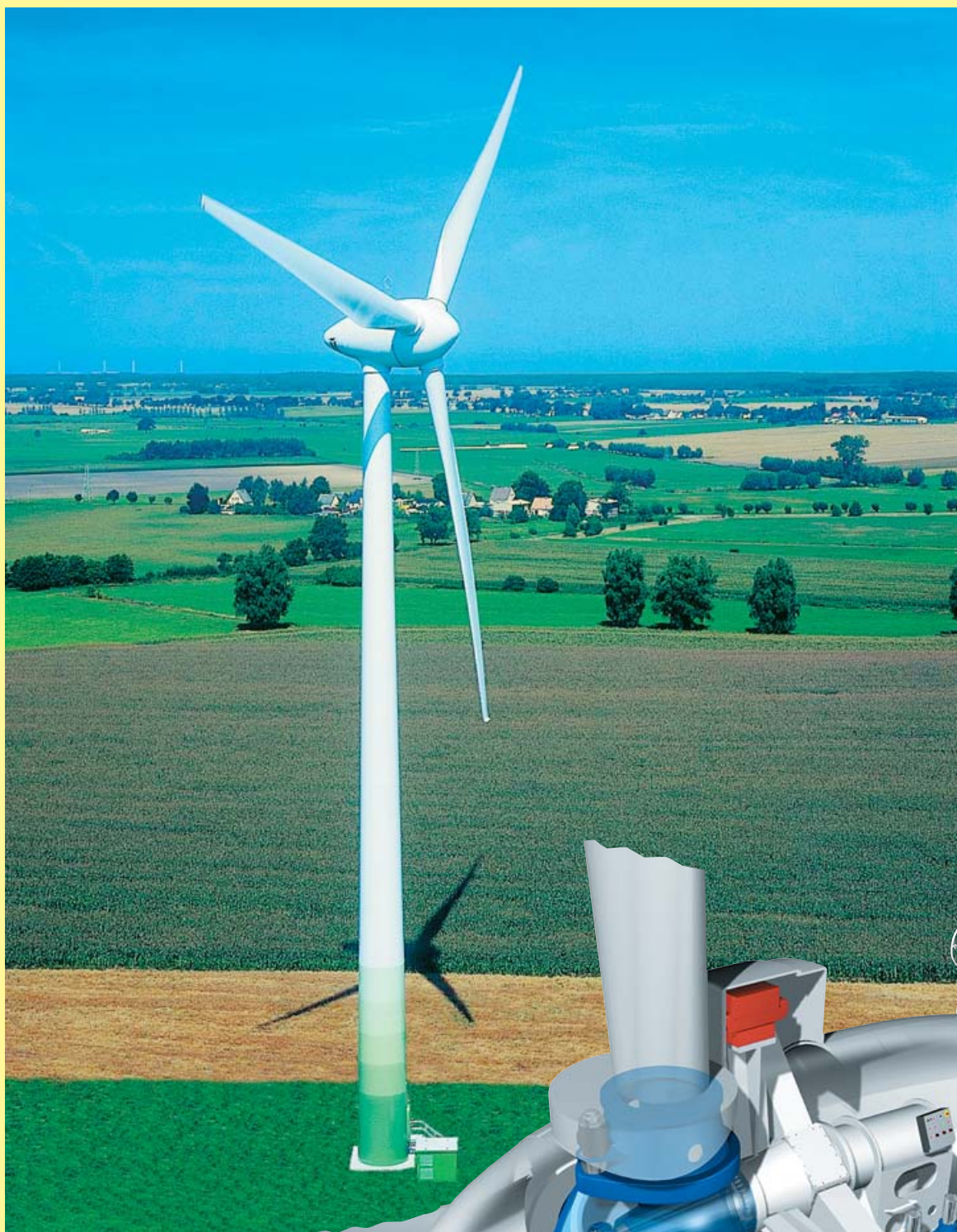
* on the back crimp collar

* on the back crimp collar

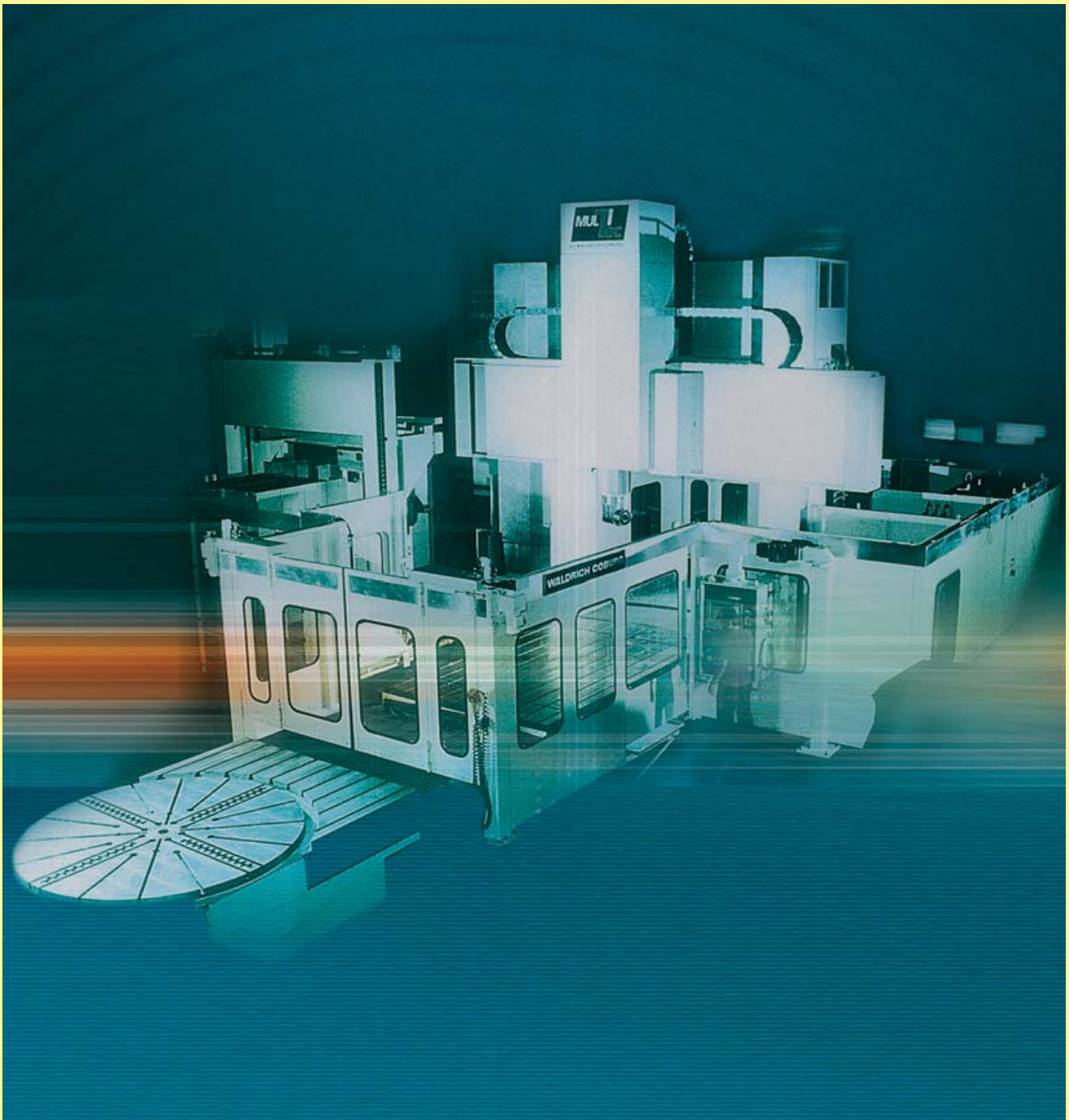
Stock items in bold type

		Part No.			Drawing	Dimensions in mm
Identification		Low construction	High construction	M		
Hoods	Hoods side-entry	19 20 032 1521	19 20 032 0527	25		
				32		
	Hoods top-entry		19 20 032 0427	32		
	Protection cover		09 20 032 5401	—		
Housings	Housing bulkhead mounting	09 20 032 0301		—		Panel cut out
	Housings surface mounting		19 20 032 0231	1 x 25		
	1 side-entry		19 20 032 0232	1 x 32		
	2 side-entries		19 20 032 0272	2 x 32		
	Protection cover		09 20 032 5405			

Stock items in bold type



Wind turbine
ENERCON Electric GmbH, Aurich, Germany



MultiTec-Machining Center
Waldrich Coburg, Coburg, Germany

Han D® · Han DD®

Page

Technical characteristics Han D®	02.10
Technical characteristics Han DD®	02.11
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Han® 50 D	02.20
Han® 24 DD	02.22
Han® 42 DD	02.25
Han® 40 D	02.28
Han® 72 DD	02.29
Han® 64 D	02.32
Han® 108 DD	02.33
Han® 80 D	02.36
Han® 144 DD	02.37
Han® 128 D	02.39
Han® 216 DD	02.40
Modified contact arrangements	02.42
Accessories	02.43

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals

SEV

Standards

DIN EN 175 301 - 801

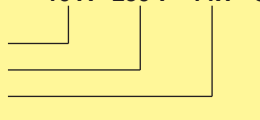
Inserts

Number of contacts 7, 15, 25, 40, 50 (2 x 25), 64, 80 (2 x 40), 128 (2 x 64) + PE

Electrical data
acc. to DIN EN 61 984

10 A 250 V 4 kV 3

Working current
Working voltage
Impulse rated voltage
Pollution degree



– Pollution degree 2 also

10 A 230/400 V 4 kV 2

Working voltage

acc. to UL/CSA

600 V

Working voltage for
wrap terminal acc. to CSA

2 A 30 V

Contact arrangement for higher voltage see page 02.42

Insulation resistance

$\geq 10^{10} \Omega$

Material

Polyamide

Limiting temperature

- 40 °C / +125 °C

Flammability acc. to UL 94

HB

Mechanical working life

- mating cycles

≥ 500

Contacts

Material

copper alloy

Surface - hard-silver plated
- hard-gold plated

3 µm Ag

2 µm Au over 3 µm Ni

Contact resistance

$\leq 3 \text{ m}\Omega$

Crimp terminal - mm²

0.14 - 2.5 mm²

- AWG

26 - 14

Wrap terminal

1 x 1 mm – length 22 mm

Diagonal 1.34 - 1.45 mm

Contact spacing 5.08 mm (40 + 64 poles)

Contact spacing 5.3 mm (15 + 25 poles)

Hoods/housings

Material

die cast aluminium

Material Size 3 A

Polycarbonate RAL 7032

Locking element

Han-Easy Lock®

Locking element Size 3 A

Polyamid RAL 7032

Flammability acc. to UL 94

V 0

Hoods/housings seal

NBR

Limiting temperature

- 40 °C / +125 °C

Degree of protection acc. to DIN

EN 60 529 for coupled connector IP 65 / 67

Further selection

of hoods/housings

chapter 30 / chapter 31

Accessories

Crimping tools

chapter 99

Cable clamps

chapter 40

Coding of hoods/housings

chapter 40

Label acc. to CSA-approval

chapter 40

Han-Snap®

chapter 11

Test connector

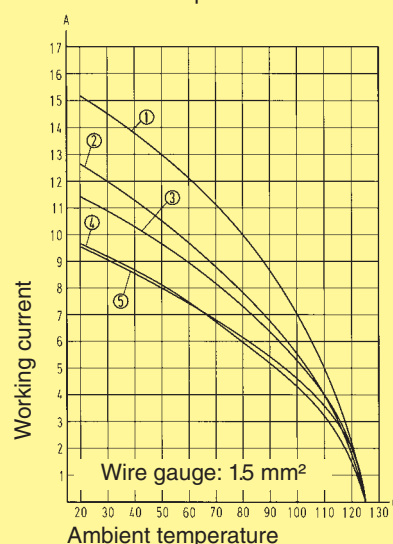
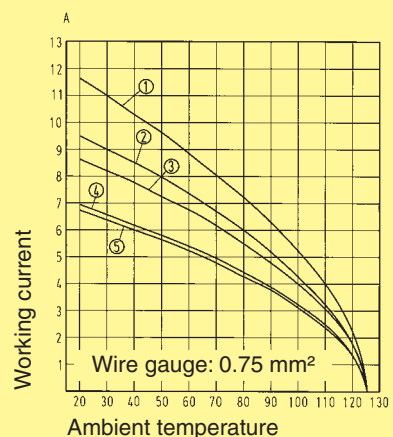
chapter 40

Guide pins and bushes are prescribed for the following connectors: 15, 25, 40, 50, 64, 80 and 128 poles (see chapter 40)

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



① Han® 7 D ③ Han® 25 D ⑤ Han® 64 D
② Han® 15 D ④ Han® 40 D

Technical characteristics Han® 8 D

Approvals

SEV

Number of contacts

8

Electrical data

acc. to DIN EN 61 984

Working current

10 A

Working voltage

~ 50 V / – 120 V

Working voltage

acc. to UL/CSA

50 V

Hoods/housings

Degree of protection acc. to DIN

EN 60 529 for coupled connector

for thermoplastic hoods/housings

IP 65 / 67

for metal hoods/housings

IP 44;

with seal screw 09 20 000 9918

IP 65 / 67

All other technical characteristics as for series Han D®.

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals

SEV

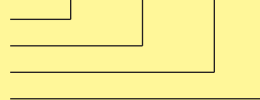
Inserts

Number of contacts 24, 42, 72, 108, 144 (2 x 72),
216 (2 x 108) + PE

Electrical data
acc. to DIN EN 61 984

10 A 250 V 4 kV 3

Working current
Working voltage
Impulse rated voltage
Pollution degree



– Pollution degree 2 also 10 A 230/400 V 4 kV 2

Working voltage
acc. to UL/CSA 600 V

Insulation resistance $\geq 10^{10} \Omega$
Material Polycarbonate
Limiting temperature - 40 °C / +125 °C
Flammability acc. to UL 94 V0
Mechanical working life
- mating cycles ≥ 500

Contacts

Material copper alloy
Surface
- hard-silver plated 3 μm Ag
- hard-gold plated 2 μm Au over 3 μm Ni
Contact resistance $\leq 3 \text{ m}\Omega$
Crimp terminal
- mm² 0.14 - 2.5 mm²
- AWG 26 - 14

Hoods/Housings

Material die cast aluminium
Surface powder-coated RAL 7037
Locking element Han-Easy Lock®
Hoods/Housings seal NBR
Limiting temperature - 40 °C / +125 °C
Degree of protection acc. to DIN EN 60 529 for coupled connectors IP 65
Further selection of hoods/housings chapter 30 / chapter 31

Accessories

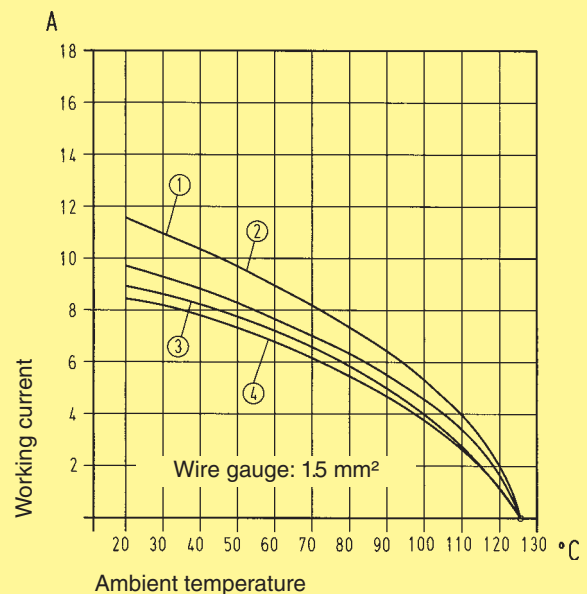
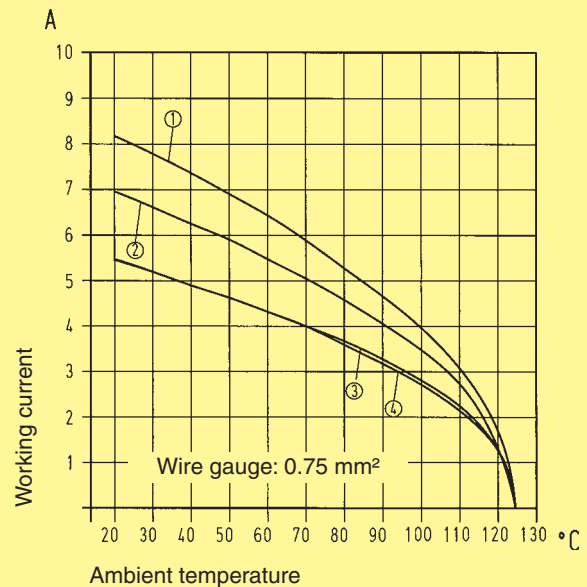
Crimping tools chapter 99
Cable clamps chapter 40
Coding of hoods/housings chapter 40
Label acc. to CSA-approval chapter 40
Han-Snap® chapter 11
Test connector chapter 40
PC-Board adapter chapter 40

Guide pins and bushes are recommended for the following connectors: 72, 108, 144 and 216 poles (see chapter 40)

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

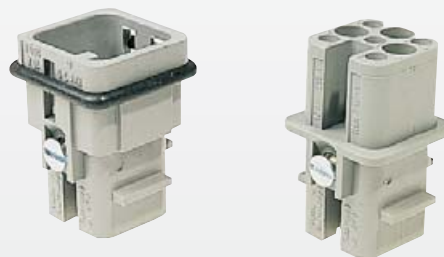
Control and test procedures according to DIN IEC 60 512-3.



- ① Han® 24 DD
- ② Han® 42 DD
- ③ Han® 72 DD
- ④ Han® 108 DD

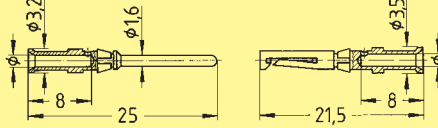
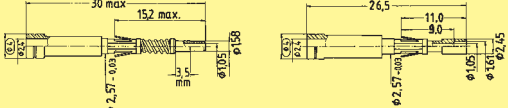
Number of contacts

7 +

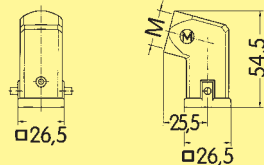
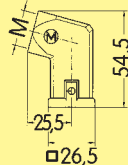
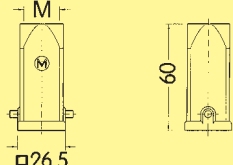
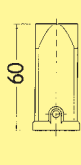
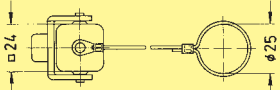
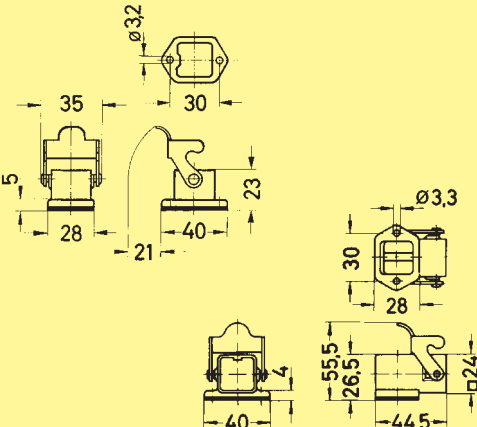
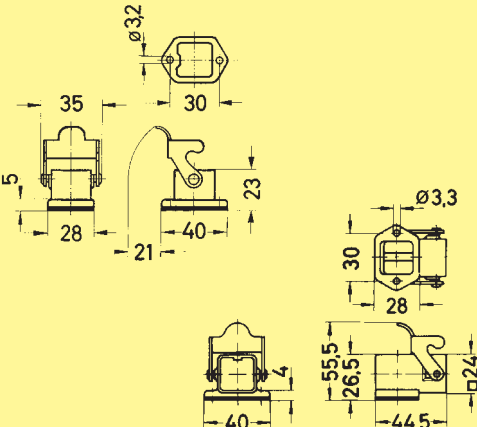
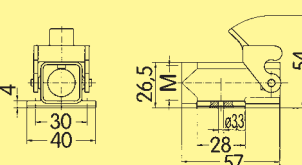
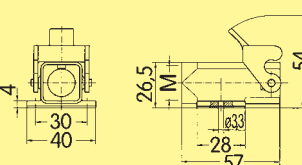
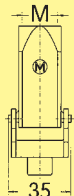
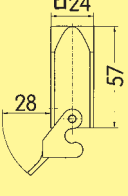
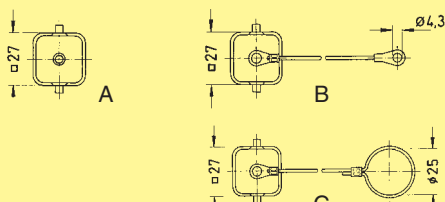
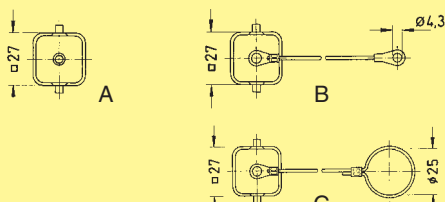


Inserts

		Part No.		Drawing	Dimensions in mm
Identification	Series	Male insert (M)	Female insert (F)		
Crimp terminal Order crimp contacts separately	Han D®	09 21 007 3031 ¹⁾	09 21 007 3131 ¹⁾		Contact arrangement View from termination side
¹⁾ Attention Only for thermoplastic hoods/housings					
Coding system with loss of contact 		09 33 000 9915			Use of the coding pin prevents incorrect mating to other connectors of the same type. The male pin should be omitted from the opposing cavity in the male insert.

		Wire gauge	Part No.		Drawing	Dimensions in mm
Identification	(mm ²)	Male contacts	Female contacts			
Crimp contacts						
silver plated	0.14-0.37	09 15 000 6104	09 15 000 6204			
	0.5	09 15 000 6103	09 15 000 6203			
	0.75	09 15 000 6105	09 15 000 6205			
	1.0	09 15 000 6102	09 15 000 6202			
	1.5	09 15 000 6101	09 15 000 6201			
	2.5	09 15 000 6106	09 15 000 6206			
gold plated	0.14-0.37	09 15 000 6124	09 15 000 6224			
	0.5	09 15 000 6123	09 15 000 6223			
	0.75	09 15 000 6125	09 15 000 6225			
	1.0	09 15 000 6122	09 15 000 6222			
	1.5	09 15 000 6121	09 15 000 6221			
	2.5	09 15 000 6126	09 15 000 6226			
FOC contacts for 1 mm plastic fibre		20 10 001 3212	20 10 001 3222			

Stock items in bold type

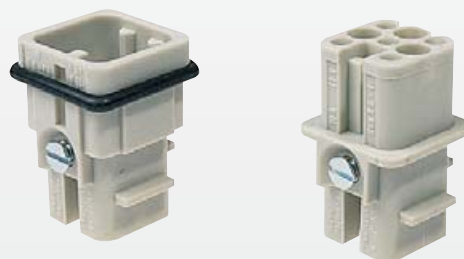
Identification		Part No.	M	Drawing	Dimensions in mm
Hoods	Hoods side-entry	 grey 19 20 003 0620 black 19 20 003 0627	20 20		
	Hoods top-entry	 grey 19 20 003 0420 black 19 20 003 0427	20 20		
	Protection covers for hoods	09 20 003 5442 ¹⁾ 09 20 003 5441 ²⁾			
Housings	Housings bulkhead mounting	 grey 09 20 003 0320 black 09 20 003 0327 grey 09 20 003 0820 black 09 20 003 0827	— — — —		
	Housings surface mounting 1 side-entry	 grey 19 20 003 0220	20		
	Hoods cable to cable	 grey 19 20 003 0720 black 19 20 003 0727	20 20		
	Protection covers for housings	 A 09 20 003 5407¹⁾³⁾ 09 20 003 5408²⁾³⁾⁴⁾ B 09 20 003 5445²⁾ 09 20 003 5446 ¹⁾ 09 20 003 5447 ²⁾ ³⁾ ⁴⁾			
	for hoods cable to cable	C 09 20 003 5448 ¹⁾			

¹⁾ for mounted male insert
²⁾ for mounted female insert

³⁾ for metal housings and cable to cable hoods also
⁴⁾ for mounted Han-Brid® male and female insert

Number of contacts

8



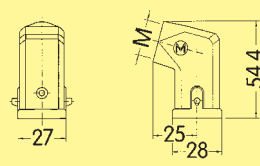
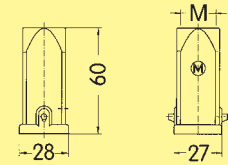
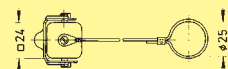
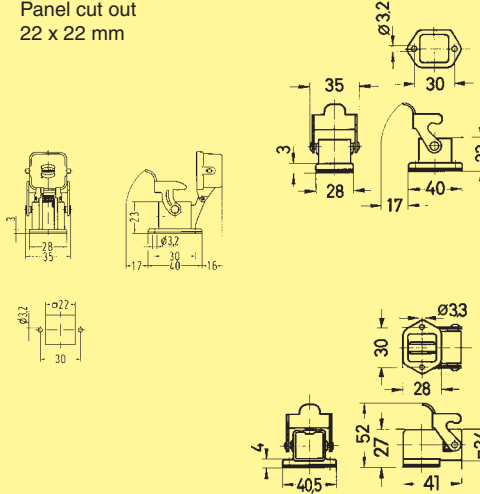
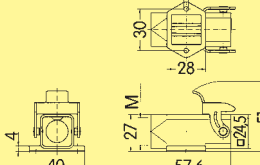
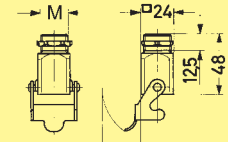
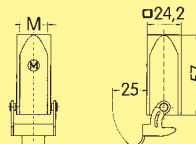
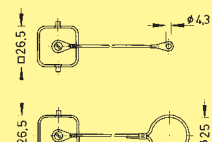
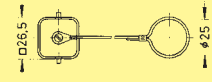
Inserts

		Part No.		Drawing	Dimensions in mm
Identification	Series	Male insert (M)	Female insert (F)		
Crimp terminal Order Crimp contacts separately	Han D®	09 36 008 3001	09 36 008 3101	M F 	Contact arrangement View from termination side
For thermoplastic and metal hoods/housings					
Coding system with loss of contact 		09 33 000 9915	Use of the coding pin prevents incorrect mating to other connectors of the same type. The male pin should be omitted from the opposing cavity in the male insert. 		

		Part No.		Drawing	Dimensions in mm
Identification	Wire gauge (mm²)	Male contacts	Female contacts		
Crimp contacts silver plated	0.14-0.37 0.5 0.75 1.0 1.5 2.5	09 15 000 6104 09 15 000 6103 09 15 000 6105 09 15 000 6102 09 15 000 6101 09 15 000 6106	09 15 000 6204 09 15 000 6203 09 15 000 6205 09 15 000 6202 09 15 000 6201 09 15 000 6206		
gold plated	0.14-0.37 0.5 0.75 1.0 1.5 2.5	09 15 000 6124 09 15 000 6123 09 15 000 6125 09 15 000 6122 09 15 000 6121 09 15 000 6126	09 15 000 6224 09 15 000 6223 09 15 000 6225 09 15 000 6222 09 15 000 6221 09 15 000 6226		
FOC contacts for 1 mm plastic fibre		20 10 001 3212	20 10 001 3222		

Wire gauge		ø	Stripping length
0.14-0.37 mm²	AWG 26-22	0.90 mm	8 mm
0.5 mm²	AWG 20	1.10 mm	8 mm
0.75 mm²	AWG 18	1.30 mm	8 mm
1 mm²	AWG 18	1.45 mm	8 mm
1.5 mm²	AWG 16	1.75 mm	8 mm
2.5 mm²	AWG 14	2.25 mm	6 mm

Stock items in bold type

Identification			Part No.	M	Drawing	Dimensions in mm
Hoods	Hood side-entry		19 20 003 1640	20		
	Hood top-entry		19 20 003 1440	20		
	Protection covers for hoods		09 20 003 5422 ¹⁾ 09 20 003 5421 ²⁾			
Housings	Housings bulkhead mounting		09 20 003 0301		Panel cut out 22 x 22 mm 	
	with fixed cover		09 20 003 0305 ¹⁾ 09 20 003 0306 ²⁾			
	without sealing		09 20 003 0801			
	Housing surface mounting		19 20 003 1250	20	Panel cut out 22 x 22 mm 	
	1 side-entry		19 20 003 1252	20		
	bottom closed					
	Housing screw mounting		19 20 003 1150	20		
	Hood cable to cable		19 20 003 1750	20		
	Protection covers for housings		09 20 003 5426 ¹⁾ 09 20 003 5425 ²⁾			
	for hoods cable to cable		09 20 003 5428 ¹⁾ 09 20 003 5427 ²⁾			

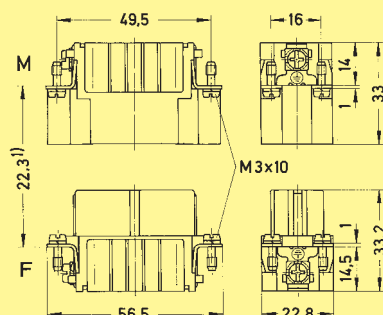
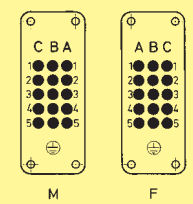
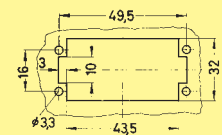
¹⁾ for mounted male insert ²⁾ for mounted female insert

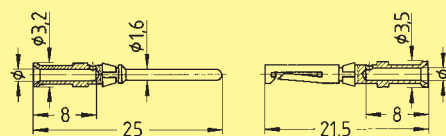
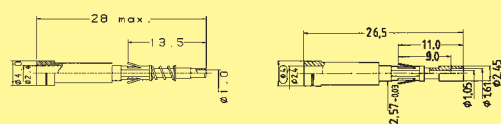
Number of contacts

15+

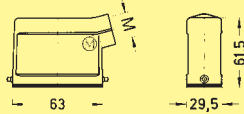
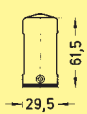
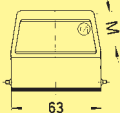
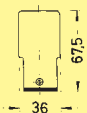
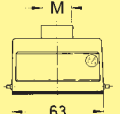
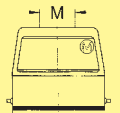
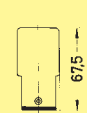
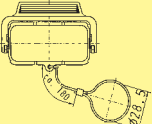
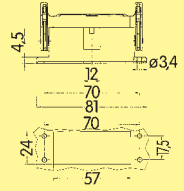
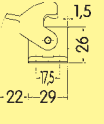
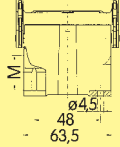
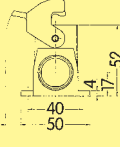
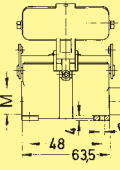
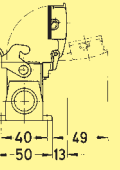
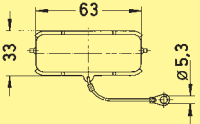

Inserts

Han
D/DD

Identification		Series	Male insert (M)	Female insert (F)	Part No.	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately		Han D®	09 21 015 3001	09 21 015 3101			Contact arrangement View from termination side  Panel cut out for inserts for use without hoods/housings 
Wrap terminal 1 x 1 mm							
		Han D®	09 21 015 2601	09 21 015 2701			

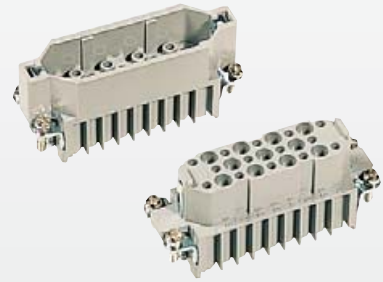
Identification		Wire gauge (mm²)	Male contacts	Female contacts	Part No.	Drawing	Dimensions in mm																												
Crimp contacts																																			
silver plated		0.14-0.37	09 15 000 6104	09 15 000 6204			<table><tr><th colspan="2">Wire gauge</th><th>ø</th><th>Stripping length</th></tr><tr><td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>0.90 mm</td><td>8 mm</td></tr><tr><td>0.5 mm²</td><td>AWG 20</td><td>1.10 mm</td><td>8 mm</td></tr><tr><td>0.75 mm²</td><td>AWG 18</td><td>1.30 mm</td><td>8 mm</td></tr><tr><td>1 mm²</td><td>AWG 18</td><td>1.45 mm</td><td>8 mm</td></tr><tr><td>1.5 mm²</td><td>AWG 16</td><td>1.75 mm</td><td>8 mm</td></tr><tr><td>2.5 mm²</td><td>AWG 14</td><td>2.25 mm</td><td>6 mm</td></tr></table>	Wire gauge		ø	Stripping length	0.14-0.37 mm²	AWG 26-22	0.90 mm	8 mm	0.5 mm²	AWG 20	1.10 mm	8 mm	0.75 mm²	AWG 18	1.30 mm	8 mm	1 mm²	AWG 18	1.45 mm	8 mm	1.5 mm²	AWG 16	1.75 mm	8 mm	2.5 mm²	AWG 14	2.25 mm	6 mm
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0.75	09 15 000 6105	09 15 000 6205																																	
1.0	09 15 000 6102	09 15 000 6202																																	
1.5	09 15 000 6101	09 15 000 6201																																	
2.5	09 15 000 6106	09 15 000 6206																																	
gold plated		0.14-0.37	09 15 000 6124	09 15 000 6224																															
		0.5	09 15 000 6123	09 15 000 6223																															
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FOC contacts for 1 mm plastic fibre			20 10 001 3213	20 10 001 3222																															

Stock items in bold type

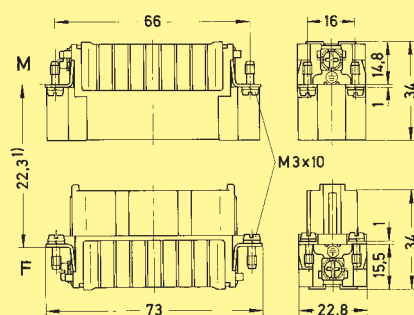
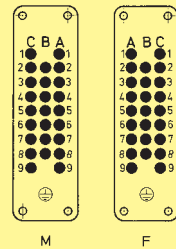
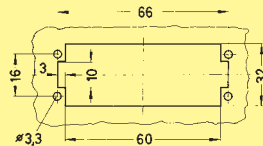
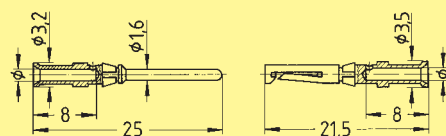
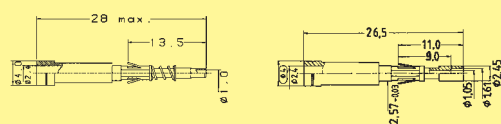
Identification		Part No.		M	Drawing	Dimensions in mm
		Low construction	High construction			
Hoods	Hoods side-entry	 	19 20 010 1540	20		
			19 20 010 0546	25		
	Hoods top-entry	 	19 20 010 1440	20		
			19 20 010 0446	25		
	Protection covers for hoods		09 20 010 5423			
Housings	Housings bulkhead mounting		09 20 010 0301 with thermo-plastic cover 09 20 010 0321	— —		
	Housings surface mounting	 	19 20 010 0251¹⁾ 19 20 010 0290 with thermo-plastic cover 19 20 010 0295	1 x 25 2 x 20 2 x 20		
						
	Protection covers for housings		09 20 010 5425			

¹⁾ only metal screwing

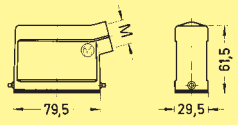
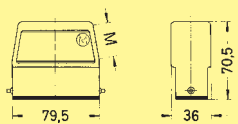
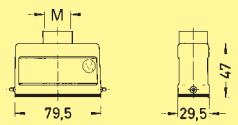
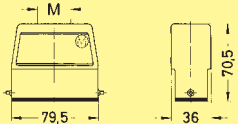
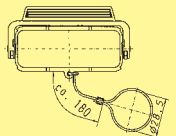
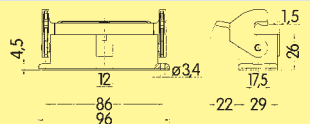
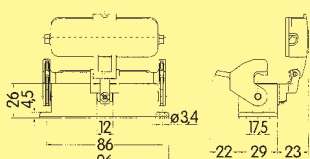
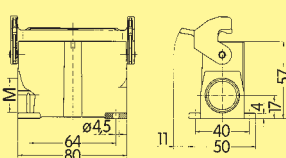
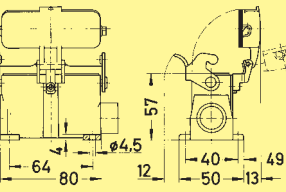
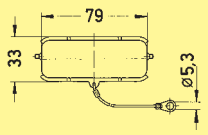
Number of contacts

25 +


Inserts

Identification		Series	Male insert (M)	Female insert (F)	Part No.	Drawing	Dimensions in mm																												
Crimp terminal Order crimp contacts separately		Han D®	09 21 025 3001	09 21 025 3101																															
Wrap terminal 1 x 1 mm		Han D®	09 21 025 2601	09 21 025 2701																															
Identification		Wire gauge (mm²)	Male contacts	Female contacts	Part No.	Drawing	Dimensions in mm																												
Crimp contacts		0.14-0.37 0.5 0.75 1.0 1.5 2.5	09 15 000 6104 09 15 000 6103 09 15 000 6105 09 15 000 6102 09 15 000 6101 09 15 000 6106	09 15 000 6204 09 15 000 6203 09 15 000 6205 09 15 000 6202 09 15 000 6201 09 15 000 6206			<table><thead><tr><th colspan="2">Wire gauge</th><th>ø</th><th>Stripping length</th></tr></thead><tbody><tr><td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>0.90 mm</td><td>8 mm</td></tr><tr><td>0.5 mm²</td><td>AWG 20</td><td>1.10 mm</td><td>8 mm</td></tr><tr><td>0.75 mm²</td><td>AWG 18</td><td>1.30 mm</td><td>8 mm</td></tr><tr><td>1 mm²</td><td>AWG 18</td><td>1.45 mm</td><td>8 mm</td></tr><tr><td>1.5 mm²</td><td>AWG 16</td><td>1.75 mm</td><td>8 mm</td></tr><tr><td>2.5 mm²</td><td>AWG 14</td><td>2.25 mm</td><td>6 mm</td></tr></tbody></table>	Wire gauge		ø	Stripping length	0.14-0.37 mm²	AWG 26-22	0.90 mm	8 mm	0.5 mm²	AWG 20	1.10 mm	8 mm	0.75 mm²	AWG 18	1.30 mm	8 mm	1 mm²	AWG 18	1.45 mm	8 mm	1.5 mm²	AWG 16	1.75 mm	8 mm	2.5 mm²	AWG 14	2.25 mm	6 mm
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FOC contacts for 1 mm plastic fibre			20 10 001 3213	20 10 001 3222																															

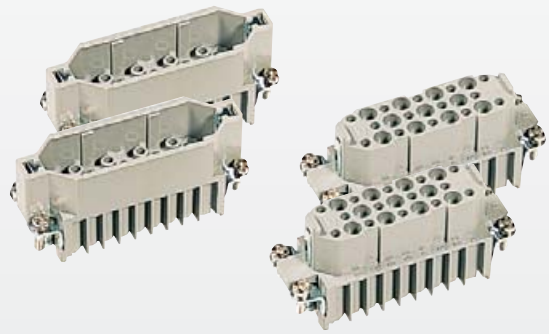
Stock items in bold type

Identification		Part No.		M	Drawing	Dimensions in mm
		Low construction	High construction			
Hoods	Hoods side-entry		19 20 016 1540	20		79,5 29,5 61,5
			19 20 016 0546	25		79,5 36 70,5
	Hoods top-entry		19 20 016 1440	20		79,5 29,5 47
			19 20 016 0446	25		79,5 36 70,5
	Protection covers for hoods		09 20 016 5423			120
Housings	Housings bulkhead mounting		09 20 016 0301	—		4,5 12 86 96 86 24 73 17,5 22-29
			with thermo-plastic cover 09 20 016 0321	—		26 4,5 12 86 96 22-29-23
	Housings surface mounting		19 20 016 0251¹⁾	1 x 25		64 80 4,5 11 40 50 17 57
	1 side-entry		19 20 016 0290 19 20 016 0291	2 x 20 2 x 25		64 80 12 50 13 49
	2 side-entries		with thermo-plastic cover 19 20 016 0295	2 x 20		
	Protection covers for housings		09 20 016 5425			79 33 5,3

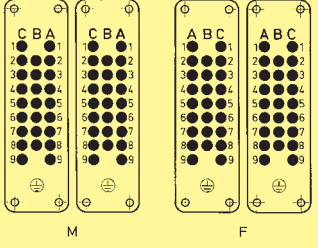
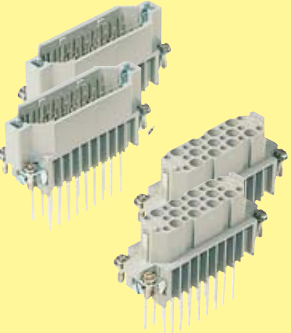
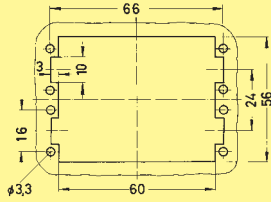
¹⁾ only metal screwing

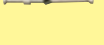
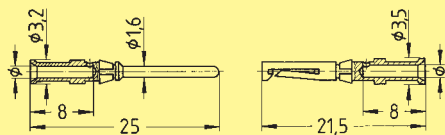
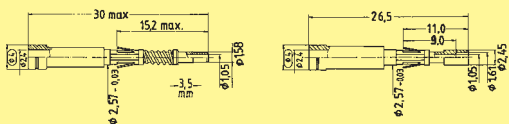
Number of contacts

50+



Inserts

		Part No.		Drawing	Dimensions in mm
Identification	Series	Male insert (M)	Female insert (F)		
Crimp terminal Order crimp contacts separately 	Han D®			Dimensions for inserts see page 02.18. Contact arrangement View from termination side 	
	1-25 1-25	09 21 025 3001 09 21 025 3001	09 21 025 3101 09 21 025 3101		
Wrap terminal 1 x 1 mm 	Han D®			Panel cut out for inserts for use without hoods/housings 	
	1-25 1-25	09 21 025 2601 09 21 025 2601	09 21 025 2701 09 21 025 2701		

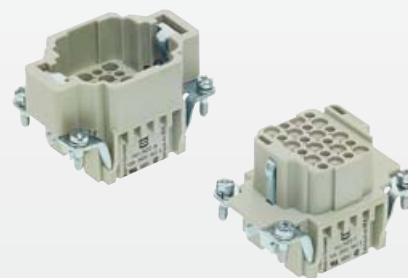
		Part No.		Drawing	Dimensions in mm																												
Identification	Wire gauge (mm²)	Male contacts	Female contacts																														
Crimp contacts silver plated   gold plated  	0.14-0.37 0.5 0.75 1.0 1.5 2.5 0.14-0.37 0.5 0.75 1.0 1.5 2.5	09 15 000 6104 09 15 000 6103 09 15 000 6105 09 15 000 6102 09 15 000 6101 09 15 000 6106 09 15 000 6124 09 15 000 6123 09 15 000 6125 09 15 000 6122 09 15 000 6121 09 15 000 6126	09 15 000 6204 09 15 000 6203 09 15 000 6205 09 15 000 6202 09 15 000 6201 09 15 000 6206 09 15 000 6224 09 15 000 6223 09 15 000 6225 09 15 000 6222 09 15 000 6221 09 15 000 6226	 <table border="1"> <thead> <tr> <th colspan="2">Wire gauge</th><th>ø</th><th>Stripping length</th></tr> </thead> <tbody> <tr> <td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>0.90 mm</td><td>8 mm</td></tr> <tr> <td>0.5 mm²</td><td>AWG 20</td><td>1.10 mm</td><td>8 mm</td></tr> <tr> <td>0.75 mm²</td><td>AWG 18</td><td>1.30 mm</td><td>8 mm</td></tr> <tr> <td>1 mm²</td><td>AWG 18</td><td>1.45 mm</td><td>8 mm</td></tr> <tr> <td>1.5 mm²</td><td>AWG 16</td><td>1.75 mm</td><td>8 mm</td></tr> <tr> <td>2.5 mm²</td><td>AWG 14</td><td>2.25 mm</td><td>6 mm</td></tr> </tbody> </table>	Wire gauge		ø	Stripping length	0.14-0.37 mm²	AWG 26-22	0.90 mm	8 mm	0.5 mm²	AWG 20	1.10 mm	8 mm	0.75 mm²	AWG 18	1.30 mm	8 mm	1 mm²	AWG 18	1.45 mm	8 mm	1.5 mm²	AWG 16	1.75 mm	8 mm	2.5 mm²	AWG 14	2.25 mm	6 mm	
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FOC contacts for 1 mm plastic fibre		20 10 001 3213	20 10 001 3222																														

Stock items in bold type

Identification		Part No.			Drawing	Dimensions in mm
		Low construction	High construction	M		
Hoods	Hoods side-entry	19 20 032 1521		25		
			19 20 032 0527	32		
Hoods	Hoods top-entry		19 20 032 0427	32		
	Protection cover		09 20 032 5401	—		
Housing	Housing bulkhead mounting	09 20 032 0301		—		
Housings	Housings surface mounting		19 20 032 0231	1 x 25		
	1 side-entry		19 20 032 0232	1 x 32		
	2 side-entries		19 20 032 0272	2 x 32		
	Protection cover		09 20 032 5405			

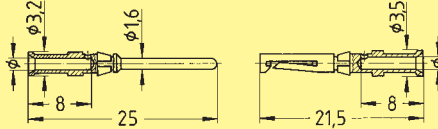
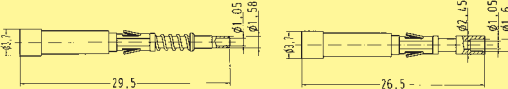
Han
D/DD

Number of contacts

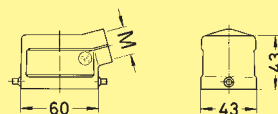
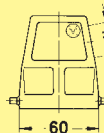
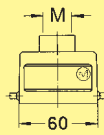
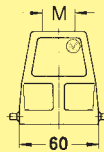
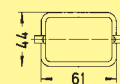
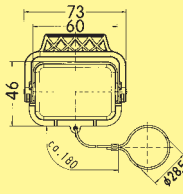
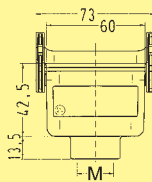
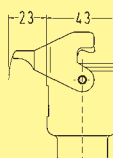
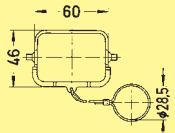
24 +


Inserts

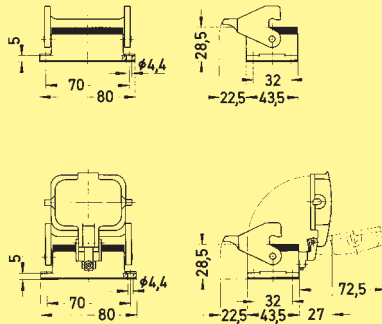
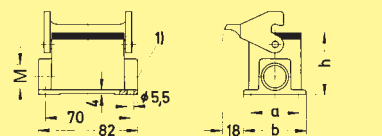
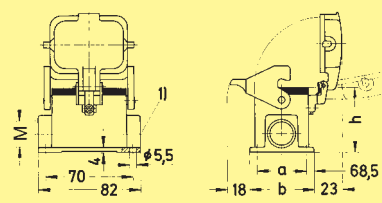
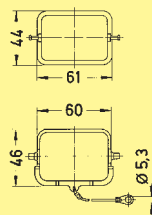
Identification	Series	Part No.		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
Crimp terminal Order crimp contacts separately	Han DD®	09 16 024 3001	09 16 024 3101	1) Distance for contact max. 21 mm Contact arrangement View from termination side Panel cut out for inserts for use without hoods/housings	

Identification	Wire gauge	Part No.		Drawing	Dimensions in mm																												
	(mm²)	Male contacts	Female contacts																														
Crimp contacts																																	
silver plated	0.14-0.37	09 15 000 6104	09 15 000 6204																														
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FOC contacts for 1 mm plastic fibre		20 10 001 3211	20 10 001 3221																														

Stock items in bold type

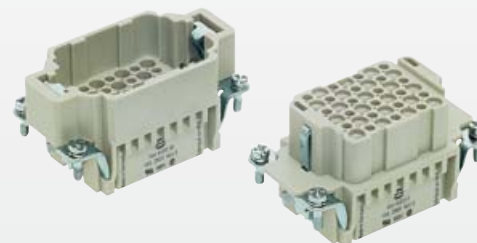
Part No.																						
Identification	Low construction	High construction	M	Drawing	Dimensions in mm																	
Hoods	Hoods side-entry 	19 30 006 1540	20	   	19 30 006 1541	25																
		19 30 006 0546	25																			
		19 30 006 0547	32																			
		Hoods top-entry 	19 30 006 1440		20	   																
			19 30 006 0446		25																	
19 30 006 0447	32																					
Protection covers for hoods metal 	09 30 006 5401			 																		
	09 30 006 5423																					
	Hoods cable to cable 	19 30 006 1750	20		<table><tr><td>h</td><td>73</td><td>60</td><td>23</td><td>43</td></tr><tr><td>42.5</td><td>13.5</td><td>42.5</td><td></td><td></td></tr><tr><td>72.5</td><td></td><td></td><td></td><td></td></tr></table> 	h	73	60	23	43	42.5	13.5	42.5			72.5					19 30 006 0756	25
		h	73			60	23	43														
		42.5	13.5			42.5																
72.5																						
Protection cover for cable to cable hood metal 		09 30 006 5427																				

Han
D/DD

Identification		Part No.		M	Drawing	Dimensions in mm													
		Low construction	High construction																
Housings bulkhead mounting		09 30 006 0301 with thermo- plastic cover 09 30 006 0302 with metal cover 09 30 006 0318		— — —	Panel cut out 48 x 35 mm 														
	Housings surface mounting		19 30 006 1250 19 30 006 1290 with thermo- plastic cover 19 30 006 1255 19 30 006 1295 with metal cover 19 30 006 2255 19 30 006 2295	19 30 006 0291 19 30 006 0292 with thermo- plastic cover 19 30 006 0296 19 30 006 0297 19 30 006 7296	1 x 20 2 x 20 2 x 25 2 x 32 1 x 20 2 x 20 2 x 25 2 x 32 1 x 20 2 x 20 2 x 25	  1) Blind way for one cable entry <table><tr><td></td><td>a</td><td>b</td><td>h</td></tr><tr><td>Low construction</td><td>40</td><td>52</td><td>51.5</td></tr><tr><td>High construction</td><td>45</td><td>57</td><td>74</td></tr></table>		a	b	h	Low construction	40	52	51.5	High construction	45	57	74	
			a	b	h														
Low construction	40	52	51.5																
High construction	45	57	74																
Protection covers metal		09 30 006 5404 09 30 006 5425																	

Stock items in bold type

Number of contacts

42+


Inserts

Han
D/DD

Identification	Series	Part No.		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
Crimp terminal Order crimp contacts separately	Han DD®	09 16 042 3001	09 16 042 3101	1) Distance for contact max. 21 mm Contact arrangement View from termination side Panel cut out for inserts for use without hoods/housings	

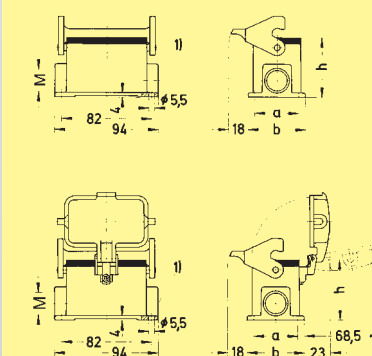
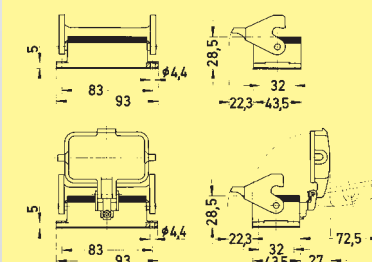
Identification	Wire gauge (mm²)	Part No.		Drawing	Dimensions in mm
		Male contacts	Female contacts		
Crimp contacts silver plated	0.14-0.37 0.5 0.75 1.0 1.5 2.5	09 15 000 6104 09 15 000 6103 09 15 000 6105 09 15 000 6102 09 15 000 6101 09 15 000 6106	09 15 000 6204 09 15 000 6203 09 15 000 6205 09 15 000 6202 09 15 000 6201 09 15 000 6206		
gold plated	0.14-0.37 0.5 0.75 1.0 1.5 2.5	09 15 000 6124 09 15 000 6123 09 15 000 6125 09 15 000 6122 09 15 000 6121 09 15 000 6126	09 15 000 6224 09 15 000 6223 09 15 000 6225 09 15 000 6222 09 15 000 6221 09 15 000 6226		
FOC contacts for 1 mm plastic fibre		20 10 001 3211	20 10 001 3221		

Stock items in bold type

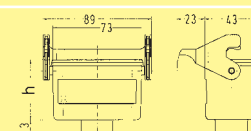
		Part No.					
Identification		Low construction	High construction	M	Drawing	Dimensions in mm	
Hoods	Hoods side-entry	19 30 010 1540 19 30 010 1541	19 30 010 0547	20 25 32			
	Hoods top-entry	19 30 010 1440 19 30 010 1441	19 30 010 0447	20 25 32			
Housings	Housings bulkhead mounting	09 30 010 0305 with thermo-plastic cover 09 30 010 0303 with metal cover 09 30 010 0318		— — —	Panel cut out 60 x 35 mm 		
	Housings surface mounting	1 side-entry 2 side-entries 1 side-entry 2 side-entries	19 30 010 1250 19 30 010 1290 with thermo-plastic cover 19 30 010 1255 with thermo-plastic cover 19 30 010 1295 with metal cover 19 30 010 2295	19 30 010 0291 19 30 010 0292 with thermo-plastic cover 19 30 010 0296 19 30 010 0297 19 30 010 7296	20 20 25 32 20 20 25 32 20 25		

Han
D/DD

Panel cut out 60 x 35 mm

¹⁾ Blind way for one cable entry

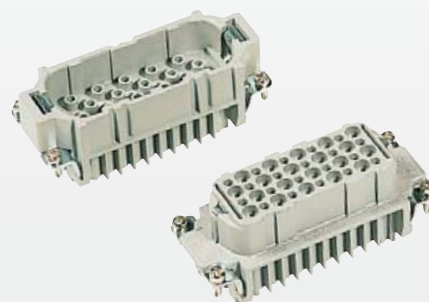
	a	b	h
Low construction	40	52	54
High construction	45	57	81



	h
Low construction	47.5
High construction	74.5

Stock items in bold type

Number of contacts

40+


Inserts

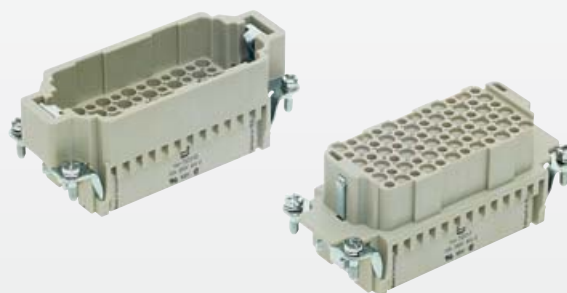
Identification	Series	Part No.		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
Crimp terminal Order crimp contacts separately 	Han D®	09 21 040 3001	09 21 040 3101		
Wrap terminal 1 x 1 mm 	Han D®	09 21 040 2601	09 21 040 2701	Contact arrangement View from termination side 	1) Distance for contact max. 21 mm

Identification	Wire gauge	Part No.		Drawing	Dimensions in mm																												
	(mm ²)	Male contacts	Female contacts																														
Crimp contacts																																	
silver plated	0.14-0.37	09 15 000 6104	09 15 000 6204																														
	0.5	09 15 000 6103	09 15 000 6203																														
	0.75	09 15 000 6105	09 15 000 6205																														
	1.0	09 15 000 6102	09 15 000 6202																														
	1.5	09 15 000 6101	09 15 000 6201																														
	2.5	09 15 000 6106	09 15 000 6206																														
gold plated	0.14-0.37	09 15 000 6124	09 15 000 6224	<table><tr><th colspan="2">Wire gauge</th><th>ø</th><th>Stripping length</th></tr><tr><td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>0.90 mm</td><td>8 mm</td></tr><tr><td>0.5 mm²</td><td>AWG 20</td><td>1.10 mm</td><td>8 mm</td></tr><tr><td>0.75 mm²</td><td>AWG 18</td><td>1.30 mm</td><td>8 mm</td></tr><tr><td>1 mm²</td><td>AWG 18</td><td>1.45 mm</td><td>8 mm</td></tr><tr><td>1.5 mm²</td><td>AWG 16</td><td>1.75 mm</td><td>8 mm</td></tr><tr><td>2.5 mm²</td><td>AWG 14</td><td>2.25 mm</td><td>6 mm</td></tr></table>	Wire gauge		ø	Stripping length	0.14-0.37 mm ²	AWG 26-22	0.90 mm	8 mm	0.5 mm ²	AWG 20	1.10 mm	8 mm	0.75 mm ²	AWG 18	1.30 mm	8 mm	1 mm ²	AWG 18	1.45 mm	8 mm	1.5 mm ²	AWG 16	1.75 mm	8 mm	2.5 mm ²	AWG 14	2.25 mm	6 mm	
	Wire gauge		ø		Stripping length																												
	0.14-0.37 mm ²	AWG 26-22	0.90 mm		8 mm																												
	0.5 mm ²	AWG 20	1.10 mm		8 mm																												
	0.75 mm ²	AWG 18	1.30 mm		8 mm																												
	1 mm ²	AWG 18	1.45 mm		8 mm																												
1.5 mm ²	AWG 16	1.75 mm	8 mm																														
2.5 mm ²	AWG 14	2.25 mm	6 mm																														
0.5	09 15 000 6123	09 15 000 6223																															
0.75	09 15 000 6125	09 15 000 6225																															
1.0	09 15 000 6122	09 15 000 6222																															
1.5	09 15 000 6121	09 15 000 6221																															
2.5	09 15 000 6126	09 15 000 6226																															
FOC contacts for 1 mm plastic fibre		20 10 001 3212	20 10 001 3222																														

Stock items in bold type

Number of contacts

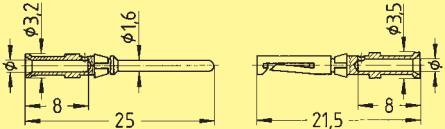
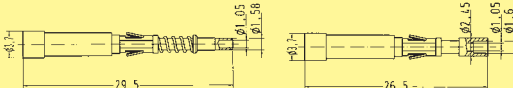
72 +



Inserts

Han
D/DD

Identification	Series	Part No.		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
Crimp terminal Order crimp contacts separately	Han DD®	09 16 072 3001	09 16 072 3101	1) Distance for contacts max. 21 mm Contact arrangement View from termination side Panel cut out for inserts for use without hoods/housings	

Identification	Wire gauge	Part No.		Drawing	Dimensions in mm
	(mm²)	Male contacts	Female contacts		
Crimp contacts					
silver plated	0.14-0.37	09 15 000 6104	09 15 000 6204		
	0.5	09 15 000 6103	09 15 000 6203		
	0.75	09 15 000 6105	09 15 000 6205		
	1.0	09 15 000 6102	09 15 000 6202		
	1.5	09 15 000 6101	09 15 000 6201		
	2.5	09 15 000 6106	09 15 000 6206		
gold plated	0.14-0.37	09 15 000 6124	09 15 000 6224		
	0.5	09 15 000 6123	09 15 000 6223		
	0.75	09 15 000 6125	09 15 000 6225		
	1.0	09 15 000 6122	09 15 000 6222		
	1.5	09 15 000 6121	09 15 000 6221		
	2.5	09 15 000 6126	09 15 000 6226		
FOC contacts for 1 mm plastic fibre		20 10 001 3211	20 10 001 3221		

Stock items in bold type

Part No.

Identification

Low construction

High construction

M

Drawing

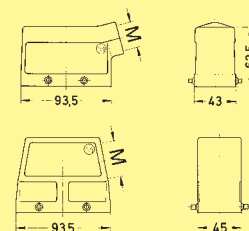
Dimensions in mm

Hoods
side-entry

19 30 016 1521
19 30 016 1522

19 30 016 0527
19 30 016 0528

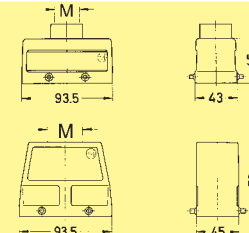
25
32

Hoods
top-entry

19 30 016 1421
19 30 016 1422

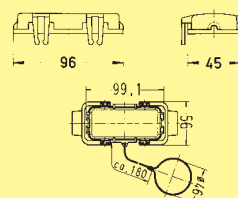
19 30 016 0427
19 30 016 0428

25
32

Protection covers for housings
thermoplastic/metal

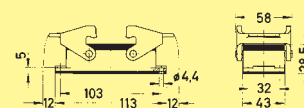
09 30 016 5401

09 30 016 5422

Housing
bulkhead
mounting

09 30 016 0301

Panel cut out 82 x 35 mm

Housings
surface mounting

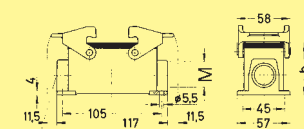
1 side-entry



19 30 016 1231

19 30 016 0232

25
32



2 side-entries

19 30 016 1271

19 30 016 0271
19 30 016 0272
19 30 016 0273

25
32
40

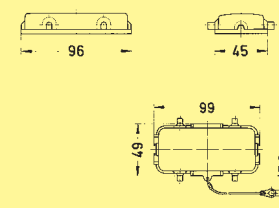
Blind way for one cable entry

	h
Low construction	56
High construction	81

Protection covers
for housings bulkhead mounting
thermoplastic/metal

09 30 016 5405

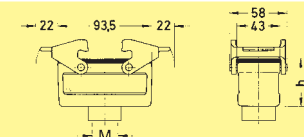
09 30 016 5425

Hoods
cable to cable

19 30 016 1731

19 30 016 0736
19 30 016 0737

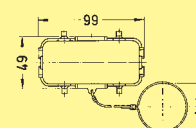
25
32



	h
Low construction	47.5
High construction	78.5

Protection cover
for hoods cable to cable
metal

09 30 016 5426



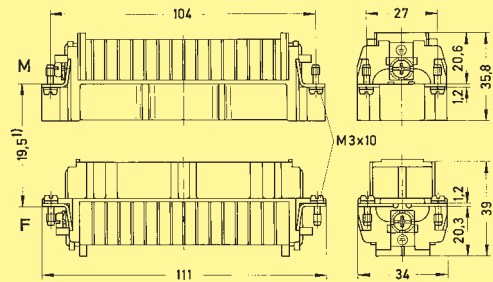
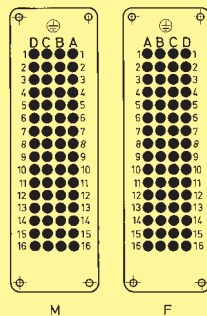
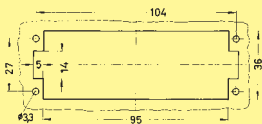
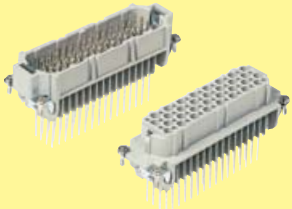
		Part No.				
Identification		Low construction	High construction	M	Drawing	Dimensions in mm
Hoods	Hoods side-entry	19 30 016 1541 19 30 016 1542	19 30 016 0547 19 30 016 0548	25 32		
	Hoods top-entry	19 30 016 1441 19 30 016 1442	19 30 016 0447 19 30 016 0448	25 32		
				32 40		
Housings	Housings bulkhead mounting		09 30 016 0307 with thermo-plastic cover 09 30 016 0306 with metal cover 09 30 016 0318	— — —	Panel cut out 82 x 35 mm 	
	Housings surface mounting					
	1 side-entry	19 30 016 1251	19 30 016 0252	25 32		
	2 side-entries	19 30 016 1291	19 30 016 0291 19 30 016 0292	25 32		
	1 side-entry	19 30 016 1256		25		
	2 side-entries	19 30 016 1296	19 30 016 0297	25 32		
	2 side-entries	19 30 016 2296	19 30 016 7297	25 32		
Hoods cable to cable		19 30 016 1751	19 30 016 0757	25 32		

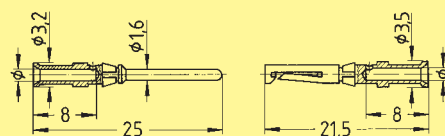
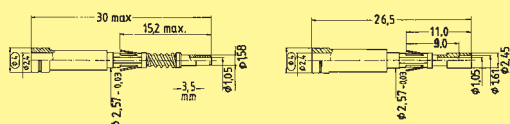
Han
D/DD

Number of contacts

64+


Inserts

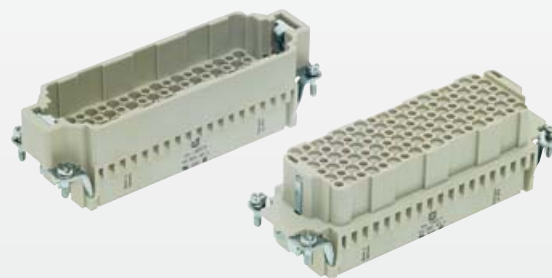
		Part No.		Drawing	Dimensions in mm
Identification	Series	Male insert (M)	Female insert (F)		
Crimp contacts Order crimp contacts separately 	Han D®	09 21 064 3001	09 21 064 3101	 1) Distance for contact max. 21 mm Contact arrangement View from termination side  Panel cut out for inserts for use without hoods/housings 	
Wrap terminal 1 x 1 mm 	Han D®	09 21 064 2601	09 21 064 2701		

		Wire gauge	Part No.		Drawing	Dimensions in mm
Identification	(mm ²)	Male contacts	Female contacts			
Crimp contacts						
silver plated	0.14-0.37	09 15 000 6104	09 15 000 6204			
	0.5	09 15 000 6103	09 15 000 6203			
	0.75	09 15 000 6105	09 15 000 6205			
	1.0	09 15 000 6102	09 15 000 6202			
	1.5	09 15 000 6101	09 15 000 6201			
	2.5	09 15 000 6106	09 15 000 6206			
gold plated	0.14-0.37	09 15 000 6124	09 15 000 6224			
	0.5	09 15 000 6123	09 15 000 6223			
	0.75	09 15 000 6125	09 15 000 6225			
	1.0	09 15 000 6122	09 15 000 6222			
	1.5	09 15 000 6121	09 15 000 6221			
	2.5	09 15 000 6126	09 15 000 6226			
FOC contacts for 1 mm plastic fibre						
		20 10 001 3212	20 10 001 3222			

Stock items in bold type

Number of contacts

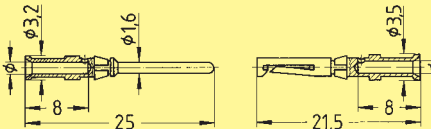
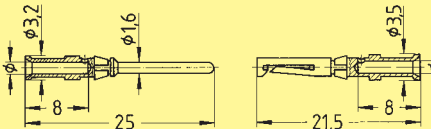
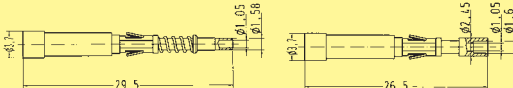
108 +



Inserts

Han
D/DD

Identification	Series	Part No.		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
Crimp terminal Order crimp contacts separately	Han DD®	09 16 108 3001	09 16 108 3101	1) Distance for contact max. 21 mm Contact arrangement View from termination side Panel cut out for inserts for use without hoods/housings	

Wire gauge		Part No.		Drawing	Dimensions in mm																												
Identification	(mm²)	Male contacts	Female contacts																														
Crimp contacts																																	
silver plated	0.14-0.37	09 15 000 6104	09 15 000 6204																														
	0.5	09 15 000 6103	09 15 000 6203																														
	0.75	09 15 000 6105	09 15 000 6205																														
	1.0	09 15 000 6102	09 15 000 6202																														
	1.5	09 15 000 6101	09 15 000 6201																														
	2.5	09 15 000 6106	09 15 000 6206																														
gold plated	0.14-0.37	09 15 000 6124	09 15 000 6224																														
	0.5	09 15 000 6123	09 15 000 6223																														
	0.75	09 15 000 6125	09 15 000 6225																														
	1.0	09 15 000 6122	09 15 000 6222																														
	1.5	09 15 000 6121	09 15 000 6221																														
	2.5	09 15 000 6126	09 15 000 6226																														
<table><thead><tr><th colspan="2">Wire gauge</th><th>ø</th><th>Stripping length</th></tr></thead><tbody><tr><td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>0.90 mm</td><td>8 mm</td></tr><tr><td>0.5 mm²</td><td>AWG 20</td><td>1.10 mm</td><td>8 mm</td></tr><tr><td>0.75 mm²</td><td>AWG 18</td><td>1.30 mm</td><td>8 mm</td></tr><tr><td>1 mm²</td><td>AWG 18</td><td>1.45 mm</td><td>8 mm</td></tr><tr><td>1.5 mm²</td><td>AWG 16</td><td>1.75 mm</td><td>8 mm</td></tr><tr><td>2.5 mm²</td><td>AWG 14</td><td>2.25 mm</td><td>6 mm</td></tr></tbody></table>						Wire gauge		ø	Stripping length	0.14-0.37 mm²	AWG 26-22	0.90 mm	8 mm	0.5 mm²	AWG 20	1.10 mm	8 mm	0.75 mm²	AWG 18	1.30 mm	8 mm	1 mm²	AWG 18	1.45 mm	8 mm	1.5 mm²	AWG 16	1.75 mm	8 mm	2.5 mm²	AWG 14	2.25 mm	6 mm
Wire gauge		ø	Stripping length																														
0.14-0.37 mm²	AWG 26-22	0.90 mm	8 mm																														
0.5 mm²	AWG 20	1.10 mm	8 mm																														
0.75 mm²	AWG 18	1.30 mm	8 mm																														
1 mm²	AWG 18	1.45 mm	8 mm																														
1.5 mm²	AWG 16	1.75 mm	8 mm																														
2.5 mm²	AWG 14	2.25 mm	6 mm																														
FOC contacts																																	
for 1 mm plastic fibre		20 10 001 3211	20 10 001 3221																														

Stock items in bold type

Part No.

Identification

Low construction

High construction

M

Drawing

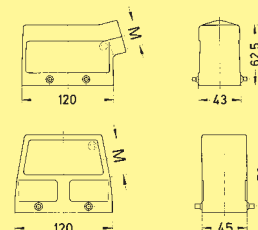
Dimensions in mm

Hoods

Hoods
side-entry

19 30 024 1521
19 30 024 1522

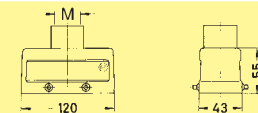
25
32

Hoods
top-entry

19 30 024 1422

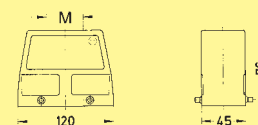
19 30 024 0427

32



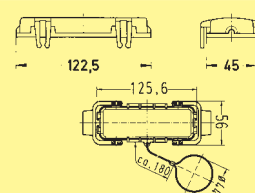
19 30 024 0428

40

Protection covers for hoods
thermoplastic/metal

09 30 024 5401

09 30 024 5422



Housings

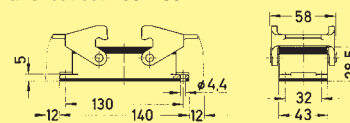
Housing bulkhead mounting



09 30 024 0301

—

Panel cut out 108 x 35 mm

Housings
surface
mounting

1 side-entry

19 30 024 1231

19 30 024 0232

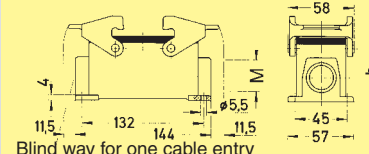
25
32

2 side-entries

19 30 024 1271

19 30 024 0272
19 30 024 0273

25
32
40



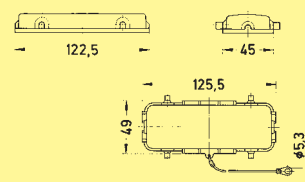
Blind way for one cable entry

	h
Low construction	56
High construction	81

Protection covers
for housings bulkhead/surface mounting
thermoplastic/metal

09 30 024 5405

09 30 024 5425



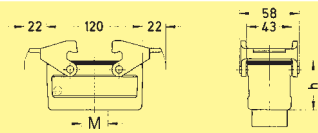
Hoods cable to cable



19 30 024 1732

19 30 024 0737
19 30 024 0738

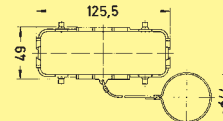
32
40



	h
Low construction	57.5
High construction	78.5

Protection cover
for hoods
metal

09 30 024 5426



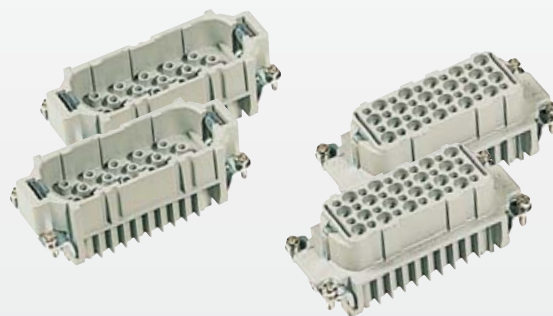
Stock items in bold type

Identification		Part No.		M	Drawing	Dimensions in mm
		Low construction	High construction			
Hoods	Hoods side-entry	19 30 024 1541 19 30 024 1542	19 30 024 0547 19 30 024 0548	25 32		
	Hoods top-entry	19 30 024 1442	19 30 024 0447 19 30 024 0448	32 40		
Housings	Housings bulkhead mounting	09 30 024 0307 with thermo- plastic cover 09 30 024 0304 with metal cover 09 30 024 0318		— — —		
	Housings 1 side-entry	19 30 024 1251		25		
	2 side-entries	19 30 024 1291	19 30 024 0292	25 32		
	1 side-entry	with thermoplastic cover 19 30 024 1256		25		
	2 side-entries	with thermoplastic cover 19 30 024 1296	with thermoplastic cover 19 30 024 0297	25 32		
	2 side-entries	with metal cover 19 30 024 2296	19 30 024 7297	25 32		
	Hoods cable to cable	19 30 024 1752	19 30 024 0757	32		

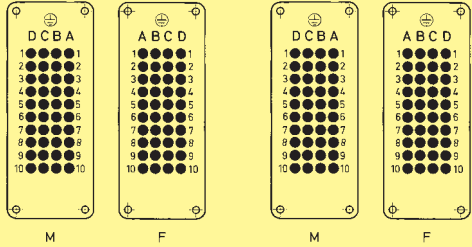
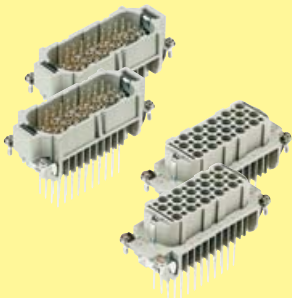
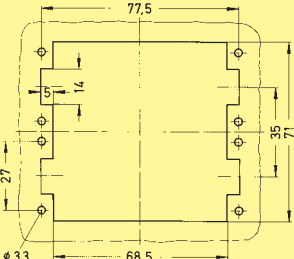
Han
D/DD

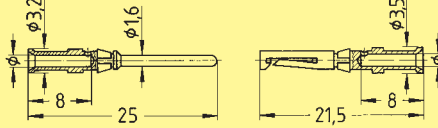
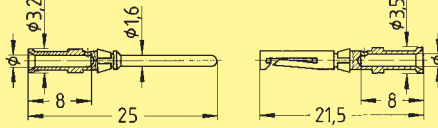
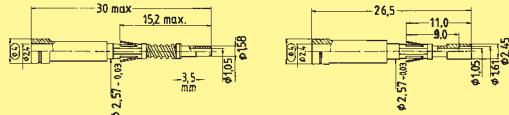
Number of contacts

80+



Inserts

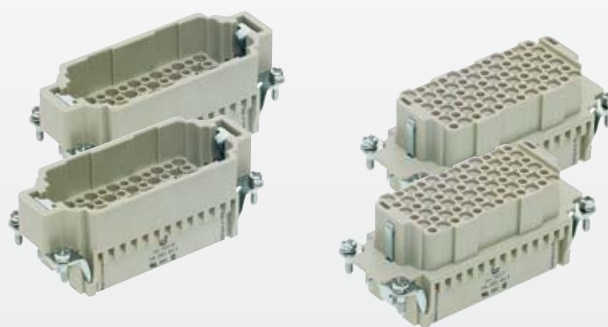
		Part No.			
Identification	Series	Male insert (M)	Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately 	Han D® 1-40 1-40	09 21 040 3001 09 21 040 3001	09 21 040 3101 09 21 040 3101	Dimensions for inserts see page 02.28. Contact arrangement View from termination side 	
Wrap terminal 1 x 1 mm 	Han D® 1-40 1-40	09 21 040 2601 09 21 040 2601	09 21 040 2701 09 21 040 2701	Panel cut out for inserts for use without hoods/housings 	

		Wire gauge	Part No.			
Identification	(mm ²)	Male contacts	Female contacts	Drawing	Dimensions in mm	
Crimp contacts						
silver plated	0.14-0.37	09 15 000 6104	09 15 000 6204			
	0.5	09 15 000 6103	09 15 000 6203			
	0.75	09 15 000 6105	09 15 000 6205			
	1.0	09 15 000 6102	09 15 000 6202			
	1.5	09 15 000 6101	09 15 000 6201			
	2.5	09 15 000 6106	09 15 000 6206			
gold plated	0.14-0.37	09 15 000 6124	09 15 000 6224			
	0.5	09 15 000 6123	09 15 000 6223			
	0.75	09 15 000 6125	09 15 000 6225			
	1.0	09 15 000 6122	09 15 000 6222			
	1.5	09 15 000 6121	09 15 000 6221			
	2.5	09 15 000 6126	09 15 000 6226			
FOC contacts for 1 mm plastic fibre						
		20 10 001 3212	20 10 001 3222			

Stock items in bold type

Number of contacts

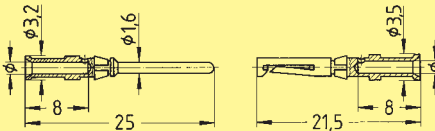
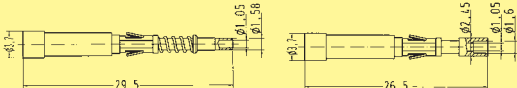
144 +



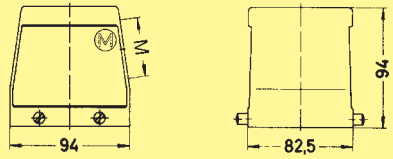
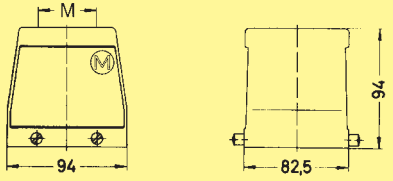
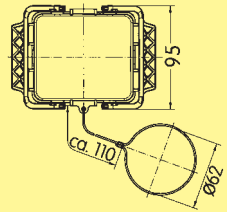
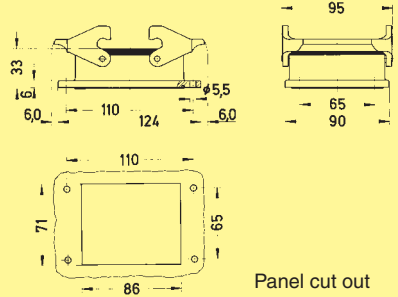
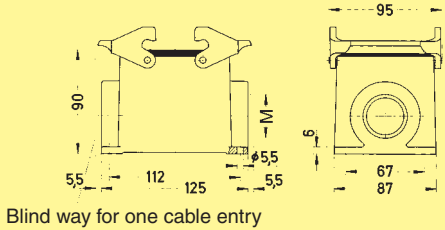
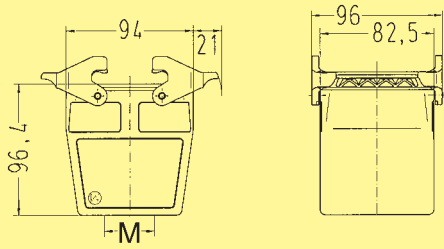
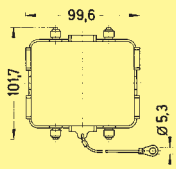
Inserts

Han
D/DD

		Part No.			
Identification	Series	Male insert (M)	Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately	Han DD®			Dimensions for inserts see page 02.29.	
	1- 72 73-144	09 16 072 3001 09 16 072 3011	09 16 072 3101 09 16 072 3111	Contact arrangement View from termination side Panel cut out for inserts for use without hoods/housings 	

		Wire gauge		Part No.																														
Identification	(mm ²)	Male contacts	Female contacts	Drawing	Dimensions in mm																													
Crimp contacts																																		
silver plated	0.14-0.37	09 15 000 6104	09 15 000 6204																															
	0.5	09 15 000 6103	09 15 000 6203																															
	0.75	09 15 000 6105	09 15 000 6205																															
	1.0	09 15 000 6102	09 15 000 6202																															
	1.5	09 15 000 6101	09 15 000 6201																															
	2.5	09 15 000 6106	09 15 000 6206																															
gold plated	0.14-0.37	09 15 000 6124	09 15 000 6224	<table border="1"><thead><tr><th colspan="2">Wire gauge</th><th>ø</th><th>Stripping length</th></tr></thead><tbody><tr><td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>0.90 mm</td><td>8 mm</td></tr><tr><td>0.5 mm²</td><td>AWG 20</td><td>1.10 mm</td><td>8 mm</td></tr><tr><td>0.75 mm²</td><td>AWG 18</td><td>1.30 mm</td><td>8 mm</td></tr><tr><td>1 mm²</td><td>AWG 18</td><td>1.45 mm</td><td>8 mm</td></tr><tr><td>1.5 mm²</td><td>AWG 16</td><td>1.75 mm</td><td>8 mm</td></tr><tr><td>2.5 mm²</td><td>AWG 14</td><td>2.25 mm</td><td>6 mm</td></tr></tbody></table>			Wire gauge		ø	Stripping length	0.14-0.37 mm ²	AWG 26-22	0.90 mm	8 mm	0.5 mm ²	AWG 20	1.10 mm	8 mm	0.75 mm ²	AWG 18	1.30 mm	8 mm	1 mm ²	AWG 18	1.45 mm	8 mm	1.5 mm ²	AWG 16	1.75 mm	8 mm	2.5 mm ²	AWG 14	2.25 mm	6 mm
	Wire gauge		ø				Stripping length																											
	0.14-0.37 mm ²	AWG 26-22	0.90 mm				8 mm																											
	0.5 mm ²	AWG 20	1.10 mm				8 mm																											
	0.75 mm ²	AWG 18	1.30 mm				8 mm																											
	1 mm ²	AWG 18	1.45 mm				8 mm																											
1.5 mm ²	AWG 16	1.75 mm	8 mm																															
2.5 mm ²	AWG 14	2.25 mm	6 mm																															
0.5	09 15 000 6123	09 15 000 6223																																
0.75	09 15 000 6125	09 15 000 6225																																
1.0	09 15 000 6122	09 15 000 6222																																
1.5	09 15 000 6121	09 15 000 6221																																
2.5	09 15 000 6126	09 15 000 6226																																
FOC contacts for 1 mm plastic fibre																																		
		20 10 001 3211	20 10 001 3221																															

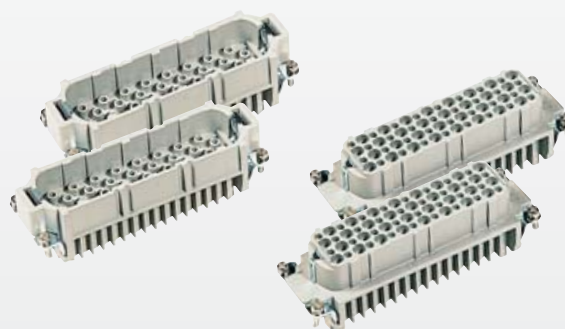
Stock items in bold type

Identification		Part No.	M	Drawing	Dimensions in mm
Hoods	Hoods side-entry		19 30 032 0527 19 30 032 0528 19 30 032 0529	32 40 50	
	Hoods top-entry		19 30 032 0427 19 30 032 0428 19 30 032 0429	32 40 50	
	Protection cover for hoods		09 30 032 5420	—	
Housings	Housing bulkhead mounting		09 30 032 0301	—	
	Housings surface mounting		19 30 032 0232 19 30 032 0272 19 30 032 0273	1 x 32 2 x 32 2 x 40	
	Hoods cable to cable		19 30 032 0738	2 x 40	
	Protection covers for housings		09 30 032 5425	—	

Stock items in bold type

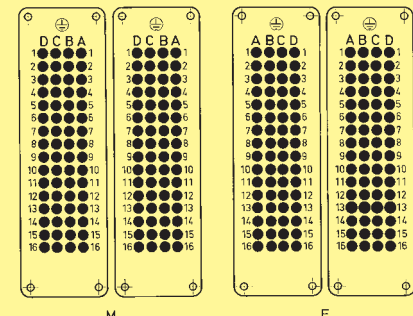
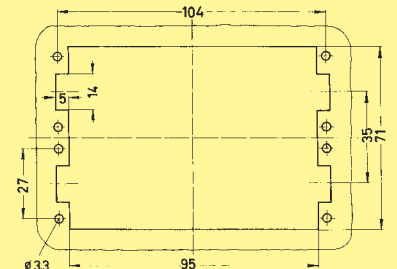
Number of contacts

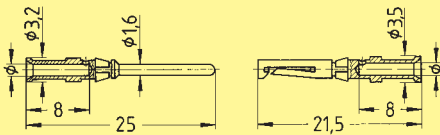
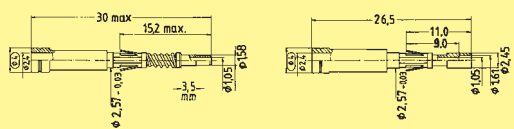
128 +



Inserts

Han
D/DD

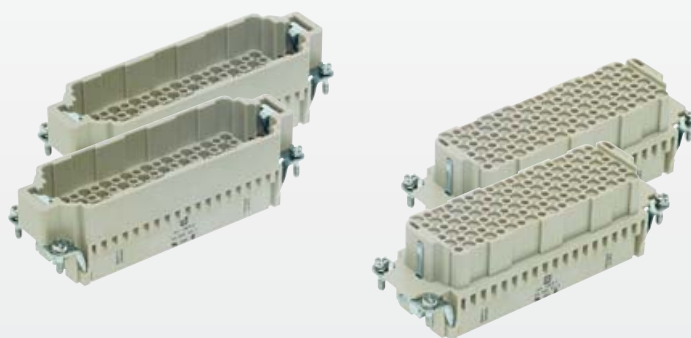
		Part No.		Drawing	Dimensions in mm
Identification	Series	Male insert (M)	Female insert (F)		
Crimp terminal Order crimp contacts separately 	Han D®			Dimensions for inserts see page 02.32. Contact arrangement View from termination side 	
	1-64 1-64	09 21 064 3001 09 21 064 3001	09 21 064 3101 09 21 064 3101		
Wrap terminal 1 x 1 mm 	Han D®			Panel cut out for inserts for use without hoods/housings 	
	1-64 1-64	09 21 064 2601 09 21 064 2601	09 21 064 2701 09 21 064 2701		

		Wire gauge	Part No.																															
Identification		(mm ²)	Male contacts	Female contacts	Drawing	Dimensions in mm																												
Crimp contacts																																		
silver plated		0.14-0.37	09 15 000 6104	09 15 000 6204																														
		0.5	09 15 000 6103	09 15 000 6203																														
		0.75	09 15 000 6105	09 15 000 6205																														
		1.0	09 15 000 6102	09 15 000 6202																														
		1.5	09 15 000 6101	09 15 000 6201																														
		2.5	09 15 000 6106	09 15 000 6206																														
gold plated		0.14-0.37	09 15 000 6124	09 15 000 6224	<table><thead><tr><th colspan="2">Wire gauge</th><th>Ø</th><th>Stripping length</th></tr></thead><tbody><tr><td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>0.90 mm</td><td>8 mm</td></tr><tr><td>0.5 mm²</td><td>AWG 20</td><td>1.10 mm</td><td>8 mm</td></tr><tr><td>0.75 mm²</td><td>AWG 18</td><td>1.30 mm</td><td>8 mm</td></tr><tr><td>1 mm²</td><td>AWG 18</td><td>1.45 mm</td><td>8 mm</td></tr><tr><td>1.5 mm²</td><td>AWG 16</td><td>1.75 mm</td><td>8 mm</td></tr><tr><td>2.5 mm²</td><td>AWG 14</td><td>2.25 mm</td><td>6 mm</td></tr></tbody></table>	Wire gauge		Ø	Stripping length	0.14-0.37 mm ²	AWG 26-22	0.90 mm	8 mm	0.5 mm ²	AWG 20	1.10 mm	8 mm	0.75 mm ²	AWG 18	1.30 mm	8 mm	1 mm ²	AWG 18	1.45 mm	8 mm	1.5 mm ²	AWG 16	1.75 mm	8 mm	2.5 mm ²	AWG 14	2.25 mm	6 mm	
	Wire gauge		Ø	Stripping length																														
	0.14-0.37 mm ²	AWG 26-22	0.90 mm	8 mm																														
	0.5 mm ²	AWG 20	1.10 mm	8 mm																														
	0.75 mm ²	AWG 18	1.30 mm	8 mm																														
	1 mm ²	AWG 18	1.45 mm	8 mm																														
1.5 mm ²	AWG 16	1.75 mm	8 mm																															
2.5 mm ²	AWG 14	2.25 mm	6 mm																															
	0.5	09 15 000 6123	09 15 000 6223																															
	0.75	09 15 000 6125	09 15 000 6225																															
	1.0	09 15 000 6122	09 15 000 6222																															
	1.5	09 15 000 6121	09 15 000 6221																															
	2.5	09 15 000 6126	09 15 000 6226																															
FOC contacts for 1 mm plastic fibre			20 10 001 3212	20 10 001 3222																														

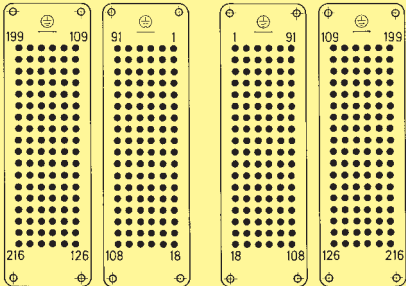
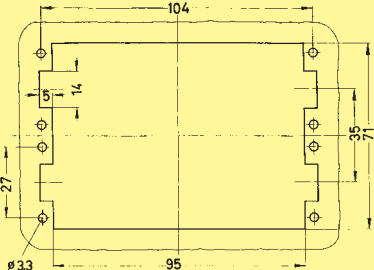
Stock items in bold type

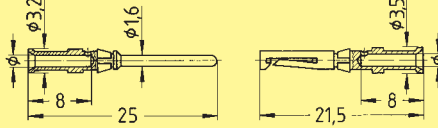
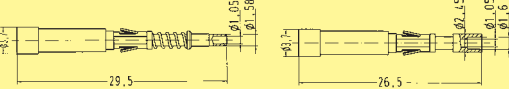
Number of contacts

216+

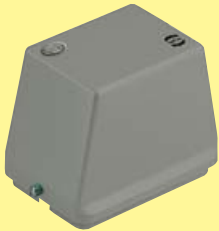
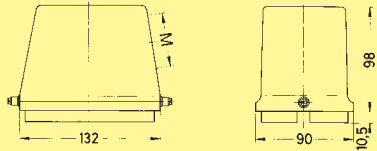
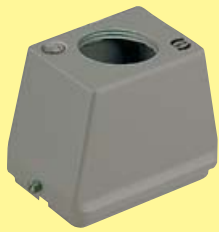
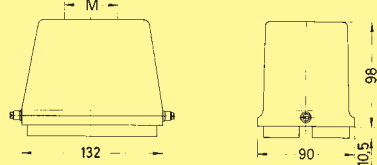
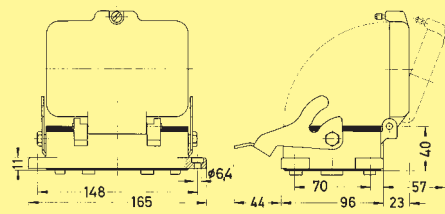
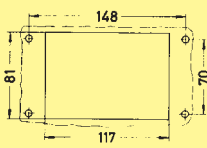
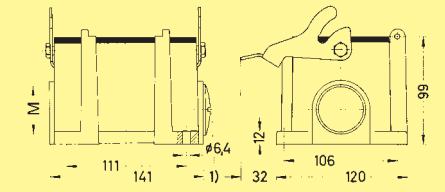
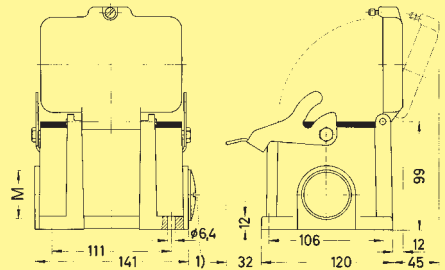


Inserts

Identification		Series	Male insert (M)	Female insert (F)	Part No.	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately	Han DD®					Dimensions for inserts see page 02.33.	
		1-108 109-216	09 16 108 3001 09 16 108 3011	09 16 108 3101 09 16 108 3111		Contact arrangement View from termination side	
							
						Panel cut out for inserts for use without hoods/housings	
							

Wire gauge		Part No.																															
Identification	(mm²)	Male contacts	Female contacts	Drawing	Dimensions in mm																												
Crimp contacts																																	
silver plated	0.14-0.37	09 15 000 6104	09 15 000 6204		<table><tr><th colspan="2">Wire gauge</th><th>ø</th><th>Stripping length</th></tr><tr><td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>0.90 mm</td><td>8 mm</td></tr><tr><td>0.5 mm²</td><td>AWG 20</td><td>1.10 mm</td><td>8 mm</td></tr><tr><td>0.75 mm²</td><td>AWG 18</td><td>1.30 mm</td><td>8 mm</td></tr><tr><td>1 mm²</td><td>AWG 18</td><td>1.45 mm</td><td>8 mm</td></tr><tr><td>1.5 mm²</td><td>AWG 16</td><td>1.75 mm</td><td>8 mm</td></tr><tr><td>2.5 mm²</td><td>AWG 14</td><td>2.25 mm</td><td>6 mm</td></tr></table>	Wire gauge		ø	Stripping length	0.14-0.37 mm²	AWG 26-22	0.90 mm	8 mm	0.5 mm²	AWG 20	1.10 mm	8 mm	0.75 mm²	AWG 18	1.30 mm	8 mm	1 mm²	AWG 18	1.45 mm	8 mm	1.5 mm²	AWG 16	1.75 mm	8 mm	2.5 mm²	AWG 14	2.25 mm	6 mm
	Wire gauge		ø			Stripping length																											
	0.14-0.37 mm²	AWG 26-22	0.90 mm			8 mm																											
	0.5 mm²	AWG 20	1.10 mm			8 mm																											
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	1 mm²	AWG 18	1.45 mm			8 mm																											
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	0.5	09 15 000 6103	09 15 000 6203																														
	0.75	09 15 000 6105	09 15 000 6205																														
	1.0	09 15 000 6102	09 15 000 6202																														
	1.5	09 15 000 6101	09 15 000 6201																														
	2.5	09 15 000 6106	09 15 000 6206																														
gold plated	0.14-0.37	09 15 000 6124	09 15 000 6224																														
	0.5	09 15 000 6123	09 15 000 6223																														
	0.75	09 15 000 6125	09 15 000 6225																														
	1.0	09 15 000 6122	09 15 000 6222																														
	1.5	09 15 000 6121	09 15 000 6221																														
	2.5	09 15 000 6126	09 15 000 6226																														
FOC contacts																																	
for 1 mm plastic fibre		20 10 001 3211	20 10 001 3221																														

Stock items in bold type

Identification	Part No.	M	Drawing	Dimensions in mm
Hoods	Hoods side-entry			
		19 30 048 0548 19 30 048 0549	40 50	
Hoods	Hoods top-entry			
		19 30 048 0448 19 30 048 0449	40 50	
Housings	Housings bulkhead mounting			
		with thermo-plastic cover 09 30 048 0301	—	
		with metal cover 09 30 048 0317	—	Panel cut out 
	Housings surface mounting			
		19 30 048 0292 19 30 048 0293	2 x 32 2 x 40	
		with thermo-plastic cover 19 30 048 0298	2 x 40	

1) Blind grommet

Stock items in bold type

Han
D/DD

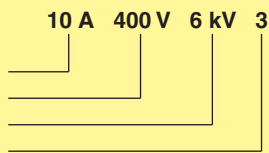
Modified contact arrangement

The connector series Han DD[®] and Han D[®] equipped with all contacts may be used for voltages up to 250 V, pollution degree 3. A modified contact loading arrangement permits use up to 500 V also in the same pollution degree.

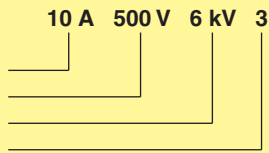
According to DIN EN 61 984 connectors should not be coupled or decoupled under electrical load.

Series Han DD[®]

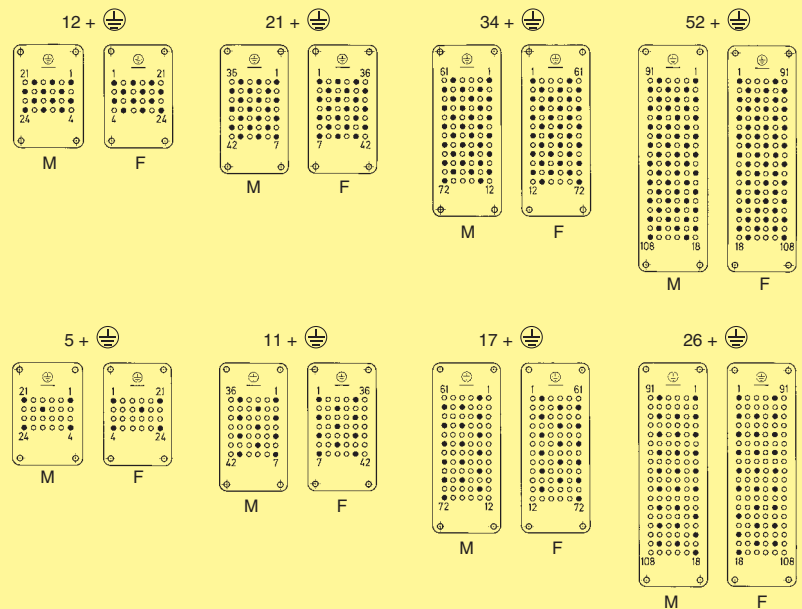
Working current
Working voltage
Impulse rated voltage
Pollution degree



Working current
Working voltage
Impulse rated voltage
Pollution degree



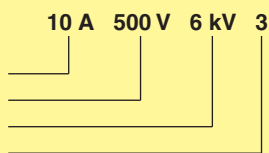
Contact arrangement View from termination side



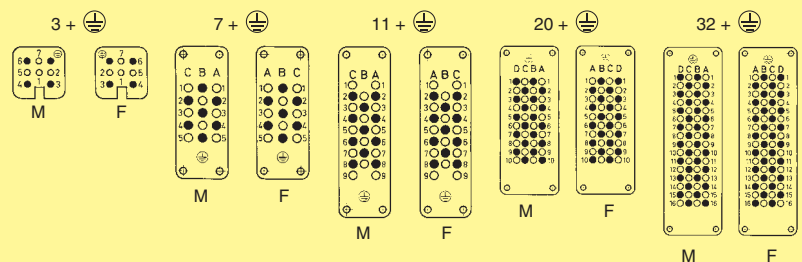
● Working contact ○ Without contact M – Male insert F – Female insert

Series Han D[®]

Working current
Working voltage
Impulse rated voltage
Pollution degree



Contact arrangement View from termination side



● Working contact ○ Without contact M – Male insert F – Female insert



Han pcb-adapter

Han
D/DD

Identification

Part No.

Drawing

Dimensions in mm

Adapter

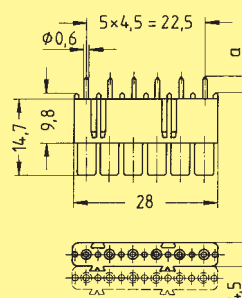
(contacts included)
can be used in combination with
all Han DD® inserts

for pcb:

- up to 1.6 mm
- up to 2.4 mm

09 16 000 9905

09 16 000 9908



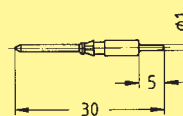
Part No.	a
09 16 000 9905	2.6
09 16 000 9908	3.4

Han DD®

Male contact



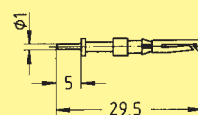
09 15 000 6191



Female contact

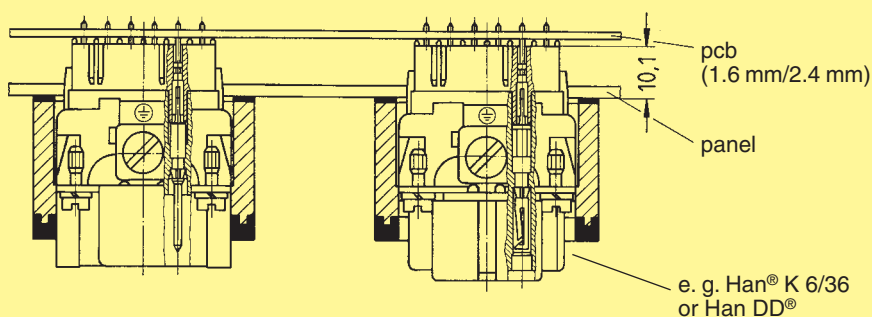


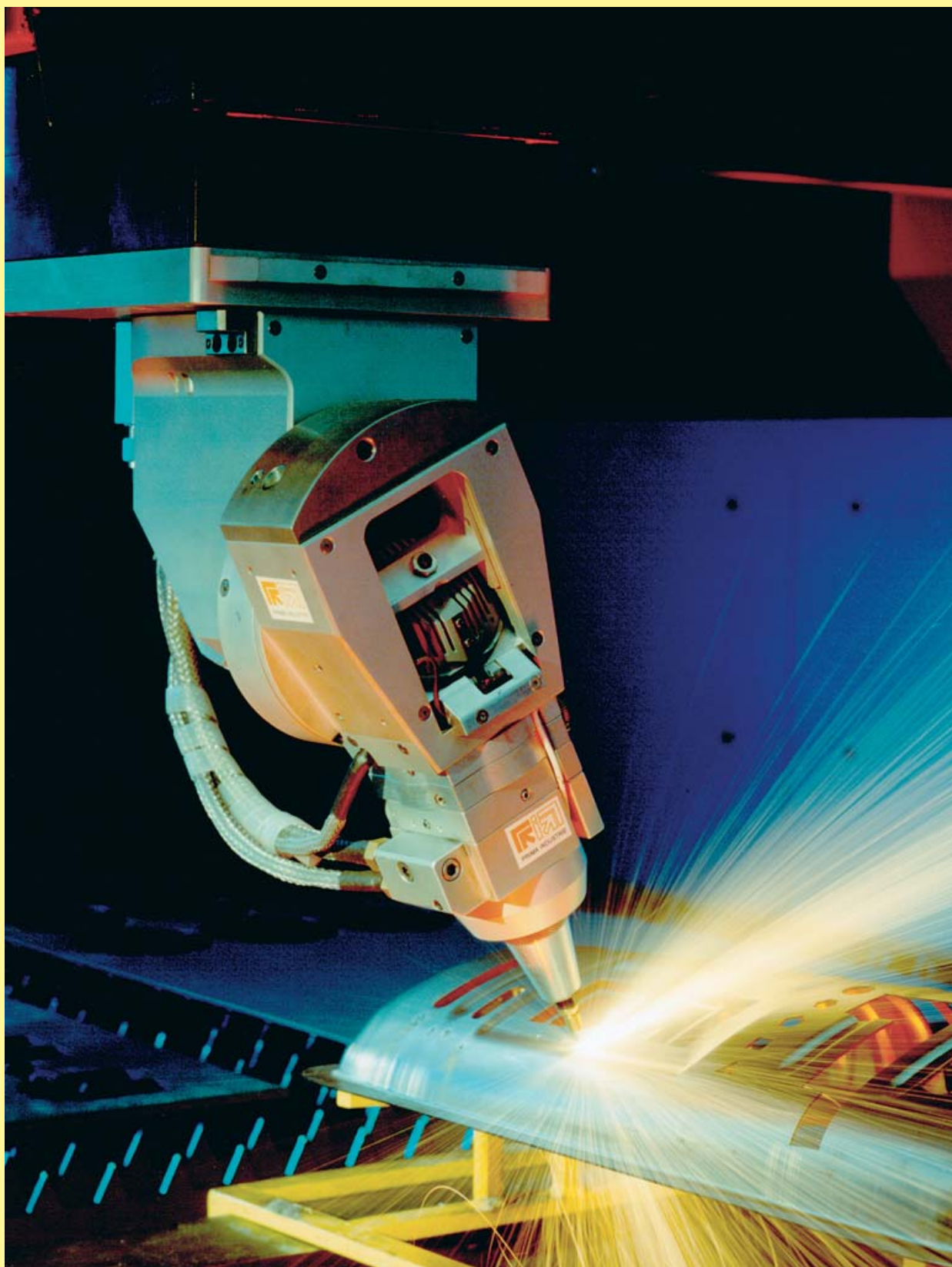
09 15 000 6291



Application

The pcb-adapter is used to terminate
control and data lines via pcb to the
above mentioned connector inserts.





2D and 3D laser cutting machines for industrial applications
PRIMA INDUSTRIE SpA, Regina Margherita, Italy

Han E[®] / Han[®] ES / Han[®] ESS / Han[®] EE

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Han [®] 92 EE	03.34
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Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

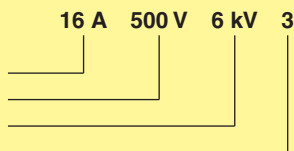
Approvals



Inserts

Number of contacts 6, 10, 16, 24, 32 (2 x 16),
48 (2 x 24) + PE

Electrical data
acc. to DIN EN 61 984



Working current
Working voltage
Rated impulse voltage
Pollution degree

– Pollution degree 2 also 16 A 400/690 V 6 kV 2

Working voltage
acc. to UL/CSA

600 V

Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
– Mating cycles

$\geq 10^{10} \Omega$
Polycarbonate
– 40 °C / +125 °C
V 0
 ≥ 500

Contacts

Material copper alloy

Surface

– hard-silver plated 3 μm Ag
– hard-gold plated 2 μm Au over 3 μm Ni
Contact resistance $\leq 1 \text{ m}\Omega$

Crimp terminal

– mm^2 0.5 - 4.0 mm^2
– AWG 20 - 12
– Stripping length 7.5 mm

Screw terminal

– mm^2 1.0 - 2.5 mm^2
– AWG 18 - 14
– Tightening/test torque 0.5 Nm
– Stripping length 7.0 mm

Hoods/Housings

Material die cast aluminium

Surface powder-coated

RAL 7037

Locking element Han-Easy Lock®

Hoods/Housings seal NBR

Limiting temperatures – 40 °C / +125 °C

Degree of protection

acc. to DIN EN 60 529
for coupled connector IP 65

Further selection
of hoods/housings

chapter 30 and chapter 31

Accessories

Crimping tools chapter 99

Cable clamps chapter 40

Coding of Hoods/Housings chapter 40

Label acc. to CSA-approval chapter 40

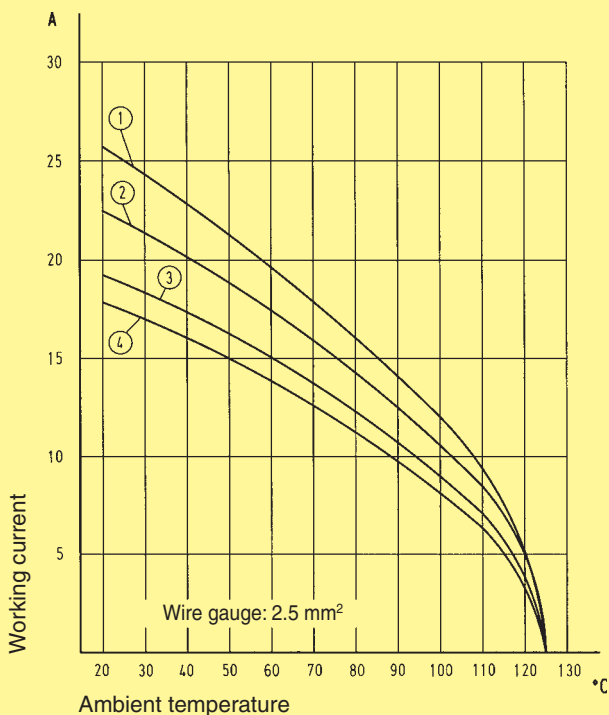
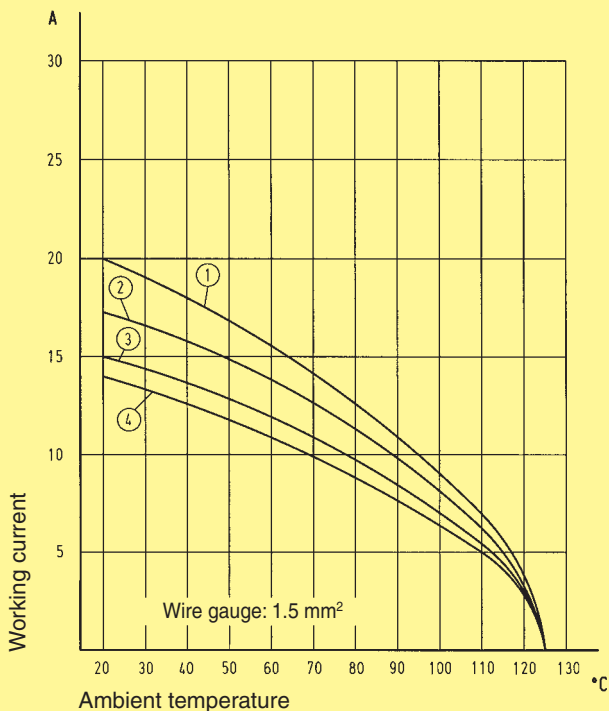
Han-Snap® chapter 11

Special insert fixing screws chapter 40

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



- ① Han® 6 E
- ② Han® 10 E
- ③ Han® 16 E
- ④ Han® 24 E

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals



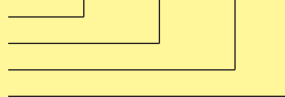
Inserts

Number of contacts 10, 18, 32, 46, 64 (2 x 32),
92 (2 x 46) + PE

Electrical data
acc. to DIN EN 61 984

16 A 500 V 6 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree



– Pollution degree 2 also

16 A 830 V 8 kV 2

Working voltage
acc. to UL/CSA

600 V

Insulation resistance

$\geq 10^{10} \Omega$

Material

Polycarbonate

Limiting temperatures

- 40 °C / +125 °C

Flammability acc. to UL 94

V 0

Mechanical working life

- Mating cycles

≥ 500

Contacts

Material

copper alloy

Surface

- hard-silver plated
- hard-gold plated

3 μm Ag

2 μm Au over 3 μm Ni

Contact resistance

$\leq 1 \text{ m}\Omega$

Crimp terminal

- mm²
- AWG
- Stripping length

0.5 - 4.0 mm²

20 - 12

7.5 mm

Hoods/Housings

Material

die cast aluminium

Surface

powder-coated
RAL 7037

Locking element

Han-Easy Lock®

Hoods/Housings seal

NBR

Limiting temperatures

- 40 °C / +125 °C

Degree of protection
acc. to DIN EN 60 529
for coupled connector

IP 65

Further selection
of hoods/housings

chapter 30 / chapter 31

Accessories

Crimping tools

chapter 99

Cable clamps

chapter 40

Coding of Hoods/Housings

chapter 40

Label acc. to CSA-approval

chapter 40

Han-Snap®

chapter 11

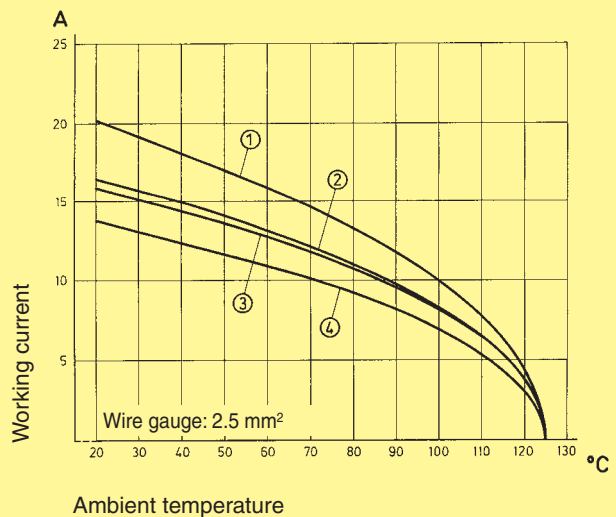
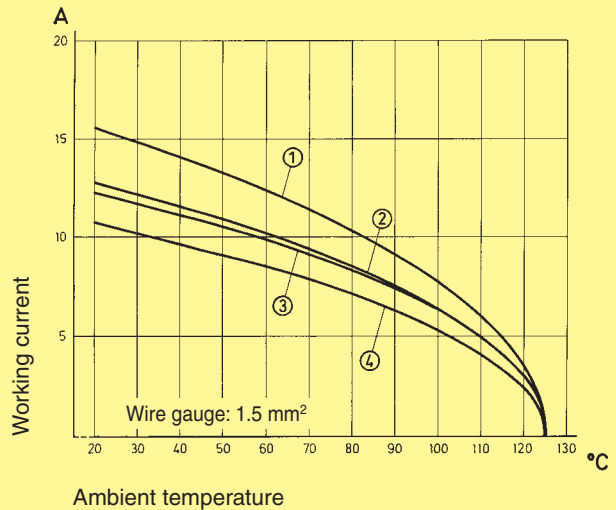
Special insert fixing screws

chapter 40

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



- ① Han® 10 EE
- ② Han® 18 EE
- ③ Han® 32 EE
- ④ Han® 46 EE

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

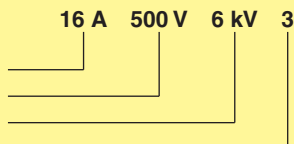
Approvals



Inserts

Number of contacts 6, 10, 16, 24, 32 (2 x 16),
48 (2 x 24) + PE

Electrical data
acc. to DIN EN 61 984



Working current
Working voltage
Rated impulse voltage
Pollution degree

– Pollution degree 2 also 16 A 400/690 V 6 kV 2

Working voltage
acc. to UL/CSA

600 V

Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
– Mating cycles

$\geq 10^{10} \Omega$
Polycarbonate
- 40 °C / +125 °C
V 0
 ≥ 500

Contacts

Material copper alloy

Surface

– hard-silver plated

Contact resistance

3 μm Ag
 $\leq 3 \text{ m}\Omega$

Cage-clamp terminal

– mm²

0.14 - 2.5 mm²

– AWG

26 - 14

Stripping length

7 - 9 mm

Hoods/Housings

Material

die cast aluminium

Surface

powder-coated

RAL 7037

Locking element

Han-Easy Lock®

Hoods/housings seal

NBR

Limiting temperatures

- 40 °C / +125 °C

Degree of protection

acc. to DIN EN 60 529
for coupled connector

IP 65

Further selection
of hoods/housings

chapter 30 / chapter 31

Accessories

Cable clamps

chapter 40

Coding of hoods/housings

chapter 40

Label acc. to CSA-approval

chapter 40

Han-Snap®

chapter 11

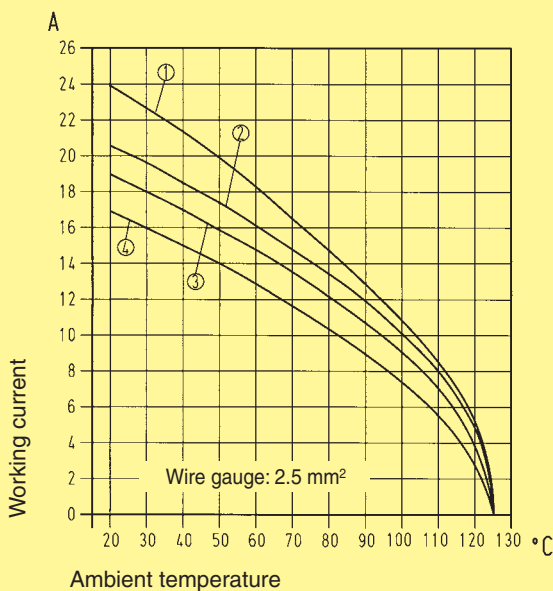
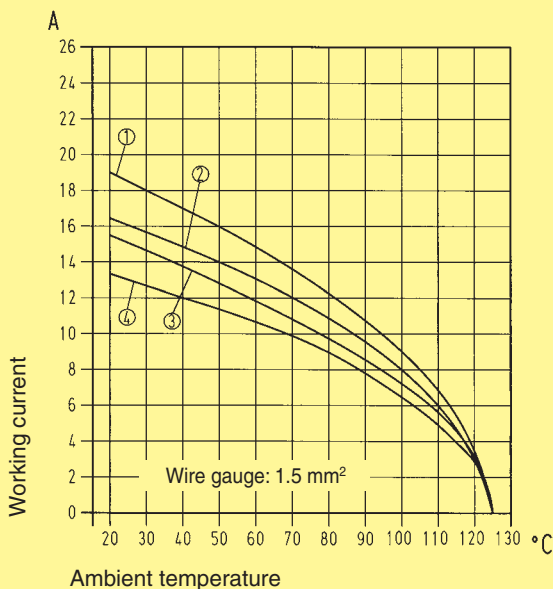
Special insert fixing screws

chapter 40

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



- ① Han® 6 ES
- ② Han® 10 ES
- ③ Han® 16 ES
- ④ Han® 24 ES

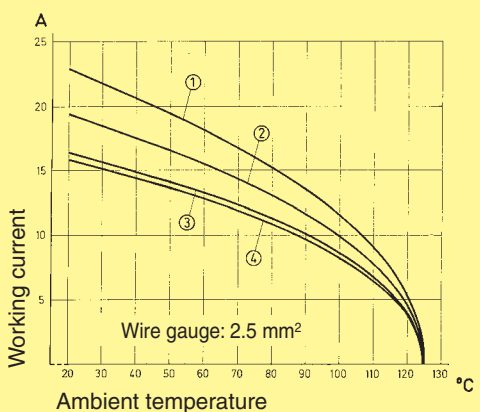
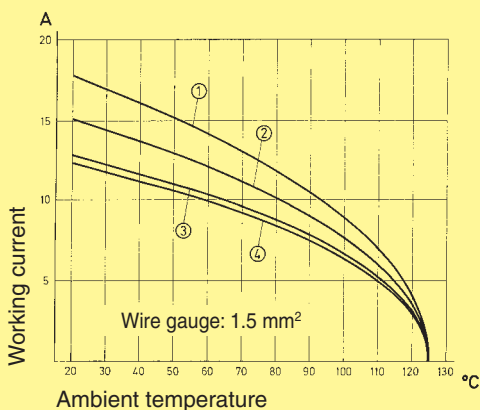
Features:

- ☐ 2 termination points per contact
- ☐ Termination: Cage-clamp
- ☐ Suitable for standard hoods/housings size B
- ☐ High construction hoods/housings are necessary
- ☐ No special tools necessary
- ☐ Bridges are made by using a simple screw driver
- ☐ Vibration resistant
- ☐ Ideal as motor connector as it offers the possibility to create star and delta bridges
- ☐ Testing is possible in the screwdriver aperture

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



- ① Han® 6 ESS
- ② Han® 10 ESS
- ③ Han® 16 ESS
- ④ Han® 24 ESS

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals

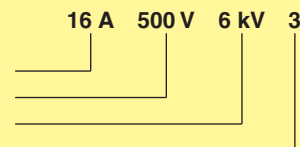


Inserts

Number of contacts 6, 10, 16, 24, 32 (2 x 16),
48 (2 x 24) + PE

Electrical data
acc. to DIN EN 61 984

Working current
Working voltage
Rated impulse voltage
Pollution degree



– Pollution degree 2 also

16 A 400/690 V 6 kV 2

Working voltage
acc. to UL/CSA

600 V

Test voltage U_{rms}
Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
- Mating cycles

3 kV
 $\geq 10^{10} \Omega$
Polycarbonate
- 40 °C / +125 °C
V 0
 ≥ 500

Contacts

Material
Surface
- hard-silver plated
Contact resistance
Cage-clamp terminal
- mm²
- AWG
- Stripping length

copper alloy
3 μ m Ag
 $\leq 3 \text{ m}\Omega$
0.14 - 2.5 mm²
26 - 14
9 - 11 mm

Hoods/Housings

Material
Surface
Locking element
Hoods/Housings seal
Limiting temperatures
Degree of protection
acc. to DIN EN 60 529
for coupled connector

die cast aluminium
powder-coated
RAL 7037
Han-Easy Lock®
NBR
- 40 °C / +125 °C

IP 65

Further selection
of hoods/housings

chapter 30 / chapter 31

Accessories

Cable clamps
Coding of hoods/housings
Label acc. to CSA-approval
Han-Snap®
Special insert fixing screws

chapter 40
chapter 40
chapter 40
chapter 11
chapter 40

Number of contacts

10 +

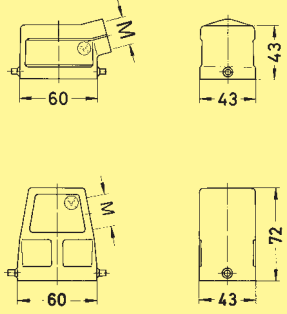
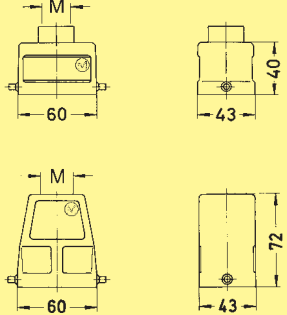
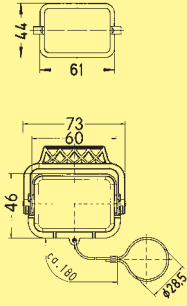
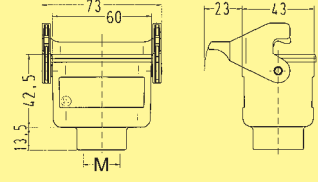
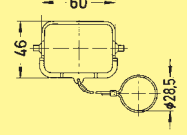

Inserts

Identification	Series	Part No.		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
Crimp terminal Order contacts separately	Han® EE			1) Distance for contact max. 21 mm Contact arrangement View from termination side Panel cut out for inserts for use without hoods/housings	
		09 32 010 3001	09 32 010 3101		

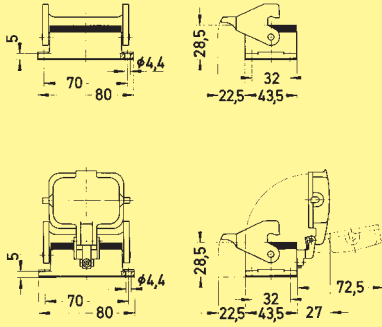
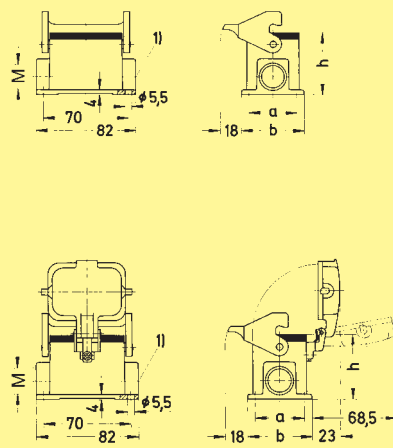
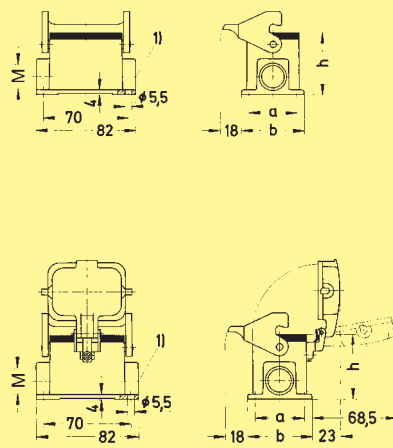
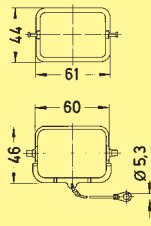
Wire gauge		Part No.																																							
Identification	(mm²)	Male contacts	Female contacts	Drawing	Dimensions in mm																																				
Crimp contacts																																									
Power contacts	0.14-0.37	09 33 000 6127*	09 33 000 6227*	Operation contact Identification Relay contact Crimp contact identification <table><thead><tr><th>Identification</th><th colspan="2">Wire gauge</th><th>Stripping length</th></tr></thead><tbody><tr><td>no groove</td><td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>7,5 mm</td></tr><tr><td>no groove</td><td>0.5 mm²</td><td>AWG 20</td><td>7,5 mm</td></tr><tr><td>1 groove*</td><td>0.75 mm²</td><td>AWG 18</td><td>7,5 mm</td></tr><tr><td>1 groove</td><td>1 mm²</td><td>AWG 18</td><td>7,5 mm</td></tr><tr><td>2 grooves</td><td>1.5 mm²</td><td>AWG 16</td><td>7,5 mm</td></tr><tr><td>3 grooves</td><td>2.5 mm²</td><td>AWG 14</td><td>7,5 mm</td></tr><tr><td>wide groove</td><td>3.0 mm²</td><td>AWG 12</td><td>7,5 mm</td></tr><tr><td>no groove</td><td>4 mm²</td><td>AWG 12</td><td>7,5 mm</td></tr></tbody></table> * on the back crimp collar		Identification	Wire gauge		Stripping length	no groove	0.14-0.37 mm²	AWG 26-22	7,5 mm	no groove	0.5 mm²	AWG 20	7,5 mm	1 groove*	0.75 mm²	AWG 18	7,5 mm	1 groove	1 mm²	AWG 18	7,5 mm	2 grooves	1.5 mm²	AWG 16	7,5 mm	3 grooves	2.5 mm²	AWG 14	7,5 mm	wide groove	3.0 mm²	AWG 12	7,5 mm	no groove	4 mm²	AWG 12	7,5 mm
Identification	Wire gauge		Stripping length																																						
no groove	0.14-0.37 mm²	AWG 26-22	7,5 mm																																						
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1 groove	1 mm²	AWG 18	7,5 mm																																						
2 grooves	1.5 mm²	AWG 16	7,5 mm																																						
3 grooves	2.5 mm²	AWG 14	7,5 mm																																						
wide groove	3.0 mm²	AWG 12	7,5 mm																																						
no groove	4 mm²	AWG 12	7,5 mm																																						
silver plated	0.5	09 33 000 6121	09 33 000 6220																																						
	0.75	09 33 000 6114	09 33 000 6214																																						
	1.0	09 33 000 6105	09 33 000 6205																																						
	1.5	09 33 000 6104	09 33 000 6204																																						
	2.5	09 33 000 6102	09 33 000 6202																																						
	3	09 33 000 6106	09 33 000 6206																																						
	4	09 33 000 6107	09 33 000 6207																																						
gold plated	0.14-0.37	09 33 000 6117*	09 33 000 6217*																																						
	0.5	09 33 000 6122	09 33 000 6222																																						
	0.75	09 33 000 6115	09 33 000 6215																																						
	1.0	09 33 000 6118	09 33 000 6218																																						
	1.5	09 33 000 6116	09 33 000 6216																																						
	2.5	09 33 000 6123	09 33 000 6223																																						
	4.0	09 33 000 6119	09 33 000 6221																																						
FOC contacts																																									
for 1 mm plastic fibre		20 10 001 3311	20 10 001 3321	Crimp zone Crimp zone																																					
Coding Pin																																									
		09 33 000 9954		Use of the coding pin prevents incorrect mating to other connectors of the same type. The male pin should be omitted from the opposing cavity in the male insert.																																					

* only to be used with BUCHANAN crimping tool 09 99 000 0001 and adjustment gauge 09 99 000 0203

Stock items in bold type

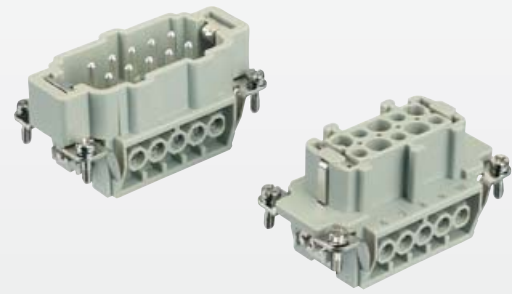
Identification	Part No.		M	Drawing	Dimensions in mm
	Low construction	High construction			
Hoods side-entry 	19 30 006 1540 19 30 006 1541	19 30 006 0546 19 30 006 0547	20		
			25		
			25		
			32		
Hoods top-entry 	19 30 006 1440	19 30 006 0446 19 30 006 0447	20		
			25		
			32		
Protection covers for hoods metal 	09 30 006 5401 09 30 006 5423				
Hoods cable to cable 	19 30 006 1750	19 30 006 0756	20		
			25		
Protection cover for cable to cable hood metal 	09 30 006 5427				

Stock items in bold type

Identification		Part No.		M	Drawing	Dimensions in mm
		Low construction	High construction			
Housings	bulkhead mounting		09 30 006 0301	—	Panel cut out 48 x 35 mm	
			with thermo-plastic cover 09 30 006 0302			
			with metal cover 09 30 006 0318			
Housings	surface mounting		19 30 006 1250	1 x 20		
			19 30 006 1290			2 x 20 2 x 25 2 x 32
			with thermo-plastic cover 19 30 006 1255 19 30 006 1295			with thermo-plastic cover 19 30 006 0291 19 30 006 0292
Housings	surface mounting		19 30 006 2255 19 30 006 2295	1 x 20 2 x 20 2 x 25 2 x 32		
			with metal cover 19 30 006 2255 19 30 006 2295	1 x 20 2 x 20 2 x 25		
			with thermo-plastic cover 19 30 006 0296 19 30 006 0297	19 30 006 7296		
Protection covers						
	plastic		09 30 006 5404			
	metal		09 30 006 5425			

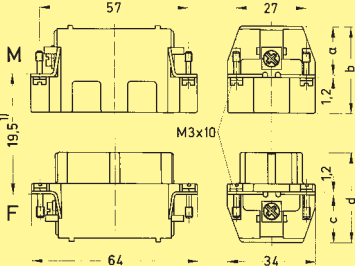
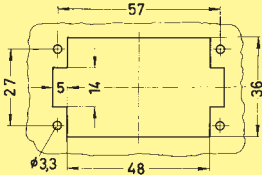
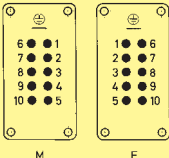
Han
E/EE

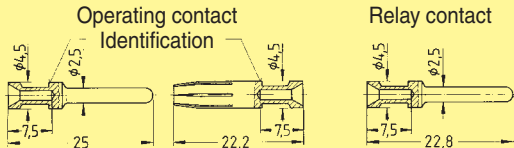
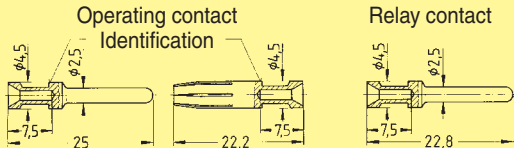
Number of contacts

10 +


Inserts

Han
E/EE

Part No.																									
Identification	Series	Male insert (M)	Female insert (F)	Drawing	Dimensions in mm																				
Screw terminal with wire protection	Han E®	09 33 010 2601	09 33 010 2701																						
Cage-clamp terminal	Han® ES	09 33 010 2616	09 33 010 2716	1) Distance for contact max. 21 mm																					
Cage-clamp terminal two terminals per contact	Han® ESS	09 33 010 2672	09 33 010 2772	<table border="1"><thead><tr><th></th><th>a</th><th>b</th><th>c</th><th>d</th></tr></thead><tbody><tr><td>Han E® screw</td><td>18</td><td>33</td><td>18</td><td>35</td></tr><tr><td>Han® ES/ Han E® crimp</td><td>19</td><td>34</td><td>19</td><td>36</td></tr><tr><td>Han ESS</td><td>34</td><td>49</td><td>32</td><td>49</td></tr></tbody></table>			a	b	c	d	Han E® screw	18	33	18	35	Han® ES/ Han E® crimp	19	34	19	36	Han ESS	34	49	32	49
	a	b	c	d																					
Han E® screw	18	33	18	35																					
Han® ES/ Han E® crimp	19	34	19	36																					
Han ESS	34	49	32	49																					
Crimp terminal Order contacts separately	Han E®	09 33 010 2602	09 33 010 2702	Contact arrangement View from termination side   Panel cut out for inserts for use without hoods/housings																					

Wire gauge		Part No.			
Identification	(mm²)	Male contacts	Female contacts	Drawing	Dimensions in mm
Crimp contacts	0.14-0.37	09 33 000 6127*	09 33 000 6227*		
Power contacts	0.5	09 33 000 6121	09 33 000 6220		
silver plated	0.75	09 33 000 6114	09 33 000 6214		
	1.0	09 33 000 6105	09 33 000 6205		
	1.5	09 33 000 6104	09 33 000 6204		
	2.5	09 33 000 6102	09 33 000 6202		
	3	09 33 000 6106	09 33 000 6206		
	4	09 33 000 6107	09 33 000 6207		
gold plated	0.14-0.37	09 33 000 6117*	09 33 000 6217*		
	0.5	09 33 000 6122	09 33 000 6222		
	0.75	09 33 000 6115	09 33 000 6215		
	1.0	09 33 000 6118	09 33 000 6218		
	1.5	09 33 000 6116	09 33 000 6216		
	2.5	09 33 000 6123	09 33 000 6223		
4.0	09 33 000 6119	09 33 000 6221			
Relay contact silver plated	0.75-1	09 33 000 6109			
	1.5	09 33 000 6110			
	2.5	09 33 000 6111			

Crimp contact identification

Identification	Wire gauge		Stripping length
no groove	0.14-0.37 mm²	AWG 26-22	7,5 mm
no groove	0.5 mm²	AWG 20	7,5 mm
1 groove*	0.75 mm²	AWG 18	7,5 mm
1 groove	1 mm²	AWG 18	7,5 mm
2 grooves	1.5 mm²	AWG 16	7,5 mm
3 grooves	2.5 mm²	AWG 14	7,5 mm
wide groove	3.0 mm²	AWG 12	7,5 mm
no groove	4 mm²	AWG 12	7,5 mm

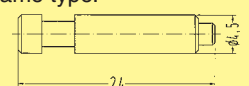
* on the back crimp collar

Coding Pin

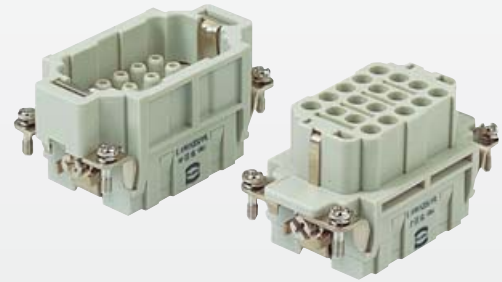
**09 33 000 9954**

Use of the coding pin prevents incorrect mating to other connectors of the same type.

The male pin should be omitted from the opposing cavity in the male insert.



Number of contacts

18 +


Inserts

Identification	Series	Part No.		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
Crimp terminal Order contacts separately	Han® EE			1) Distance for contact max. 21 mm Contact arrangement View from termination side Panel cut out for inserts for use without hoods/housings	
		09 32 018 3001	09 32 018 3101		

Wire gauge		Part No.																																							
Identification	(mm²)	Male contacts	Female contacts	Drawing	Dimensions in mm																																				
Crimp contacts																																									
Power contacts	0.14-0.37	09 33 000 6127*	09 33 000 6227*	Operation contact Identification Relay contact Crimp contact identification <table><tr><th>Identification</th><th colspan="2">Wire gauge</th><th>Stripping length</th></tr><tr><td>no groove</td><td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>7,5 mm</td></tr><tr><td>no groove</td><td>0.5 mm²</td><td>AWG 20</td><td>7,5 mm</td></tr><tr><td>1 groove*</td><td>0.75 mm²</td><td>AWG 18</td><td>7,5 mm</td></tr><tr><td>1 groove</td><td>1 mm²</td><td>AWG 18</td><td>7,5 mm</td></tr><tr><td>2 grooves</td><td>1.5 mm²</td><td>AWG 16</td><td>7,5 mm</td></tr><tr><td>3 grooves</td><td>2.5 mm²</td><td>AWG 14</td><td>7,5 mm</td></tr><tr><td>wide groove</td><td>3.0 mm²</td><td>AWG 12</td><td>7,5 mm</td></tr><tr><td>no groove</td><td>4 mm²</td><td>AWG 12</td><td>7,5 mm</td></tr></table> * on the back crimp collar		Identification	Wire gauge		Stripping length	no groove	0.14-0.37 mm²	AWG 26-22	7,5 mm	no groove	0.5 mm²	AWG 20	7,5 mm	1 groove*	0.75 mm²	AWG 18	7,5 mm	1 groove	1 mm²	AWG 18	7,5 mm	2 grooves	1.5 mm²	AWG 16	7,5 mm	3 grooves	2.5 mm²	AWG 14	7,5 mm	wide groove	3.0 mm²	AWG 12	7,5 mm	no groove	4 mm²	AWG 12	7,5 mm
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		09 33 000 9954																																							

* only to be used with BUCHANAN crimping tool 09 99 000 0001 and adjustment gauge 09 99 000 0203

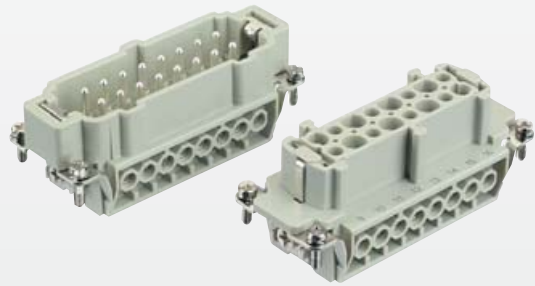
Stock items in bold type

Han
E/EE03
19

		Part No.										
Identification		Low construction	High construction	M	Drawing	Dimensions in mm						
Hoods	Hoods side-entry	19 30 010 1540 19 30 010 1541	19 30 010 0547	20 25 32								
	Hoods top-entry	19 30 010 1440 19 30 010 1441		20 25 32								
Housings	Housings bulkhead mounting	09 30 010 0305 with thermo- plastic cover 09 30 010 0303 with metal cover 09 30 010 0318		— — —								
	Housings surface mounting	1 side-entry 2 side-entries	19 30 010 1250 19 30 010 1290	20 20 25 32								
		1 side-entry 2 side-entries	with thermo- plastic cover 19 30 010 1255 with thermo- plastic cover 19 30 010 1295	20 20 25 32								
			with metal cover 19 30 010 2295	20 25								
Hoods	Hoods cable to cable	19 30 010 1750	19 30 010 0756 19 30 010 0757	20 25 32		<table><tr><td></td><td>h</td></tr><tr><td>Low construction</td><td>47.5</td></tr><tr><td>High construction</td><td>74.5</td></tr></table>		h	Low construction	47.5	High construction	74.5
		h										
	Low construction	47.5										
	High construction	74.5										
	Dust protection cover	09 30 010 5406										

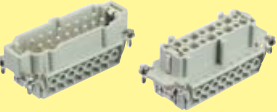
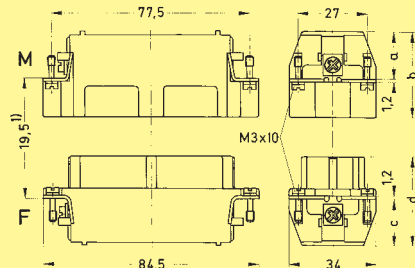
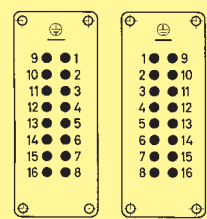
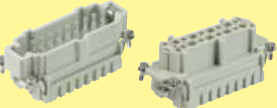
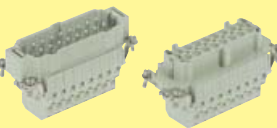
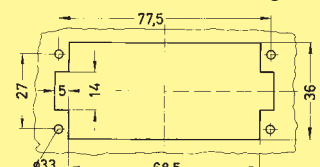
Han
E/EE

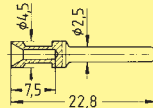
Number of contacts

16 +


Inserts

Han
E/EE

Identification		Series	Male insert (M)	Female insert (F)	Drawing	Dimensions in mm																				
Screw terminal with wire protection		Han E®	09 33 016 2601	09 33 016 2701		1) Distance for contact max. 21 mm <table border="1"><thead><tr><th></th><th>a</th><th>b</th><th>c</th><th>d</th></tr></thead><tbody><tr><td>Han E® screw</td><td>18</td><td>33</td><td>18</td><td>35</td></tr><tr><td>Han® ES/ Han E® crimp</td><td>19</td><td>34</td><td>19</td><td>36</td></tr><tr><td>Han ESS</td><td>34</td><td>49</td><td>32</td><td>49</td></tr></tbody></table> Contact arrangement View from termination side 		a	b	c	d	Han E® screw	18	33	18	35	Han® ES/ Han E® crimp	19	34	19	36	Han ESS	34	49	32	49
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Cage-clamp terminal		Han® ES	09 33 016 2616	09 33 016 2716																						
Cage-clamp terminal two terminals per contact		Han® ESS	09 33 016 2672	09 33 016 2772																						
Crimp terminal Order contacts separately		Han E®	09 33 016 2602	09 33 016 2702																						

Wire gauge		Part No.																																							
Identification	(mm²)	Male contacts	Female contacts	Drawing	Dimensions in mm																																				
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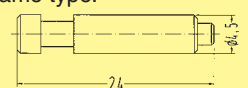
* on the back crimp collar

Coding Pin

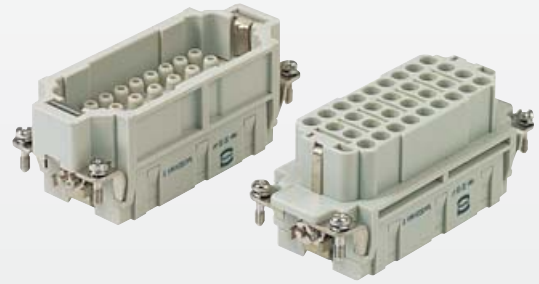
**09 33 000 9954**

Use of the coding pin prevents incorrect mating to other connectors of the same type.

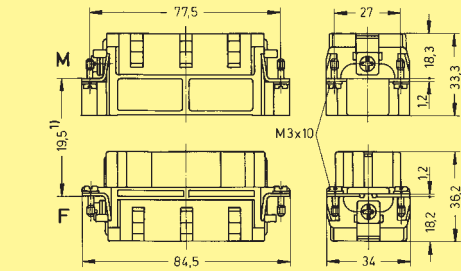
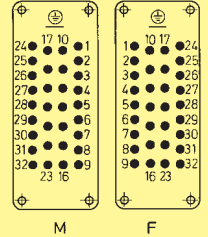
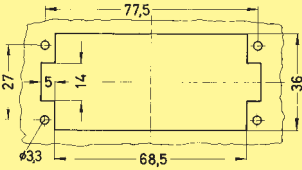
The male pin should be omitted from the opposing cavity in the male insert.

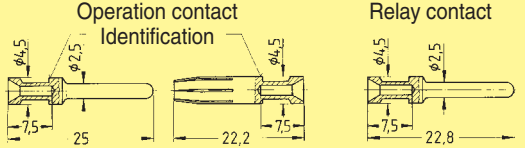
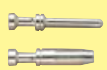
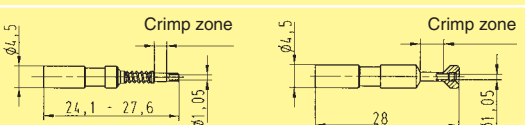
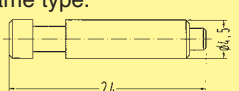


Number of contacts

32 + 

Inserts

Identification	Series	Part No.		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
Crimp terminal Order contacts separately	Han® EE				
		09 32 032 3001	09 32 032 3101	 ¹⁾ Distance for contact max. 21 mm Contact arrangement View from termination side  Panel cut out for inserts for use without hoods/housings 	

		Wire gauge	Part No.																													
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		3	09 33 000 6106	09 33 000 6206																												
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* only to be used with BUCHANAN crimping tool 09 99 000 0001 and adjustment gauge 09 99 000 0203

Stock items in bold type

Han
E/EE03
23

Part No.

Identification

Low construction

High construction

M

Drawing

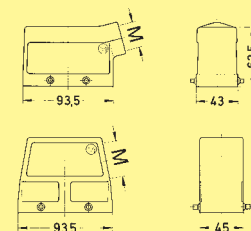
Dimensions in mm

Hoods
side-entry

19 30 016 1521
19 30 016 1522

19 30 016 0527
19 30 016 0528

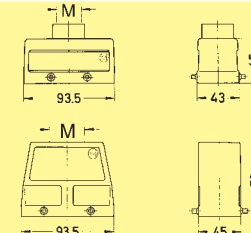
25
32

Hoods
top-entry

19 30 016 1421
19 30 016 1422

19 30 016 0427
19 30 016 0428

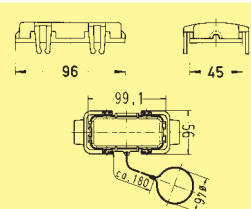
25
32

Protection covers for housings
thermoplastic/metal

09 30 016 5401

09 30 016 5422

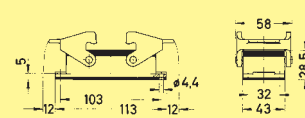
25
32

Housing
bulkhead
mounting

09 30 016 0301

—

Panel cut out 82 x 35 mm

Housings
surface mounting

1 side-entry



19 30 016 1231

19 30 016 0232

25
32

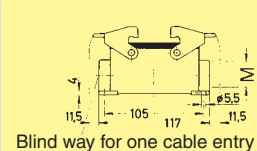
2 side-entries



19 30 016 1271

19 30 016 0271
19 30 016 0272
19 30 016 0273

25
32
40



Blind way for one cable entry

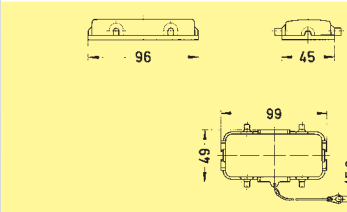
	h
Low construction	56
High construction	81

Protection covers
for housings bulkhead mounting
thermoplastic/metal

09 30 016 5405

09 30 016 5425

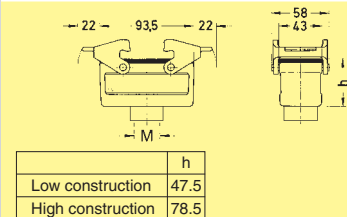
25
32

Hoods
cable to cable

19 30 016 1731

19 30 016 0736
19 30 016 0737

25
32

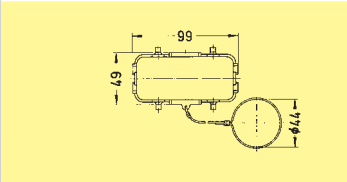


	h
Low construction	47.5
High construction	78.5

Protection cover
for hoods cable to cable
metal

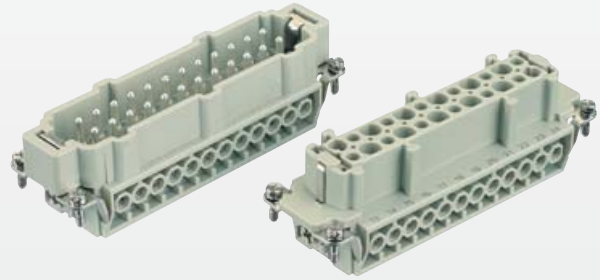
09 30 016 5426

25
32



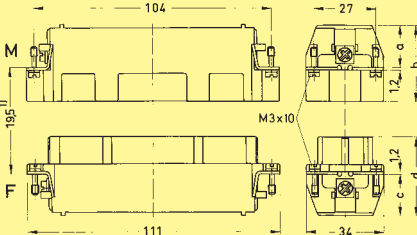
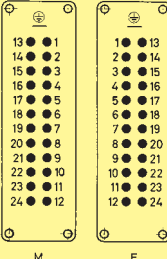
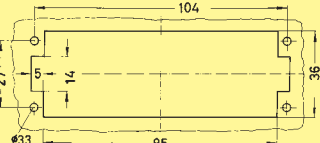
		Part No.								
Identification		Low construction	High construction	M	Drawing	Dimensions in mm				
Hoods	Hoods side-entry	19 30 016 1541 19 30 016 1542	19 30 016 0547 19 30 016 0548	25 32						
	Hoods top-entry	19 30 016 1441 19 30 016 1442	19 30 016 0447 19 30 016 0448	25 32						
				32 40						
				32 40						
Housings	Housings bulkhead mounting	09 30 016 0307 with thermo-plastic cover 09 30 016 0306 with metal cover 09 30 016 0318		— — —	Panel cut out 82 x 35 mm 					
	Housings surface mounting	1 side-entry 19 30 016 1251	19 30 016 0252	25 32						
		2 side-entries 19 30 016 1291	19 30 016 0291 19 30 016 0292	25 32						
		1 side-entry 19 30 016 1256	with thermo-plastic cover	25						
		2 side-entries 19 30 016 1296	with thermo-plastic cover	25 32						
	2 side-entries 19 30 016 2296	with metal cover 19 30 016 2296	25 32	1) Blind way for one cable entry <table><tr><td></td><td>h</td></tr><tr><td>Low construction</td><td>56</td></tr><tr><td>High construction</td><td>81</td></tr></table>		h	Low construction	56	High construction	81
	h									
Low construction	56									
High construction	81									
	Hoods cable to cable	19 30 016 1751	19 30 016 0757	25 32						
	Dust protection cover	09 30 016 5406								

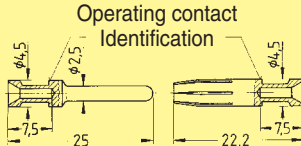
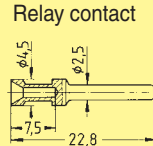
Number of contacts

24 +


Inserts

Han
E / EE

		Part No.																							
Identification	Series	Male insert (M)	Female insert (F)	Drawing	Dimensions in mm																				
Screw terminal with wire protection	Han E®	09 33 024 2601	09 33 024 2701		1) Distance for contact max. 21 mm <table border="1"><thead><tr><th></th><th>a</th><th>b</th><th>c</th><th>d</th></tr></thead><tbody><tr><td>Han E® screw</td><td>18</td><td>33</td><td>18</td><td>35</td></tr><tr><td>Han® ES/ Han E® crimp</td><td>19</td><td>34</td><td>19</td><td>36</td></tr><tr><td>Han ESS</td><td>34</td><td>49</td><td>32</td><td>49</td></tr></tbody></table>		a	b	c	d	Han E® screw	18	33	18	35	Han® ES/ Han E® crimp	19	34	19	36	Han ESS	34	49	32	49
	a	b	c	d																					
Han E® screw	18	33	18	35																					
Han® ES/ Han E® crimp	19	34	19	36																					
Han ESS	34	49	32	49																					
Cage-clamp terminal	Han® ES	09 33 024 2616	09 33 024 2716																						
Cage-clamp terminal two terminals per contact	Han® ESS	09 33 024 2672	09 33 024 2772																						
Crimp terminal Order contacts separately	Han E®	09 33 024 2602	09 33 024 2702	Contact arrangement View from termination side  Panel cut out for inserts for use without hoods/housings 																					

Wire gauge		Part No.			
Identification	(mm²)	Male contacts	Female contacts	Drawing	Dimensions in mm
Crimp contacts					
Power contacts	0.14-0.37	09 33 000 6127*	09 33 000 6227*		
silver plated	0.5	09 33 000 6121	09 33 000 6220		
	0.75	09 33 000 6114	09 33 000 6214		
	1.0	09 33 000 6105	09 33 000 6205		
	1.5	09 33 000 6104	09 33 000 6204		
	2.5	09 33 000 6102	09 33 000 6202		
	3	09 33 000 6106	09 33 000 6206		
	4	09 33 000 6107	09 33 000 6207		
gold plated	0.14-0.37	09 33 000 6117*	09 33 000 6217*		
	0.5	09 33 000 6122	09 33 000 6222		
	0.75	09 33 000 6115	09 33 000 6215		
	1.0	09 33 000 6118	09 33 000 6218		
	1.5	09 33 000 6116	09 33 000 6216		
	2.5	09 33 000 6123	09 33 000 6223		
	4.0	09 33 000 6119	09 33 000 6221		
Relay contact					
silver plated	0.75-1	09 33 000 6109		* on the back crimp collar	
	1.5	09 33 000 6110			
	2.5	09 33 000 6111			

09 33 000 9954

* only to be used with BUCHANAN crimping tool 09 99 000 0001 and adjustment gauge 09 99 000 0203

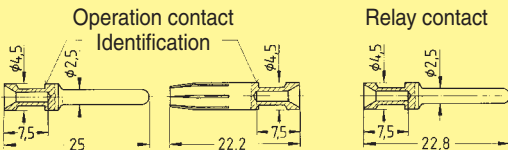
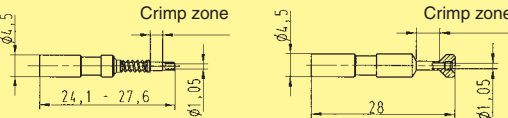
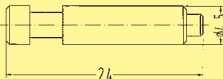
Stock items in bold type

Number of contacts

46 +


Inserts

Identification	Series	Part No.		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
Crimp terminal Order contacts separately	Han® EE			1) Distance for contact max. 21 mm Contact arrangement View from termination side Panel cut out for inserts for use without hoods/housings	
		09 32 046 3001	09 32 046 3101		

		Wire gauge	Part No.			
Identification		(mm²)	Male contacts	Female contacts	Drawing	Dimensions in mm
Crimp contacts						
Power contacts		0.14-0.37	09 33 000 6127*	09 33 000 6227*		
silver plated		0.5	09 33 000 6121	09 33 000 6220		
		0.75	09 33 000 6114	09 33 000 6214		
		1.0	09 33 000 6105	09 33 000 6205		
		1.5	09 33 000 6104	09 33 000 6204		
		2.5	09 33 000 6102	09 33 000 6202		
gold plated		3	09 33 000 6106	09 33 000 6206		
		4	09 33 000 6107	09 33 000 6207		
		0.14-0.37	09 33 000 6117*	09 33 000 6217*		
		0.5	09 33 000 6122	09 33 000 6222		
		0.75	09 33 000 6115	09 33 000 6215		
		1.0	09 33 000 6118	09 33 000 6218		
		1.5	09 33 000 6116	09 33 000 6216		
		2.5	09 33 000 6123	09 33 000 6223		
		4.0	09 33 000 6119	09 33 000 6221		
FOC contacts for 1 mm plastic fibre			20 10 001 3311	20 10 001 3321		
Coding Pin			09 33 000 9954			
					Use of the coding pin prevents incorrect mating to other connectors of the same type.	
					The male pin should be omitted from the opposing cavity in the male insert.	

* only to be used with BUCHANAN crimping tool 09 99 000 0001 and adjustment gauge 09 99 000 0203

Stock items in bold type

Part No.

Identification

Low construction

High construction

M

Drawing

Dimensions in mm

Hoods

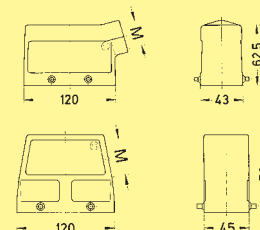
Hoods
side-entry

19 30 024 1521
19 30 024 1522

19 30 024 0527
19 30 024 0528

25
32

32
40

Hoods
top-entry

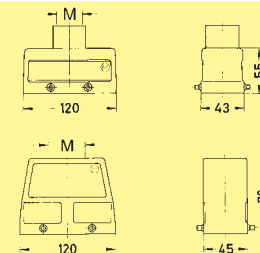
19 30 024 1422

19 30 024 0427

19 30 024 0428

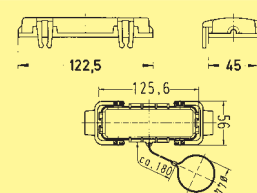
32

40

Protection covers for hoods
thermoplastic/metal

09 30 024 5401

09 30 024 5422



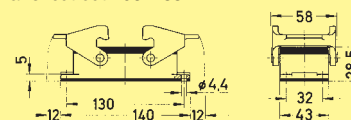
Housings

Housing bulkhead mounting



09 30 024 0301

Panel cut out 108 x 35 mm

Housings
surface
mounting

1 side-entry

19 30 024 1231

19 30 024 0232

25

32

2 side-entries

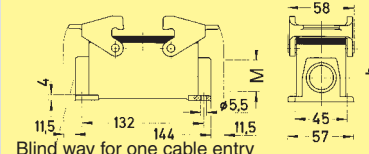
19 30 024 1271

19 30 024 0272
19 30 024 0273

25

32

40



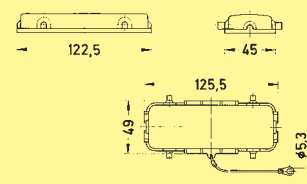
Blind way for one cable entry

	h
Low construction	56
High construction	81

Protection covers
for housings bulkhead/surface mounting
thermoplastic/metal

09 30 024 5405

09 30 024 5425



Hoods cable to cable

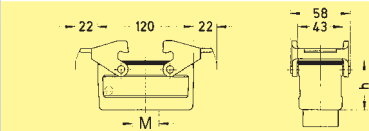


19 30 024 1732

19 30 024 0737
19 30 024 0738

32

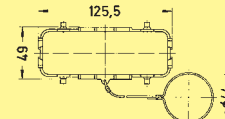
40



	h
Low construction	57.5
High construction	78.5

Protection cover
for hoods
metal

09 30 024 5426



Stock items in bold type

Identification		Part No.		M	Drawing	Dimensions in mm					
		Low construction	High construction								
Hoods	Hoods side-entry	19 30 024 1541 19 30 024 1542	19 30 024 0547 19 30 024 0548	25 32							
	Hoods top-entry	19 30 024 1442	19 30 024 0447	32							
			19 30 024 0448	40							
Housings	Housings bulkhead mounting	09 30 024 0307 with thermo-plastic cover 09 30 024 0304 with metal cover 09 30 024 0318		— — —	Panel cut out 108 x 35 mm 						
	Housings surface mounting	1 side-entry 19 30 024 1251	19 30 024 0292	25							
		2 side-entries 19 30 024 1291	19 30 024 0292	25 32							
		1 side-entry 19 30 024 1256	19 30 024 0297	25							
		2 side-entries 19 30 024 1296	19 30 024 0297	25 32							
		2 side-entries 19 30 024 2296	19 30 024 7297	25 32							
					¹⁾ Blind way for one cable entry						
					<table><tr><td></td><td>h</td></tr><tr><td>Low construction</td><td>56</td></tr><tr><td>High construction</td><td>81</td></tr></table>		h	Low construction	56	High construction	81
	h										
Low construction	56										
High construction	81										
	Hoods cable to cable	19 30 024 1752	19 30 024 0757	32							
	Dust protection cover	09 30 024 5406									

Number of contacts

32 +

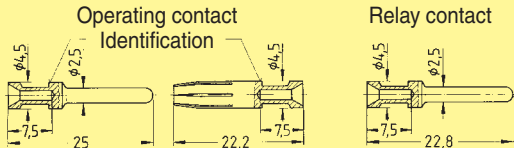

Inserts

Part No.

Identification	Series	Male insert (M)	Female insert (F)	Drawing	Dimensions in mm
Screw terminal with wire protection	Han E®			Dimensions for inserts see page 03.22	
	1–16	09 33 016 2601	09 33 016 2701	Contact arrangement View from termination side	
	17–32	09 33 016 2611	09 33 016 2711		
Cage-clamp terminal	Han® ES				
	1–16	09 33 016 2616	09 33 016 2716		
	17–32	09 33 016 2626	09 33 016 2726		
Cage-clamp terminal two terminals per contact	Han® ESS			Panel cut out for inserts for use without hoods/housings 	
	1–16	09 33 016 2672	09 33 016 2772		
	1–16	09 33 016 2672	09 33 016 2772		
Crimp terminal Order contacts separately	Han E®				
	1–16	09 33 016 2602	09 33 016 2702		
	17–32	09 33 016 2612	09 33 016 2712		

Wire gauge

Part No.

Identification	(mm ²)	Male contacts	Female contacts	Drawing	Dimensions in mm																																				
Crimp contacts	0.14-0.37	09 33 000 6127*	09 33 000 6227*		Operating contact Identification Relay contact																																				
Power contacts	0.5	09 33 000 6121	09 33 000 6220																																						
silver plated 	0.75	09 33 000 6114	09 33 000 6214																																						
	1.0	09 33 000 6105	09 33 000 6205																																						
	1.5	09 33 000 6104	09 33 000 6204																																						
	2.5	09 33 000 6102	09 33 000 6202																																						
	3	09 33 000 6106	09 33 000 6206																																						
	4	09 33 000 6107	09 33 000 6207																																						
gold plated 	0.14-0.37	09 33 000 6117*	09 33 000 6217*	Crimp contact identification <table border="1"><thead><tr><th>Identification</th><th colspan="2">Wire gauge</th><th>Stripping length</th></tr></thead><tbody><tr><td>no groove</td><td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>7,5 mm</td></tr><tr><td>no groove</td><td>0.5 mm²</td><td>AWG 20</td><td>7.5 mm</td></tr><tr><td>1 groove*</td><td>0.75 mm²</td><td>AWG 18</td><td>7.5 mm</td></tr><tr><td>1 groove</td><td>1 mm²</td><td>AWG 18</td><td>7.5 mm</td></tr><tr><td>2 grooves</td><td>1.5 mm²</td><td>AWG 16</td><td>7.5 mm</td></tr><tr><td>3 grooves</td><td>2.5 mm²</td><td>AWG 14</td><td>7.5 mm</td></tr><tr><td>wide groove</td><td>3.0 mm²</td><td>AWG 12</td><td>7.5 mm</td></tr><tr><td>no groove</td><td>4 mm²</td><td>AWG 12</td><td>7.5 mm</td></tr></tbody></table>	Identification	Wire gauge		Stripping length	no groove	0.14-0.37 mm ²	AWG 26-22	7,5 mm	no groove	0.5 mm ²	AWG 20	7.5 mm	1 groove*	0.75 mm ²	AWG 18	7.5 mm	1 groove	1 mm ²	AWG 18	7.5 mm	2 grooves	1.5 mm ²	AWG 16	7.5 mm	3 grooves	2.5 mm ²	AWG 14	7.5 mm	wide groove	3.0 mm ²	AWG 12	7.5 mm	no groove	4 mm ²	AWG 12	7.5 mm	
	Identification	Wire gauge			Stripping length																																				
	no groove	0.14-0.37 mm ²	AWG 26-22	7,5 mm																																					
	no groove	0.5 mm ²	AWG 20	7.5 mm																																					
	1 groove*	0.75 mm ²	AWG 18	7.5 mm																																					
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3 grooves	2.5 mm ²	AWG 14	7.5 mm																																						
wide groove	3.0 mm ²	AWG 12	7.5 mm																																						
no groove	4 mm ²	AWG 12	7.5 mm																																						
0.5	09 33 000 6122	09 33 000 6222																																							
	0.75	09 33 000 6115	09 33 000 6215																																						
	1.0	09 33 000 6118	09 33 000 6218																																						
	1.5	09 33 000 6116	09 33 000 6216																																						
	2.5	09 33 000 6123	09 33 000 6223																																						
	4.0	09 33 000 6119	09 33 000 6221																																						
Relay contact	0.75-1	09 33 000 6109																																							
silver plated 	1.5	09 33 000 6110																																							
	2.5	09 33 000 6111																																							

* on the back crimp collar

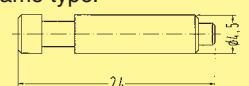
* on the back crimp collar

Coding Pin

**09 33 000 9954**

Use of the coding pin prevents incorrect mating to other connectors of the same type.

The male pin should be omitted from the opposing cavity in the male insert.



Stock items in bold type

* only to be used with BUCHANAN crimping tool 09 99 000 0001 and adjustment gauge 09 99 000 0203

Number of contacts

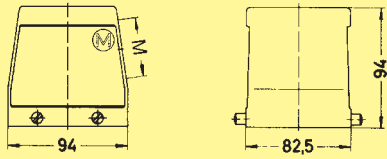
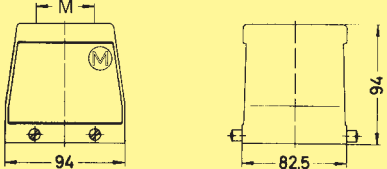
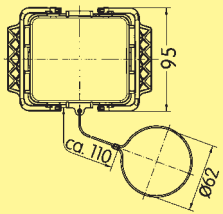
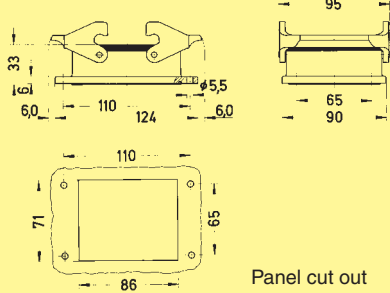
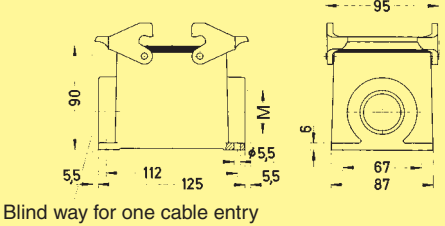
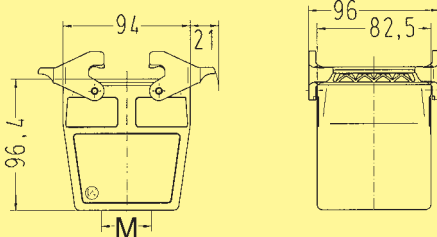
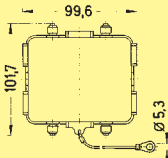
64 +


Inserts

Identification	Series	Male insert (M)	Female insert (F)	Part No.	Drawing	Dimensions in mm
Crimp terminal Order contacts separately	Han® EE				Dimensions for inserts see page 03.23	
	1–32 33–64	09 32 032 3001 09 32 032 3011	09 32 032 3101 09 32 032 3111		Contact arrangement View from termination side Panel cut out for inserts for use without hoods/housings	

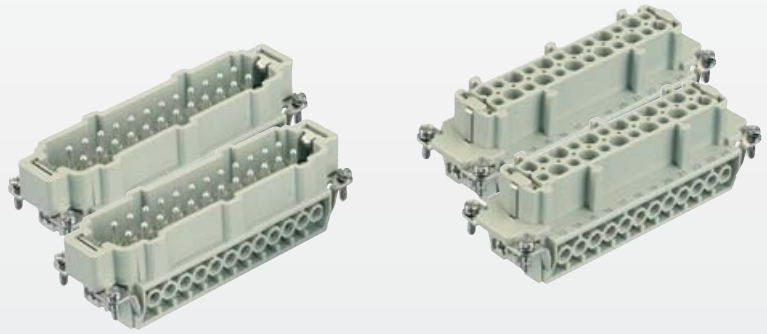
Identification	Wire gauge (mm²)	Male contacts	Female contacts	Part No.	Drawing	Dimensions in mm																																				
Crimp contacts																																										
Power contacts	0.14-0.37 0.5 0.75 1.0 1.5 2.5 3 4	09 33 000 6127* 09 33 000 6121 09 33 000 6114 09 33 000 6105 09 33 000 6104 09 33 000 6102 09 33 000 6106 09 33 000 6107	09 33 000 6227* 09 33 000 6220 09 33 000 6214 09 33 000 6205 09 33 000 6204 09 33 000 6202 09 33 000 6206 09 33 000 6207		Operation contact Identification Relay contact Crimp contact identification <table><tr><th>Identification</th><th colspan="2">Wire gauge</th><th>Stripping length</th></tr><tr><td>no groove</td><td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>7.5 mm</td></tr><tr><td>no groove</td><td>0.5 mm²</td><td>AWG 20</td><td>7.5 mm</td></tr><tr><td>1 groove*</td><td>0.75 mm²</td><td>AWG 18</td><td>7.5 mm</td></tr><tr><td>1 groove</td><td>1 mm²</td><td>AWG 18</td><td>7.5 mm</td></tr><tr><td>2 grooves</td><td>1.5 mm²</td><td>AWG 16</td><td>7.5 mm</td></tr><tr><td>3 grooves</td><td>2.5 mm²</td><td>AWG 14</td><td>7.5 mm</td></tr><tr><td>wide groove</td><td>3.0 mm²</td><td>AWG 12</td><td>7.5 mm</td></tr><tr><td>no groove</td><td>4 mm²</td><td>AWG 12</td><td>7.5 mm</td></tr></table> * on the back crimp collar	Identification	Wire gauge		Stripping length	no groove	0.14-0.37 mm²	AWG 26-22	7.5 mm	no groove	0.5 mm²	AWG 20	7.5 mm	1 groove*	0.75 mm²	AWG 18	7.5 mm	1 groove	1 mm²	AWG 18	7.5 mm	2 grooves	1.5 mm²	AWG 16	7.5 mm	3 grooves	2.5 mm²	AWG 14	7.5 mm	wide groove	3.0 mm²	AWG 12	7.5 mm	no groove	4 mm²	AWG 12	7.5 mm	
Identification	Wire gauge		Stripping length																																							
no groove	0.14-0.37 mm²	AWG 26-22	7.5 mm																																							
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2 grooves	1.5 mm²	AWG 16	7.5 mm																																							
3 grooves	2.5 mm²	AWG 14	7.5 mm																																							
wide groove	3.0 mm²	AWG 12	7.5 mm																																							
no groove	4 mm²	AWG 12	7.5 mm																																							
silver plated																																										
gold plated																																										
	0.14-0.37 0.5 0.75 1.0 1.5 2.5 4.0	09 33 000 6117* 09 33 000 6122 09 33 000 6115 09 33 000 6118 09 33 000 6116 09 33 000 6123 09 33 000 6119	09 33 000 6217* 09 33 000 6222 09 33 000 6215 09 33 000 6218 09 33 000 6216 09 33 000 6223 09 33 000 6221																																							
FOC contacts for 1 mm plastic fibre		20 10 001 3311	20 10 001 3321		Crimp zone Crimp zone																																					
Coding Pin				09 33 000 9954	Use of the coding pin prevents incorrect mating to other connectors of the same type. The male pin should be omitted from the opposing cavity in the male insert. 24																																					

* only to be used with BUCHANAN crimping tool 09 99 000 0001 and adjustment gauge 09 99 000 0203

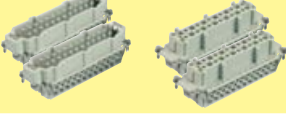
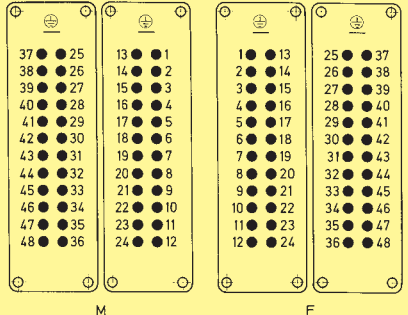
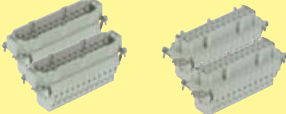
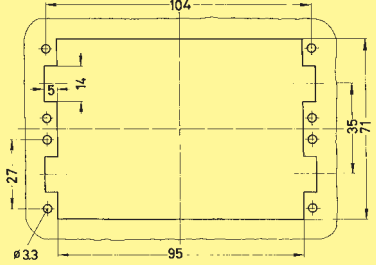
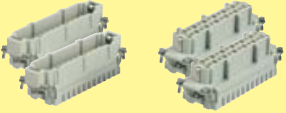
Identification		Part No.	M	Drawing	Dimensions in mm
Han E / EE	Hoods side-entry		19 30 032 0527 19 30 032 0528 19 30 032 0529	32 40 50	
	Hoods top-entry		19 30 032 0427 19 30 032 0428 19 30 032 0429	32 40 50	
	Protection cover for hoods		09 30 032 5420	—	
Housings	Housing bulkhead mounting		09 30 032 0301	—	
	Housings surface mounting		19 30 032 0232 19 30 032 0272 19 30 032 0273	1 x 32 2 x 32 2 x 40	
	Hoods cable to cable		19 30 032 0738	1 x 40	
	Protection covers for housings		09 30 032 5425	—	

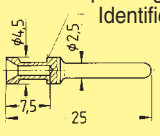
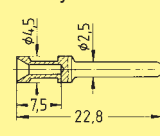
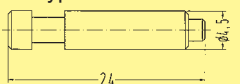
Stock items in bold type

Number of contacts

48 + 

Inserts

Identification	Series	Male insert (M)	Female insert (F)	Part No.	Drawing	Dimensions in mm
Screw terminal with wire protection	Han E®				Dimensions for inserts see page 03.26	
	1–24	09 33 024 2601	09 33 024 2701		Contact arrangement View from termination side	
	25–48	09 33 024 2611	09 33 024 2711			
Cage-clamp terminal	Han® ES					
	1–24	09 33 024 2616	09 33 024 2716			
	25–48	09 33 024 2626	09 33 024 2726			
Cage-clamp terminal two terminals per contact	Han® ESS					
	1–24	09 33 024 2672	09 33 024 2772		Panel cut out for inserts for use without hoods/housings	
	1–24	09 33 024 2672	09 33 024 2772			
Crimp terminal Order contacts separately	Han E®					
	1–24	09 33 024 2602	09 33 024 2702			
	25–48	09 33 024 2612	09 33 024 2712			

Identification	Wire gauge (mm²)	Male contacts	Female contacts	Part No.	Drawing	Dimensions in mm
Crimp contacts Power contacts	0.14-0.37	09 33 000 6127*	09 33 000 6227*		Operating contact Identification	Relay contact
	0.5	09 33 000 6121	09 33 000 6220			
	0.75	09 33 000 6114	09 33 000 6214			
	1.0	09 33 000 6105	09 33 000 6205			
	1.5	09 33 000 6104	09 33 000 6204			
	2.5	09 33 000 6102	09 33 000 6202			
	3	09 33 000 6106	09 33 000 6206			
	4	09 33 000 6107	09 33 000 6207			
silver plated						
	0.14-0.37	09 33 000 6117*	09 33 000 6217*			
	0.5	09 33 000 6122	09 33 000 6222			
	0.75	09 33 000 6115	09 33 000 6215			
	1.0	09 33 000 6118	09 33 000 6218			
	1.5	09 33 000 6116	09 33 000 6216			
	2.5	09 33 000 6123	09 33 000 6223			
	4.0	09 33 000 6119	09 33 000 6221			
gold plated						
	0.75-1	09 33 000 6109				
	1.5	09 33 000 6110				
	2.5	09 33 000 6111				
Relay contact silver plated						
Coding Pin				09 33 000 9954		
					Use of the coding pin prevents incorrect mating to other connectors of the same type.	
					The male pin should be omitted from the opposing cavity in the male insert.	

* only to be used with BUCHANAN crimping tool 09 99 000 0001 and adjustment gauge 09 99 000 0203

Stock items in bold type

Han
E/EE03
33

Number of contacts

92 +



Inserts

Part No.

Identification

Series

Male insert (M)

Female insert (F)

Drawing

Dimensions in mm

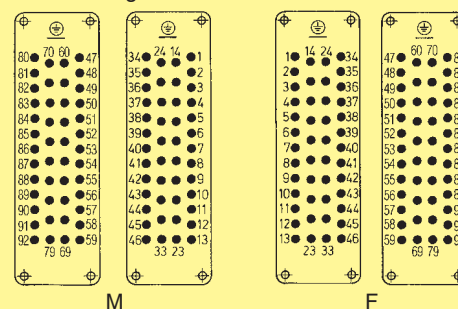
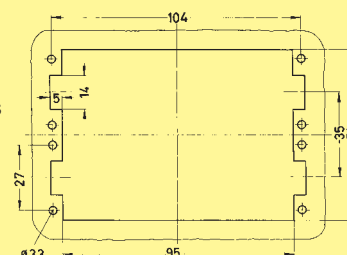
Crimp terminal
Order contacts
separately

Han® EE

1-46
47-9209 32 046 3001
09 32 046 301109 32 046 3101
09 32 046 3111

Dimensions for inserts see page 03.27

Contact arrangement View from termination side

Panel cut out
for inserts
for use without
hoods/housingsWire gauge
(mm²)

Part No.

Identification

Male contacts

Female contacts

Drawing

Dimensions in mm

Crimp contacts

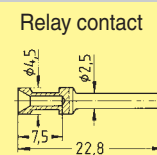
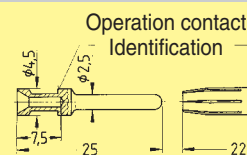
Power contacts

0.14-0.37
0.5
0.75
1.0
1.5
2.5
3
409 33 000 6127*
09 33 000 6121
09 33 000 6114
09 33 000 6105
09 33 000 6104
09 33 000 6102
09 33 000 6106
09 33 000 610709 33 000 6227*
09 33 000 6220
09 33 000 6214
09 33 000 6205
09 33 000 6204
09 33 000 6202
09 33 000 6206
09 33 000 6207

silver plated



gold plated

0.14-0.37
0.5
0.75
1.0
1.5
2.5
4.009 33 000 6117*
09 33 000 6122
09 33 000 6115
09 33 000 6118
09 33 000 6116
09 33 000 6123
09 33 000 611909 33 000 6217*
09 33 000 6222
09 33 000 6215
09 33 000 6218
09 33 000 6216
09 33 000 6223
09 33 000 6221

Crimp contact identification

Identification	Wire gauge	Stripping length
no groove	0.14-0.37 mm²	AWG 26-22
no groove	0.5 mm²	AWG 20
1 groove*	0.75 mm²	AWG 18
1 groove	1 mm²	AWG 18
2 grooves	1.5 mm²	AWG 16
3 grooves	2.5 mm²	AWG 14
wide groove	3.0 mm²	AWG 12
no groove	4 mm²	AWG 12

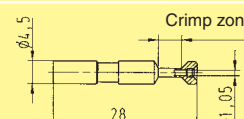
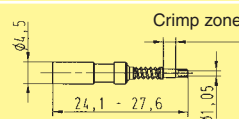
* on the back crimp collar

FOC contacts

for 1 mm plastic fibre

20 10 001 3311

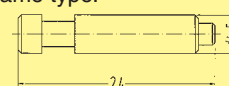
20 10 001 3321



Coding Pin

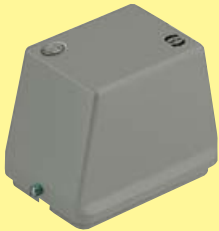
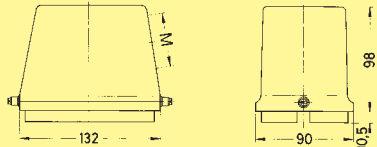
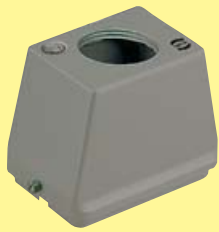
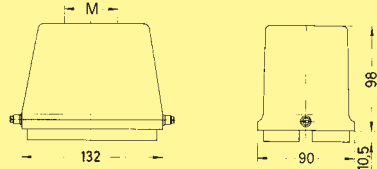
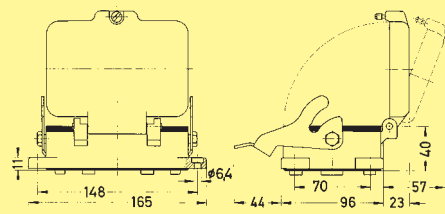
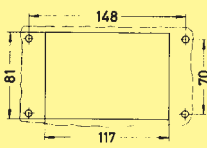
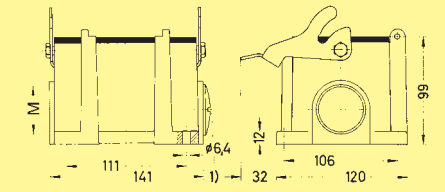
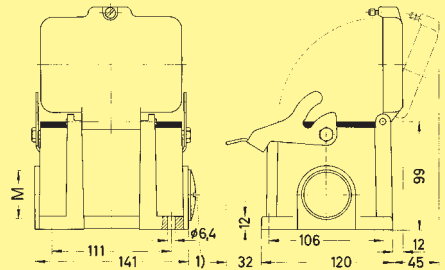


09 33 000 9954

Use of the coding pin prevents incorrect mating
to other connectors of the same type.The male pin should be
omitted from the opposing
cavity in the male insert.

Stock items in bold type

* only to be used with BUCHANAN crimping tool 09 99 000 0001
and adjustment gauge 09 99 000 0203

Identification	Part No.	M	Drawing	Dimensions in mm
Hoods	Hoods side-entry			
		19 30 048 0548 19 30 048 0549	40 50	
	Hoods top-entry			
		19 30 048 0448 19 30 048 0449	40 50	
Housings	Housings bulkhead mounting			
		with thermo- plastic cover 09 30 048 0301	—	
		with metal cover 09 30 048 0317	—	Panel cut out 
	Housings surface mounting			
		19 30 048 0292 19 30 048 0293	2 x 32 2 x 40	
		with thermo- plastic cover 19 30 048 0298	2 x 40	

1) Blind grommet

Stock items in bold type

Han
E/EE

Modified contact arrangement up to 1000 V

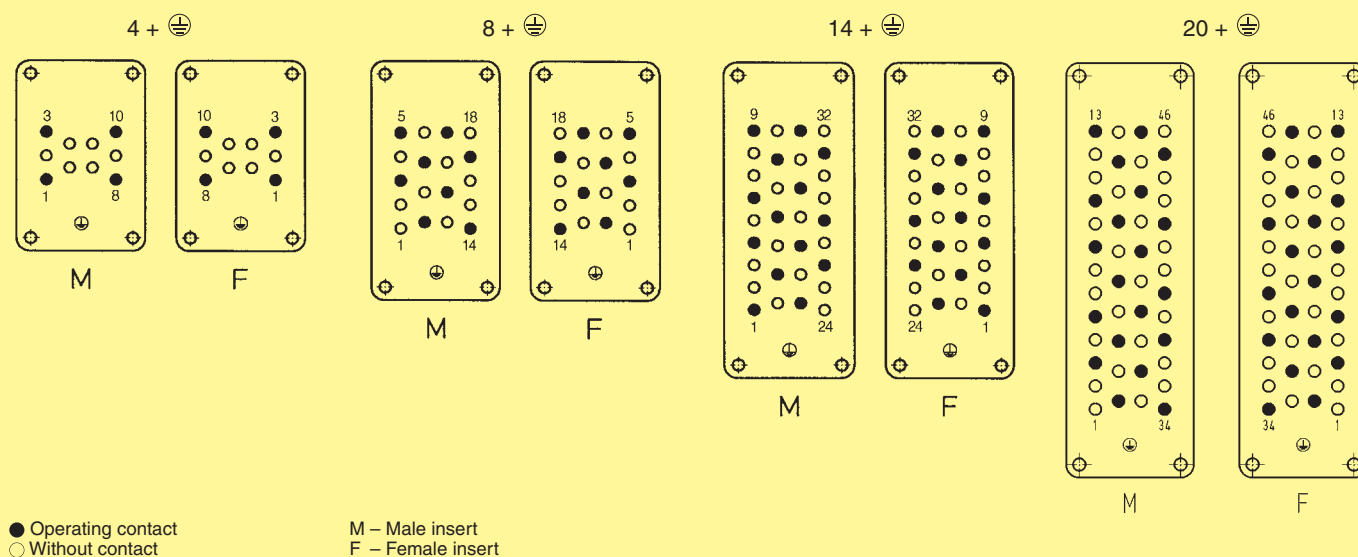
The connector series Han® EE equipped with all contacts may be used for voltages up to 500 V ~ pollution degree 3. A modified contact loading arrangement permits use up to 1000 V ~ pollution degree also in pollution degree C.

Fully equipped connectors may also be used up to 1000 V ~ but in a lower pollution degree. See page 00.17.

According to DIN EN 61 984 connectors should not be coupled or decoupled under electrical load.

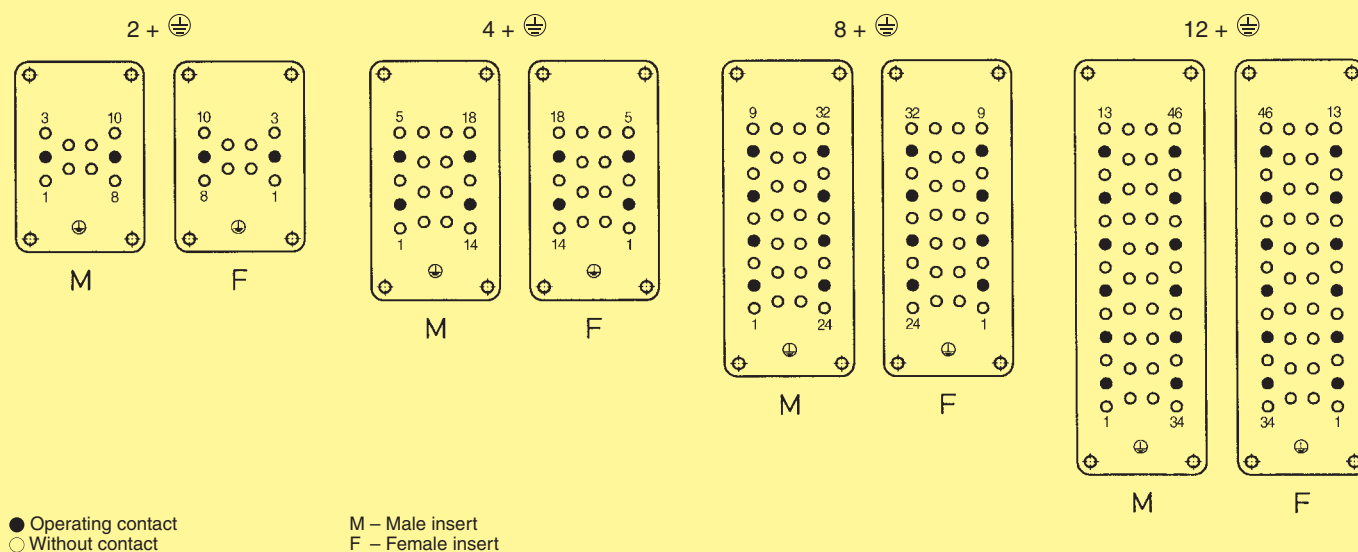
690 V Pollution degree 3

Contact arrangement View from termination side



1 000 V Pollution degree 3

Contact arrangement View from termination side



Han® Hv ES / Han Hv E®

Page

Technical characteristics Han® Hv ES	04.10
Technical characteristics Han Hv E®	04.11
Han® 3 Hv ES	04.12
Han® 3 Hv E	04.14
Han® 6 Hv ES	04.16
Han® 6 Hv E	04.18
Han® 10 Hv ES	04.20
Han® 10, 16 Hv E	04.22
Han® 12 Hv ES / Hv E	04.24
Han® 20 Hv ES / 20, 32 Hv E	04.26
Difference: Han Hv E® to Standard Hoods/Housings	04.28

Han
Hv E

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals

SEV

Inserts

Number of contacts 3, 6, 10, 12 (2 x 6),
20 (2 x 10) + PE
+ 2 additional contacts for
safe high voltage connections

Electrical data
acc. to DIN EN 61 984

16 A 830 V 8 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree

- Pollution degree 2 also
or
- Relay contact

16 A 1000 V 8 kV 2
16 A 720/1250 V 8 kV 2
16 A 500 V 6 kV 3

Working voltage
acc. to UL/CSA
- Relay contacts

600 V
250 V

Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
- Mating cycles

$\geq 10^{10} \Omega$
Polycarbonate
- 40 °C / +125 °C
V 0
 ≥ 500

Contacts

Material copper alloy

Surface
- hard-silver plated

Contact resistance $\leq 3 \text{ m}\Omega$

Cage-clamp terminal
- mm² 0.14 - 2.5 mm²
- AWG 26 - 14

Hoods/Housings

Material die cast aluminium
Surface powder-coated
RAL 7037

Locking element Han-Easy Lock®
Hoods/Housings seal NBR

Limiting temperatures - 40 °C / +125 °C

Degree of protection
acc. to DIN 40 050
for coupled connector IP 65

Further selection
of hoods/housings chapter 30 / chapter 31

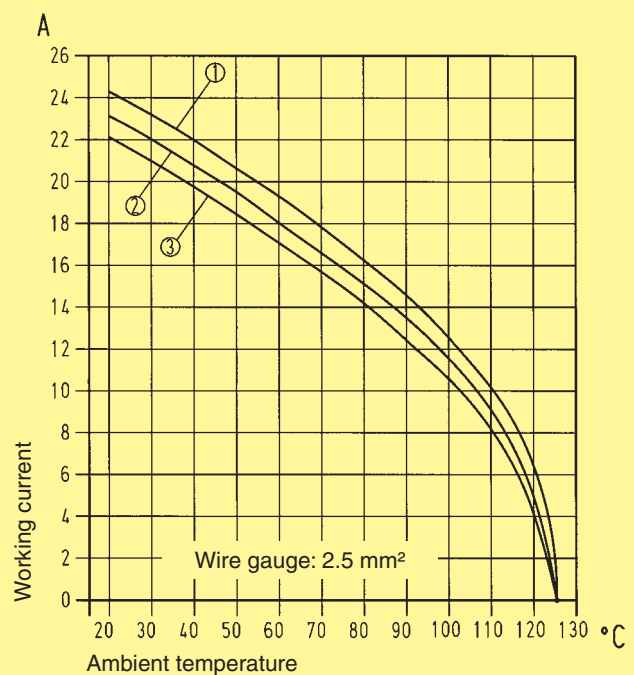
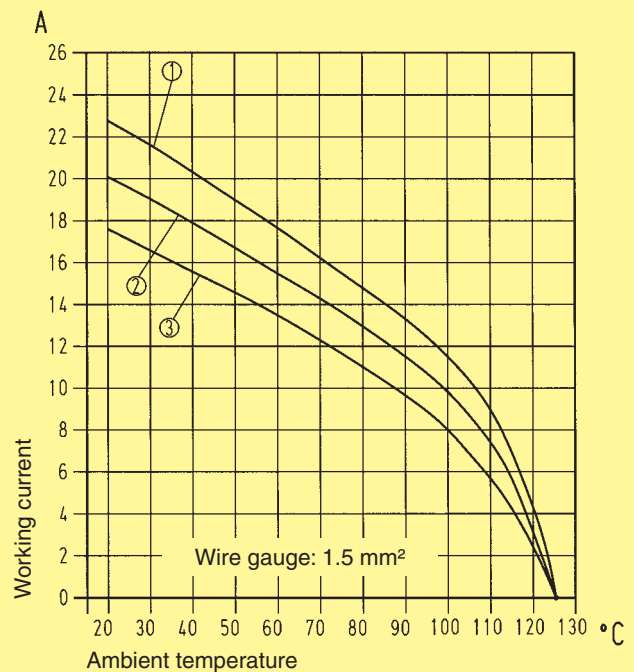
Accessories

Cable clamps chapter 40
Coding of hoods/housings chapter 40
Label acc. to CSA-approval chapter 40
Han-Snap® chapter 11

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



① Han® 3 Hv ES

② Han® 6 Hv ES

③ Han® 10 Hv ES

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals



Inserts

Number of contacts 3, 6, 10, 12 (2 x 6),
16, 20 (2 x 10),
32 (2 x 16) + PE
+ 2 additional contacts for
safe high voltage connections

Electrical data acc. to DIN EN 61 984

Han Hv E® 3, 6, 10, 12 (2 x 6),
20 (2 x 10) + PE

Working current	16 A	830 V	8 kV	3
Working voltage				
Rated impulse voltage				
Pollution degree				
- Pollution degree 2 also	16 A	1000 V	8 kV	2
or	16 A	720/1250 V	8 kV	2
- Relay contacts	16 A	500 V	6 kV	3

Han Hv E® 16, 32 (2 x 16) + PE 16 A 400/690 V 6 kV 3

Working current	16 A	400/690 V	6 kV	3
Working voltage conductor – ground				
Working voltage conductor – conductor				
Rated impulse voltage				
Pollution degree				
or	16 A	500 V	6 kV	3

Working voltage
acc. to UL/CSA 600 V
- Relay contacts 250 V
Insulation resistance $\geq 10^{10} \Omega$
Material Polycarbonate
Limiting temperatures - 40 °C / +125 °C
Flammability acc. to UL 94 V 0
Mechanical working life
- Mating cycles ≥ 500

Contacts

Material copper alloy
Surface
- hard-silver plated 3 μm Ag
Contact resistance $\leq 1 \text{ m}\Omega$
Crimp terminal
- mm² 0.5 - 4 mm²
- AWG 20 - 12
Screw terminal
- mm² 2.5 mm²
- AWG 14
- Tightening/test torque 0.5 Nm

Hoods/Housings

Material die cast aluminium
Surface powder-coated
RAL 7037
Locking element Han-Easy Lock®
Hoods/Housings seal NBR
Limiting temperatures - 40 °C / +125 °C
Degree of protection acc. to DIN
EN 60 529 for coupled connector IP 65

Further selection of hoods/housings chapter 30 / chapter 31

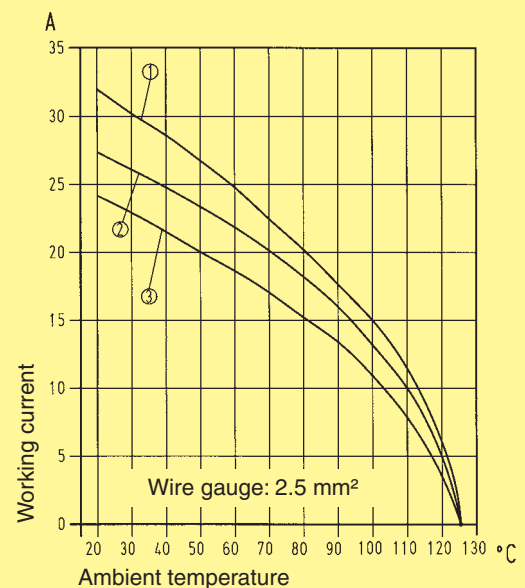
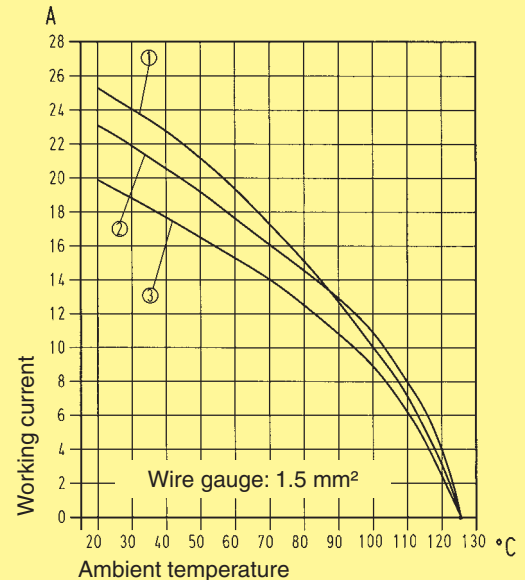
Accessories

Crimping tools chapter 99
Cable clamps chapter 40
Coding of Hoods/Housings chapter 40
Label acc. to CSA-approval chapter 40
Han-Snap® chapter 11

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



- ① Han® 3 Hv E
② Han® 6 Hv E
③ Han® 10 Hv E
Han® 16 Hv E

For a fully equipped crimp connector the following contacts are required:

Type	Female contacts	Operating contacts	Relay contacts
Han® 3 Hv E	5	3	2
Han® 6 Hv E	8	6	2
Han® 10 Hv E	12	10	2
Han® 12 Hv E	16	12	4
Han® 16 Hv E	18	18	—
Han® 20 Hv E	24	20	4
Han® 32 Hv E	36	36	—

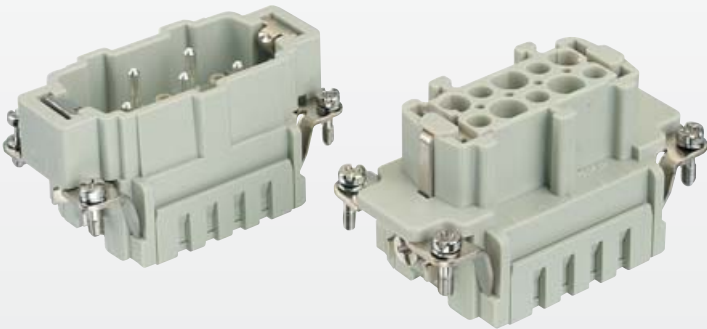


Number of contacts

3 +

+ 2 additional contacts for safe high voltage connections

Inserts



Han
Hv E

Part No.					
Identification	Series	Male insert (M)	Female insert (F)	Drawing	Dimensions in mm
Cage-clamp terminal	Han® Hv ES	09 34 003 2616	09 34 003 2716	1) Distance for contacts max. 21 mm Contact arrangement View from termination side Han® 3 Hv ES M F Panel cut out for inserts for use without hoods/housings	

Stock items in bold type

Identification		Part No.			Drawing	Dimensions in mm											
		Low construction	High construction	M													
Hoods	Hoods side-entry	19 30 010 1520 19 30 010 1521	19 30 010 0527	20 25 32													
	Hoods top-entry	19 30 010 1420 19 30 010 1421	19 30 010 0427	20 25 32													
	Protection covers for hoods thermoplastic/metal	09 30 010 5401 09 30 010 5423															
Housings	Housing bulkhead mounting	09 30 010 0301		—	Panel cut out 60 x 35 mm 												
	Housings surface mounting 1 side-entry	19 30 010 1230 19 30 010 1231	19 30 010 0231	20 25													
	2 side-entries	19 30 010 1270	19 30 010 0271 19 30 010 0272	20 25 32	Blind way for one cable entry <table><tr><td></td><td>a</td><td>b</td><td>h</td></tr><tr><td>Low construction</td><td>40</td><td>52</td><td>54</td></tr><tr><td>High construction</td><td>45</td><td>57</td><td>81</td></tr></table>		a	b	h	Low construction	40	52	54	High construction	45	57	81
		a	b	h													
	Low construction	40	52	54													
	High construction	45	57	81													
Protection covers for housings bulkhead/surface mounting thermoplastic/metal	09 30 010 5407 09 30 010 5425																
Hoods cable to cable	19 30 010 1730	19 30 010 0736 19 30 010 0737	20 25 32														
Protection cover for hoods cable to cable metal	09 30 010 5427																

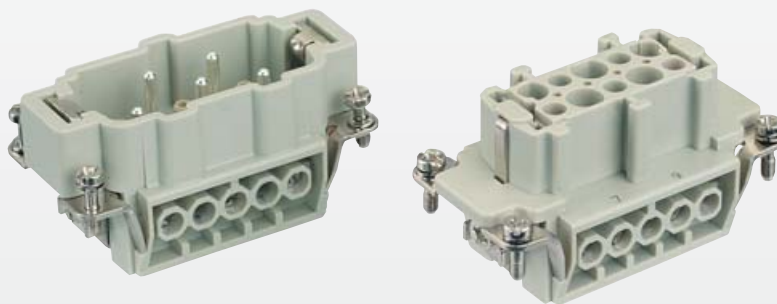
Han
Hv E

Number of contacts

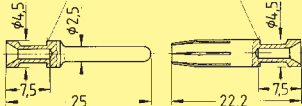
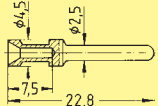
3 +

+ 2 additional contacts for safe high voltage connections

Inserts

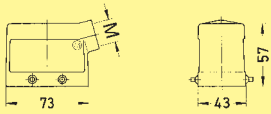
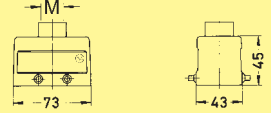
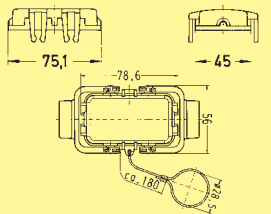
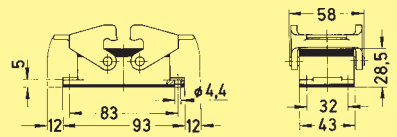
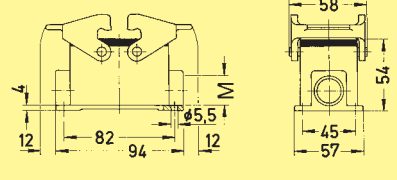
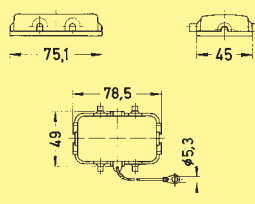
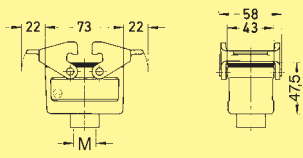
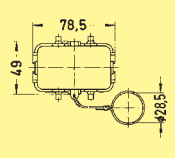


		Part No.		Drawing	Dimensions in mm
Identification	Series	Male insert (M)	Female insert (F)		
Screw terminal 	Han Hv E®	09 34 003 2601	09 34 003 2701	¹⁾ Distance for contact max. 21 mm Contact arrangement View from termination side Han® 3 Hv E ● Operating contact ○ Relay contact ○ Without contact Panel cut out for inserts for use without hoods/housings	
Crimp terminal Order contacts separately Han Hv E® Crimp could also be used with a 10 B standard housing.	Han Hv E®	09 34 003 2602	09 34 003 2702		

		Wire gauge	Part No.		Drawing	Dimensions in mm																																
Identification		(mm²)	Male contacts	Female contacts																																		
Han 3 Hv E	Crimp contacts																																					
	Operating contact silver plated	0.5	09 33 000 6121	09 33 000 6220																																		
	3 x		0.75	09 33 000 6114	09 33 000 6214	Crimp contact identification	<table><tr><th>Identification</th><th colspan="2">Wire gauge</th><th>Stripping length</th></tr><tr><td>no groove</td><td>0.5 mm²</td><td>AWG 20</td><td>7.5 mm</td></tr><tr><td>1 groove*</td><td>0.75 mm²</td><td>AWG 18</td><td>7.5 mm</td></tr><tr><td>1 groove</td><td>1 mm²</td><td>AWG 18</td><td>7.5 mm</td></tr><tr><td>2 grooves</td><td>1.5 mm²</td><td>AWG 16</td><td>7.5 mm</td></tr><tr><td>3 grooves</td><td>2.5 mm²</td><td>AWG 14</td><td>7.5 mm</td></tr><tr><td>wide groove</td><td>3.0 mm²</td><td>AWG 12</td><td>7.5 mm</td></tr><tr><td>no groove</td><td>4 mm²</td><td>AWG 12</td><td>7.5 mm</td></tr></table>	Identification	Wire gauge		Stripping length	no groove	0.5 mm²	AWG 20	7.5 mm	1 groove*	0.75 mm²	AWG 18	7.5 mm	1 groove	1 mm²	AWG 18	7.5 mm	2 grooves	1.5 mm²	AWG 16	7.5 mm	3 grooves	2.5 mm²	AWG 14	7.5 mm	wide groove	3.0 mm²	AWG 12	7.5 mm	no groove	4 mm²	AWG 12
Identification		Wire gauge		Stripping length																																		
no groove		0.5 mm²	AWG 20	7.5 mm																																		
1 groove*		0.75 mm²	AWG 18	7.5 mm																																		
1 groove		1 mm²	AWG 18	7.5 mm																																		
2 grooves	1.5 mm²	AWG 16	7.5 mm																																			
3 grooves	2.5 mm²	AWG 14	7.5 mm																																			
wide groove	3.0 mm²	AWG 12	7.5 mm																																			
no groove	4 mm²	AWG 12	7.5 mm																																			
5 x		1.0	09 33 000 6105	09 33 000 6205	* on the back crimp collar																																	
		1.5	09 33 000 6104	09 33 000 6204																																		
		2.5	09 33 000 6102	09 33 000 6202																																		
		3	09 33 000 6106	09 33 000 6206																																		
		4	09 33 000 6107	09 33 000 6207																																		
2 x	Relay contact silver plated	0.75-1	09 33 000 6109																																			
		1.5	09 33 000 6110																																			
		2.5	09 33 000 6111																																			
Number of pieces per insert																																						

* on the back crimp collar

Stock items in bold type

Identification		Part No.	M	Drawing	Dimensions in mm
Hoods	Hood side-entry		19 34 003 0520	20	
	Hood top-entry		19 34 003 0420 19 34 003 0421	20 25	
	Protection covers thermoplastic/metal		09 30 010 5401 09 30 010 5423		
Housings	Housing bulkhead mounting		09 34 003 0301	—	Panel cut out 60 x 35 mm 
	Housing surface mounting 2 side-entries		19 34 003 0270	20	
	Protection covers thermoplastic/metal		09 30 010 5407 09 30 010 5425		
	Hood cable to cable		19 34 003 0730 19 34 003 0731	20 25	
	Protection cover metal		09 30 010 5427		

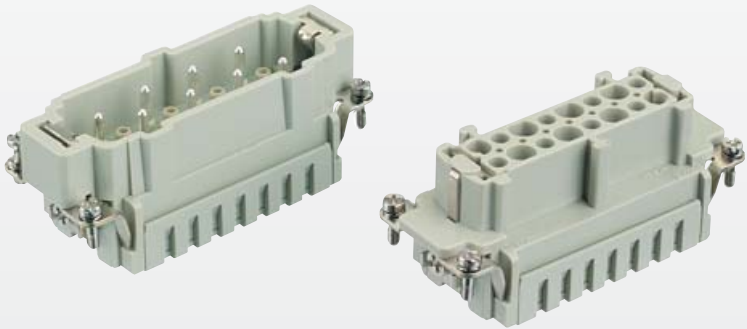


Number of contacts

6 +

+ 2 additional contacts for safe high voltage connections

Inserts



Han
Hv E

		Part No.		Drawing	Dimensions in mm
Identification	Series	Male insert (M)	Female insert (F)		
Cage-clamp terminal	Han® Hv ES	09 34 006 2616	09 34 006 2716	1) Distance for contact max. 21 mm Contact arrangement View from termination side Han® 6 Hv ES M F ● Operating contact ◐ Relay contact ○ Without contact Panel cut out for inserts for use without hoods/housings	

Stock items in bold type

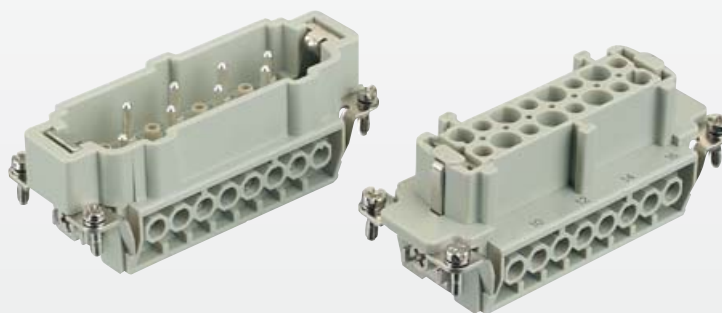
		Part No.			Drawing	Dimensions in mm						
Identification		Low construction	High construction	M								
Hoods	Hoods side-entry	19 30 016 1521 19 30 016 1522	19 30 016 0527 19 30 016 0528	25 32								
	Hoods top-entry	19 30 016 1421 19 30 016 1422	19 30 016 0427 19 30 016 0428	25 32								
	Protection covers for housings thermoplastic/metal	09 30 016 5401 09 30 016 5422										
Housings	Housing bulkhead mounting	09 30 016 0301		—	Panel cut out 82 x 35 mm 							
	Housings surface mounting 1 side-entry	19 30 016 1231	19 30 016 0232	25 32								
	Housings surface mounting 2 side-entries	19 30 016 1271	19 30 016 0271 19 30 016 0272	25 32	Blind way for one cable entry <table border="1"><thead><tr><th></th><th>h</th></tr></thead><tbody><tr><td>Low construction</td><td>56</td></tr><tr><td>High construction</td><td>81</td></tr></tbody></table>		h	Low construction	56	High construction	81	
		h										
	Low construction	56										
High construction	81											
Protection covers for housings bulkhead mounting thermoplastic/metal	09 30 016 5405 09 30 016 5425											
Hoods cable to cable	19 30 016 1731	19 30 016 0736 19 30 016 0737	25 32									
	Protection cover for hoods cable to cable metal	09 30 016 5426										

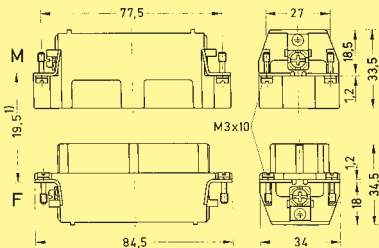
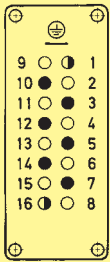
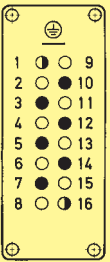
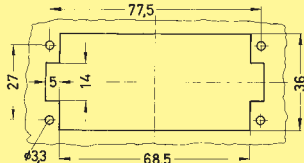
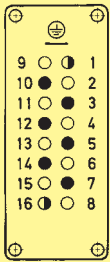
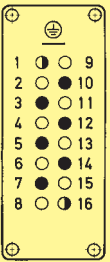
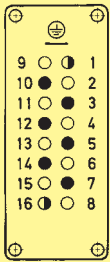
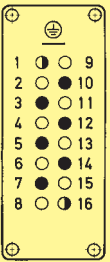
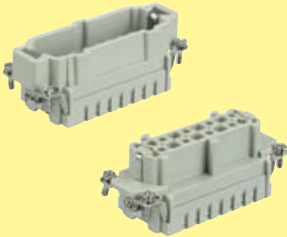
Number of contacts

6 +

+ 2 additional contacts for safe high voltage connections

Inserts



		Part No.		Drawing	Dimension in mm								
Identification	Series	Male insert (M)	Female insert (F)										
Screw terminal 	Han Hv E®	09 34 006 2601	09 34 006 2701										
¹⁾ Distance for contact max. 21 mm Contact arrangement View from termination side Han® 6 Hv E <table><tr><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">M</td><td colspan="2">F</td></tr></table> ● Operating contact ◐ Relay contact ○ Without contact Panel cut out for inserts for use without hoods/housings 										M		F	
													
M		F											
Crimp terminal Order contacts separately 	Han Hv E®	09 34 006 2602	09 34 006 2702										
Han Hv E® Crimp could also be used with a 16 B standard housing.													

		Wire gauge	Part No.				
Identification		(mm²)	Male contacts	Female contacts	Drawing	Dimensions in mm	
Han 6 Hv E	Crimp contacts						
		Operating contact silver plated					
		6 x					
		8 x					
	Relay contact silver plated						
		2 x					
		Number of pieces per insert					

0.5	09 33 000 6121	09 33 000 6220
0.75	09 33 000 6114	09 33 000 6214
1.0	09 33 000 6105	09 33 000 6205
1.5	09 33 000 6104	09 33 000 6204
2.5	09 33 000 6102	09 33 000 6202
3	09 33 000 6106	09 33 000 6206
4	09 33 000 6107	09 33 000 6207

0.75-1	09 33 000 6109	
1.5	09 33 000 6110	
2.5	09 33 000 6111	

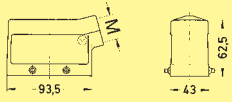
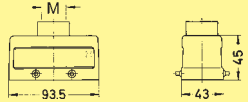
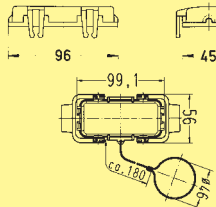
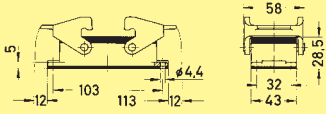
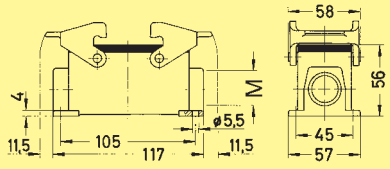
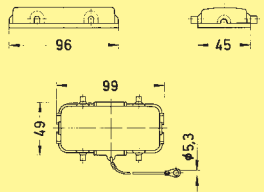
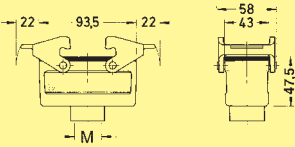
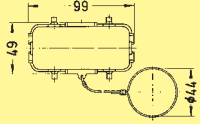
Operating contact		Relay contact	
Identification			

Crimp contact identification			
Identification	Wire gauge		Stripping length
no groove	0.5 mm²	AWG 20	7.5 mm
1 groove*	0.75 mm²	AWG 18	7.5 mm
1 groove	1 mm²	AWG 18	7.5 mm
2 grooves	1.5 mm²	AWG 16	7.5 mm
3 grooves	2.5 mm²	AWG 14	7.5 mm
wide groove	3.0 mm²	AWG 12	7.5 mm
no groove	4 mm²	AWG 12	7.5 mm

* on the back crimp collar

* on the back crimp collar

Stock items in bold type

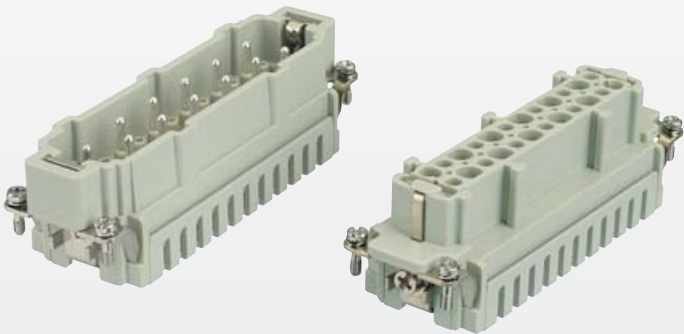
Identification		Part No.	M	Drawing	Dimensions in mm
Hoods	Hood side-entry	 19 34 006 0521	25		
	Hood top-entry	 19 34 006 0421	25		
	Protection covers thermoplastic/metal	 09 30 016 5401 09 30 016 5422			
Housings	Housing bulkhead mounting	 09 34 006 0301	—	Panel cut out 82 x 35 mm 	
	Housing surface mounting 2 side-entries	 19 34 006 0271	25		
	Protection covers thermoplastic/metal	 09 30 016 5405 09 30 016 5425			
	Hood cable to cable	 19 34 006 0731 19 34 006 0732	25 32		
	Protection cover metal	 09 30 016 5426			

Number of contacts

10 +

+ 2 additional contacts for safe high voltage connections

Inserts



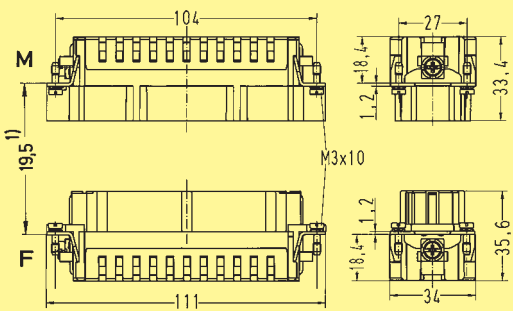
		Part No.		Drawing	Dimensions in mm
Identification	Series	Male insert (M)	Female insert (F)		

Cage-clamp terminal

Han®
Hv ES

09 34 010 2616

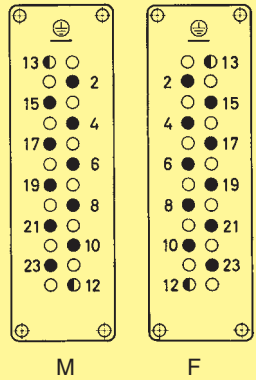
09 34 010 2716



¹⁾ Distance for contact max. 21 mm

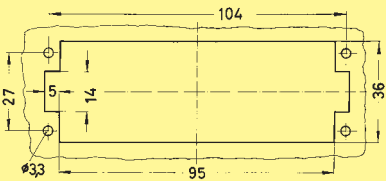
Contact arrangement View from termination side

Han® 10 Hv ES

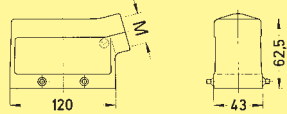
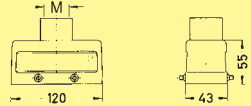
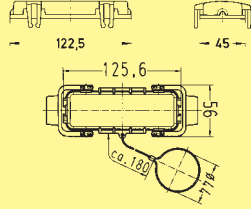
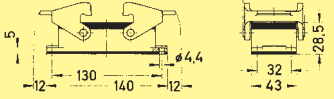
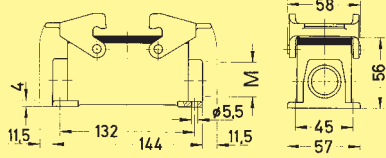
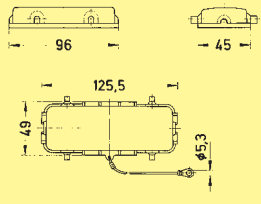
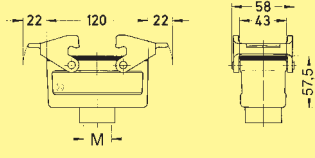
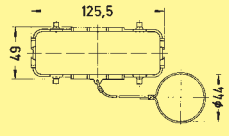


- Operating contact
- Relay contact
- Without contact

Panel cut out for inserts
for use without hoods/housings



		Part No.											
Identification		Low construction	High construction	M	Drawing	Dimensions in mm							
Hoods	Hoods side-entry	19 30 024 1521 19 30 024 1522	19 30 024 0527 19 30 024 0528	25 32									
	Hoods top-entry	19 30 024 1422	19 30 024 0427 19 30 024 0428	32 40									
	Protection covers for hoods thermoplastic/metal	09 30 024 5401 09 30 024 5422											
Housings	Housing bulkhead mounting	09 30 024 0301		—	Panel cut out 108 x 35 mm 								
	Housings surface mounting 1 side-entry	19 30 024 1231	19 30 024 0232	25 32									
	Housings surface mounting 2 side-entries	19 30 024 1271	19 30 024 0272	25 32	Blind way for one cable entry <table border="1"><thead><tr><th></th><th>h</th></tr></thead><tbody><tr><td>Low construction</td><td>56</td></tr><tr><td>High construction</td><td>81</td></tr></tbody></table>		h	Low construction	56	High construction	81		
		h											
	Low construction	56											
High construction	81												
Protection covers for housings bulkhead/surface mounting thermoplastic/metal	09 30 024 5405 09 30 024 5425												
Hoods cable to cable	19 30 024 1732	19 30 024 0737 19 30 024 0738	32 40		<table border="1"><thead><tr><th></th><th>h</th></tr></thead><tbody><tr><td>Low construction</td><td>57.5</td></tr><tr><td>High construction</td><td>78.5</td></tr></tbody></table>			h	Low construction	57.5	High construction	78.5	
	h												
Low construction	57.5												
High construction	78.5												
	Protection cover for hoods metal	09 30 024 5426											

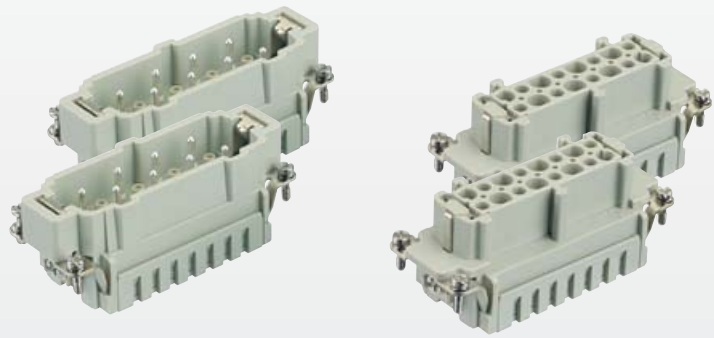
Identification		Part No.	M	Drawing	Dimensions in mm
Hoods	Hood side-entry		19 34 010 0521	25	
	Hood top-entry		19 34 010 0422	32	
	Protection covers thermoplastic/metal		09 30 024 5401 09 30 024 5422		
Housings	Housing bulkhead mounting		09 34 010 0301	—	Panel cut out 108 x 35 
	Housing surface mounting 2 side-entries		19 34 010 0271	25	
	Protection covers thermoplastic/metal		09 30 024 5405 09 30 024 5425		
	Hood cable to cable		19 34 010 0732	32	
	Protection cover metal		09 30 024 5426		

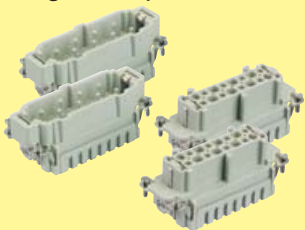
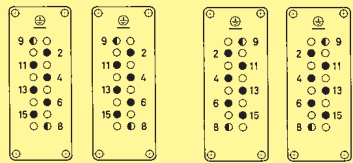
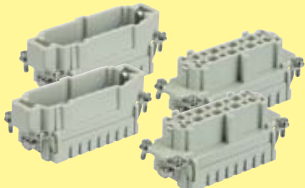
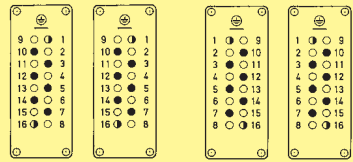
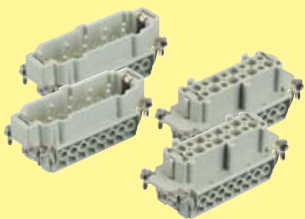
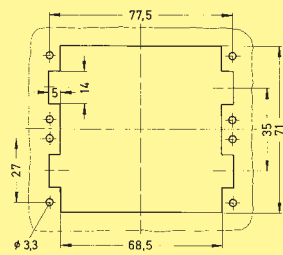
Number of contacts

12 +

+ 4 additional contacts for safe high voltage connections

Inserts

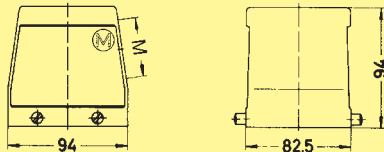
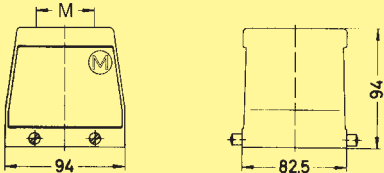
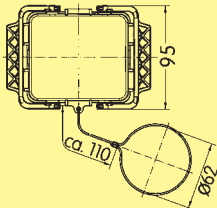
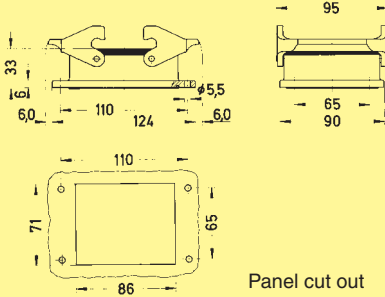
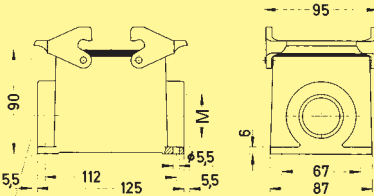
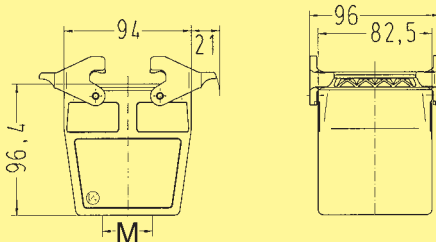
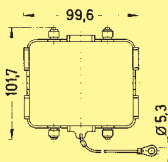


		Part No.		Drawing	Dimensions in mm	
Identification	Series	Male insert (M)	Female insert (F)			
Cage-clamp terminal 	Han® Hv ES			Dimensions for inserts page 04.16/04.18 Contact arrangement View from termination side Han® 12 Hv ES  M F		
	1-6	09 34 006 2616	09 34 006 2716			
	1-6	09 34 006 2616	09 34 006 2716			
Crimp terminal Order contacts separately  Han Hv E® Crimp could also be used with a 32 B standard housing.	Han Hv E®			Han® 12 Hv E  M F ● Operating contact ⦿ Relay contact ○ Without contact		
	1-6	09 34 006 2602	09 34 006 2702			
	1-6	09 34 006 2602	09 34 006 2702			
Screw terminal 	Han Hv E®			Panel cut out for insert for use without hoods/housings 		
	1-6	09 34 006 2601	09 34 006 2701			
	1-6	09 34 006 2601	09 34 006 2701			

		Wire gauge	Part No.		Drawing	Dimensions in mm
Identification		(mm²)	Male contacts	Female contacts		
Han 12 Hv E/ Hv ES 12 x 16 x 4 x	Crimp contacts Operating contact silver plated					
		0.5	09 33 000 6121	09 33 000 6220		
		0.75	09 33 000 6114	09 33 000 6214		
		1.0	09 33 000 6105	09 33 000 6205		
		1.5	09 33 000 6104	09 33 000 6204		
		2.5	09 33 000 6102	09 33 000 6202		
		3	09 33 000 6106	09 33 000 6206		
		4	09 33 000 6107	09 33 000 6207		
		Relay contact silver plated	0.75-1	09 33 000 6109		
			1.5	09 33 000 6110		
2.5	09 33 000 6111					
Crimp contact identification						
Identification		Wire gauge		Stripping length		
no groove		0.5 mm²	AWG 20	7.5 mm		
1 groove*		0.75 mm²	AWG 18	7.5 mm		
1 groove		1 mm²	AWG 18	7.5 mm		
2 grooves		1.5 mm²	AWG 16	7.5 mm		
3 grooves		2.5 mm²	AWG 14	7.5 mm		
wide groove		3.0 mm²	AWG 12	7.5 mm		
no groove		4 mm²	AWG 12	7.5 mm		
* on the back crimp collar						

* on the back crimp collar

Stock items in bold type

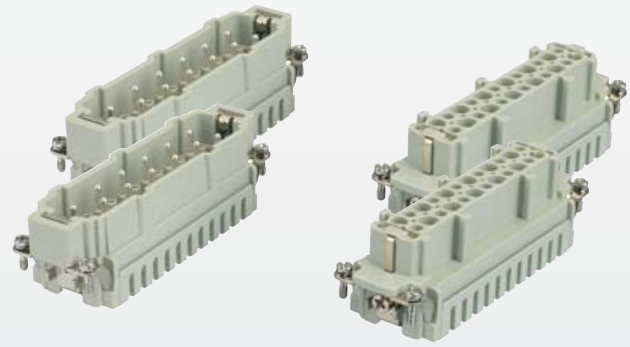
Identification		Part No.	M	Drawing	Dimensions in mm
Hoods	Hoods side-entry		19 30 032 0527 19 30 032 0528 19 30 032 0529	32 40 50	
	Hoods top-entry		19 30 032 0427 19 30 032 0428 19 30 032 0429	32 40 50	
	Protection cover for hoods		09 30 032 5420	—	
Housings	Housing bulkhead mounting		09 30 032 0301	—	 Panel cut out
	Housings surface mounting		19 30 032 0232 19 30 032 0272 19 30 032 0273	1 x 32 2 x 32 2 x 40	 Blind way for one cable entry
	Hoods cable to cable		19 30 032 0738	2 x 40	
	Protection covers for housings		09 30 032 5425	—	

Number of contacts

20, 32 +

+ 4 additional contacts for safe high voltage connections

Inserts



Part No.

Identification	Series	Male insert (M)	Female insert (F)	Drawing	Dimensions in mm
Cage-clamp terminal 	Han® Hv ES			Dimensions for inserts page 04.20 / 04.22	
	1–10	09 34 010 2616	09 34 010 2716	Contact arrangement View from termination side	
	1–10	09 34 010 2616	09 34 010 2716	Han® 20 Hv ES 	
Crimp terminal Order contacts separately 	Han Hv E®			Han® 20 Hv E 	
	1–10	09 34 010 2602	09 34 010 2702		
	1–10	09 34 010 2602	09 34 010 2702		
Screw terminal 	Han Hv E®			Han® 32 Hv E 	
	1–10	09 34 010 2601	09 34 010 2701		
	1–10	09 34 010 2601	09 34 010 2701		
	1–16	09 34 016 2601	09 34 016 2701		
	1–16	09 34 016 2601	09 34 016 2701		

- Operating contact
- Relay contact
- Without contact

Panel cut out for inserts for use without hoods/housings see chapter 03 size 48 E.

Wire gauge
(mm²)

Part No.

Identification	Male contacts	Female contacts	Drawing	Dimensions in mm
Crimp contacts Han 20 Hv E Han 32 Hv E Operating contact silver plated 20 x 36 x 0.5 09 33 000 6121 09 33 000 6220 1.0 09 33 000 6114 09 33 000 6214 1.5 09 33 000 6105 09 33 000 6205 2.5 09 33 000 6104 09 33 000 6204 24 x 36 x 2.5 09 33 000 6102 09 33 000 6202 3 09 33 000 6106 09 33 000 6206 4 09 33 000 6107 09 33 000 6207 Relay contact silver plated 0.75-1 09 33 000 6109 1.5 09 33 000 6110 2.5 09 33 000 6111 4 x –				
Operating contact Identification 				
Relay contact 				
Crimp contact identification				
Identification	Wire gauge		Stripping length	
no groove	0.5 mm²	AWG 20	7.5 mm	
1 groove*	0.75 mm²	AWG 18	7.5 mm	
1 groove	1 mm²	AWG 18	7.5 mm	
2 grooves	1.5 mm²	AWG 16	7.5 mm	
3 grooves	2.5 mm²	AWG 14	7.5 mm	
wide groove	3.0 mm²	AWG 12	7.5 mm	
no groove	4 mm²	AWG 12	7.5 mm	

* on the back crimp collar

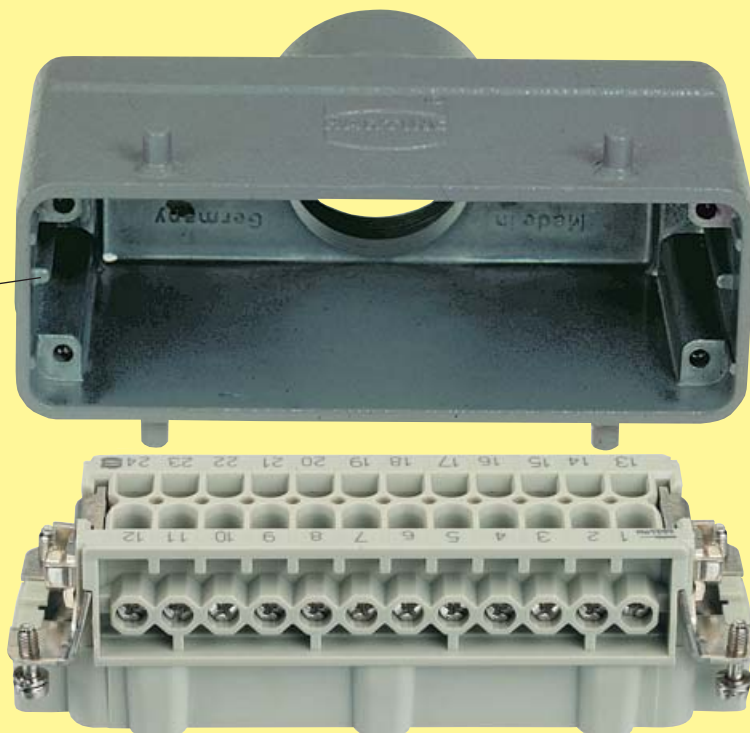
Stock items in bold type

Identification		Part No.	M	Drawing	Dimensions in mm
Hoods	Hoods side-entry	19 30 048 0548 19 30 048 0549	40 50		
	Hoods top-entry	19 30 048 0448 19 30 048 0449	40 50		
Housings	Housings bulkhead mounting	with thermo- plastic cover 09 30 048 0301 with metal cover 09 30 048 0317	— —	 Panel cut out 	
	Housings surface mounting	19 30 048 0292 19 30 048 0293	2 x 32 2 x 40		
	Housings surface mounting	with thermo- plastic cover 19 30 048 0298	2 x 40		
	Housings surface mounting	2 side-entries			

Standard Hood/Housing Han[®] B

Suitable for all Standard inserts (also Han[®] Hv ES)

Coding bar



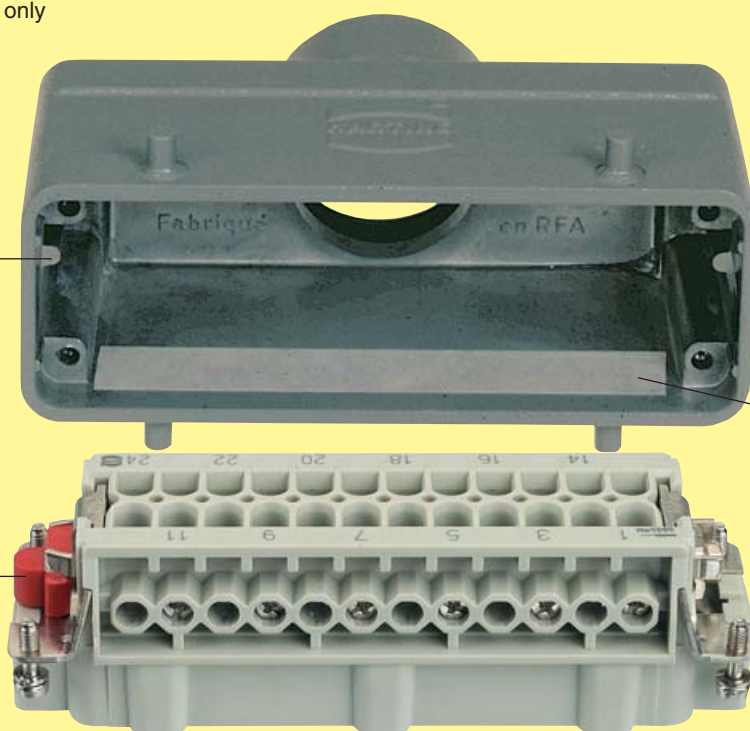
Special Hood/Housing Han Hv E[®]

Han Hv E[®] inserts may be used together with the corresponding Han Hv E[®] hoods/housings only

Milled Coding bar

Insulation tape

Stop



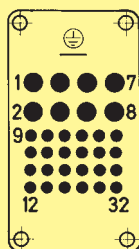
Han-Com®

Page

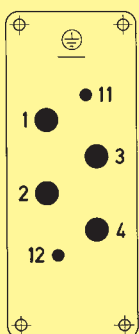
Summary	05.02
Han® K 8/24	05.10
Han® K 4/0, 4/2	05.14
Han® K 6/12	05.16
Han® K 6/36	05.18
Han® K 12/2 (12 HsC)	05.20
Han® K 4/8	05.26
Han® K 6/6	05.28
Han® K 8/0	05.30
Assembly details for Han® K 6/6 and K 8/0	05.35

Han
Com

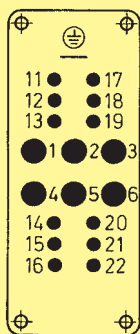
Size Description

B**10**Power area
Signal area

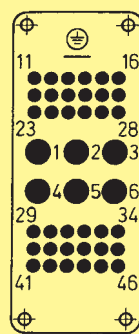
Han® K 8/24
16 A / 230/400 V
10 A / 160 V
 Crimp terminal
 Page 05.10

16Power area
Signal area

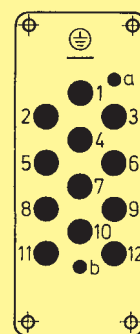
Han® K 4/0, 4/2
80 A / 830 V
16 A / 400 V
 Screw terminal
 Page 05.14



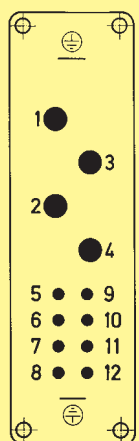
Han® K 6/12
40 A / 690 V
10 A / 230/400 V
 Screw terminal
 Page 05.16



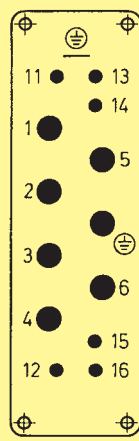
Han® K 6/36
40 A / 690 V
10 A / 160 V
 Crimp terminal
 Page 05.18



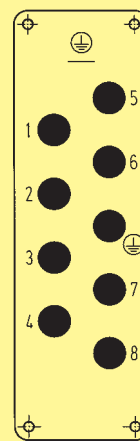
Han® K 12/2
40 A / 690 V
10 A / 250 V
 Crimp terminal
 Page 05.20

24Power area
Signal area

Han® K 4/8
80 A / 400 V
16 A / 400 V
 Screw terminal
 Page 05.26



Han® K 6/6
100 A / 690 V
16 A / 400 V
 Screw terminal
 Page 05.30



Han® K 8/0
100 A / 690 V
 Screw terminal
 Page 05.31

suitable for 2 inserts of size 16 B
 suitable for 2 inserts of size 24 B

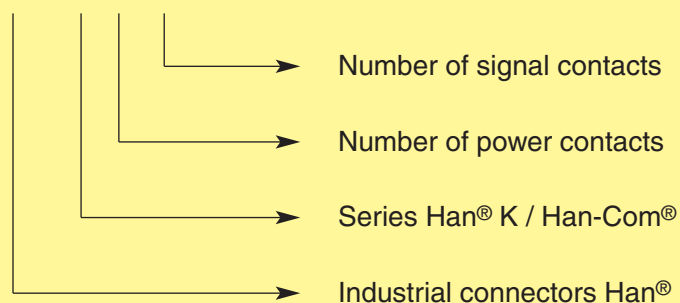
Summary

Type	Technical characteristics								Suitable Han® Hoods/ Housings Size
	Number of pins	Power area			Signal area				
		A	V~	Termination	Number of pins	A	V~	Termination	
Han® K 4/0	4+PE	80	830	screw	—	—	—	—	16 B, 32 B
4/2	4+PE	80	830	screw	2	16	400	screw	16 B, 32 B
4/8	4+PE	80	400	screw	8	16	400	screw	24 B, 48 B
6/6	6+PE	100	690	screw	6	16	400	screw	24 B, 48 B
8/0	8+PE	100	690	screw	8	—	—	—	24 B, 48 B
6/12	6+PE	40	690	screw	12	10	230/400	screw	16 B, 32 B
6/36	6+PE	40	690	crimp	36	10	160	crimp	16 B, 32 B
8/24	8+PE	16	230/400	crimp	24	10	160	crimp	10 B
12/2	12+PE	40	690	crimp	2	10	250	crimp	16 B, 32 B

Han
Com

Type identification

Han® K 6/12



Identification of contact position

- Han® K connectors in the power area from 1 to ...
in the signal area from 11 to ...
- Han® K 4/8 and Han® K 8/24 consecutively from 1 to ...
- Han® K 12/2 in the power area from 1 to 12
in the signal area with “a” and “b”

Comment for users

For the combination of several circuits in one cable and/or e.g. one connector the following standards are valid

VDE 0100/1.97 § 411.1.3.2 and DIN EN 60 204/11.98 § 14.1.3

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals



Inserts

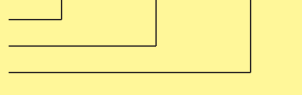
Number of contacts 8 / 24 + PE

Electrical data
acc. to DIN EN 61 984

Power area

16 A 230/400 V 4 kV 3

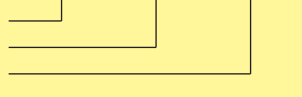
Working current
Working voltage
Rated impulse voltage
Pollution degree



Signal area

10 A 160 V 2.5 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree



- Pollution degree 2 also

10 A 250 V 4 kV 2

Working voltage
acc. to UL/CSA

600 V / 300 V

Test voltage U_{rms}
Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
- Mating cycles

3 kV / 2 kV
 $\geq 10^{10} \Omega$
Polyamide
- 40 °C / +125 °C
HB
 ≥ 500

Contacts

Material
Surface
- hard-silver plated
- hard-gold plated
Contact resistance
Crimp terminal
- mm²
- AWG

copper alloy
3 μ m Ag
2 μ m Au over 3 μ m Ni
 $\leq 1 \text{ m}\Omega$ / 3 m Ω
0.5 - 4 mm² / 0.14 - 2.5 mm²
20 - 12 / 25 - 14

Hoods/Housings

Material
Surface
Locking element
Hoods/Housings seal
Limiting temperatures
Degree of protection
acc. to DIN EN 60 529
for coupled connector

die cast aluminium
powder-coated
RAL 7037
Han-Easy Lock®
NBR
- 40 °C / +125 °C
IP 65

Further selection
of hoods/housings

chapter 30 / chapter 31

Accessories

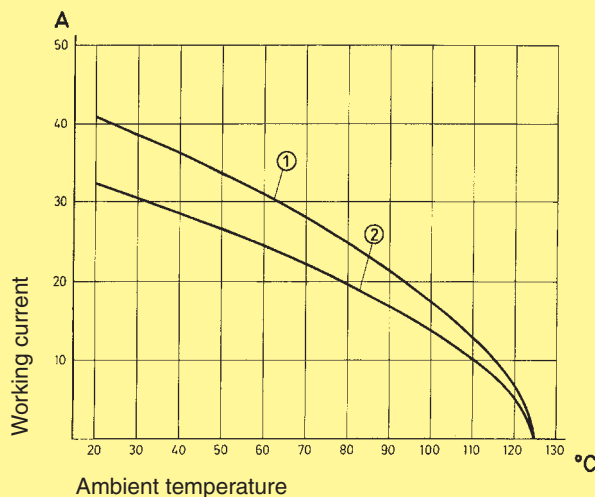
Crimping tools
Cable clamps
Coding of Hoods/Housings
Label acc. to CSA-approval
Han-Snap®
PCB-adaptor

chapter 99
chapter 40
chapter 40
chapter 40
chapter 11
chapter 40

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.

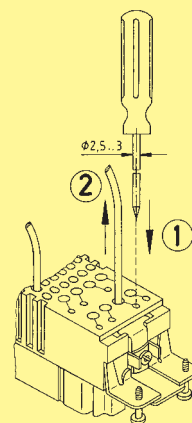


① Wire gauge: 4 mm²

② Wire gauge: 2.5 mm²

Removal of Power Contacts
(Han E® contacts)

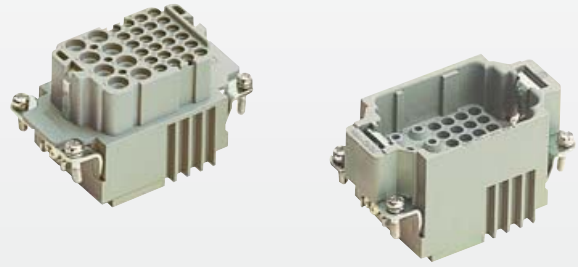
- ① Push cross-slotted screwdriver (size 0 acc. to DIN 5260) in the relevant hole of the contact until it reaches the bottom.
- ② Withdraw the crimped contact from the insert.

Removal of Signal Contacts
(Han D® contacts)

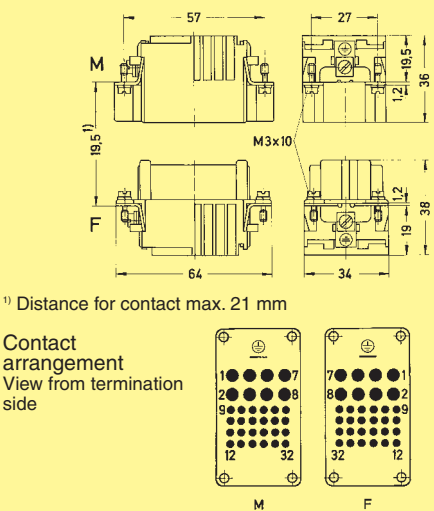
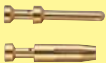
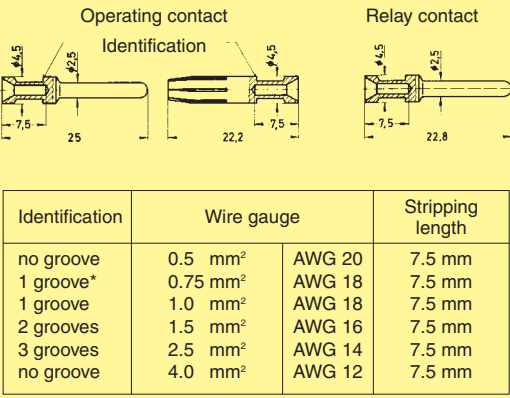
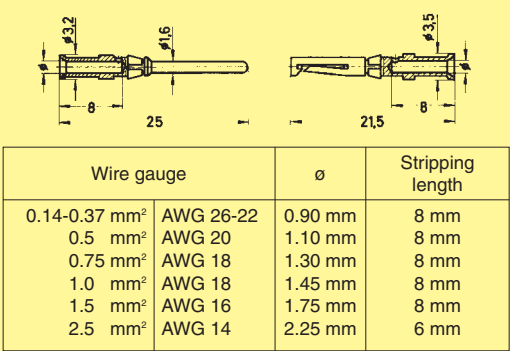
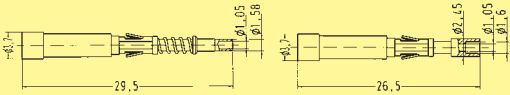
Description see removal tool chapter 99

Number of contacts

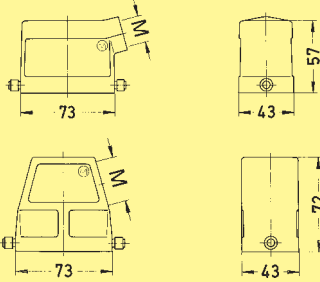
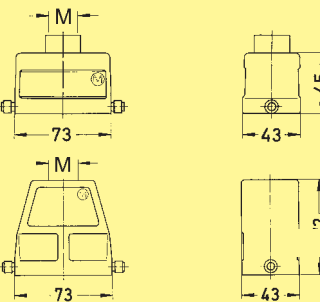
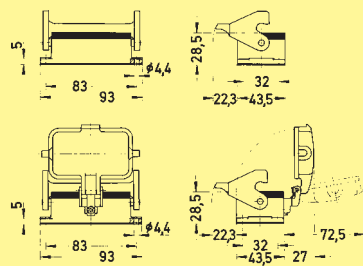
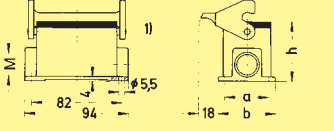
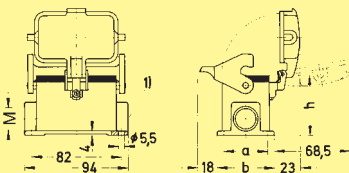
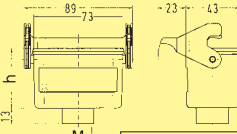
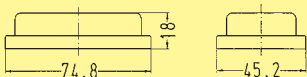
8/24 +



Inserts

		Part No.		Drawing	Dimensions in mm			
Identification	Series	Male insert (M)	Female insert (F)					
Crimp terminal Order crimp contacts separately	Han® K							
	8/24	09 38 032 3001	09 38 032 3101					
Wire gauge		Part No.		Drawing	Dimension in mm			
Identification	(mm²)	Male contacts	Female contacts					
Crimp contacts Power contacts silver plated  gold plated 	0.5	09 33 000 6121	09 33 000 6220					
	0.75	09 33 000 6114	09 33 000 6214					
	1.0	09 33 000 6105	09 33 000 6205					
	1.5	09 33 000 6104	09 33 000 6204					
	2.5	09 33 000 6102	09 33 000 6202					
	4.0	09 33 000 6107	09 33 000 6207					
	Relay contact silver plated 	0.5	09 33 000 6122			09 33 000 6222		
0.75		09 33 000 6115	09 33 000 6215					
1.0		09 33 000 6118	09 33 000 6218					
1.5		09 33 000 6116	09 33 000 6216					
2.5		09 33 000 6123	09 33 000 6223					
4.0		09 33 000 6119	09 33 000 6221					
Signal contact silver plated  gold plated 		0.14-0.37	09 15 000 6104	09 15 000 6204				
	0.5	09 15 000 6103	09 15 000 6203					
	0.75	09 15 000 6105	09 15 000 6205					
	1.0	09 15 000 6102	09 15 000 6202					
	1.5	09 15 000 6101	09 15 000 6201					
	2.5	09 15 000 6106	09 15 000 6206					
	0.14-0.37	09 15 000 6124	09 15 000 6224					
	0.5	09 15 000 6123	09 15 000 6223					
	0.75	09 15 000 6125	09 15 000 6225					
	1.0	09 15 000 6122	09 15 000 6222					
	1.5	09 15 000 6121	09 15 000 6221					
	2.5	09 15 000 6126	09 15 000 6226					
	FOC contacts for 1 mm plastic fibre 		20 10 001 3211	20 10 001 3221				

Stock items in bold type

		Part No.															
Identification		Low construction	High construction	M	Drawing	Dimensions in mm											
Hoods	Hoods side-entry	19 30 010 1540 19 30 010 1541	19 30 010 0547	20 25 32													
	Hoods top-entry	19 30 010 1440 19 30 010 1441		20 25 32													
Housings	Housings bulkhead mounting	09 30 010 0305 with thermo-plastic cover 09 30 010 0303 with metal cover 09 30 010 0318		— — —	Panel cut out 60 x 35 mm 												
	Housings surface mounting	1 side-entry 19 30 010 1250 2 side-entries 19 30 010 1290	19 30 010 0291 19 30 010 0292	20 20 25 32													
		1 side-entry 19 30 010 1255 2 side-entries 19 30 010 1295	with thermo-plastic cover 19 30 010 0296 19 30 010 0297	20 20 25 32													
		with metal cover 19 30 010 2295	with metal cover 19 30 010 7296	20 25	¹⁾ Blind way for one cable entry <table border="1"><thead><tr><th></th><th>a</th><th>b</th><th>h</th></tr></thead><tbody><tr><td>Low construction</td><td>40</td><td>52</td><td>54</td></tr><tr><td>High construction</td><td>45</td><td>57</td><td>81</td></tr></tbody></table>		a	b	h	Low construction	40	52	54	High construction	45	57	81
	a	b	h														
Low construction	40	52	54														
High construction	45	57	81														
	Hoods cable to cable	19 30 010 1750	19 30 010 0756 19 30 010 0757	20 25 32	 <table border="1"><thead><tr><th></th><th>h</th></tr></thead><tbody><tr><td>Low construction</td><td>47.5</td></tr><tr><td>High construction</td><td>74.5</td></tr></tbody></table>		h	Low construction	47.5	High construction	74.5						
	h																
Low construction	47.5																
High construction	74.5																
	Dust protection cover	09 30 010 5406															

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals



Inserts

Number of contacts 4 / 2 + PE

Electrical data
acc. to DIN EN 61 984

Power area

80 A 830 V 8 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree



– Pollution degree 2 also 80 A 1000 V 8 kV 2

Signal area

16 A 400 V 6 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree



– Pollution degree 2 also 16 A 400/690 V 6 kV 2

Working voltage
acc. to UL/CSA

600 V / 300 V

Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
- Mating cycles

≥ 10¹⁰ Ω
Polycarbonate
- 40 °C / +125 °C
V 0
≥ 500

Contacts

Power contacts

Material copper alloy
Surface
- hard-silver plated
Contact resistance ≤ 0.3 mΩ
Screw terminal
- Wire gauge¹⁾
- AWG
- Tightening torque

mm ²	1.5	2.5	4	6	10	16
Nm	1.2	2	3	3	3	3

Signal contacts

Material copper alloy
Surface
- hard-silver plated
Contact resistance ≤ 1 mΩ
Screw terminal
- Wire gauge¹⁾
- AWG
- Tightening torque

3 μm Ag
≤ 1 mΩ
0.5 - 2.5 mm²
20 - 14
0.5 Nm

Hoods/Housings

Material die cast aluminium
Surface powder-coated
RAL 7037
Locking element Han-Easy Lock®
Hoods/Housings seal NBR
Limiting temperatures - 40 °C / +125 °C

Degree of protection acc. to DIN EN 60 529 for coupled connector IP 65

Further selection of hoods/housings chapter 30 / chapter 31

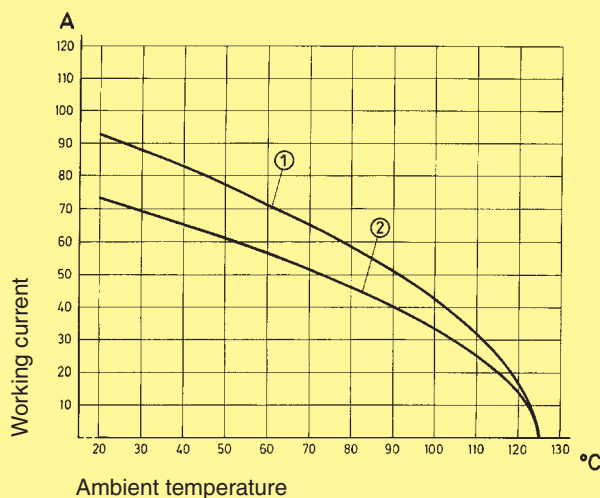
Accessories

Cable clamps chapter 40
Coding of hoods/housings chapter 40
Label acc. to CSA-approval chapter 40
Han-Snap® chapter 11

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



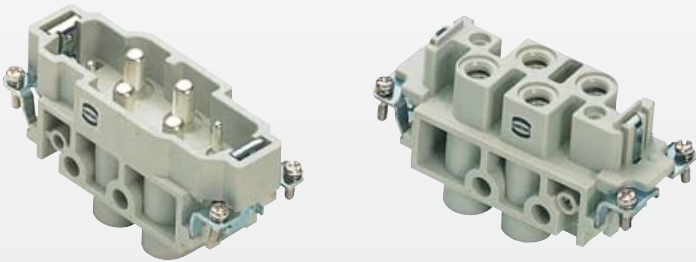
- ① Wire gauge: 16 mm²
② Wire gauge: 10 mm²

In accordance with the appropriate regulations a wire-end sleeve has to be used at clamps without wire protection (s. p. 00.12).

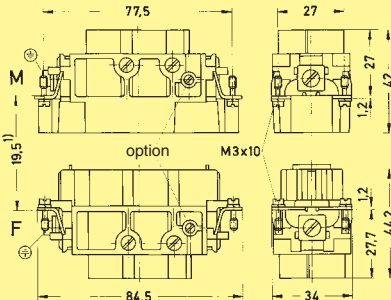
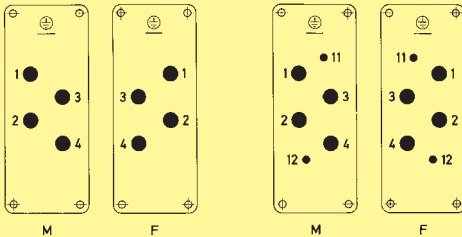
¹⁾ geometrical diameter

Number of contacts

4/0, 4/2 +



Inserts

		Part No.		Drawing	Dimensions in mm		
Identification	Series	Male insert (M)	Female insert (F)				
Screw terminal	Han® K						
	4/0	09 38 006 2611	09 38 006 2711				
	4/2	09 38 006 2601	09 38 006 2701				
1) Distance for contact max. 21 mm							
Contact arrangement View from termination side							
							
Han® K 4/0 Han® K 4/2							

Han
Com

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals



Inserts

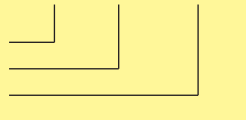
Inserts 6 / 12 + PE

Electrical data
acc. to DIN EN 61 984

Power area

40 A 690 V 8 kV 3

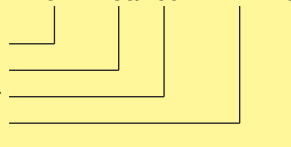
Working current
Working voltage
Rated impulse voltage
Pollution degree



Signal area

10 A 230/400 V 4 kV 3

Working current
Working voltage conductor – ground
Working voltage conductor – conductor
Rated impulse voltage
Pollution degree



Working voltage
acc. to UL/CSA

600 V / 300 V

Insulation resistance $\geq 10^{10} \Omega$
Material Polycarbonate
Limiting temperatures - 40 °C / +125 °C
Flammability acc. to UL 94 V 0
Mechanical working life
- Mating cycles ≥ 500

Contacts

Power contacts

Material copper alloy

Surface 3 µm Ag

- hard-silver plated
Contact resistance $\leq 0.5 \text{ m}\Omega$

Screw terminal
- Wire gauge¹⁾ 2.5 - 10 mm²
- AWG 14 - 8

- Tightening torque

mm ²	2.5	4	6	10
Nm	1.5	1.5	2	2

- Stripping length

mm ²	2.5	4	6	10
mm	5 ⁺¹	5 ⁺¹	8 ⁺¹	8 ⁺¹

Max. insulation diameter $\varnothing = 5 \text{ mm}$

Signal contacts

Material copper alloy

Surface 3 µm Ag

- hard-silver plated
Contact resistance $\leq 3 \text{ m}\Omega$

Screw terminal
- Wire gauge¹⁾ 0.2 - 2.5 mm²
- AWG 24 - 14
- Tightening torque 0.8 Nm

Hoods/Housings

Material die cast aluminium
Surface powder-coated
RAL 7037

Locking element Han-Easy Lock®
Hoods/Housings seal NBR
Limiting temperatures - 40 °C / +125 °C

Degree of protection acc. to DIN 40 050 for coupled connector IP 65

Further selection of hoods/housings chapter 30 / chapter 31

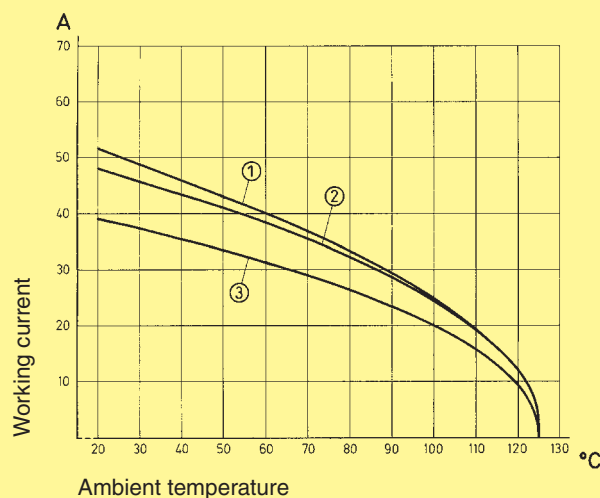
Accessories

Cable clamps chapter 40
Coding of hoods/housings chapter 40
Label acc. to CSA-approval chapter 40
Han-Snap® chapter 11

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



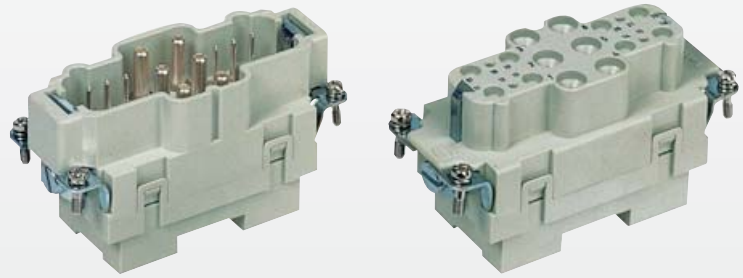
- ① Wire gauge: 10 mm²
② Wire gauge: 6 mm²
③ Wire gauge: 4 mm²

In accordance with the appropriate regulations a wire-end sleeve has to be used at clamps without wire protection (s. p. 00.12).

¹⁾ geometrical diameter

Number of contacts

6/12 +



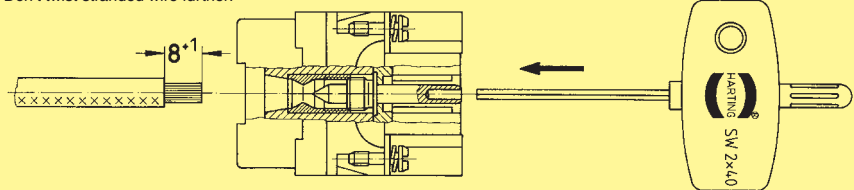
Inserts

		Part No.		Drawing	Dimensions in mm
Identification	Series	Male insert (M)	Female insert (F)		
Screw terminal	Han® K 6/12	09 38 018 2601	09 38 018 2701	¹⁾ Distance for contact max. 21 mm Contact arrangement View from termination side	
Screwdriver for axial setscrew		09 99 000 0313			

Working instructions
for axial setscrew

For stranded wire 2.5 ... 10 mm² fine wire
(superfine wire 2.5 ... 6 mm²)
Don't twist stranded wire further!

Example: Male insert



Insert stranded wire in contact chamber.

During tightening of the lock nut, hold stranded wire in position.

Tightening torque: 1 Nm max.

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals



Inserts

Number of contacts 6 / 36 + PE

Electrical data
acc. to DIN EN 61 984

Power area

40 A 690 V 8 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree



Signal area

10 A 160 V 2,5 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree



- Pollution degree 2 also

10 A 250 V 4 kV 2

Working voltage
acc. to UL/CSA

600 V / 300 V

Test voltage U_{rms}
Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
- Mating cycles

3 kV / 2 kV
 $\geq 10^{10} \Omega$
Polycarbonate
- 40 °C / +125 °C
V 0
 ≥ 500

Contacts

Material copper alloy
Surface
- hard-silver plated 3 μm Ag
- hard-gold plated 2 μm Au over 3 μm Ni
Contact resistance $\leq 0.3 \text{ m}\Omega$ / 3 $\text{m}\Omega$
Crimp terminal
- mm^2 1.5 - 6 mm^2 / 0.14 - 2.5 mm^2
- AWG 16 - 10 / 26 - 14
Max. insulation
- Power contacts $\varnothing = 5 \text{ mm}$

Hoods/Housings

Material die cast aluminium
Surface powder-coated
RAL 7037
Locking element Han-Easy Lock®
Hoods/Housings seal NBR
Limiting temperatures - 40 °C / +125 °C
Degree of protection acc. to DIN EN 60 529 IP 65
for coupled connector
Further selection of hoods/housings chapter 30 / chapter 31

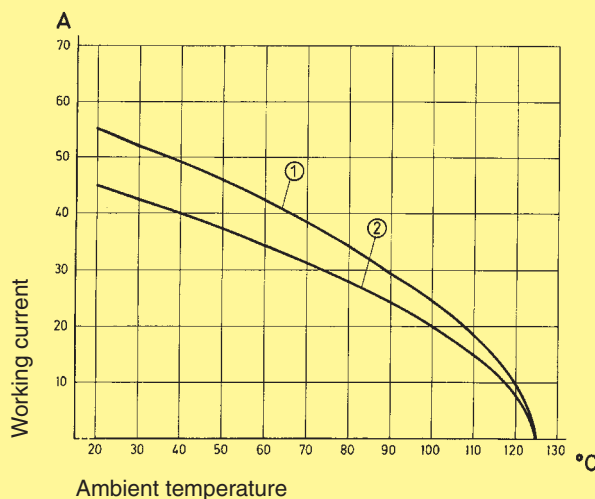
Accessories

Crimping tools chapter 99
Cable clamps chapter 40
Coding of Hoods/Housings chapter 40
Label acc. to CSA-approval chapter 40
Han-Snap® chapter 11
PCB-Adapter chapter 40

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



① Wire gauge: 6 mm^2

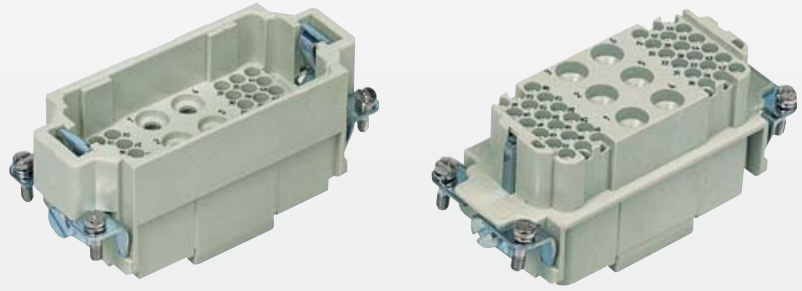
② Wire gauge: 4 mm^2

Removal of Power Contacts
(Han® C contacts)

Description see removal tool chapter 99

Number of contacts

6/36 +



Inserts

		Part No.		Drawing	Dimensions in mm
Identification	Series	Male insert (M)	Female insert (F)		
Crimp terminal Order crimp contacts separately	Han® K				
	6/36	09 38 042 3001	09 38 042 3101		
				¹⁾ Distance for contact max. 21 mm Contact arrangement View from termination side	

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		Part No.		Drawing	Dimensions in mm																												
Identification	Wire gauge (mm ²)	Male contacts	Female contacts																														
Crimp contacts Power contacts																																	
silver plated	1.5	09 32 000 6104	09 32 000 6204	<table border="1"> <thead> <tr> <th colspan="2">Wire gauge</th><th>ø</th><th>Stripping length</th></tr> </thead> <tbody> <tr> <td>1.5 mm²</td><td>AWG 16</td><td>1.75 mm</td><td>9 mm</td></tr> <tr> <td>2.5 mm²</td><td>AWG 14</td><td>2.25 mm</td><td>9 mm</td></tr> <tr> <td>4.0 mm²</td><td>AWG 12</td><td>2.85 mm</td><td>9.5 mm</td></tr> <tr> <td>6.0 mm²</td><td>AWG 10</td><td>3.5 mm</td><td>9.5 mm</td></tr> </tbody> </table>	Wire gauge		ø	Stripping length	1.5 mm ²	AWG 16	1.75 mm	9 mm	2.5 mm ²	AWG 14	2.25 mm	9 mm	4.0 mm ²	AWG 12	2.85 mm	9.5 mm	6.0 mm ²	AWG 10	3.5 mm	9.5 mm									
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6.0 mm ²	AWG 10	3.5 mm	9.5 mm																														
	2.5	09 32 000 6105	09 32 000 6205																														
	4.0	09 32 000 6107	09 32 000 6207																														
	6.0	09 32 000 6108	09 32 000 6208																														
Signal contacts				<table border="1"> <thead> <tr> <th colspan="2">Wire gauge</th><th>ø</th><th>Stripping length</th></tr> </thead> <tbody> <tr> <td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>0.90 mm</td><td>8 mm</td></tr> <tr> <td>0.5 mm²</td><td>AWG 20</td><td>1.10 mm</td><td>8 mm</td></tr> <tr> <td>0.75 mm²</td><td>AWG 18</td><td>1.30 mm</td><td>8 mm</td></tr> <tr> <td>1.0 mm²</td><td>AWG 18</td><td>1.45 mm</td><td>8 mm</td></tr> <tr> <td>1.5 mm²</td><td>AWG 16</td><td>1.75 mm</td><td>8 mm</td></tr> <tr> <td>2.5 mm²</td><td>AWG 14</td><td>2.25 mm</td><td>6 mm</td></tr> </tbody> </table>	Wire gauge		ø	Stripping length	0.14-0.37 mm ²	AWG 26-22	0.90 mm	8 mm	0.5 mm ²	AWG 20	1.10 mm	8 mm	0.75 mm ²	AWG 18	1.30 mm	8 mm	1.0 mm ²	AWG 18	1.45 mm	8 mm	1.5 mm ²	AWG 16	1.75 mm	8 mm	2.5 mm ²	AWG 14	2.25 mm	6 mm	
Wire gauge		ø	Stripping length																														
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2.5 mm ²	AWG 14	2.25 mm	6 mm																														
silver plated	0.14-0.37	09 15 000 6104	09 15 000 6204																														
	0.5	09 15 000 6103	09 15 000 6203																														
	0.75	09 15 000 6105	09 15 000 6205																														
	1.0	09 15 000 6102	09 15 000 6202																														
	1.5	09 15 000 6101	09 15 000 6201																														
	2.5	09 15 000 6106	09 15 000 6206																														
gold plated																																	
	0.14-0.37	09 15 000 6124	09 15 000 6224																														
	0.5	09 15 000 6123	09 15 000 6223																														
	0.75	09 15 000 6125	09 15 000 6225																														
	1.0	09 15 000 6122	09 15 000 6222																														
	1.5	09 15 000 6121	09 15 000 6221																														
	2.5	09 15 000 6126	09 15 000 6226																														
FOC contacts for 1 mm plastic fibre																																	
		20 10 001 3211	20 10 001 3221																														

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals



Inserts

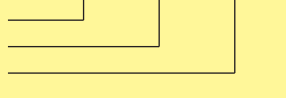
Number of contacts 12 / 2 + PE

Electrical data
acc. to DIN EN 61 984

Power area

40 A 690 V 8 kV 3

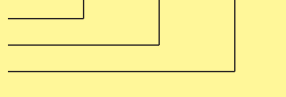
Working current
Working voltage
Rated impulse voltage
Pollution degree



Signal area

10 A 250 V 4 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree



Working voltage
acc. to UL/CSA

600 V / 300 V

Insulation resistance
Material

$\geq 10^{10} \Omega$
Polycarbonate

Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
- Mating cycles

- 40 °C / +125 °C
V 0
 ≥ 500

Contacts

Material
Surface
- hard-silver plated
- hard-gold plated
Contact resistance
Crimp terminal
- mm²
- AWG

copper alloy
3 μm Ag
2 μm Au over 3 μm Ni
 $\leq 0.3 \text{ m}\Omega$ / 3 $\text{m}\Omega$
1.5 - 6 mm² / 0.14 - 2.5 mm²
16 - 10 / 26 - 14

Hoods/Housings

Material
Surface
Locking element
Hoods/Housings seal
Limiting temperatures
Degree of protection
acc. to DIN EN 60 529
for coupled connector

die cast aluminium
powder-coated
RAL 7037
Han-Easy Lock®
NBR
- 40 °C / +125 °C

Further selection
of hoods/housings

IP 65

chapter 30 / chapter 31

Accessories

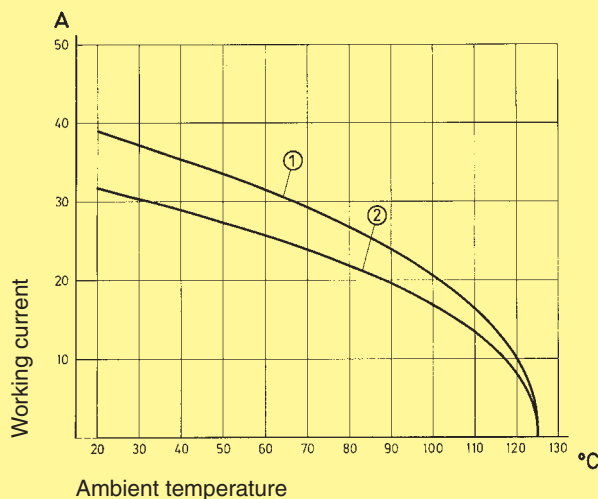
Crimping tools
Cable clamps
Coding of hoods/housings
Label acc. to CSA-approval
Han-Snap®

chapter 99
chapter 40
chapter 40
chapter 40
chapter 11

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



① Wire gauge: 6 mm²

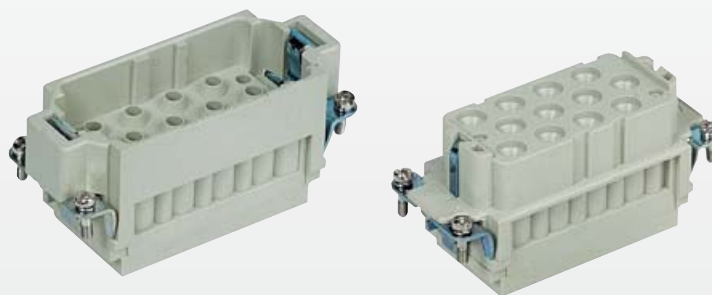
② Wire gauge: 4 mm²

Removal of Power Contacts
(Han® C contacts)

Description see removal tool chapter 99

Number of contacts

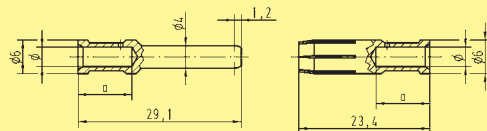
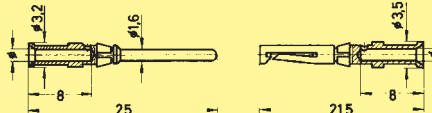
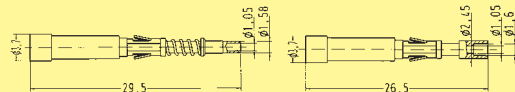
12/2 +



Inserts

Part No.					
Identification	Series	Male insert (M)	Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately	Han® K				
	12/2	09 32 012 3001	09 32 012 3101	¹⁾ Distance for contact max. 21 mm Contact arrangement View from termination side	

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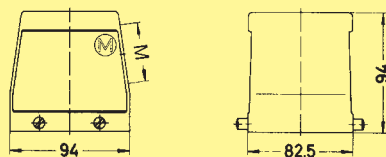
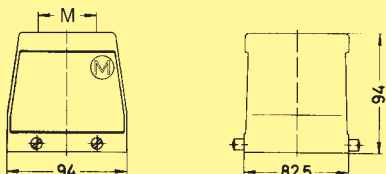
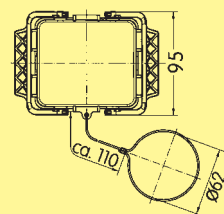
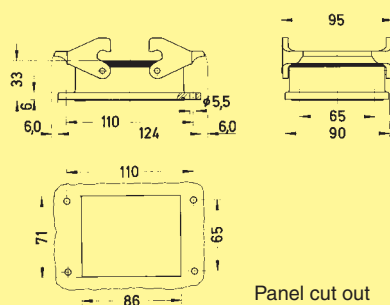
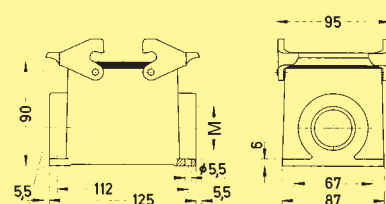
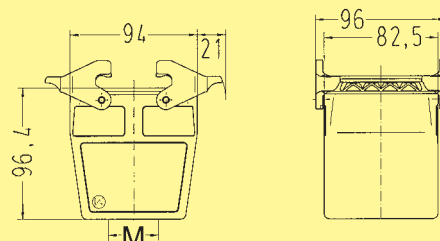
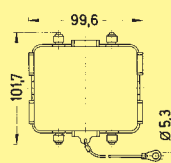
Identification		Wire gauge (mm ²)	Male contacts	Female contacts	Drawing	Dimensions in mm																												
Crimp contacts																																		
Power contacts																																		
silver plated		1.5	09 32 000 6104	09 32 000 6204		<table><tr><th colspan="2">Wire gauge</th><th>ø</th><th>Stripping length</th></tr><tr><td>1.5 mm²</td><td>AWG 16</td><td>1.75 mm</td><td>9 mm</td></tr><tr><td>2.5 mm²</td><td>AWG 14</td><td>2.25 mm</td><td>9 mm</td></tr><tr><td>4.0 mm²</td><td>AWG 12</td><td>2.85 mm</td><td>9.5 mm</td></tr><tr><td>6.0 mm²</td><td>AWG 10</td><td>3.5 mm</td><td>9.5 mm</td></tr></table>	Wire gauge		ø	Stripping length	1.5 mm ²	AWG 16	1.75 mm	9 mm	2.5 mm ²	AWG 14	2.25 mm	9 mm	4.0 mm ²	AWG 12	2.85 mm	9.5 mm	6.0 mm ²	AWG 10	3.5 mm	9.5 mm								
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Signal contacts																																		
silver plated		0.14-0.37	09 15 000 6104	09 15 000 6204		<table><tr><th colspan="2">Wire gauge</th><th>ø</th><th>Stripping length</th></tr><tr><td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>0.90 mm</td><td>8 mm</td></tr><tr><td>0.5 mm²</td><td>AWG 20</td><td>1.10 mm</td><td>8 mm</td></tr><tr><td>0.75 mm²</td><td>AWG 18</td><td>1.30 mm</td><td>8 mm</td></tr><tr><td>1.0 mm²</td><td>AWG 18</td><td>1.45 mm</td><td>8 mm</td></tr><tr><td>1.5 mm²</td><td>AWG 16</td><td>1.75 mm</td><td>8 mm</td></tr><tr><td>2.5 mm²</td><td>AWG 14</td><td>2.25 mm</td><td>6 mm</td></tr></table>	Wire gauge		ø	Stripping length	0.14-0.37 mm ²	AWG 26-22	0.90 mm	8 mm	0.5 mm ²	AWG 20	1.10 mm	8 mm	0.75 mm ²	AWG 18	1.30 mm	8 mm	1.0 mm ²	AWG 18	1.45 mm	8 mm	1.5 mm ²	AWG 16	1.75 mm	8 mm	2.5 mm ²	AWG 14	2.25 mm	6 mm
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		0.75	09 15 000 6105	09 15 000 6205																														
		1.0	09 15 000 6102	09 15 000 6202																														
		1.5	09 15 000 6101	09 15 000 6201																														
		2.5	09 15 000 6106	09 15 000 6206																														
gold plated		0.14-0.37	09 15 000 6124	09 15 000 6224																														
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FOC contacts																																		
for 1 mm plastic fibre																																		
			20 10 001 3211	20 10 001 3221																														

Stock items in bold type

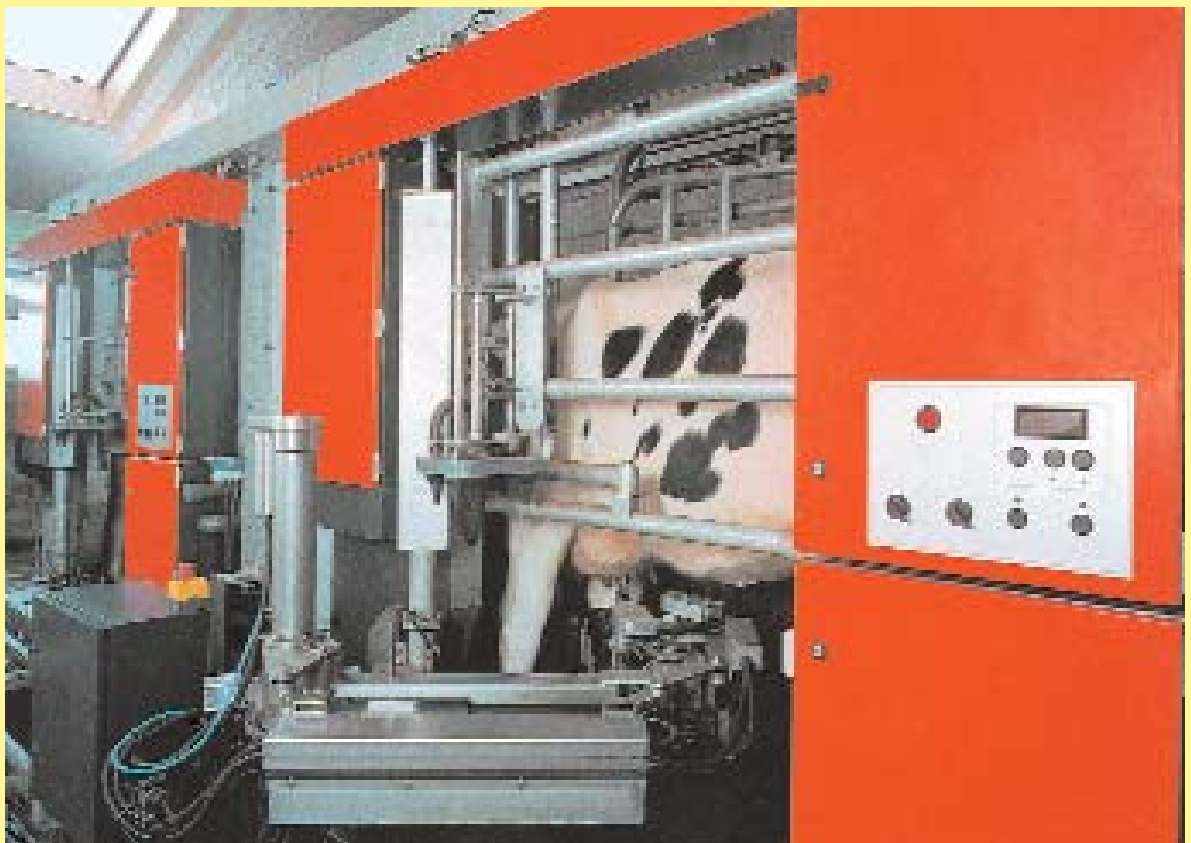
		Part No.									
Identification		Low construction	High construction	M	Drawing	Dimensions in mm					
Hoods	Hoods side-entry	19 30 016 1521 19 30 016 1522	19 30 016 0527 19 30 016 0528	25 32							
	Hoods top-entry	19 30 016 1421 19 30 016 1422	19 30 016 0427 19 30 016 0428	25 32							
	Protection covers for housings thermoplastic/metal	09 30 016 5401 09 30 016 5422									
Housings	Housing bulkhead mounting	09 30 016 0301		—	Panel cut out 82 x 35 mm 						
	Housings surface mounting 1 side-entry	19 30 016 1231	19 30 016 0232	25 32							
	Housings surface mounting 2 side-entries	19 30 016 1271	19 30 016 0271 19 30 016 0272 19 30 016 0273	25 32 40	Blind way for one cable entry <table><tr><th></th><th>h</th></tr><tr><td>Low construction</td><td>56</td></tr><tr><td>High construction</td><td>81</td></tr></table>		h	Low construction	56	High construction	81
		h									
	Low construction	56									
High construction	81										
Protection covers for housings bulkhead mounting thermoplastic/metal	09 30 016 5405 09 30 016 5425										
Hoods cable to cable	19 30 016 1731	19 30 016 0736 19 30 016 0737	25 32								
	Protection cover for hoods cable to cable metal	09 30 016 5426									

Stock items in bold type

Identification		Part No.		M	Drawing	Dimensions in mm
		Low construction	High construction			
Hoods	Hoods side-entry	19 30 016 1541 19 30 016 1542	19 30 016 0547 19 30 016 0548	25 32		
	Hoods top-entry	19 30 016 1441 19 30 016 1442	19 30 016 0447 19 30 016 0448	25 32		
Housings	Housings bulkhead mounting	09 30 016 0307 with thermo-plastic cover 09 30 016 0306 with metal cover 09 30 016 0318		—		
	Housings surface mounting	1 side-entry	19 30 016 1251	25 32		
		2 side-entries	19 30 016 1291	25 32		
		1 side-entry	19 30 016 1256	25		
		2 side-entries	19 30 016 1296	25 32		
		2 side-entries	19 30 016 2296	25 32		
	Hoods cable to cable	19 30 016 1751	19 30 016 0757	25 32		
	Dust protection cover	09 30 016 5406				

Identification		Part No.	M	Drawing	Dimensions in mm
Hoods	Hoods side-entry	 19 30 032 0527 19 30 032 0528 19 30 032 0529	32 40 50		
	Hoods top-entry	 19 30 032 0427 19 30 032 0428 19 30 032 0429	32 40 50		
	Protection cover for hoods	09 30 032 5420	—		
Housings	Housing bulkhead mounting	09 30 032 0301	—	  Panel cut out	
	Housings surface mounting	19 30 032 0232 19 30 032 0272 19 30 032 0273	1 x 32 2 x 32 2 x 40	  Blind way for one cable entry	
	Hoods cable to cable	19 30 032 0738	2 x 40	 	
	Protection covers for housings	09 30 032 5425	—		

Stock items in bold type



Automatic milking chambers
PROLION, Holding N.V., Netherlands

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals



Inserts

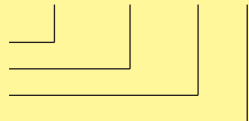
Number of contacts 4 / 8 + PE

Electrical data
acc. to DIN EN 61 984

Power area

80 A 400 V 6 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree



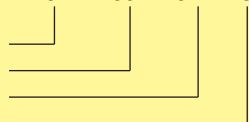
- Pollution degree 2 also

80 A 400/690 V 6 kV 2

Signal area

16 A 400 V 6 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree



Working voltage
acc. to UL/CSA

600 V / 600 V

Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
- Mating cycles

≥ 10¹⁰ Ω
Polyamide
- 40 °C / +125 °C
HB
≥ 500

Contacts

Power contacts

Material copper alloy
Surface
- hard-silver plated
Contact resistance ≤ 0.3 mΩ
Screw terminal
- Wire gauge¹⁾
- AWG
- Tightening torque

mm ²	1.5	2.5	4	6	10	16
Nm	1.2	2	3	3	3	3

Signal contacts

Material copper alloy
Surface
- hard-silver plated
Contact resistance ≤ 1 mΩ
Screw terminal
- Wire gauge¹⁾
- AWG
- Tightening torque

0.5 - 2.5 mm²
20 - 14
0.5 Nm

Hoods/Housings

Material die cast aluminium
Surface powder-coated
RAL 7037
Locking element Han-Easy Lock®
Hoods/Housings seal NBR
Limiting temperatures - 40 °C / +125 °C
Degree of protection acc. to DIN EN 60 529
for coupled connector IP 65

Further selection
of hoods/housings chapter 30 / chapter 31

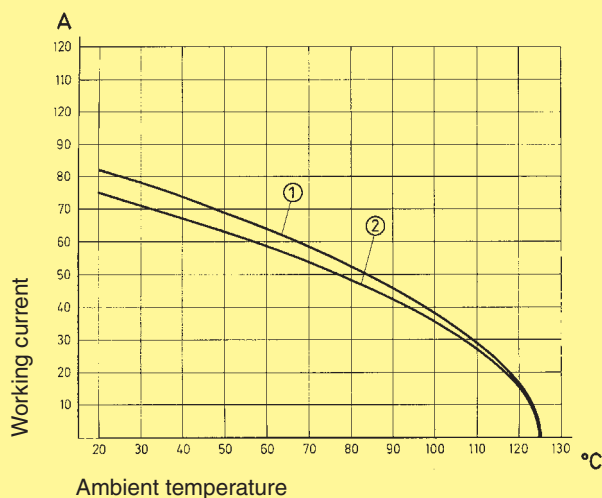
Accessories

Cable clamps chapter 40
Coding of hoods/housings chapter 40
Label acc. to CSA-approval chapter 40
Han-Snap® chapter 11

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

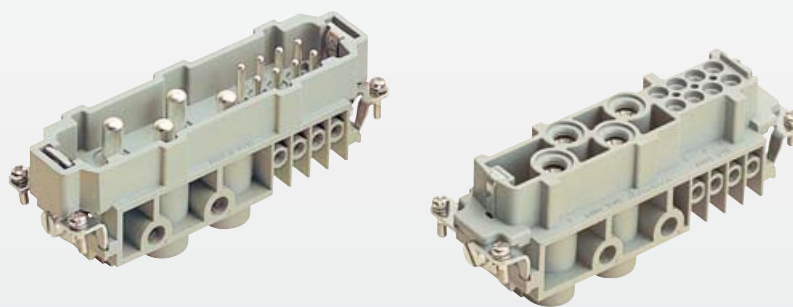
Control and test procedures according to DIN IEC 60 512-3.



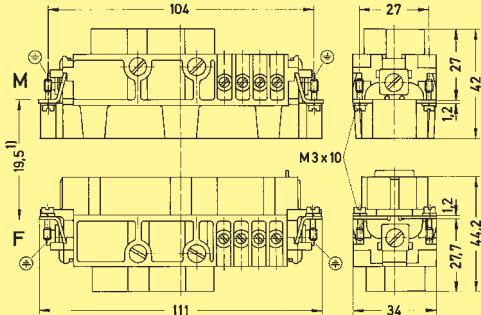
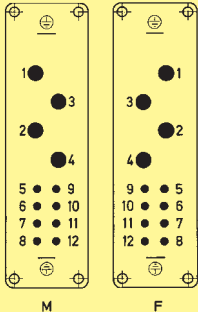
- ① Wire gauge: 16 mm²
② Wire gauge: 10 mm²

Number of contacts

4/8 +



Inserts

Identification		Series	Male insert (M)	Female insert (F)	Part No.	Drawing	Dimensions in mm
Screw terminal		Han® K					
		4/8	09 38 012 2601	09 38 012 2701			
							¹⁾ Distance for contact max. 21 mm
Contact arrangement View from termination side							

Han
Com

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals



Inserts

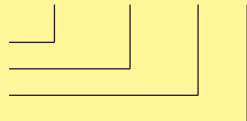
Number of contacts 6 / 6 + PE

Electrical data
acc. to DIN EN 61 984

Power area

100 A 690 V 8 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree



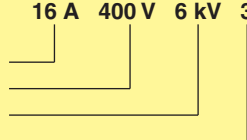
– Pollution degree 2 also

100 A 1000 V 8 kV 2

Signal area

16 A 400 V 6 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree



Working voltage
acc. to UL/CSA

600 V / 300 V

Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
- Mating cycles

$\geq 10^{10} \Omega$
Polycarbonate
- 40 °C / +125 °C
V 0
 ≥ 500

Contacts

Power contacts

Material
Surface
- hard-silver plated
Contact resistance
Screw terminal
- Wire gauge¹⁾
- AWG
- Tightening torque

copper alloy

3 μm Ag
 $\leq 0.5 \text{ m}\Omega$

16 - 35 mm^2
5 - 2

mm^2	16	25	35
Nm	6	7	8

Signal area

Material
Surface
- hard-silver plated
Contact resistance
Screw terminal
- Wire gauge¹⁾
- AWG
- Tightening torque

copper alloy

3 μm Ag
 $\leq 3 \text{ m}\Omega$

0,2 - 2,5 mm^2
24 - 13
0,8 Nm

Hoods/Housings

Material die cast aluminium
Surface powder-coated
RAL 7037
Locking element Han-Easy Lock®
Hoods/Housings seal NBR
Limiting temperatures - 40 °C / +125 °C
Degree of protection acc. to DIN EN 60 529 IP 65
for coupled connector

Further selection of hoods/housings chapter 30 / chapter 31

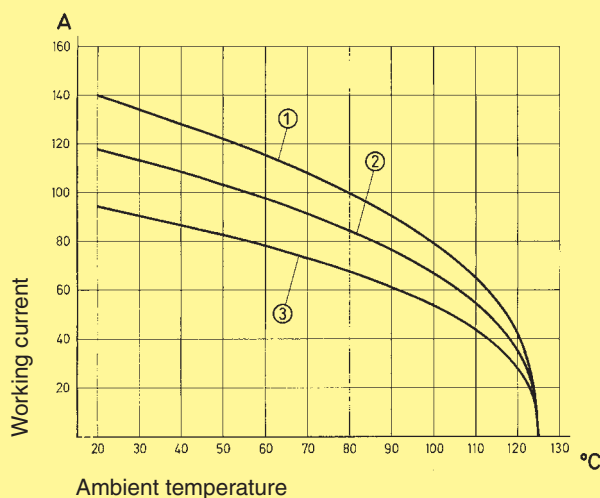
Accessories

Cable clamps chapter 40
Coding of hoods/housings chapter 40
Label acc. to CSA-approval chapter 40
Han-Snap® chapter 11

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



- ① Wire gauge: 35 mm^2
② Wire gauge: 25 mm^2
③ Wire gauge: 16 mm^2

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Technical drawing of a mechanical assembly showing a cross-section of a housing with a central shaft and a pin. Dimensions include a 13+1 mm length for the pin and a 100 mm length for the shaft. The drawing is labeled 'SW 4' and '100'.

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Inserts

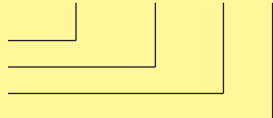
Number of contacts 8 + PE

Electrical data
acc. to DIN EN 61 984

Power area

100 A 690 V 8 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree



– Pollution degree 2 also

100 A 1000 V 8 kV 2

Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
– Mating cycles

$\geq 10^{10} \Omega$
Polycarbonate
– 40 °C / +125 °C
V 0
 ≥ 500

Contacts

Power contacts

Material
Surface
– hard-silver plated
Contact resistance
Screw terminal
– Wire gauge¹⁾
– AWG
– Tightening torque

copper alloy
3 μm Ag
 $\leq 0.5 \text{ m}\Omega$
10 - 25 mm²
7 - 3

mm ²	10	16	25
Nm	6	6	7

Hoods/Housings

Material
Surface
Locking element
Hoods/Housings seal
Limiting temperatures
Degree of protection
acc. to DIN EN 60 529
for coupled connector

die cast aluminium
powder-coated
RAL 7037
Han-Easy Lock®
NBR
– 40 °C / +125 °C

IP 65

Further selection
of hoods/housings

chapter 30 / chapter 31

Accessories

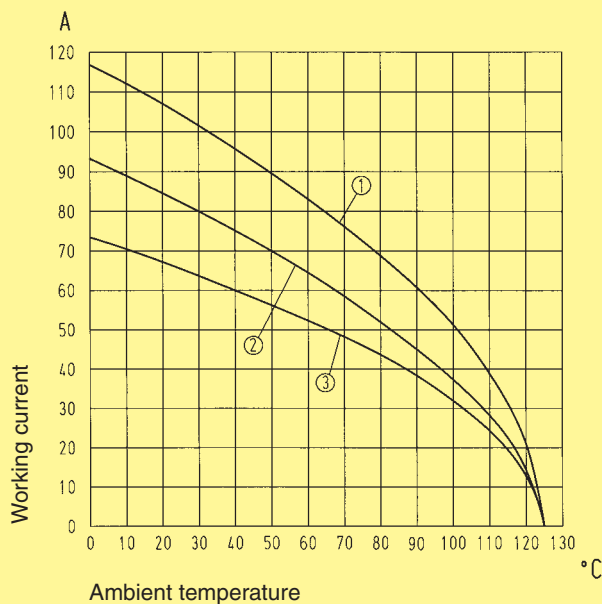
Cable clamps
Coding of hoods/housings
Label acc. to CSA-approval
Han-Snap®

chapter 40
chapter 40
chapter 40
chapter 11

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



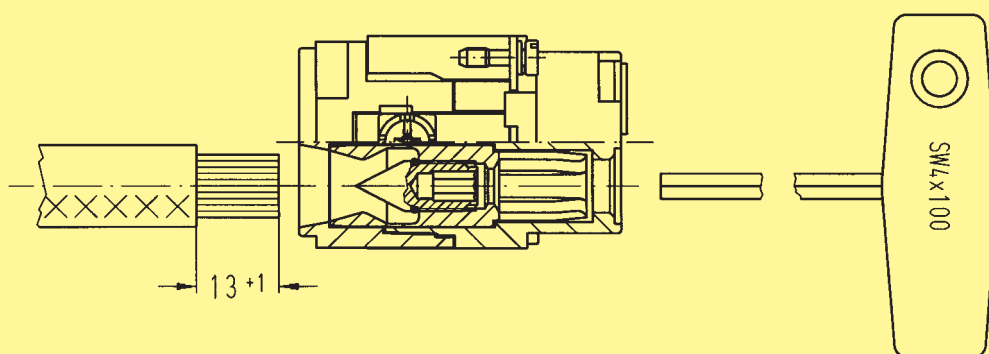
- ① Wire gauge: 25 mm²
- ② Wire gauge: 16 mm²
- ③ Wire gauge: 10 mm²

Number of contacts

8/0 +


Inserts

		Part No.		Drawing	Dimensions in mm
Identification	Series	Male insert (M)	Female insert (F)		
Screw terminal	Han® K 8/0	09 38 008 2653	09 38 008 2753	1) Distance for contact max. 21 mm Contact arrangement View from termination side M F	1) Distance for contact max. 21 mm Contact arrangement View from termination side M F
Hex Key SW 4 for axial setscrew with grip adapter 3/8"			09 99 000 0363 09 99 000 0370		

Working instructions
for axial setscrew

Part No.

Identification

Low construction

High construction

M

Drawing

Dimensions in mm

Hoods

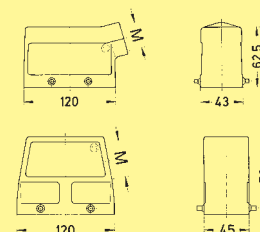
Hoods
side-entry

19 30 024 1521
19 30 024 1522

19 30 024 0527
19 30 024 0528

25
32

32
40

Hoods
top-entry

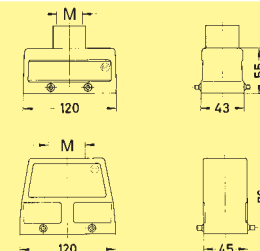
19 30 024 1422

19 30 024 0427

19 30 024 0428

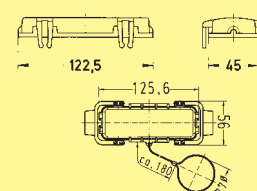
32

40

Protection covers for hoods
thermoplastic/metal

09 30 024 5401

09 30 024 5422



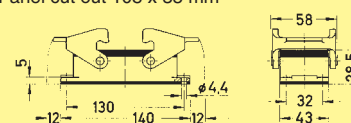
Housings

Housing bulkhead mounting



09 30 024 0301

Panel cut out 108 x 35 mm

Housings
surface
mounting

1 side-entry

19 30 024 1231

19 30 024 0232

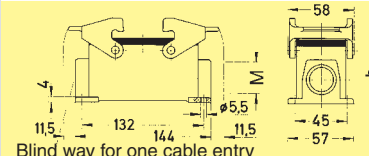
2 side-entries

19 30 024 1271

19 30 024 0272
19 30 024 0273

25
32

25
32
40



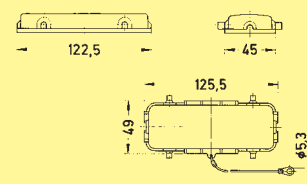
Blind way for one cable entry

	h
Low construction	56
High construction	81

Protection covers
for housings bulkhead/surface mounting
thermoplastic/metal

09 30 024 5405

09 30 024 5425



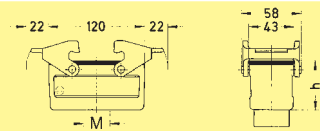
Hoods cable to cable



19 30 024 1732

19 30 024 0737
19 30 024 0738

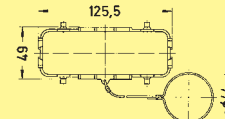
32
40



	h
Low construction	57.5
High construction	78.5

Protection cover
for hoods
metal

09 30 024 5426



Stock items in bold type

Identification		Part No.		M	Drawing	Dimensions in mm
		Low construction	High construction			
Hoods	Hoods side-entry	19 30 024 1541 19 30 024 1542	19 30 024 0547 19 30 024 0548	25 32		
	Hoods top-entry	19 30 024 1442	19 30 024 0447 19 30 024 0448	32 40		
Housings	Housings bulkhead mounting	09 30 024 0307 with thermo- plastic cover 09 30 024 0304 with metal cover 09 30 024 0318		— — —		
	Housings 1 side-entry	19 30 024 1251		25		
	Housings 2 side-entries	19 30 024 1291	19 30 024 0292	25 32		
	Housings 1 side-entry	with thermoplastic cover 19 30 024 1256		25		
	Housings 2 side-entries	with thermoplastic cover 19 30 024 1296	with thermoplastic cover 19 30 024 0297	25 32		
Hoods	Hoods cable to cable	19 30 024 1752	19 30 024 0757	32		

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Identification		Part No.	M	Drawing	Dimensions in mm
Hoods	Hoods side-entry	19 30 048 0548 19 30 048 0549	40 50		
	Hoods top-entry	19 30 048 0448 19 30 048 0449	40 50		
Housings	Housings bulkhead mounting	with thermo- plastic cover 09 30 048 0301 with metal cover 09 30 048 0317	— —	 Panel cut out	
	Housings surface mounting	19 30 048 0292 19 30 048 0293	2 x 32 2 x 40		
	Housings surface mounting 2 side-entries	with thermo- plastic cover 19 30 048 0298	2 x 40		

Stock items in bold type

Description

Drawing

Dimensions in mm

Note:

for Han® K 6/6:

The signal contacts are suitable for stranded wire up to 2.5 mm² and the power contacts for stranded wire from 16 to 35 mm².

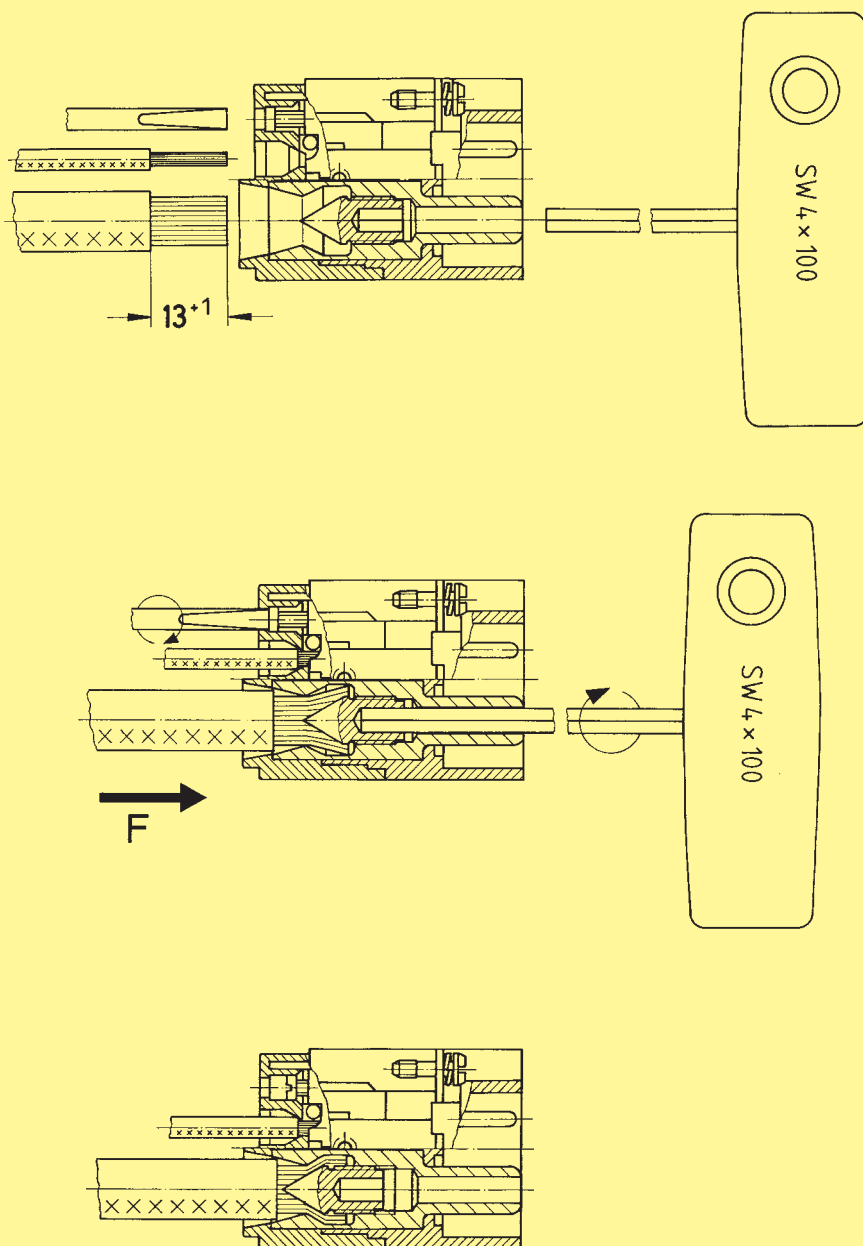
for Han® K 8/0:

The power contacts are suitable for stranded wire from 10 to 25 mm².

1. Strip insulation from stranded wire 10 mm for signal contacts 13 mm for power contacts. Insert stranded wire into contact chamber until insulation is flush with contact.

2. Signal contacts: Tighten screw termination with screw driver (3.5 mm blade).
Power contacts: Hold the stranded wire in position and secure by 4 x 100 hexagonal driver from the mating side with a force given on pages 05.28 and 05.30.

3. Complete connection.



The male insert is shown. The same method is applicable for female inserts.

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Han-Modular®

Page

Description of the Han-Modular® system	06.02
Summary Han-Modular®	06.04
Han-Modular® Compact	06.06
Hinged Frames	06.08
Han® Axial screw modules	06.10
Han® C-module	06.16
Han® CC protected-module	06.18
Han E®-module	06.20
Han® EE-module	06.22
Han® E protected-module	06.24
Han® EEE-module	06.26
Han® ES-module	06.28
Han DD®-module	06.30
Han® DDD-module	06.32
Han® High Density module	06.34
Han® Highvoltage module	06.36
Han® Multicontact-module	06.38
Han® SC module	06.40
Han® ID module	06.42
Han® D-Sub module	06.44
Han® Pneumatic-module	06.46
Han Quintax®-module / Han® Coax-module	06.48
USB-module	06.50
FireWire-module	06.51
Accessories	06.52
Standard hoods	06.53
Harnessing alternatives	06.62

Han® CC-
Protected module



Han® EEE module



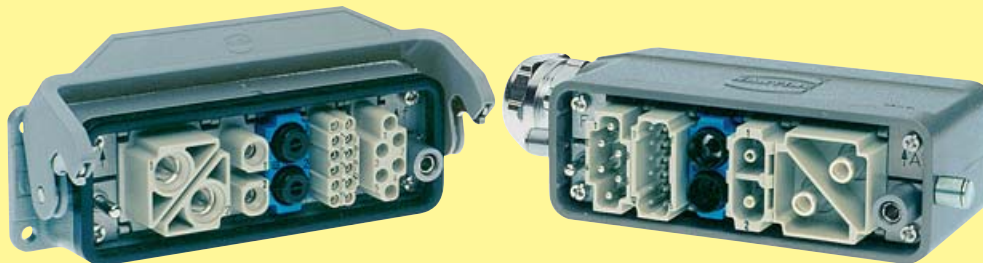
Han® USB +FireWire
module



New!

Han
Modular

Description of the Han-Modular® system



The **Han-Modular®** series is a new system of inserts designed to meet the specific requirements of individual customers. In close cooperation with potential users a range of modular inserts have been developed allowing the simple assembly of custom designed complete connectors which meet the diverse requirements encountered by designers today.

Han-Modular® is a logical development of the **Han-Com®** series which already offers the combination of power and signal circuits in one connector.

The individual modules of this series now allow the integration of **electrical**, **optical** and **gaseous** signal and power connections in one connector assembly.

The pneumatic contacts are also suitable for the connection of liquid media. However it must be stated that a combination of electrical and liquid connections in one connector is not allowed according to VDE regulations.

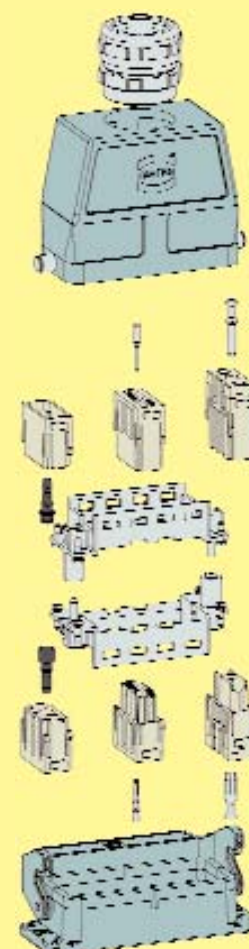
The individual contacts used in this system are all from existing well proven ranges and it is possible to use combinations of 1 to 12 modules depending on the size of the hoods and housings chosen.

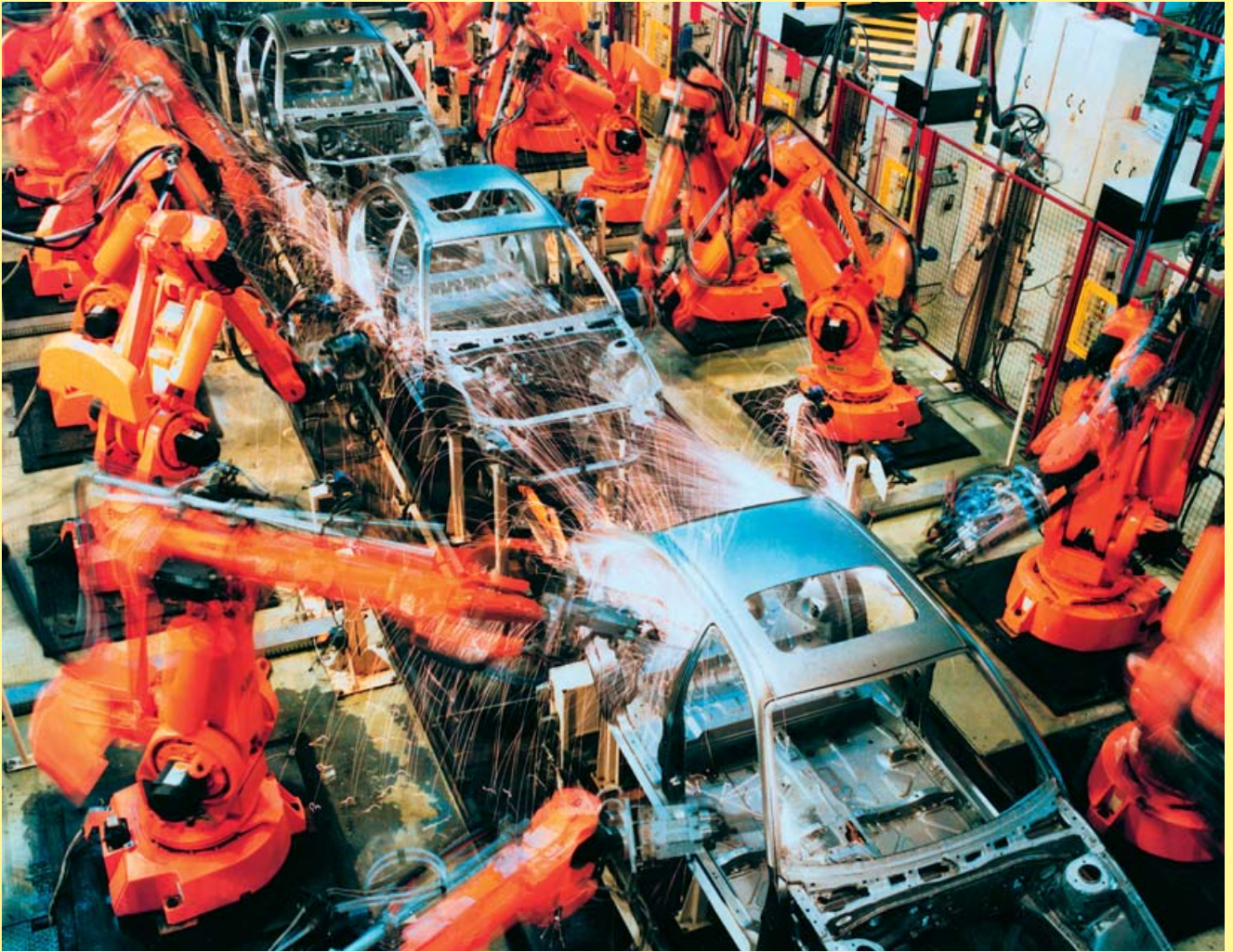
The basic modules snap into a mounting frame and can be exchanged separately at any time.

Advantages:

- ☐ Custom designs can be simply assembled
- ☐ Optimum solutions can be reached
- ☐ Stock can be minimized

Assembly details

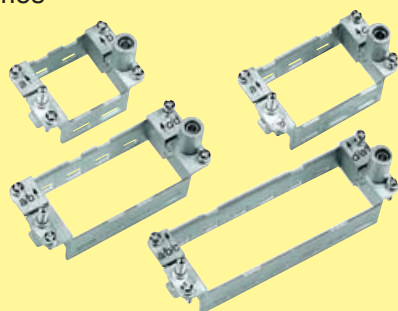




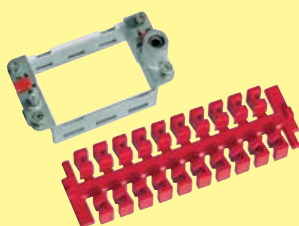
Welding robots in automotive production
ABB Robotics AB, Västerås, Sweden

Hinged frames

No tool
necessary
to remove
modules



Locking Element



Number of modules	Hoods / Housings Size
1	10 A
2	6 B
3	10 B
4	16 B
6	24 B
2 x 4	32 B
2 x 6	48 B

Page 06.09

Series	Han® Axial screw module 200 A	Han® Axial screw module 100 A	Han® Axial screw module 40 A	Han® C Axial screw module
Number of contacts	1	2	2	3
Modules	Axial screw terminal 	Axial screw terminal 	Axial screw terminal 	Axial screw terminal
Working current	200 A	100 A	40 A	40 A
Working voltage	1000 V	1000 V	1000 V	690 V
Wire gauge	25 - 70 mm²	10 - 38 mm²	2.5 - 10 mm²	2.5 - 10 mm²
Page	06.10	06.12	06.14	06.16

Series	Han® C-module	Han® CC-protected-module	Han E®-module	Han® EE-module
Number of contacts	3	4	6	8
Modules	Crimp terminal 	Crimp terminal 	Crimp terminal 	Crimp terminal
Working current	40 A	40 A	16 A	16 A
Working voltage	400 / 690 V	830 V	500 V	400 V
Wire gauge	1.5 - 6 mm²	1.5 - 6 mm²	0.5 - 4.0 mm²	0.5 - 4.0 mm²
Page	06.16	06.18	06.20	06.22

Series	Han® E-protected-module	Han® EEE-double module	Han® ES-module	Han® HV-module
Number of contacts	6	20	5	2
Modules	Crimp terminal 	Crimp terminal 	Cage-clamp terminal 	Crimp terminal
Working current	16 A	16 A	16 A	16 A
Working voltage	830 V	500 V	400 V	2900 / 5000 V
Wire gauge	0.5 - 4.0 mm²	0.5 - 4.0 mm²	0.14 - 2.5 mm²	0.5 - 4.0 mm²
Page	06.24	06.26	06.28	06.36

Series	Han DD®-module	Han DDD®-module	Han® High Density-module	Han® D-Sub-module
Number of contacts	12	17	25	9
Modules	Crimp terminal	Crimp terminal	Crimp terminal	Crimp terminal
Working current	10 A	10 A	5 A	5 A
Working voltage	250 V	160 V	50 V	50 V
Wire gauge	0.14 - 2.5 mm ²	0.14 - 2.5 mm ²	0.09 - 0.56 mm ²	0.09 - 0.56 mm ²
Page	06.30	06.32	06.34	06.44

Series	Han® ID-module	Han® Dummy-module	Han® SC-module	Han® FireWire-module	Han® USB-module
Number of contacts	6		4	1	1
Modules	electronic storage of data max. 128 Byte	to fill unused module spaces in the frame			
Page	06.42	06.52	06.40	06.51	06.50

Han
Modular

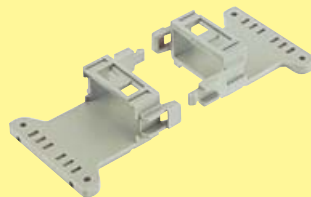
Series	Han Quintax® module			Han® Multicontact-module		Han® Pneumatik-module	
Number of contacts	2			4		2	3
Modules							
Page	06.48			06.38		06.46	06.46
Contacts	Quintax contact 4 + shielding	Koax contact 1 + shielding	High Density Quintax contacts 8 + shielding	Koaxial contacts	FOC contacts	Pneumatic contacts	Pneumatic contacts
							
	3 - 9.5 mm	3 - 9.5 mm	3 - 9.5 mm	50 Ω RG 58 50 Ω RG 174 75 Ω RG 179		ø 6 mm	ø 1.6 mm ø 3 mm ø 4 mm

Accessories Han-Modular®

Module clamp
without strain relief
Page 06.52



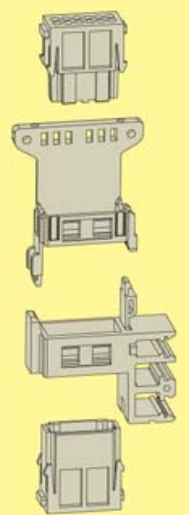
Module clamp
with strain relief
Page 06.52



Module clamp
for rail
Page 06.52



Assembly
details



Features

- ❑ compact and place saving
- ❑ robust design
- ❑ high degree of flexibility due to modular assembly
- ❑ two pre-leading PE contacts
- ❑ easy and quick assembly
- ❑ hood consists of two parts
- ❑ bulkhead mounted housing and carrier hood are exchangeable: this offers the possibility of a locking lever on the cable side and a cable to cable version
- ❑ It is recommended to use a wire ferrule

Technical characteristics

Hoods/housings

Material	zinc die cast
Surface	Ni
Locking elements	stainless steel
Hoods/housings seal	NBR
Limiting temperatures	- 40 °C / +125 °C
Degree of protection acc. to DIN EN 40 050 for coupled connector	IP 65
Mechanical working life - mating cycles	≥ 500
PE contact wire gauge	10 mm ² / AWG 8
Stripping length	10 mm
Tightening torque	1 Nm

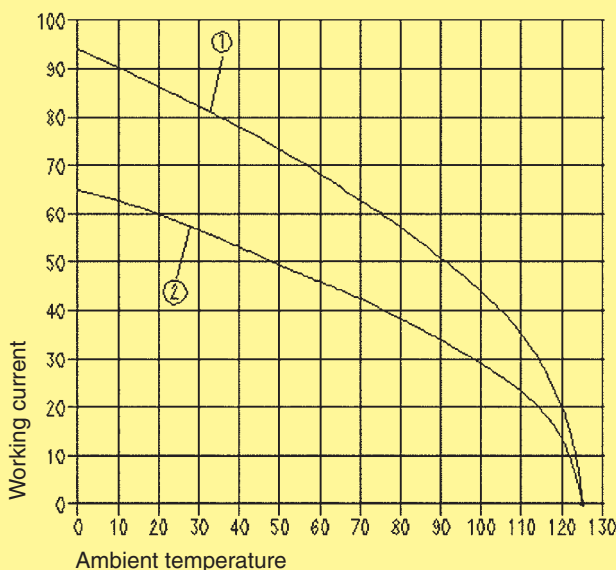
Protection cover

Material	Polycarbonate
Locking lever	Polyamide
Seal	NBR
Limiting temperatures	- 40 °C / +125 °C
Degree of protection acc. to DIN EN 40 050 for coupled connector	IP 65
Flammability acc. to UL 94	V0

Current carrying capacity

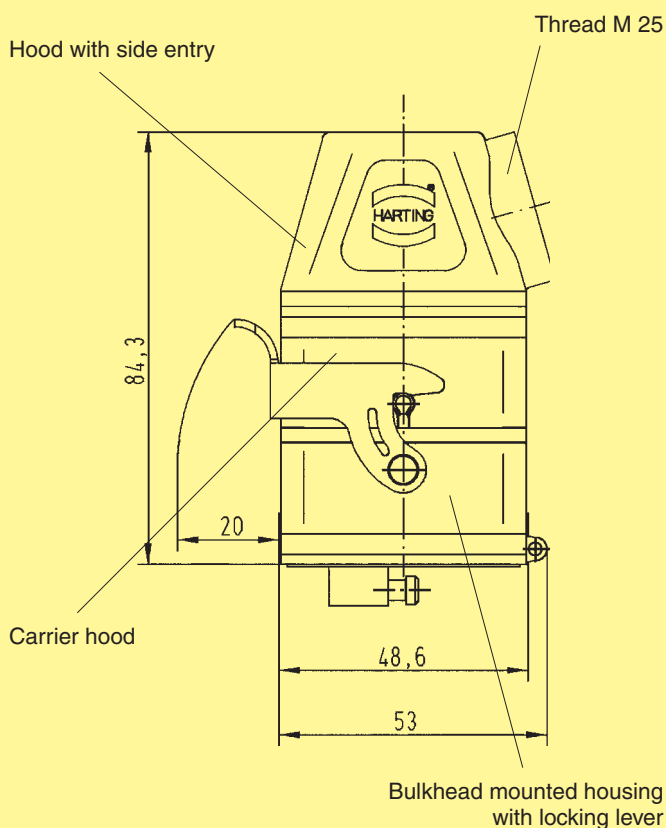
The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.

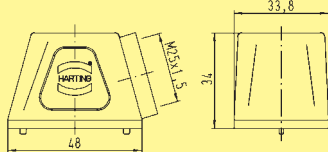
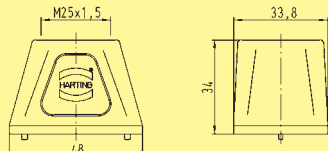
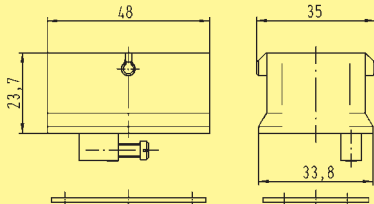
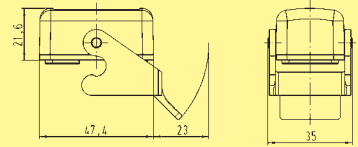
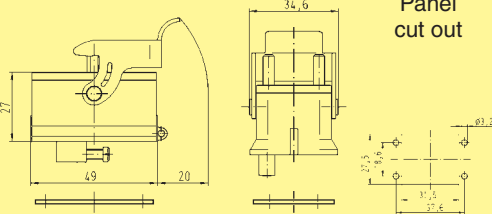
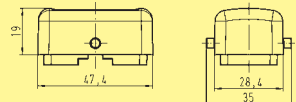
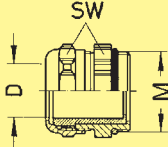


① Han® Axial screw module, Wire gauge: 10 mm²

② Han® C module, Wire gauge: 6 mm²





Identification	Part No.		Drawing	Dimensions in mm
Hood side entry M 25 	19 14 001 0501		 4 screws are included in the delivery range	
Hood top entry M 25 	19 14 001 0401		 4 screws are included in the delivery range	
Carrier hood 	09 14 001 0311			
Protection cover with lever and seal 	09 14 001 5402			
Housing bulkhead mounting 	09 14 001 0301		 Panel cut out	
Protection cover 	09 14 001 5401			
Cable glands M 25 	Metal 19 00 000 5090 19 00 000 5092	Plastic 19 00 000 5190 19 00 000 5192	cable Ø 9 – 16 mm 13 – 18 mm 	

Features

- ❑ Grounding system according to VDE
- ❑ Rigid die cast zinc frame
- ❑ Modules can only be assembled polarized to guarantee correct orientation
- ❑ Both male and female modules may be mounted in the same hinged frame
- ❑ Hinged frames are mountable in standard hoods/housings
- ❑ Alphabetical marking of module positions
- ❑ No tool necessary to remove modules
- ❑ High mechanical reliability of modules in case of vibrations and impact stress

Technical characteristics

Specifications DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals  

Hinged frames

Number of modules	2, 3, 4, 6
PE wire gauge	
- Power side	4 - 6 mm ² (10 mm ²)*
- Signal side	1 - 2.5 mm ² AWG 18 - 14
Material	die cast zinc alloy
Limiting temperatures	- 40 °C / +125 °C
Mechanical working life	
- mating cycles	≥ 500

Hoods/Housings

Material	die cast aluminium
Surface	powder-coated RAL 7037
Locking elements	Han-Easy Lock®
Hoods/Housings seal	NBR
Limiting temperatures	- 40 °C / +125 °C
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 65
Further selection of hoods/housings	chapter 30 / chapter 31

Accessories

Crimping Tools	chapter 99
Cable clamps	chapter 40
Coding of Hoods/Housings	chapter 40
Label acc. to CSA-approval	chapter 40

Han-Modular® Hinged frames



Part No. for Hoods / Housings ²⁾																									
Identification	Size	Marking A ... F	Marking a ... f	Drawing	Dimensions in mm																				
Hinged frame for 2 modules	6 B	09 14 006 0303	09 14 006 0313	Hood																					
Hinged frame for 3 modules																									
Hinged frame for 4 modules	10 B	09 14 010 0303	09 14 010 0313	Hood																					
Hinged frame for 6 modules	16 B	09 14 016 0303	09 14 016 0313	Hood																					
Hinged frame for 6 modules	24 B	09 14 024 0303	09 14 024 0313	Hood																					
				Panel cut out																					
					<table><tr><th>Size</th><th>A</th><th>B</th><th>C</th></tr><tr><td>6 B</td><td>35</td><td>44</td><td>52</td></tr><tr><td>10 B</td><td>49</td><td>57</td><td>66</td></tr><tr><td>16 B</td><td>64</td><td>77.5</td><td>85.5</td></tr><tr><td>24 B</td><td>94</td><td>104</td><td>112</td></tr></table>	Size	A	B	C	6 B	35	44	52	10 B	49	57	66	16 B	64	77.5	85.5	24 B	94	104	112
Size	A	B	C																						
6 B	35	44	52																						
10 B	49	57	66																						
16 B	64	77.5	85.5																						
24 B	94	104	112																						
Locking Element for hinged frames (20 pieces per bloc)		09 14 000 9960																							
					Ideal to pre-assemble the hinged frame																				

- ¹⁾ Distance for electrical and FOC contacts max. 21 mm; for pneumatic contacts max. 20.5 mm
²⁾ Hinged frames can be used either in hood or housing, but two different markings must be used for one connector

Stock items in bold type

Features

- ❑ 1 contact (200 A) for power circuits
- ❑ PE module with metallic contact to the hinged frame
- ❑ Combination with Han-Modular® and all Han®-Modules possible

Technical characteristics

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Inserts

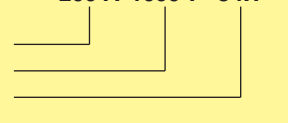
Number of contacts

1

Electrical data
acc. to DIN EN 61 984

200 A 1000 V 8 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree



Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
- mating cycles

$\geq 10^{10} \Omega$
Polycarbonate
- 40 °C / + 125 °C
V0
 ≥ 500

Contacts

Material
Surface
- hard-silver plated
Contact resistance
Screw terminal
- Wire gauge¹⁾
- AWG

copper alloy

3 μm Ag
0.2 m Ω

- Tightening torque

25 - 70 mm²
2 - 00

mm ²	25	35	50	70
Nm	8	8	9	10

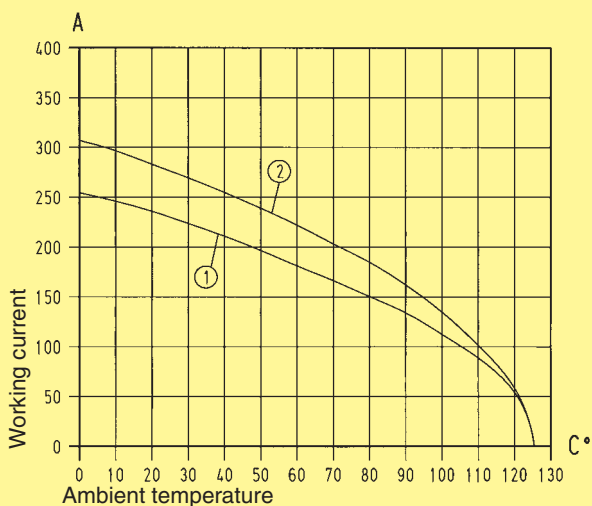
- Hexagonal driver
- Stripping length

SW 5
16 mm

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



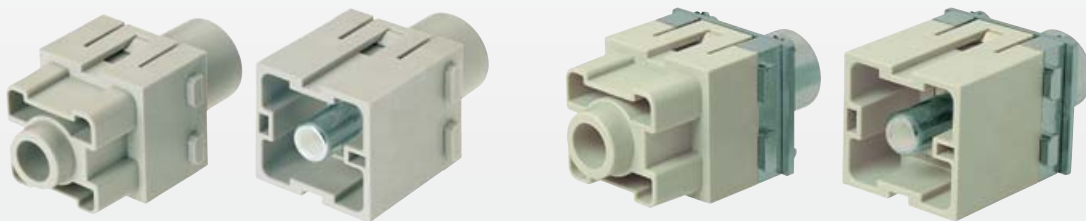
① 24 B hood/housing with 3 modules; wire gauge: 50 mm²

② 24 B hood/housing with 3 modules; wire gauge: 70 mm²

¹⁾ geometrical diameter

Number of contacts

1



Identification	Part Numbers		Drawing	Dimensions in mm
	Male insert (M)	Female insert (F)		
Axial Screw Termination 200 A 25 – 40 mm ² 40 – 70 mm ²	09 14 001 2663 09 14 001 2662	09 14 001 2763 09 14 001 2762		
Axial Screw Termination 200 A PE 25 – 40 mm ² 40 – 70 mm ²	09 14 001 2668 09 14 001 2667	09 14 001 2768 09 14 001 2767		

Han
Modular

Identification	Part Number	Drawing	Dimensions in mm
Hex Key SW 4 for axial setscrew with grip	09 99 000 0364		
adapter 3/8"	09 99 000 0371		

Stock items in bold type

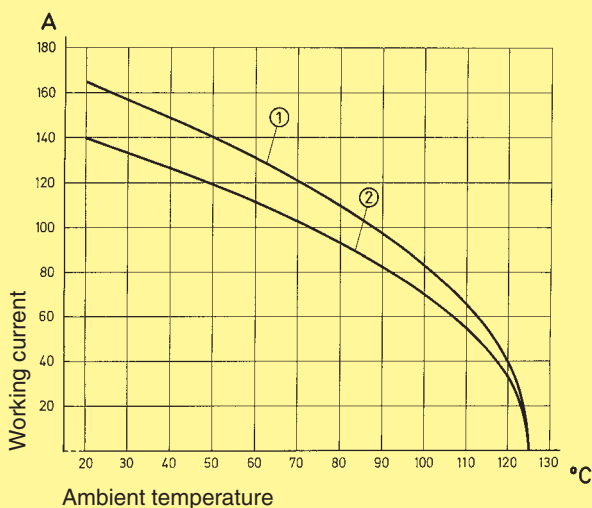
Features

- ☐ 2 contacts (100 A) for power circuits
 - ☐ Male insert with additional protection collar
 - ☐ Axial screw termination for 16 – 35 mm²
 - ☐ Combination with Han-Modular® and all Han®-Modules possible
 - ☐ Polarized insert
- Remarks
- ☐ Connect PE-contact with special cable shoe
 - ☐ Suitable for housings bulkhead mounting and hoods high construction

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60512-3.



① 24 B hood/housing with 3 modules; wire gauge: 35 mm²

② 24 B hood/housing with 3 modules; wire gauge: 25 mm²

¹⁾ geometrical diameter

Technical characteristics

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61984

Approvals



Inserts

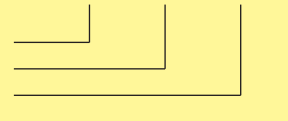
Number of contacts

2

Electrical data
acc. to DIN EN 61984

100 A 1000 V 8 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree



– Pollution degree 2 also

100 A 920/1600 V 8 kV 2

Insulation resistance

≥ 10¹⁰ Ω

Material

Polycarbonate

Limiting temperatures

– 40 °C / + 125 °C

Flammability acc. to UL 94

V0

Mechanical working life

≥ 500

– mating cycles

Contacts

Material

copper alloy

Surface

– hard-silver plated

3 μm Ag

Contact resistance

≤ 0.3 mΩ

Screw terminal

– Wire gauge¹⁾

10 - 38 mm²

– AWG

6 - 2

– Tightening torque

mm ²	10	16	25	35
Nm	6	6	7	8

– Hexagonal driver

SW 4

– Stripping length

13 mm

Number of contacts

2



Identification	Part Numbers		Drawing	Dimensions in mm
	Male insert (M)	Female insert (F)		
Axial Screw Termination				
10 – 25 mm ²	09 14 002 2653	09 14 002 2753		
16 – 35 mm ²	09 14 002 2651	09 14 002 2751		
38 mm ²	09 14 002 2650	09 14 002 2750		

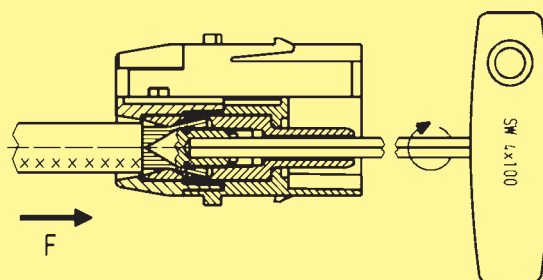
Contact arrangement View from termination side

Han
Modular

Identification	Part Number	Drawing	Dimensions in mm
Cable shoe 16 mm² for PE extension 	09 14 000 9912	Please use pressing tools for non-insulated cable shoes following DIN 46 230 with 16 mm ² range (eg. K25, co. Klauke)	
Hex Key SW 4 for axial setscrew with grip	09 99 000 0363		
adapter ³ / ₈ "	09 99 000 0370		

Assembly Manual

Strip insulation 13 mm from stranded wire. Insert stranded wire into contact chamber until insulation is flush with contact. Hold the stranded wire in position and secure by hexagonal driver from the mating side.



Stock items in bold type

Features

- ❑ 2 contacts (40 A) for power circuits
- ❑ Male insert with additional protection collar
- ❑ Polarization of module
- ❑ Axial screw termination
- ❑ Wide outer cable $\varnothing$ inclusive insulation of max. 10.5 mm

Technical characteristics

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals

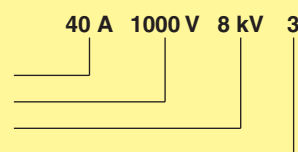


Inserts

Number of contacts

2

Electrical data
acc. to DIN EN 61 984



Working current
Working voltage
Rated impulse voltage
Pollution degree

– Pollution degree 2 also

40 A 1600 V 12 kV 2

Working voltage
according to UL/CSA
Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
- mating cycles

600 V
 $\geq 10^{10} \Omega$
Polycarbonate
- 40 °C / + 125 °C
V0
 ≥ 500

Contacts

Material
Surface
- hard-silver plated
Contact resistance
Screw terminal
- Wire gauge¹⁾
- AWG

copper alloy

3 μm Ag
 $\leq 0.5 \text{ m}\Omega$

- Tightening torque

2.5 - 10 mm²
14 - 8

mm ²	2.5	4	6	10
Nm	1.5	1.5	2	2

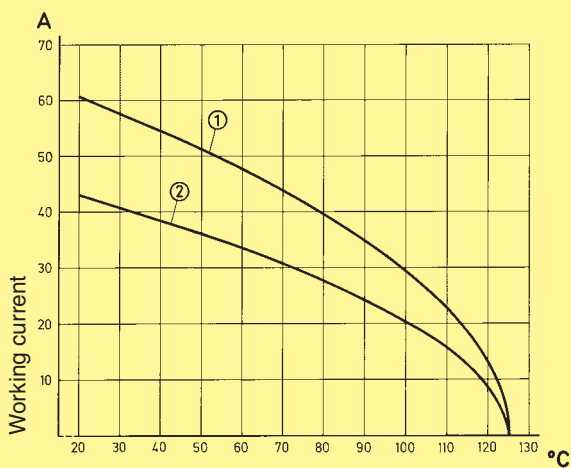
- Stripping length

mm ²	2.5	4	6	10
mm	5 ⁺¹	5 ⁺¹	8 ⁺¹	8 ⁺¹

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60512-3.



Ambient temperature

① 24 B hood/housing with 6 modules; wire gauge: 10 mm²

② 24 B hood/housing with 6 modules; wire gauge: 6 mm²

¹⁾ geometrical diameter

Number of contacts

2



Identification	Part No.		Drawing	Dimensions in mm
	Male insert (M)	Female insert (F)		
Axial screw terminal				
2.5 – 8 mm ² Ø 4.0 mm	09 14 002 2601	09 14 002 2701		
6 – 10 mm ² Ø 4.8 mm	09 14 002 2602	09 14 002 2702		

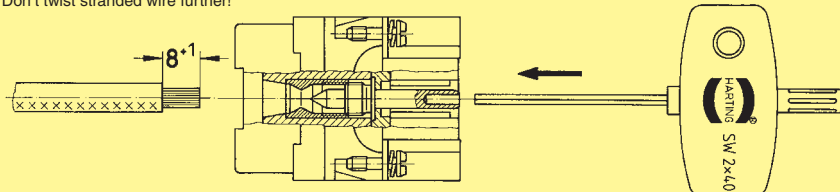
Han
Modular

Identification	Part No.	Drawing	Dimensions in mm
Hex Key SW 2 for axial setscrew			
with grip	09 99 000 0313		
Bit 1/4"	09 99 000 0369		

Working instructions
for axial setscrew

For stranded wire 2.5 ... 10 mm² fine wire
(superfine wire 2.5 ... 6 mm²)
Don't twist stranded wire further!

Example: Male insert Han® K 6/12



Insert stranded wire in contact chamber.

During tightening the lock nut, hold stranded wire in position.

Stock items in bold type

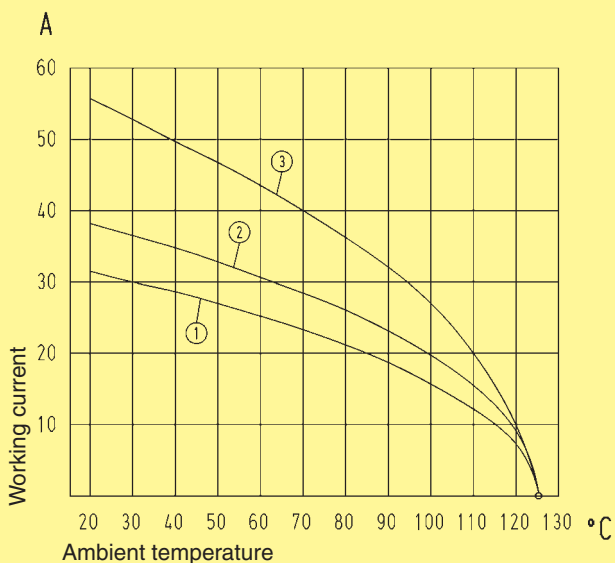
Features

- ❑ 3 contacts (40 A) for power circuits
- ❑ Male insert with protection collar
- ❑ Polarization of module
- ❑ Crimp termination / axial screw termination
- ❑ Both male and female modules may be mounted in the same frame

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



- ① 24 B hood/housing with 6 modules; wire gauge: 4 mm²
 ② 24 B hood/housing with 6 modules; wire gauge: 6 mm²
 ③ 24 B hood/housing with 6 modules; wire gauge: 10 mm²

Technical characteristics

Specifications

DIN VDE 0627
 DIN VDE 0110
 DIN EN 61 984

Approvals



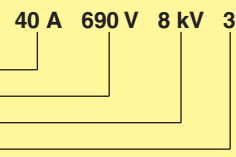
Inserts

Number of contacts

3

Axial screw terminal

Electrical data
 acc. to DIN EN 61 984

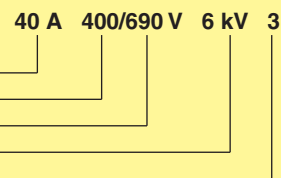


Working current
 Working voltage
 Rated impulse voltage
 Pollution degree

Crimp terminal

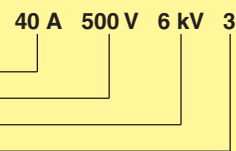
Electrical data
 acc. to DIN EN 61 984

Cable diameter up to 5 mm



Working current
 Working voltage conductor - ground
 Working voltage conductor - conductor
 Rated impulse voltage
 Pollution degree

Cable diameter up to 7.5 mm



Working current
 Working voltage
 Rated impulse voltage
 Pollution degree

Working voltage
 according to UL/CSA

600 V

Insulation resistance
 Material
 Limiting temperatures
 Flammability acc. to UL 94
 Mechanical working life
 - mating cycles

≥ 10¹⁰ Ω
 Polycarbonate
 - 40 °C / + 125 °C
 V0
 ≥ 500

Contacts

Material
 Surface
 - hard-silver plated
 Contact resistance
 Crimp terminal
 - mm²
 - AWG
 Screw terminal
 - Wire gauge¹⁾
 - AWG
 - Tightening torque

copper alloy

3 μm Ag
 ≤ 0.3 mΩ

1.5 - 6 mm²
 16 - 10

2.5 - 10 mm²
 14 - 8

mm ²	2.5	4	6	10
Nm	1.5	1.5	2	2

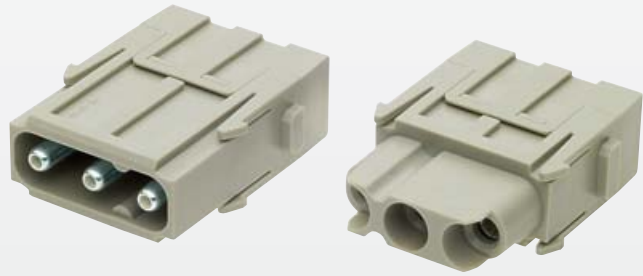
- Stripping length

mm ²	2.5	4	6	10
mm	5 ⁺¹	5 ⁺¹	8 ⁺¹	8 ⁺¹

¹⁾ geometrical diameter

Number of contacts

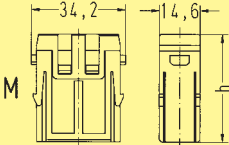
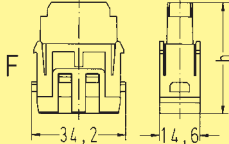
3



Identification	Part No.		Drawing	Dimensions in mm
	Male insert (M)	Female insert (F)		
Han® C-module with axial screw terminal 2.5 - 8 mm ² 6 - 10 mm ²			 	 Contact arrangement View from termination side
	09 14 003 2601	09 14 003 2701		
	09 14 003 2602	09 14 003 2702		

Han
Modular

Identification	Part No.	Drawing	Dimensions in mm
Hex Key SW 2 for axial setscrew with grip Bit 1/4"	09 99 000 0313 09 99 000 0369		

Part No.																
Identification	Male insert (M)	Female insert (F)	Drawing	Dimensions in mm												
Crimp terminal  Order contacts separately Cable ø up to 5 mm Cable ø up to 7.5 mm	 09 14 003 3001 09 14 003 3002	 09 14 003 3101 09 14 003 3102	M  F  <table><tr><th>Cable Ø</th><th>h</th></tr><tr><td>up to 5 mm</td><td>39,1</td></tr><tr><td>up to 7,5 mm</td><td>43,1</td></tr></table> <table><tr><th>Cable Ø</th><th>h</th></tr><tr><td>up to 5 mm</td><td>40,7</td></tr><tr><td>up to 7,5 mm</td><td>44,7</td></tr></table>	Cable Ø	h	up to 5 mm	39,1	up to 7,5 mm	43,1	Cable Ø	h	up to 5 mm	40,7	up to 7,5 mm	44,7	Contact arrangement View from termination side M  F 
Cable Ø	h															
up to 5 mm	39,1															
up to 7,5 mm	43,1															
Cable Ø	h															
up to 5 mm	40,7															
up to 7,5 mm	44,7															

Identification		Wire gauge (mm²)	Male contacts	Female contacts	Drawing	Dimensions in mm																				
Crimp contacts																										
Power contacts		1.5	09 32 000 6104	09 32 000 6204																						
		2.5	09 32 000 6105	09 32 000 6205																						
silver		4.0	09 32 000 6107	09 32 000 6207																						
plated		6.0	09 32 000 6108	09 32 000 6208																						
					<table><thead><tr><th>ø</th><th colspan="2">Wire gauge</th><th>Stripping length of the stranded wire a</th></tr></thead><tbody><tr><td>1.75</td><td>1.5 mm²</td><td>AWG 16</td><td>9</td></tr><tr><td>2.25</td><td>2.5 mm²</td><td>AWG 14</td><td>9</td></tr><tr><td>2.85</td><td>4 mm²</td><td>AWG 12</td><td>9.6</td></tr><tr><td>3.5</td><td>6 mm²</td><td>AWG 10</td><td>9.6</td></tr></tbody></table>	ø	Wire gauge		Stripping length of the stranded wire a	1.75	1.5 mm²	AWG 16	9	2.25	2.5 mm²	AWG 14	9	2.85	4 mm²	AWG 12	9.6	3.5	6 mm²	AWG 10	9.6	
ø	Wire gauge		Stripping length of the stranded wire a																							
1.75	1.5 mm²	AWG 16	9																							
2.25	2.5 mm²	AWG 14	9																							
2.85	4 mm²	AWG 12	9.6																							
3.5	6 mm²	AWG 10	9.6																							
						18 mm stripping length for wired ≥ 5 mm ø																				

Stock items in bold type

Features

- ❑ Finger safe male and female contacts
- ❑ Designed for high working voltage of 830 V
- ❑ Compatible with all hoods, style Han® B and Han-Modular® Compact (excepting Han® 6 B low construction)

Technical characteristics

Specifications
DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals 

Inserts

Number of contacts 4

Electrical data
acc. to DIN EN 61 984

Working current	40 A
Working voltage	830 V
Rated impulse voltage	8 kV
Pollution degree	3

– Pollution degree 2 also 40 A 1000 V 8 kV 2

Insulation resistance $\geq 10^{10} \Omega$
Material Polycarbonate
Limiting temperatures - 40 °C / + 125 °C
Flammability acc. to UL 94 V 0
Mechanical working life
- mating cycles ≥ 500

Han
Modular

Number of contacts

4



Identification	Part No.		Drawing	Dimensions in mm
	Male insert (M)	Female insert (F)		
Han® CC Protected module for crimp connection Order crimp contacts separately	09 14 004 3041	09 14 004 3141		Contact arrangement View from termination side

Han
Modular

Identification	Wire gauge (mm²)	Part No.		Drawing	Dimensions in mm																				
		Male contacts	Female contacts																						
Crimp contacts Power contacts silver plated	1.5 2.5 4.0 6.0	09 32 000 6104 09 32 000 6105 09 32 000 6107 09 32 000 6108	09 32 000 6204 09 32 000 6205 09 32 000 6207 09 32 000 6208																						
				<table border="1"> <thead> <tr> <th>ø</th><th colspan="2">Wire gauge</th><th>Stripping length of the stranded wire a</th></tr> </thead> <tbody> <tr> <td>1.75</td><td>1.5 mm²</td><td>AWG 16</td><td>9</td></tr> <tr> <td>2.25</td><td>2.5 mm²</td><td>AWG 14</td><td>9</td></tr> <tr> <td>2.85</td><td>4 mm²</td><td>AWG 12</td><td>9.6</td></tr> <tr> <td>3.5</td><td>6 mm²</td><td>AWG 10</td><td>9.6</td></tr> </tbody> </table>	ø	Wire gauge		Stripping length of the stranded wire a	1.75	1.5 mm²	AWG 16	9	2.25	2.5 mm²	AWG 14	9	2.85	4 mm²	AWG 12	9.6	3.5	6 mm²	AWG 10	9.6	
ø	Wire gauge		Stripping length of the stranded wire a																						
1.75	1.5 mm²	AWG 16	9																						
2.25	2.5 mm²	AWG 14	9																						
2.85	4 mm²	AWG 12	9.6																						
3.5	6 mm²	AWG 10	9.6																						

Stock items in bold type

Features

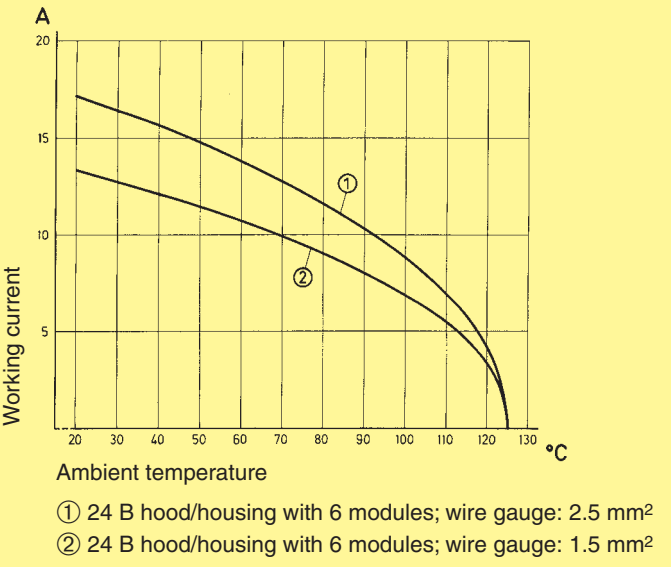
- ❑ 6 contacts (16 A) for power circuits
- ❑ Male insert with protection collar
- ❑ Polarization of module
- ❑ Crimp termination
- ❑ Contacts with silver and gold plated surface
- ❑ Both male and female modules may be mounted in the same frame

Technical characteristics

Specifications	DIN VDE 0627 DIN VDE 0110 DIN EN 61 984
Approvals	
Inserts	
Number of contacts	6
Electrical data acc. to DIN EN 61 984	16 A 500 V 6 kV 3
Working current	
Working voltage	
Rated impulse voltage	
Pollution degree	
– Pollution degree 2 also	16 A 400/690 V 6 kV 2
Working voltage according to UL/CSA	600 V
Insulation resistance	≥ 10 ¹⁰ Ω
Material	Polycarbonate
Limiting temperatures	- 40 °C / + 125 °C
Flammability acc. to UL 94	V0
Mechanical working life - mating cycles	≥ 500
Contacts	
Material	copper alloy
Surface	
- hard-silver plated	3 μm Ag
- hard-gold plated	2 μm Au over 3 μm Ni
Contact resistance	≤ 1 mΩ
Crimp terminal	
- mm ²	0.5 - 4.0 mm ²
- AWG	20 - 12

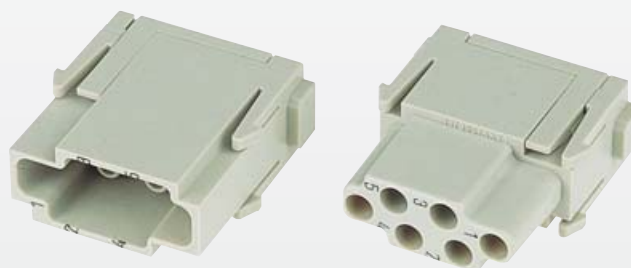
Current carrying capacity
The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



Number of contacts

6



Identification	Part No.		Drawing	Dimensions in mm
	Male insert (M)	Female insert (F)		
Crimp terminal Order contacts separately	09 14 006 3001	09 14 006 3101		
Contact arrangement View from termination side				

Han
Modular

		Wire gauge	Part No.			
Identification		(mm²)	Male contacts	Female contacts	Drawing	Dimensions in mm
Crimp contacts						
Power contacts		0.14-0.37	09 33 000 6127*	09 33 000 6227*		
		0.5	09 33 000 6121	09 33 000 6220		
		0.75	09 33 000 6114	09 33 000 6214		
silver plated		1.0	09 33 000 6105	09 33 000 6205		
		1.5	09 33 000 6104	09 33 000 6204		
		2.5	09 33 000 6102	09 33 000 6202		
		3	09 33 000 6106	09 33 000 6206		
4	09 33 000 6107	09 33 000 6207				
		0.14-0.37	09 33 000 6117*	09 33 000 6217*		
		0.5	09 33 000 6122	09 33 000 6222		
gold plated		0.75	09 33 000 6115	09 33 000 6215		
		1.0	09 33 000 6118	09 33 000 6218		
		1.5	09 33 000 6116	09 33 000 6216		
		2.5	09 33 000 6123	09 33 000 6223		
4.0	09 33 000 6119	09 33 000 6221				
Relay contact		0.75-1	09 33 000 6109			
silver plated		1.5	09 33 000 6110			
		2.5	09 33 000 6111			
Coding pin						
			09 33 000 9954			
					Use of the coding pin prevents incorrect mating to other connectors of the same type.	
					The male pin should be omitted from the opposing cavity in the male insert.	

* only to be used with BUCHANAN crimping tool 09 99 000 0001 and adjustment gauge 09 99 000 0203

Stock items in bold type

Features

- ❑ 8 contacts (16 A) for power circuits
- ❑ Male insert with protection collar
- ❑ Polarization of module
- ❑ Crimp termination
- ❑ Contacts with silver and gold plated surface
- ❑ Both male and female modules may be mounted in the same frame

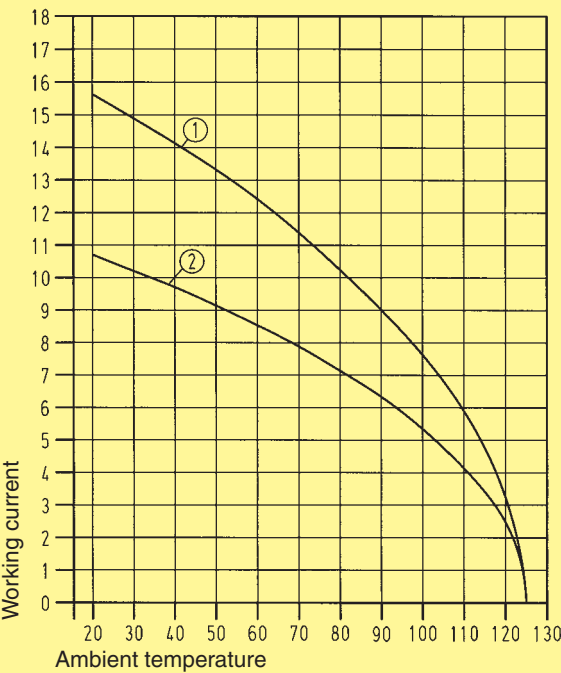
Technical characteristics

Specifications	DIN VDE 0627 DIN VDE 0110 DIN EN 61 984
Approvals	
Inserts	
Number of contacts	8
Electrical data acc. to DIN EN 61 984	16 A 400 V 6 kV 3
Working current	
Working voltage	
Rated impulse voltage	
Pollution degree	
– Pollution degree 2 also	16 A 400/690 V 6 kV 2
Working voltage according to UL/CSA	600 V
Insulation resistance	$\geq 10^{10} \Omega$
Material	Polycarbonate
Limiting temperatures	- 40 °C / + 125 °C
Flammability acc. to UL 94	V 0
Mechanical working life - mating cycles	≥ 500

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



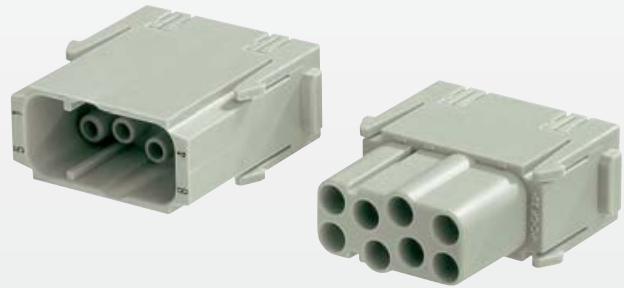
- ① 24 B hood/housing with 6 modules; wire gauge: 2.5 mm²
- ② 24 B hood/housing with 6 modules; wire gauge: 1.5 mm²

Contacts

Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
- hard-gold plated	2 µm Au over 3 µm Ni
Contact resistance	$\leq 1 \text{ m}\Omega$
Crimp terminal	
- mm ²	0.5 - 4.0 mm ²
- AWG	20 - 12

Number of contacts

8



Identification		Part No.		Drawing	Dimensions in mm
Male insert (M)	Female insert (F)				
Crimp terminal					
Order contacts separately		09 14 008 3001	09 14 008 3101		

Contact arrangement View from termination side

Wire gauge		Part No.	
Identification	(mm²)	Male contacts	Female contacts
Crimp contacts			
Power contacts	0.14-0.37	09 33 000 6127*	09 33 000 6227*
	0.5	09 33 000 6121	09 33 000 6220
	0.75	09 33 000 6114	09 33 000 6214
silver plated	1.0	09 33 000 6105	09 33 000 6205
	1.5	09 33 000 6104	09 33 000 6204
	2.5	09 33 000 6102	09 33 000 6202
	3	09 33 000 6106	09 33 000 6206
	4	09 33 000 6107	09 33 000 6207
gold plated	0.14-0.37	09 33 000 6117*	09 33 000 6217*
	0.5	09 33 000 6122	09 33 000 6222
	0.75	09 33 000 6115	09 33 000 6215
	1.0	09 33 000 6118	09 33 000 6218
	1.5	09 33 000 6116	09 33 000 6216
	2.5	09 33 000 6123	09 33 000 6223
	4.0	09 33 000 6119	09 33 000 6221
Relay contact silver plated	0.75-1	09 33 000 6109	
	1.5	09 33 000 6110	
	2.5	09 33 000 6111	
Coding pin			
		09 33 000 9954	

Drawing		Dimensions in mm	
Crimp contact identification			
Identification	Wire gauge		Stripping length
no groove	0.14-0.37 mm²	AWG 26-22	7,5 mm
no groove	0.5 mm²	AWG 20	7,5 mm
1 groove*	0.75 mm²	AWG 18	7,5 mm
1 groove	1 mm²	AWG 18	7,5 mm
2 grooves	1.5 mm²	AWG 16	7,5 mm
3 grooves	2.5 mm²	AWG 14	7,5 mm
wide groove	3.0 mm²	AWG 12	7,5 mm
no groove	4 mm²	AWG 12	7,5 mm

* on the back crimp collar

Use of the coding pin prevents incorrect mating to other connectors of the same type.	
The male pin should be omitted from the opposing cavity in the male insert.	

* on the back crimp collar

* only to be used with BUCHANAN crimping tool 09 99 000 0001 and adjustment gauge 09 99 000 0203

Stock items in bold type

Features

- ❑ Finger protected male and female contacts
- ❑ Suitable for high working voltage of 830 V
- ❑ Combination with all Han® modules is possible
- ❑ Suitable for all Han® B hoods and housings as well as in Han-Modular® Compact housings (except for Han® 6 B low construction)

Technical characteristics

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals

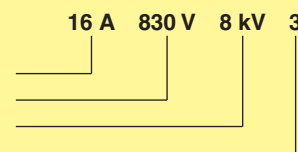


Inserts

Number of contacts

6

Electrical data
acc. to DIN EN 61 984



Working current
Working voltage
Rated impulse voltage
Pollution degree

– Pollution degree 2 also

16 A 1250 V 10 kV 2

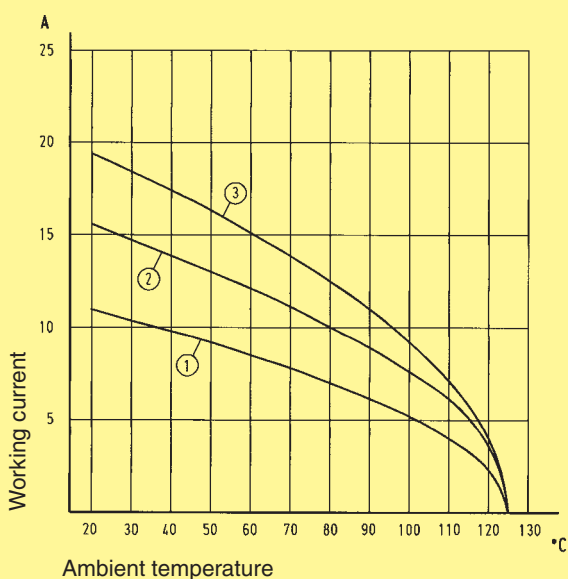
Working voltage
according to UL/CSA
Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
- mating cycles

600 V
≥ 10¹⁰ Ω
Polycarbonate
- 40 °C / + 125 °C
V0
≥ 500

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



- ① 24 B hood/housing with 6 modules; wire gauge: 1,5 mm²
- ② 24 B hood/housing with 6 modules; wire gauge: 2,5 mm²
- ③ 24 B hood/housing with 6 modules; wire gauge: 4,0 mm²

Contacts

Material
Surface

copper alloy

- hard-silver plated
- hard-gold plated

3 μm Ag
2 μm Au over 3 μm Ni
≤ 1 mΩ

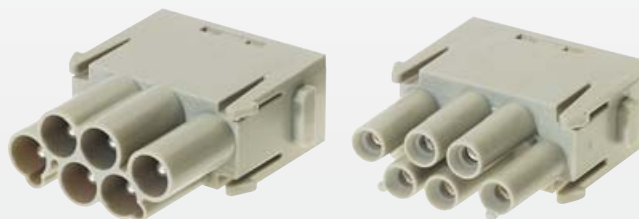
Contact resistance
Crimp terminal

- mm²
- AWG

0.5 - 4.0 mm²
20 - 12

Number of contacts

6



Identification	Part No.		Drawing	Dimensions in mm
	Male insert (M)	Female insert (F)		
Crimp terminal Order contacts separately	09 14 006 3041	09 14 006 3141		

Contact arrangement View from termination side

Identification	Wire gauge (mm ²)	Part No.		Drawing	Dimensions in mm
		Male contacts	Female contacts		
Crimp contacts Power contacts silver plated	0.14-0.37 0.5 0.75 1.0 1.5 2.5 3 4	09 33 000 6127* 09 33 000 6121 09 33 000 6114 09 33 000 6105 09 33 000 6104 09 33 000 6102 09 33 000 6106 09 33 000 6107	09 33 000 6227* 09 33 000 6220 09 33 000 6214 09 33 000 6205 09 33 000 6204 09 33 000 6202 09 33 000 6206 09 33 000 6207		
gold plated	0.14-0.37 0.5 0.75 1.0 1.5 2.5 4.0	09 33 000 6117* 09 33 000 6122 09 33 000 6115 09 33 000 6118 09 33 000 6116 09 33 000 6123 09 33 000 6119	09 33 000 6217* 09 33 000 6222 09 33 000 6215 09 33 000 6218 09 33 000 6216 09 33 000 6223 09 33 000 6221		
Relay contact silver plated	0.75-1 1.5 2.5	09 33 000 6109 09 33 000 6110 09 33 000 6111			
Coding pin		09 33 000 9954			

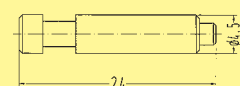
Crimp contact identification

Identification	Wire gauge		Stripping length
no groove	0.14-0.37 mm ²	AWG 26-22	7,5 mm
no groove	0.5 mm ²	AWG 20	7,5 mm
1 groove*	0.75 mm ²	AWG 18	7,5 mm
1 groove	1 mm ²	AWG 18	7,5 mm
2 grooves	1.5 mm ²	AWG 16	7,5 mm
3 grooves	2.5 mm ²	AWG 14	7,5 mm
wide groove	3.0 mm ²	AWG 12	7,5 mm
no groove	4 mm ²	AWG 12	7,5 mm

* on the back crimp collar

Use of the coding pin prevents incorrect mating to other connectors of the same type.

The male pin should be omitted from the opposing cavity in the male insert.



* only to be used with BUCHANAN crimping tool 09 99 000 0001 and adjustment gauge 09 99 000 0203

Features

- ❑ Compatible with all hoods, style Han® B
- ❑ 66 % higher contact density compared to Han® E module

Technical characteristics

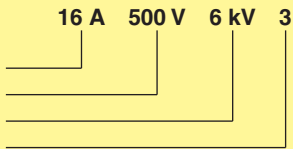
Specifications
DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals

Inserts

Number of contacts 20

Electrical data
acc. to DIN EN 61 984



Working current
Working voltage
Rated impulse voltage
Pollution degree

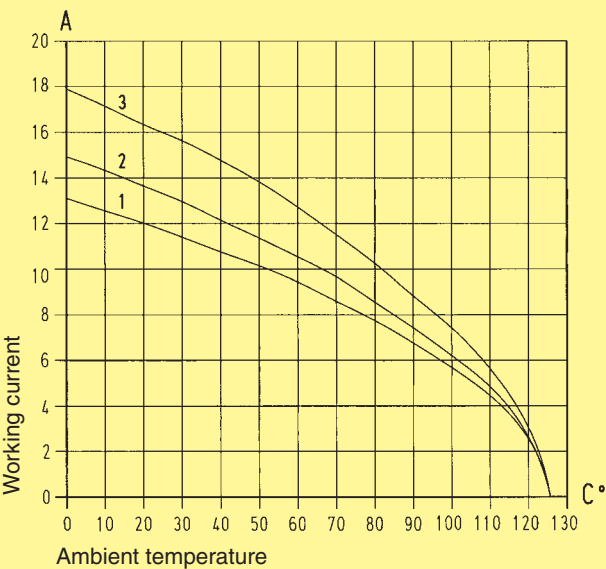
– Pollution degree 2 also 16 A 830 V 8 kV 2

Insulation resistance $\geq 10^{10} \Omega$
Material Polycarbonate
Limiting temperatures - 40 °C / + 125 °C
Flammability acc. to UL 94 V 0
Mechanical working life
- mating cycles ≥ 500

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



- ① 24 B hood/housing with 3 modules; wire gauge: 1.5 mm²
- ② 24 B hood/housing with 3 modules; wire gauge: 2.5 mm²
- ③ 24 B hood/housing with 3 modules; wire gauge: 4.0 mm²

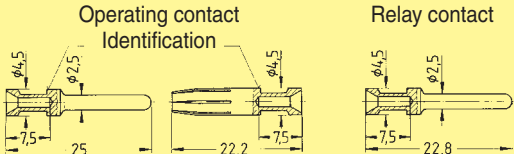
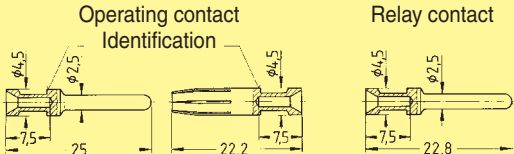
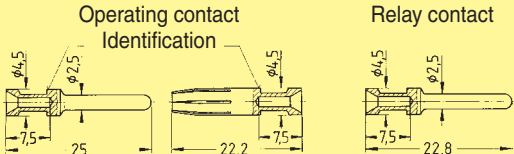
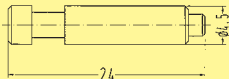
Number of contacts

20



Identification	Part No.		Drawing	Dimensions in mm
	Male insert (M)	Female insert (F)		
Han® EEE module for crimp connection	09 14 020 3001	09 14 020 3101		 Contact arrangement View from termination side
Order crimp contacts separately				

Han
Modular

Wire gauge		Part No.		Drawing	Dimensions in mm
Identification	(mm ²)	Male contacts	Female contacts		
Crimp contacts					
Power contacts	0.14-0.37 0.5 0.75 1.0 1.5 2.5 3 4	09 33 000 6127* 09 33 000 6121 09 33 000 6114 09 33 000 6105 09 33 000 6104 09 33 000 6102 09 33 000 6106 09 33 000 6107	09 33 000 6227* 09 33 000 6220 09 33 000 6214 09 33 000 6205 09 33 000 6204 09 33 000 6202 09 33 000 6206 09 33 000 6207		
silver plated					
gold plated	0.14-0.37 0.5 0.75 1.0 1.5 2.5 4.0	09 33 000 6117* 09 33 000 6122 09 33 000 6115 09 33 000 6118 09 33 000 6116 09 33 000 6123 09 33 000 6119	09 33 000 6217* 09 33 000 6222 09 33 000 6215 09 33 000 6218 09 33 000 6216 09 33 000 6223 09 33 000 6221		
Relay contact silver plated	0.75-1 1.5 2.5	09 33 000 6109 09 33 000 6110 09 33 000 6111			
Crimp contact identification					
Identification	Wire gauge		Stripping length		
no groove	0.14-0.37 mm ²	AWG 26-22	7,5 mm		
no groove	0.5 mm ²	AWG 20	7.5 mm		
1 groove*	0.75 mm ²	AWG 18	7.5 mm		
1 groove	1 mm ²	AWG 18	7.5 mm		
2 grooves	1.5 mm ²	AWG 16	7.5 mm		
3 grooves	2.5 mm ²	AWG 14	7.5 mm		
wide groove	3.0 mm ²	AWG 12	7.5 mm		
no groove	4 mm ²	AWG 12	7.5 mm		
* on the back crimp collar					
Use of the coding pin prevents incorrect mating to other connectors of the same type.					
The male pin should be omitted from the opposing cavity in the male insert.					
					

Crimp contact identification

Identification	Wire gauge		Stripping length
no groove	0.14-0.37 mm ²	AWG 26-22	7,5 mm
no groove	0.5 mm ²	AWG 20	7,5 mm
1 groove*	0.75 mm ²	AWG 18	7,5 mm
1 groove	1 mm ²	AWG 18	7,5 mm
2 grooves	1.5 mm ²	AWG 16	7,5 mm
3 grooves	2.5 mm ²	AWG 14	7,5 mm
wide groove	3.0 mm ²	AWG 12	7,5 mm
no groove	4 mm ²	AWG 12	7,5 mm

* on the back crimp collar

* only to be used with BUCHANAN crimping tool 09 99 000 0001
and adjustment gauge 09 99 000 0203

Stock items in bold type

Features

- ❑ 5 contacts (16 A) for power circuits
- ❑ Male insert with protection collar
- ❑ Polarization of module
- ❑ Cage-clamp terminal
- ❑ Both male and female modules may be mounted in the same frame

Technical characteristics

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals

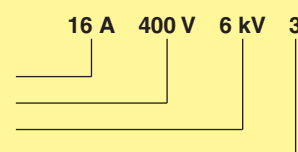


Inserts

Number of contacts

5

Electrical data
acc. to DIN EN 61 984



Working current
Working voltage
Rated impulse voltage
Pollution degree

– Pollution degree 2 also

16 A 500 V 6 kV 2

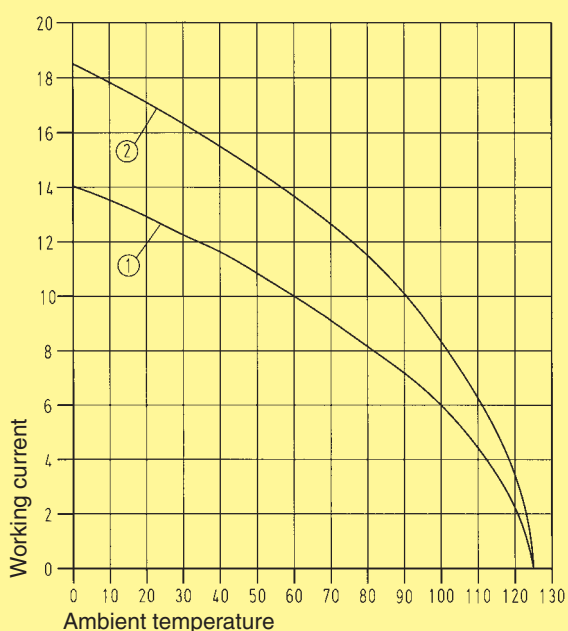
Working voltage
according to UL/CSA
Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
- mating cycles

600 V
≥ 10¹⁰ Ω
Polycarbonate
- 40 °C / + 125 °C
V0
≥ 500

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



- ① 24 B hood/housing with 6 modules; wire gauge: 2.5 mm²
② 24 B hood/housing with 6 modules; wire gauge: 1.5 mm²

Contacts

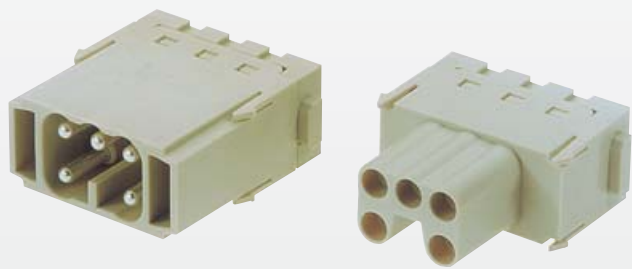
Material
Surface
- hard-silver plated
Contact resistance
Cage-clamp terminal
- mm²
- AWG

copper alloy
3 μm Ag
≤ 3 mΩ
0.14 - 2.5 mm²
26 - 14



Number of contacts

5



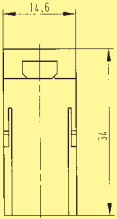
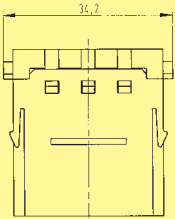
Identification	Part No.		Drawing	Dimensions in mm
	Male insert (M)	Female insert (F)		

Cage-clamp terminal

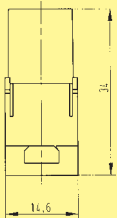
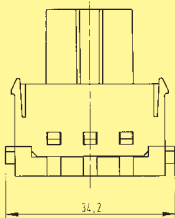
09 14 005 2616

09 14 005 2716

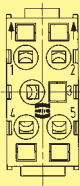
M



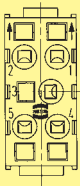
F



M



F



Han
Modular

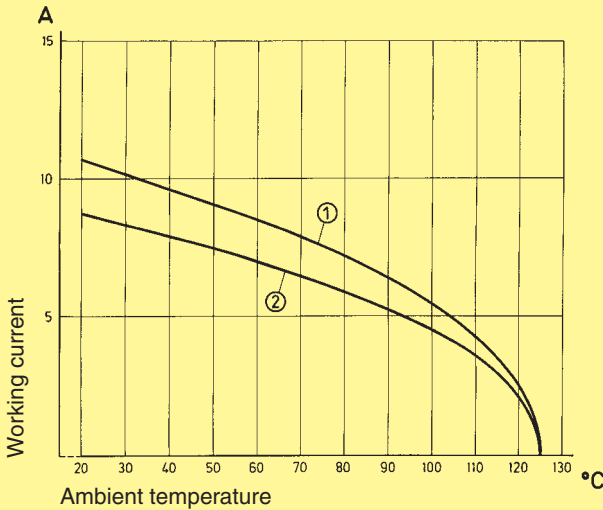
Features

- ❑ 12 contact chambers for
 - Signal contacts (10 A)
 - FOC contacts for 1 mm plastic fibre
- ❑ Male insert with protection collar
- ❑ Polarization of module
- ❑ Crimp termination
- ❑ Signal contacts with either silver or gold plated surface
- ❑ Both male and female modules may be mounted in the same frame
- ❑ Contact spacing enables the use of pcb-adaptors (see chapter 20)

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60512-3.



- ① 24 B hood/housing with 6 modules; wire gauge: 1.5 mm²
- ② 24 B hood/housing with 6 modules; wire gauge: 1.0 mm²

Technical characteristics

Specifications
DIN VDE 0627
DIN VDE 0110
DIN EN 61984

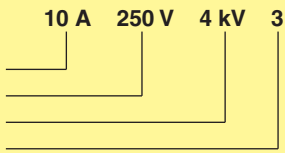
Approvals

Inserts

Number of contacts 12

Electrical data
acc. to DIN EN 61984

Working current
Working voltage
Rated impulse voltage
Pollution degree



Working voltage according to UL/CSA 600 V
Insulation resistance $\geq 10^{10} \Omega$
Material Polycarbonate
Limiting temperatures - 40 °C / + 125 °C
Flammability acc. to UL 94 V0
Mechanical working life - mating cycles ≥ 500

Contacts

Material copper alloy
Surface

- hard-silver plated 3 μm Ag
- hard-gold plated 2 μm Au over 3 μm Ni

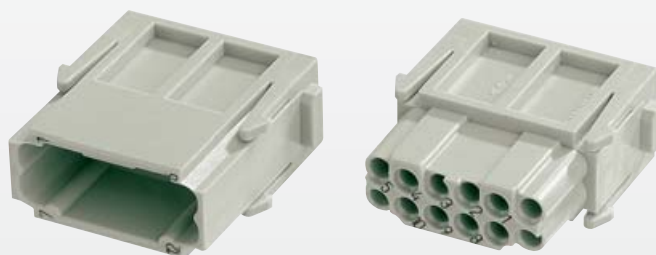
Contact resistance $\leq 3 \text{ m}\Omega$

Crimp terminal

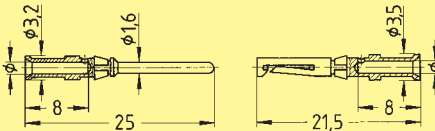
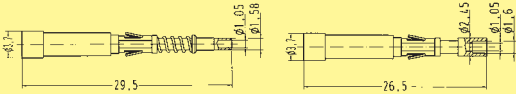
- mm² 0.14 - 2.5 mm²
- AWG 26 - 14

Number of contacts

12



Identification	Part No.		Drawing	Dimensions in mm
	Male insert (M)	Female insert (F)		
Crimp terminal Order contacts separately	09 14 012 3001	09 14 012 3101		
Contact arrangement View from termination side				

Identification	Wire gauge (mm ²)	Male contacts	Female contacts	Drawing	Dimensions in mm																												
Crimp contacts																																	
silver plated	0.14-0.37 0.5 0.75 1.0 1.5 2.5	09 15 000 6104 09 15 000 6103 09 15 000 6105 09 15 000 6102 09 15 000 6101 09 15 000 6106	09 15 000 6204 09 15 000 6203 09 15 000 6205 09 15 000 6202 09 15 000 6201 09 15 000 6206																														
gold plated	0.14-0.37 0.5 0.75 1.0 1.5 2.5	09 15 000 6124 09 15 000 6123 09 15 000 6125 09 15 000 6122 09 15 000 6121 09 15 000 6126	09 15 000 6224 09 15 000 6223 09 15 000 6225 09 15 000 6222 09 15 000 6221 09 15 000 6226	<table><tr><th>Wire gauge</th><th></th><th>ø</th><th>Stripping length</th></tr><tr><td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>0.90 mm</td><td>8 mm</td></tr><tr><td>0.5 mm²</td><td>AWG 20</td><td>1.10 mm</td><td>8 mm</td></tr><tr><td>0.75 mm²</td><td>AWG 18</td><td>1.30 mm</td><td>8 mm</td></tr><tr><td>1 mm²</td><td>AWG 18</td><td>1.45 mm</td><td>8 mm</td></tr><tr><td>1.5 mm²</td><td>AWG 16</td><td>1.75 mm</td><td>8 mm</td></tr><tr><td>2.5 mm²</td><td>AWG 14</td><td>2.25 mm</td><td>6 mm</td></tr></table>	Wire gauge		ø	Stripping length	0.14-0.37 mm ²	AWG 26-22	0.90 mm	8 mm	0.5 mm ²	AWG 20	1.10 mm	8 mm	0.75 mm ²	AWG 18	1.30 mm	8 mm	1 mm ²	AWG 18	1.45 mm	8 mm	1.5 mm ²	AWG 16	1.75 mm	8 mm	2.5 mm ²	AWG 14	2.25 mm	6 mm	
Wire gauge		ø	Stripping length																														
0.14-0.37 mm ²	AWG 26-22	0.90 mm	8 mm																														
0.5 mm ²	AWG 20	1.10 mm	8 mm																														
0.75 mm ²	AWG 18	1.30 mm	8 mm																														
1 mm ²	AWG 18	1.45 mm	8 mm																														
1.5 mm ²	AWG 16	1.75 mm	8 mm																														
2.5 mm ²	AWG 14	2.25 mm	6 mm																														
FOC contacts for 1 mm plastic fibre		20 10 001 3211	20 10 001 3221	For cable see catalogue „Fibre Optic Data Link Systems“ 																													
Coding system with loss of contact		09 33 000 9915		Use of the coding pin prevents incorrect mating to other connectors of the same type. The male pin should be omitted from the opposing cavity in the male insert. 																													

Stock items in bold type

Features

- ❑ High contact density
- ❑ Combination with all Han® modules possible
- ❑ Suitable for all Han® B hoods and housings as well as for Han-Modular® Compact hoods and housings

Technical characteristics

Specifications	DIN VDE 0627 DIN VDE 0110 DIN EN 61 984																				
Approvals																					
Inserts																					
Number of contacts	17																				
Electrical data acc. to DIN VDE 0627	<table><tr><td>10 A</td><td>160 V</td><td>2.5 kV</td><td>3</td></tr><tr><td>Working current</td><td></td><td></td><td></td></tr><tr><td>Working voltage</td><td></td><td></td><td></td></tr><tr><td>Rated impulse voltage</td><td></td><td></td><td></td></tr><tr><td>Pollution degree</td><td></td><td></td><td></td></tr></table>	10 A	160 V	2.5 kV	3	Working current				Working voltage				Rated impulse voltage				Pollution degree			
10 A	160 V	2.5 kV	3																		
Working current																					
Working voltage																					
Rated impulse voltage																					
Pollution degree																					
– Pollution degree 2 also	10 A 250 V 4 kV 2																				
Working voltage according to UL/CSA	250 V																				
Insulation resistance	≥ 10 ¹⁰ Ω																				
Material	Polycarbonate																				
Limiting temperatures	- 40 °C / + 125 °C																				
Flammability acc. to UL 94	V0																				
Mechanical working life - mating cycles	≥ 500																				

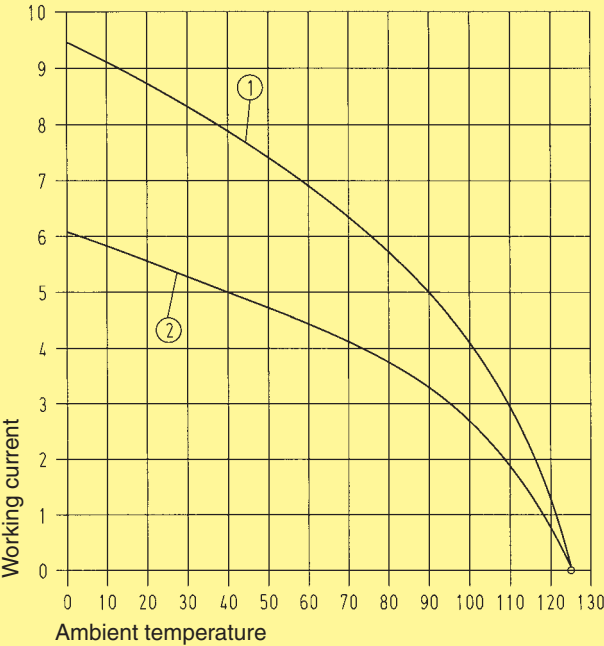
Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.

Contacts

Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
- hard-gold plated	2 µm Au over 3 µm Ni
Contact resistance	≤ 3 mΩ
Crimp terminal	
- mm ²	0.14 - 2.5 mm ²
- AWG	26 - 14



- ① 24 B hood/housing with 6 modules; wire gauge: 1.5 mm²
- ② 24 B hood/housing with 6 modules; wire gauge: 1.0 mm²

Number of contacts

17



Identification	Part No.		Drawing	Dimensions in mm
	Male insert (M)	Female insert (F)		
Crimp terminal				
Order contacts separately	09 14 017 3001	09 14 017 3101		
			Kontaktanordnung Ansicht Anschlusseite	

Han
Modular

Identification	Wire gauge (mm ²)	Part No.		Drawing	Dimensions in mm
		Male contacts	Female contacts		
Crimp contacts					
silver plated	0.14-0.37 0.5 0.75 1.0 1.5 2.5	09 15 000 6104 09 15 000 6103 09 15 000 6105 09 15 000 6102 09 15 000 6101 09 15 000 6106	09 15 000 6204 09 15 000 6203 09 15 000 6205 09 15 000 6202 09 15 000 6201 09 15 000 6206		
gold plated	0.14-0.37 0.5 0.75 1.0 1.5 2.5	09 15 000 6124 09 15 000 6123 09 15 000 6125 09 15 000 6122 09 15 000 6121 09 15 000 6126	09 15 000 6224 09 15 000 6223 09 15 000 6225 09 15 000 6222 09 15 000 6221 09 15 000 6226		
FOC contacts for 1 mm plastic fibre		20 10 001 3211	20 10 001 3221	For cable see catalogue „Fibre Optic Data Link Systems“	
Coding system with loss of contact		09 33 000 9915		Use of the coding pin prevents incorrect mating to other connectors of the same type. The male pin should be omitted from the opposing cavity in the male insert.	

Stock items in bold type

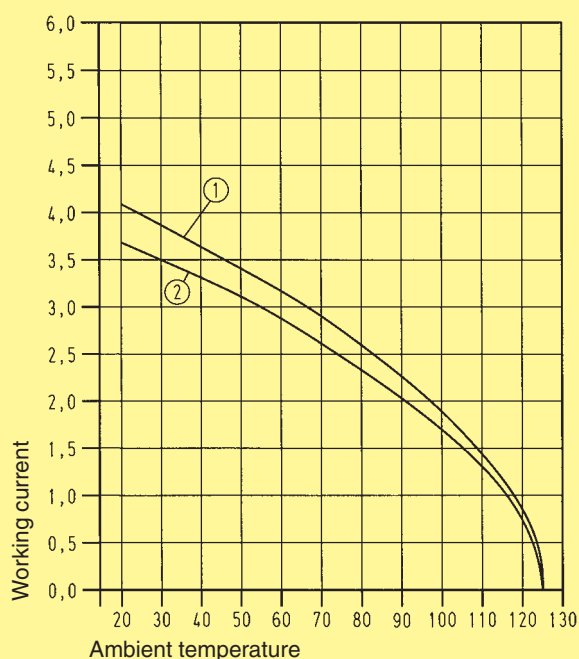
Features

- ☐ Male insert with protection collar
- ☐ Polarization of module
- ☐ Crimp termination
- ☐ High contact density
- ☐ Both male and female modules may be mounted in the same frame
- ☐ Guide pins and bushes are recommended

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60512-3.



① 24 B hood/housing with 6 modules; wire gauge: 0.5 mm² turned contacts

② 24 B hood/housing with 6 modules; wire gauge: 0.5 mm² stamped contacts

Technical characteristics

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Inserts

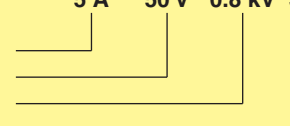
Number of contacts

25

Electrical data
acc. to DIN EN 61 984

5 A 50 V 0.8 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree

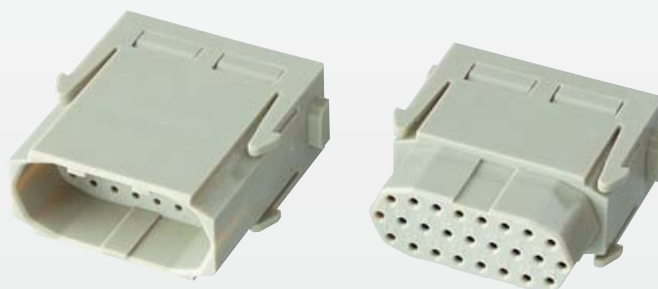


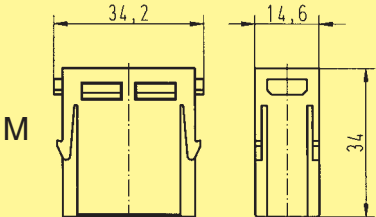
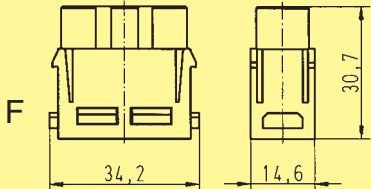
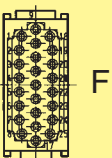
Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
- mating cycles

≥ 10¹⁰ Ω
Polycarbonate
- 40 °C / + 125 °C
V0
≥ 500

Number of contacts

25



Identification		Part No.		Drawing	Dimensions in mm
	Male insert (M)	Female insert (F)			
Crimp terminal	09 14 025 3001	09 14 025 3101			
					
					
Contact arrangement View from termination side					

Han
Modular

Identification		Wire gauge (mm ²)	Part No.	
			turned male contacts	turned female contacts
			Performance level 1*	Performance level 1*
Individual contacts		AWG 22-20 0.33-0.52	61 03 000 0073	61 03 000 0074
		AWG 26-22 0.13-0.33	61 03 000 0094	61 03 000 0096

* Performance level 1 as per CECC 75 301-802, 500 mating cycles,
10 days 4 mixed gas test – IEC 60 512

Stock items in bold type

Features

- ❑ 2 contacts up to 5 000 V
- ❑ Crimp termination technology
- ❑ Male and female inserts can be combined in one frame
- ❑ Suitable for all Han® hoods and housings high construction
- ❑ For large cable outer diameters including insulation of max. 8 mm
- ❑ Combination of all other modules possible (pneumatic, signals etc.)

Technical characteristics

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984
DIN VDE 0115

Inserts

Number of contacts

2

Electrical data
acc. to DIN EN 61 984

16 A 2900/5000 V 15 kV 3

Working current

Working voltage conductor – ground

Working voltage conductor – conductor

Rated impulse current

Pollution degree

Insulation resistance

$\geq 10^{10} \Omega$

Material

Polycarbonate/Teflon (PTFE)

Limiting temperatures

- 40 °C / +125 °C

Mechanical working life

- mating cycles

≥ 500

Contacts

Material

copper alloy

Surface

- hard silver plated

3 μm Ag

- hard gold plated

2 μm Au over 3 μm Ni

Contact resistance

$\leq 1 \text{ m}\Omega$

Crimp terminal

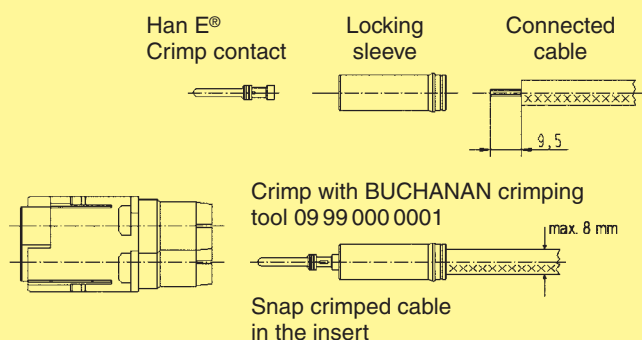
- mm^2

0.5 - 4.0 mm^2

- AWG

20 - 12

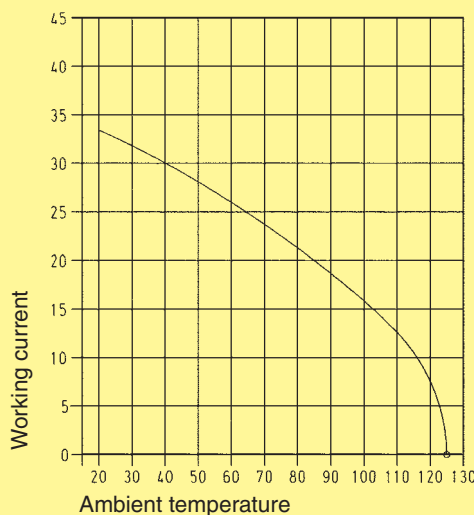
Assembly details



Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



Han® 16 B housing with 1 HV-module, wire gauge = 2.5 mm^2



Han
Modular

06
37

Features

- ❑ 4 contact chambers for
 - Coaxial contacts
 - FOC contacts
- ❑ Male insert with protection collar
- ❑ Polarization of module
- ❑ Both male and female modules may be mounted in the same frame

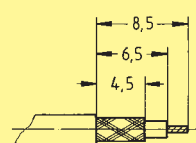
Contact arrangement
according to table below:

Contacts	Male insert (M) 09 14 004 4501	Female insert (F) ¹⁾ 09 14 004 4512
Coaxial contacts	09 14 000 62 . .	09 14 000 61 . .
FOC contacts	20 10 . . . 421 .	20 10 . . . 422 .

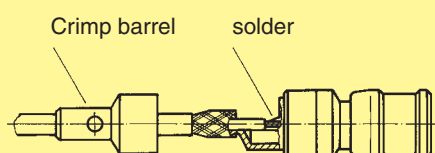
Coaxial cables (group 2)

Wires	Shell Ø mm	Internal wire Ø mm	Attenuation dB/100 m at		
			100 MHz	200 MHz	800 MHz
50 Ω wires					
RG 174 / U	2.5	0.48	29		84
RG 188 A / U	2.6	0.54		40	
RG 316 / U	2.5	0.54		40	
75 Ω wires					
RG 179 B / U	2.55	0.3		41	
RG 187 A / U	2.7	0.3		41	

Stripping
description:



Assembly details
for coaxial contacts



Technical characteristics

Specifications
DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals

Inserts

Number of contacts 4
Insulation resistance $\geq 10^{10} \Omega$
Material Polycarbonate
Limiting temperatures - 40 °C / + 125 °C
Flammability acc. to UL 94 V 0
Mechanical working life
- mating cycles ≥ 500

Contacts

Coaxial contact
- Material copper alloy
- Contact surface hard-gold plated
- Impedance Performance level 2
50 Ω / 75 Ω
- Contact resistance
centre conductor $\leq 10 \text{ m}\Omega$
outer conductor $\leq 3 \text{ m}\Omega$
- max. working current 1.5 A
- Working voltage 50 V

FOC contact²⁾
- Fibre type glass fibre (GI)
- Attenuation < 1.5 dB

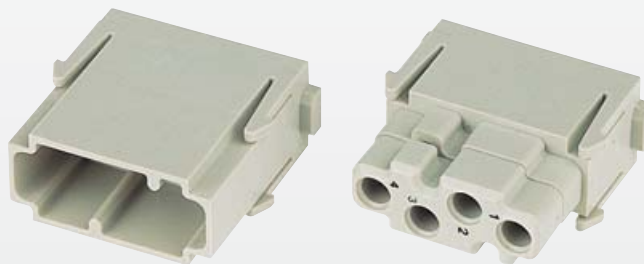
FOC contact²⁾
- Fibre type polymer optical fibre
- Attenuation < 2.5 dB

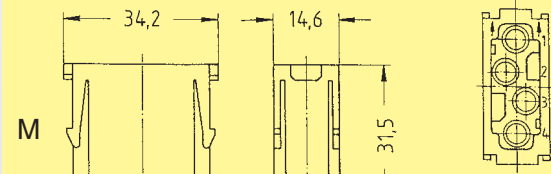
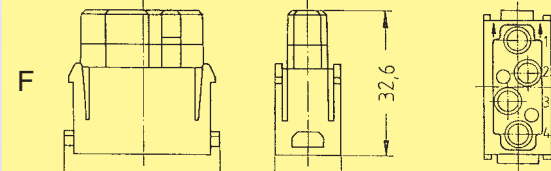
¹⁾ Due to the closed entry design of female insert the upper part has to be removed by screw driver (7 mm) before extracting the contacts

²⁾ See catalogue „Fibre Optic Data Link Systems“

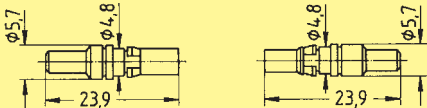
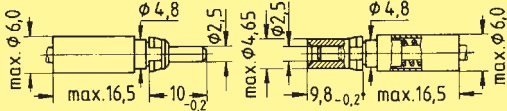
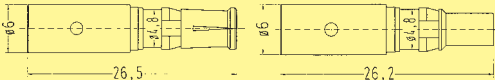
Number of contacts

4



Identification		Part No.		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
Multicontact-module acc. to DIN 41 626		09 14 004 4501	09 14 004 4512		
Order contacts separately					
Multicontact-module acc. to Sub-D		09 14 004 4501	09 14 004 4513		
Order contacts separately					

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Identification	Part No.		Drawing	Dimensions in mm
Coaxial contacts acc. to DIN 41 626 for straight solder and/or crimp terminations				
 50 Ω	09 14 000 6211	09 14 000 6111	For cable group 2 flexible wires (see remarks on page 06.38)	
 75 Ω	09 14 000 6221	09 14 000 6121		
FOC contacts acc. to DIN 41 626 for GI-fibre 50/125 μm or 62.5/125 μm				
ceramic ferrule	20 10 125 4212	20 10 125 4222		
for SI-fibre (HCS) 200/230 μm	20 10 230 4211	20 10 230 4221		
				
for 1 mm (POF)	20 10 001 4211	20 10 001 4221		
Coaxial contacts acc. to Sub-D¹⁾ for straight solder terminations RG 58 / 50 Ω				
	09 14 000 6215	09 14 000 6115		

06
39

1) Further D-Sub Coaxial contacts see also catalogue „Interface Connectors“

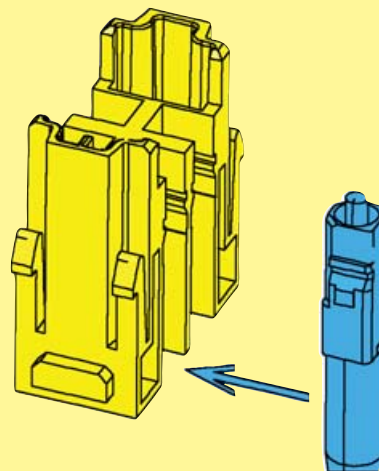
Stock items in bold type

Features

- ❑ Suitable for Han-Modular®
- ❑ For FO-SC-Kontakte
- ❑ For GI Fibre 50 - 62.5 / 125 µm

Assembly details

①

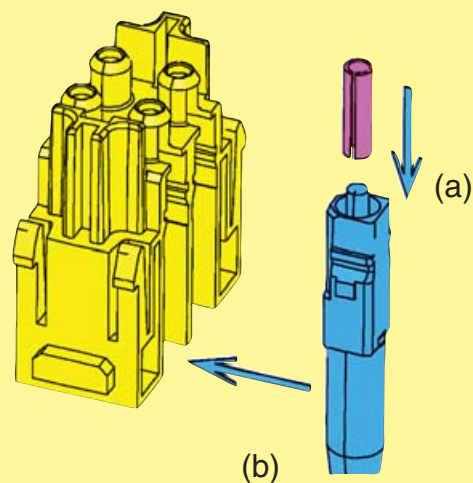


1. Male insert (09 14 004 4701)

Assemble the SC contact

Push the SC contact from the side into the relevant insert.

②



2. Female insert (09 14 004 4711)

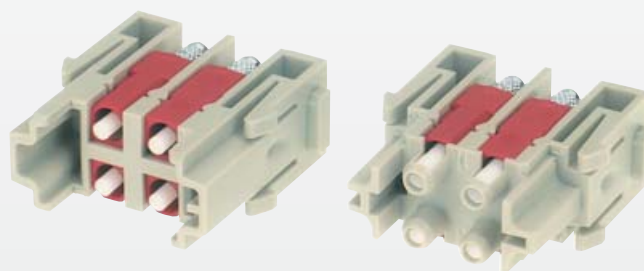
Assemble the SC contact

Push the centering ferrule (included in delivery) on the SC contact (a)

Push the SC contact from the side into the relevant insert (b)

Number of contacts

4



Identification

Part No.

Drawing

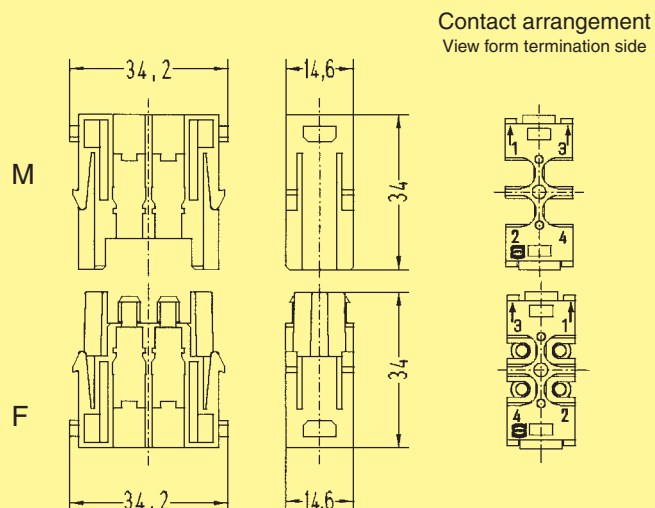
Dimensions in mm

SC module male

SC contacts order separately



09 14 004 4701



SC module female

SC contacts order separately



09 14 004 4711

The female contacts are equipped with centering ferrules.
4 ferrules are included in delivery range.

Identification

Part No.

Drawing

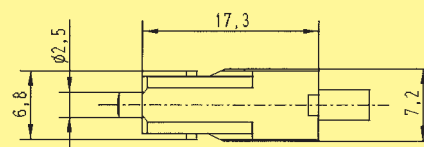
Dimensions in mm

SC contact

for GI Fibre 50 - 62.5 / 125 µm



20 10 125 5211



Han
Modular

Features

- ❑ Coding of tools possible (i. e. press tools) by means of an alpha numeric identification
- ❑ I²C Bus EEPROM as memory medium
- ❑ Communication with SPS via conventional digital E/As
- ❑ Physical connection of SPS by means of well-proven Han® contacts
- ❑ Suitable for industrial applications
- ❑ Assembly of the module to the device by means of a Han® industrial connector

Technical characteristics

Code length	max. 128 Byte														
Ambient temperature	0 ... + 70 °C in operation 0 ... + 85 °C in stocks														
Power supply	24 V via Digital I/O device														
Electrical connector 24 V	Han E® module														
Degree of protection	IP 20 IP 65 / 68 within mated connector														
Dimensions	approx. 30 x 53 x 15 mm (incl. connector)														
Max. length recommended between I/O device and ID-module	100 m*														
Pinning	<table> <tr> <th>Pin-No.</th><th>Function</th></tr> <tr> <td>1</td><td>Data IN</td></tr> <tr> <td>2</td><td>DC 24 V</td></tr> <tr> <td>3</td><td>Data OUT</td></tr> <tr> <td>4</td><td>GND</td></tr> <tr> <td>5</td><td>CLK</td></tr> <tr> <td>6</td><td>Connection</td></tr> </table>	Pin-No.	Function	1	Data IN	2	DC 24 V	3	Data OUT	4	GND	5	CLK	6	Connection
Pin-No.	Function														
1	Data IN														
2	DC 24 V														
3	Data OUT														
4	GND														
5	CLK														
6	Connection														

* The use of the shielded cable is recommended for longer distances or EMC loaded environments.

General description

The HARTING connector identification module (ID-module) is suitable for storing of data and for coding of connectors. It is integrated in a Han-Modular® standard E module.

The module can be connected to a 24 V digital I/O device of a PLC. Two digital inputs are used for detecting the module connection and the data input. Two digital outputs are used for the data output and system clock. Furthermore the module must be connected with 24 V and GND. Communication is carried out with voltage levels of 24 V according to the I²C bus standard. The total memory capacity is 128 byte, e. g. for storing part numbers to identify the module. It is also possible to store the start parameters or operating data for machine components.

A typical data structure is displayed in the following table:

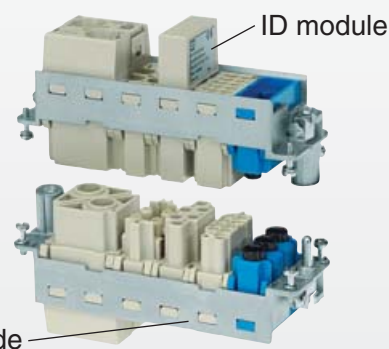
Byte No.

16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Check sum		Operating hours of tool				Start parameter				Part number					

Applications for the module can be found in modular machines and production lines. A great advantage of the module is the non volatile decentralized storing of e. g. operating data. When changing the location stored data can protect the machines from damages. In service cases of the equipment data can be analyzed to minimize service time.

Number of contacts

6



Identification

Part No.

Drawing

Dimensions in mm

Han® ID module

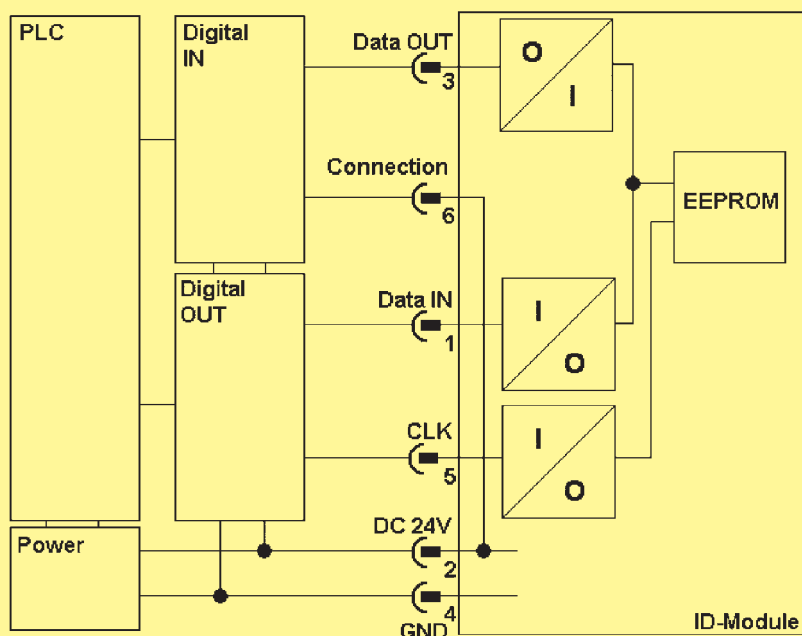
Electronic identification module



20 70 001 1001

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Modular

Block diagram / Wiring plan



Meaning of the connections

Pin No.	Name	Meaning/Function
1	Data IN	Input for data and control signals from PLC
2	DC 24 V	Power connection ID-module
3	Data OUT	Output for data signals from ID-module to PLC
4	GND	Ground
5	CLK	System clock for synchronization
6	Connection	Output of the module for connection detection

Features

- ❑ 9-pin D-Sub connector of the Han-Modular® system
- ❑ For crimping, solder or IDC terminals
- ❑ Crimping contacts for: 0.09 - 0.5 mm²
AWG 28 - 20
- ❑ To combine with all Han® modules
- ❑ Ideal for transmission of sensitive signals
- ❑ Suitable for industrial applications as well
Han® B as well as Han-Modular® Compact
hoods and housings can be used
- ❑ Suitable for turned or stamped crimping
contacts acc. to DIN 41 652 or
MIL-C-24 308
- ❑ Guiding pins are recommended
- ❑ 15-pins High Density D-Sub insert is suitable

Technical characteristics

Specifications	DIN VDE 0627 DIN VDE 0110 DIN EN 61 984
----------------	---

D-Sub module

Number of contacts	9
--------------------	---

Electrical data
acc. to DIN EN 61 984

	5 A	50 V	0.8 kV	3
Working current				
Working voltage				
Rated impulse voltage				
Pollution degree				

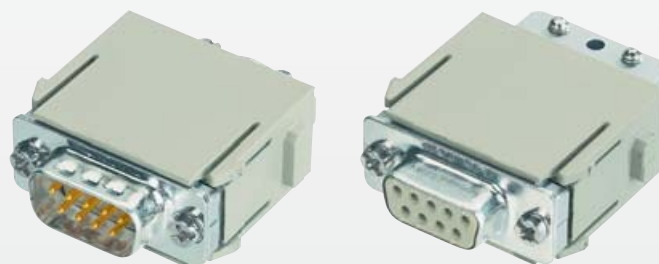
Insulation resistance	≥ 10 ¹⁰ Ω
-----------------------	----------------------

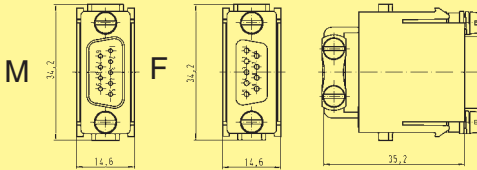
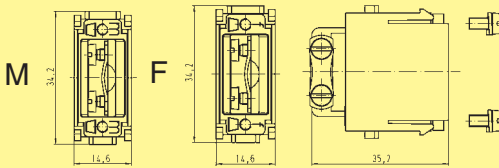
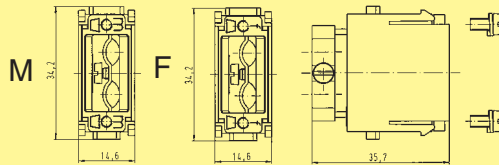
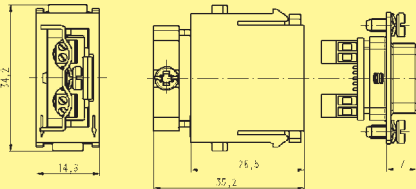
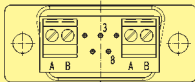
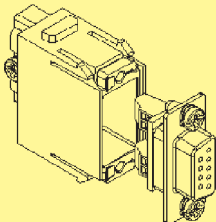
Material	Polycarbonate
- insert	Zinc die cast alloy
- shielding element	- 40 °C / + 125 °C
Limiting temperatures	V0
Flammability acc. to UL 94	
Mechanical working life	
- mating cycles	≥ 500

Han
Modular

Number of contacts

9



Part No.										
Identification	Male insert (M)	Female insert (F)	Drawing	Dimensions in mm						
D-Sub module Crimp insert Order crimp contacts separately (see page 06.35) 	09 14 009 3001	09 14 009 3101								
Adapter module without D-Sub insert for one cable 	09 14 000 9930	09 14 000 9931								
for two cables 	09 14 000 9932	09 14 000 9933								
Han® D-Sub module for RS485-based bus systems with T-functionality with screw terminal 		09 14 009 3151	 Contact arrangement View from termination side  <table><tr><th>Signal</th><th>Contact No.</th></tr><tr><td>A</td><td>8</td></tr><tr><td>B</td><td>3</td></tr></table> 	Signal	Contact No.	A	8	B	3	
Signal	Contact No.									
A	8									
B	3									

Features

- ❑ 2 or 3 contacts for transmission of clean and dry compressed air. Other gaseous and liquid media on request
- ❑ Termination of 1.6 mm, 3 mm, 4 mm and 6 mm ID-tubes
- ❑ Tube sizes may be mixed in module (Possible sizes 1.6 mm, 3 mm and 4 mm)
- ❑ Robust plastic contact
- ❑ Removal of tubes from pre-assembled pneumatic contacts is possible
- ❑ Female contacts with/without shut off
- ❑ Shut off principle:
In the disconnected position the spring integrated in the female contact is active, thus the O-ring of the valve seals the opening of the air-way.
During the mating process, when the defined depth of insertion is reached the male contact presses on the valve head and moves it backwards against the spring tension, so that the air-way opens.
- ❑ Using of guiding pins in connection with pneumatic modules is imperative.
In addition to this guiding pins guarantee a coding, if pneumatic modules are used exclusively.

Technical characteristics

Approvals



Inserts

Number of contacts	2 / 3
Colour	blue
Material	Polycarbonate
Limiting temperatures	- 40 °C / + 80 °C
Flammability acc. to UL 94	V 0
Mechanical working life - mating cycles	≥ 500

Contacts

Material	Delrin Acetal
Colour	black
Tube termination	
- Internal diameter (ID):	1.6 mm / 1/16"
	3.0 mm
	4.0 mm / 1/8"
	6.0 mm / 1/4"
Working pressure	up to 8 bar / 116 psi

Sealing

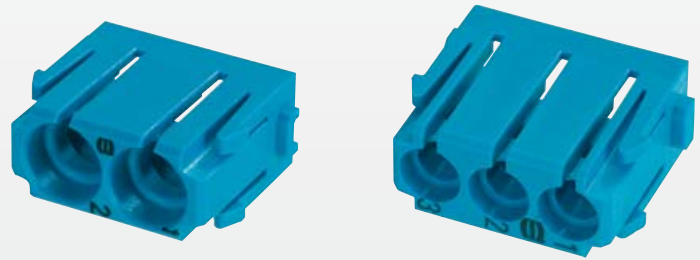
Material	Buna-N
----------	--------

Shut off valve

Material	Polypropylene
----------	---------------

Number of contacts

2/3



Identification		Part No.		Drawing	Dimensions in mm
		Male insert ²⁾	Female insert ²⁾		
Pneumatic-module¹⁾ Order contacts separately for 1.6; 3; 4 mm I/D tube		09 14 003 4501	09 14 003 4501		

Identification		Part No.		Drawing	Dimensions in mm
		Male insert ²⁾	Female insert ²⁾		
Contacts¹⁾ without shut off for tube internal diameter 1.6 mm 3.0 mm 4.0 mm		09 14 000 6151 09 14 000 6152 09 14 000 6153	09 14 000 6251 09 14 000 6252 09 14 000 6253		
Contacts¹⁾ with shut off for tube internal diameter 1.6 mm 3.0 mm 4.0 mm		— — —	09 14 000 6256 09 14 000 6257 09 14 000 6258		

Identification		Part No.		Drawing	Dimensions in mm
		Male insert ²⁾	Female insert ²⁾		
Pneumatic-module¹⁾ Order contacts separately for 6 mm I/D tube		09 14 002 4501	09 14 002 4501		
Contacts¹⁾ without shut off for tube internal diameter 6 mm		09 14 000 6174	09 14 000 6274		
Contacts¹⁾ with shut off for tube internal diameter 6 mm		—	09 14 000 6279		

¹⁾ Assemble contacts before module is fixed into the frame

²⁾ Male and female module are identical

Technical characteristics

Specifications DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals

Module

Number of contacts 2

Insulation resistance $\geq 10^{10} \Omega$

Material Polycarbonate

Limiting temperatures - 40 °C / + 125 °C

Flammability acc. UL 94 V 0

Mechanical working life
- mating cycles ≥ 500

Quintax Contacts Z-version

Number of contacts

- Quintax 4 + Shielding
- Coax 1 + Shielding
- High Density Quintax 8 + Shielding

Electrical data
acc. to DIN EN 61 984

– Quintax	10 A	50 V	0.8 kV	3
– Coax	10 A	50 V	0.8 kV	3
– High Density Quintax	5 A	50 V	0.8 kV	3

Working current

Working voltage

Rated impulse voltage

Pollution degree

Material: – Insulator Polycarbonate

– Outer conductor zinc alloy

Contact resistance $\leq 4 \text{ m}\Omega$

Limiting temperatures - 40 °C / + 85 °C

Flammability acc. UL 94 V 0

Outer surface finish Ni

Cable diameter 3 - 9.5 mm

Han D® Contacts

Material Copper alloy

Surface

- gold plated 2 μm Au over 3 μm Ni

Contact resistance $\leq 3 \text{ m}\Omega$

Crimp termination

- mm² 0.14 - 2.5 mm²
- AWG 26 - 14

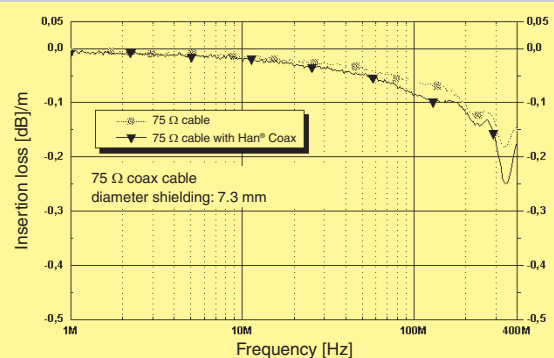
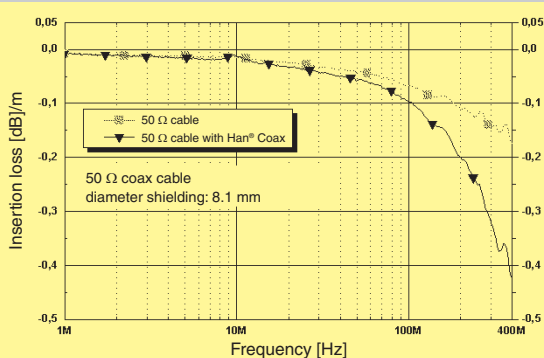
Features

- 2 Han Quintax® contacts per Quintax module
- Modular Assembly (double module)
- Suitable for shielded cables with diameters of:
 - 3 – 6 mm
 - 6 – 9.5 mm
- 2 clamps included in delivery range
- Several independent cables can be integrated in one housing without interruption of shielding
- Polarized connection of Quintax contacts is only possible when mounted in a Quintax module
- Ideal for the transmission of very sensitive signals (BUS signals)

Han® High Density Quintax-Contacts

- High contact density
- For D-Sub contacts up to 0.5 mm²
- Max. isolating diameter 2.4 mm

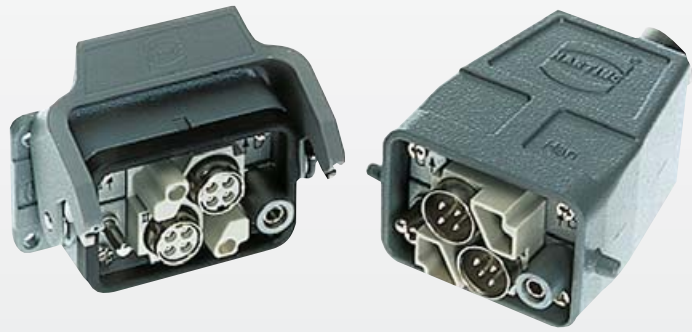
RF transmission characteristics Han® Coax



Number of contacts

2 Quintax Contacts

per Han Quintax® Module



Identification	Part number		Drawing	Dimensions in mm
	Male contact (M)	Female contact (F)		
Module 	09 14 002 3001	09 14 002 3101		
Quintax metal adapter (option) 	09 14 000 9915	09 14 000 9915		

Identification	Cable diameter mm	Part number		Drawing	Dimensions in mm
		Male contact (M)	Female contact (F)		
Quintax Z Contact (4 + Shielding) Han D® Order contacts separately		09 15 004 3013	09 15 004 3113		
Coax Contact (1 + Shielding) Han D® Order contacts separately		09 15 001 3013	09 15 001 3113		
High Density Quintax (8 + Shielding) D-Sub Order contacts separately see page 06.35		09 15 008 3013	09 15 008 3113		

		Wire gauge	Part number					
Identification		(mm²)	Male contacts	Female contacts	Drawing	Dimensions in mm		
Han D® Crimp contacts								
gold plated		0.14-0.37	09 15 000 6124	09 15 000 6224				
		0.5	09 15 000 6123	09 15 000 6223				
		0.75	09 15 000 6125	09 15 000 6225				
		1.0	09 15 000 6122	09 15 000 6222				
		1.5	09 15 000 6121	09 15 000 6221				
		2.5	09 15 000 6126	09 15 000 6226				

Stock items in bold type

Identification

Part No.

Drawing

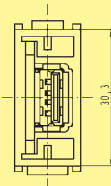
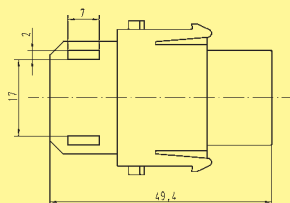
Dimensions in mm

Module for patch cable

– female

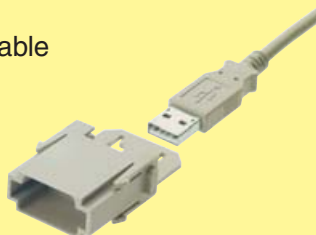


09 14 001 4701

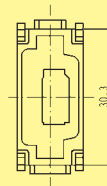
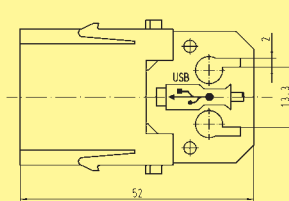


Module for patch cable

– male



09 14 001 4601

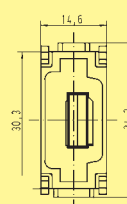
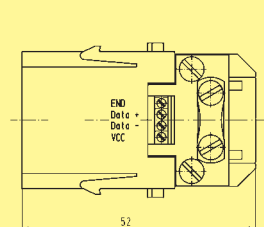


Module for screw termination

– male



09 14 001 4651



Patch cable USB

– male / male
Style A

Length: 2 m
5 m



39 50 903 0050
39 50 903 0051

Features

- ☐ Compatible with all housings, high construction version, and Han-Modular® Compact
- ☐ Simple and cost effective termination by plug-in patch cable
- ☐ Cable tie strain relief
- ☐ According to USB 2.0 specification

Technical characteristics

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

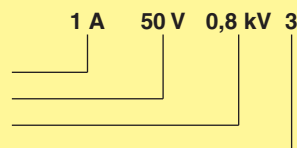
Inserts

Number of contacts

4

Electrical data
acc. to DIN EN 61 984

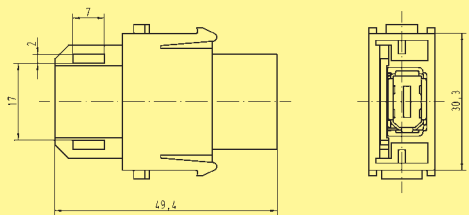
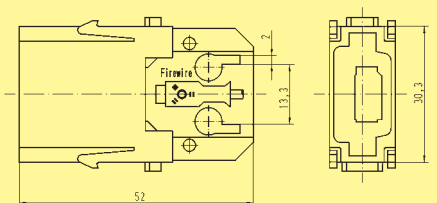
Working current
Working voltage
Rated impulse voltage
Pollution degree



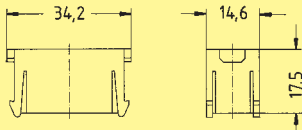
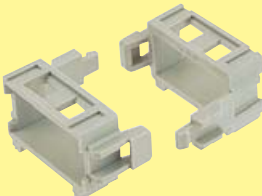
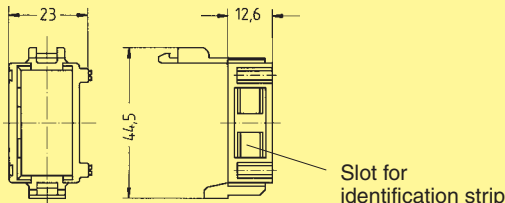
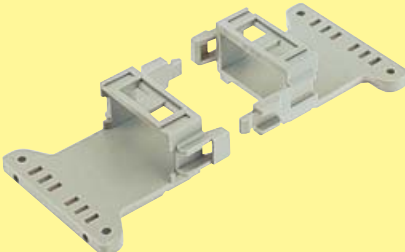
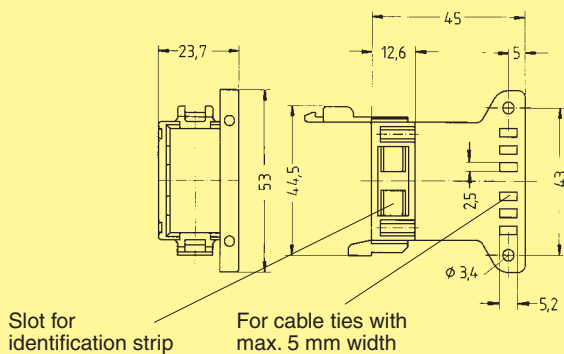
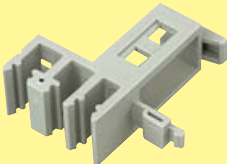
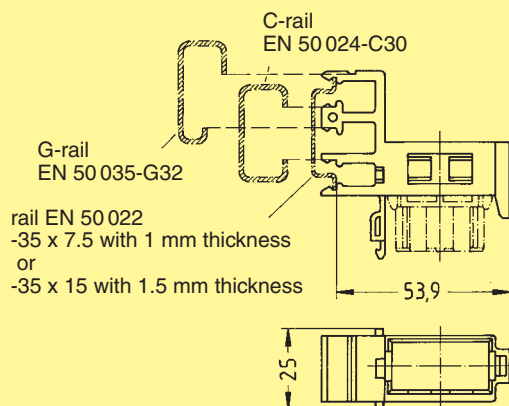
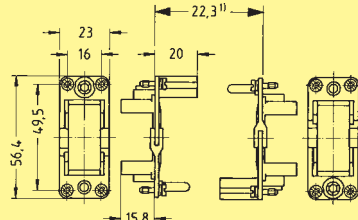
Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
– mating cycles

$\geq 10^{10} \Omega$
Polycarbonate
– 40 °C / + 125 °C
V0
 ≥ 500

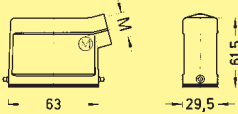
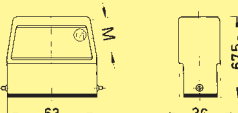
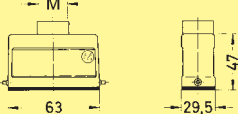
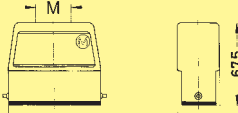
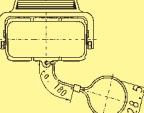
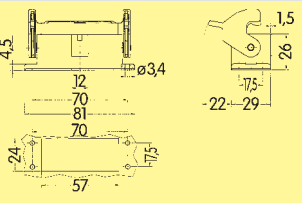
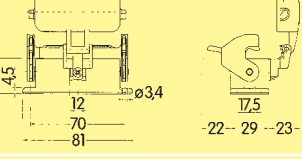
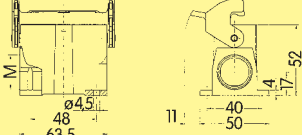
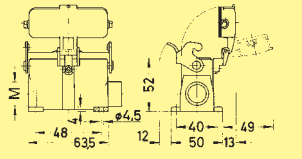
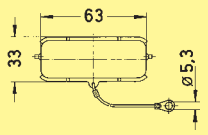
Stock items in bold type

Identification	Part No.	Drawing	Dimensions in mm
Module for patch cable – female 	09 14 001 4711		
Module for patch cable – male 	09 14 001 4611		

Features	Technical characteristics
☐ Compatible with all housings, high construction version, and Han-Modular® Compact ☐ Simple and cost effective termination by plug-in patch cable ☐ Cable tie strain relief ☐ Compatible to IEEE 1394	Specifications DIN VDE 0627 DIN VDE 0110 DIN EN 61 984 Inserts Number of contacts6 Electrical data acc. to DIN EN 61 984 Working current Working voltage Rated impulse voltage Pollution degree 1 A 50 V 0,8 kV 3 Insulation resistance Material Limiting temperatures Flammability acc. to UL 94 Mechanical working life - mating cycles ≥ 10¹⁰ Ω Polycarbonate - 40 °C / + 125 °C V 0 ≥ 500

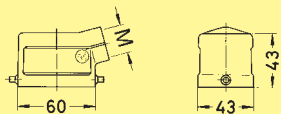
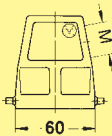
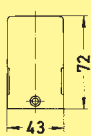
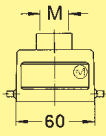
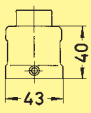
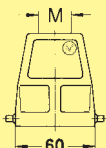
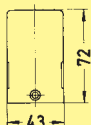
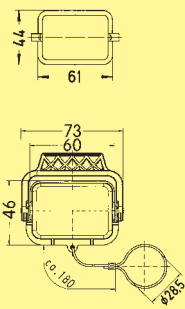
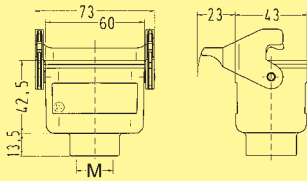
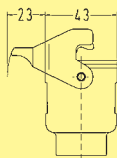
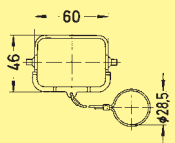
Identification	Part No.	Drawing	Dimensions in mm
Han-Modular® Dummy module to fill up module spaces not in use in the frame 	09 14 000 9950		
Module clamp without strain relief  Delivery comprises 2 module clamps	09 14 000 0301		
Module clamp with strain relief  Delivery comprises 2 module clamps	09 14 000 0302		
Module clamp for rail  Delivery comprises 2 module clamps	09 14 000 0303		
Frame for 1 module in Han® 10 A housing 	09 14 000 0304	Hood  Housing	¹) Distance for electrical and FOC contacts max. 24 mm; for pneumatic contacts max. 23.5 mm
Identification strips 20 pieces in one block – 9 mm width 20 mm length	09 33 000 9982		

for 1 module

		Part No.			Drawing	Dimensions in mm
Identification		Low construction	High construction	M		
Hoods	Hoods side-entry 	19 20 010 1540		20		
			19 20 010 0546	25		
	Hoods top-entry 	19 20 010 1440		20		
			19 20 010 0446	25		
	Protection covers for hoods 	09 20 010 5423				
Housings	Housings bulkhead mounting 	09 20 010 0301		—		
		with thermo-plastic cover 09 20 010 0321¹⁾		—		
	Housings surface mounting 	19 20 010 0251		1 x 25		
	1 side-entry	19 20 010 0251		1 x 25		
	2 side-entries	19 20 010 0290 with thermo-plastic cover 19 20 010 0295		2 x 20 2 x 20		
	Protection covers for housings 	09 20 010 5425				

¹⁾ for female insert

for 2 modules

Identification	Part No.		M	Drawing	Dimensions in mm
	Low construction	High construction			
Hoods Hoods side-entry 	19 30 006 1540 19 30 006 1541		20		
			25		
		19 30 006 0546 19 30 006 0547	25		
			32		
Hoods Hoods top-entry 	19 30 006 1440		20		
			25		
		19 30 006 0446 19 30 006 0447	25		
			32		
Protection covers for hoods metal 	09 30 006 5401				
	09 30 006 5423				
Hoods cable to cable 	19 30 006 1750	19 30 006 0756	20		
			25		
Protection cover for cable to cable hood metal 	09 30 006 5427				

Stock items in bold type

for 2 modules

Identification		Part No.		M	Drawing	Dimensions in mm
		Low construction	High construction			
Housings	Housings bulkhead mounting	09 30 006 0301 with thermo- plastic cover 09 30 006 0302 with metal cover 09 30 006 0318		— — —	Panel cut out 48 x 35 mm 	
	Housings surface mounting	19 30 006 1250 19 30 006 1290 with thermo- plastic cover 19 30 006 1255 19 30 006 1295 with metal cover 19 30 006 2255 19 30 006 2295	19 30 006 0291 19 30 006 0292 with thermo- plastic cover 19 30 006 0296 19 30 006 0297 with metal cover 19 30 006 7296	1 x 20 2 x 20 2 x 25 2 x 32 1 x 20 2 x 20 2 x 25 2 x 32 1 x 20 2 x 20 2 x 25		
	Protection covers	plastic 09 30 006 5404 metal 09 30 006 5425				

Han
Modular

1) Blind way for one cable entry

	a	b	h
Low construction	40	52	51.5
High construction	45	57	74

**Han
Modular**

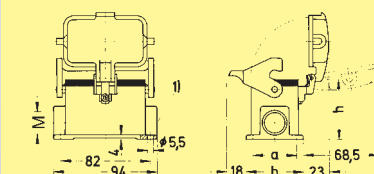
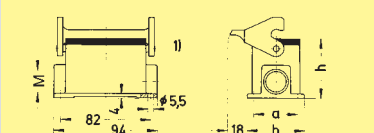
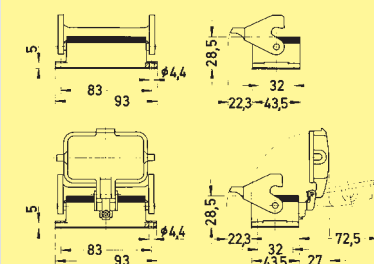
Stock items in bold type

for 3 modules

Identification		Part No.		M	Drawing	Dimensions in mm
		Low construction	High construction			
Hoods	Hoods side-entry	19 30 010 1540 19 30 010 1541	19 30 010 0547	20 25 32		
	Hoods top-entry	19 30 010 1440 19 30 010 1441	19 30 010 0447	20 25 32		
Housings	Housings bulkhead mounting	09 30 010 0305 with thermo-plastic cover 09 30 010 0303 with metal cover 09 30 010 0318		— — —		
	Housings surface mounting	1 side-entry 2 side-entries	19 30 010 1250 19 30 010 1290	20 20 25 32		
		1 side-entry 2 side-entries	with thermo-plastic cover 19 30 010 1255 with thermo-plastic cover 19 30 010 1295	20 20 25 32		
			with metal cover 19 30 010 2295	20 25		
			with thermo-plastic cover 19 30 010 0296 19 30 010 0297	20 25 32		
			with metal cover 19 30 010 7296	20 25		
	Hoods cable to cable	19 30 010 1750	19 30 010 0756 19 30 010 0757	20 25 32		
	Dust protection cover	09 30 010 5406				

Han
Modular

Panel cut out 60 x 35 mm



1) Blind way for one cable entry

	a	b	h
Low construction	40	52	54
High construction	45	57	81

	h
Low construction	47.5
High construction	74.5

Stock items in bold type

for 4 modules

		Part No.			Drawing	Dimensions in mm						
Identification		Low construction	High construction	M								
Hoods	Hoods side-entry	19 30 016 1521 19 30 016 1522	19 30 016 0527 19 30 016 0528	25 32								
	Hoods top-entry	19 30 016 1421 19 30 016 1422	19 30 016 0427 19 30 016 0428	25 32								
	Protection covers for housings thermoplastic/metal	09 30 016 5401 09 30 016 5422										
Housings	Housing bulkhead mounting	09 30 016 0301		—	Panel cut out 82 x 35 mm 							
	Housings surface mounting 1 side-entry	19 30 016 1231	19 30 016 0232	25 32								
	Housings surface mounting 2 side-entries	19 30 016 1271	19 30 016 0271 19 30 016 0272 19 30 016 0273	25 32 40	Blind way for one cable entry <table><tr><th></th><th>h</th></tr><tr><td>Low construction</td><td>56</td></tr><tr><td>High construction</td><td>81</td></tr></table>		h	Low construction	56	High construction	81	
		h										
	Low construction	56										
High construction	81											
Protection covers for housings bulkhead mounting thermoplastic/metal	09 30 016 5405 09 30 016 5425											
Hoods cable to cable	19 30 016 1731	19 30 016 0736 19 30 016 0737	25 32		<table><tr><th></th><th>h</th></tr><tr><td>Low construction</td><td>47.5</td></tr><tr><td>High construction</td><td>78.5</td></tr></table>		h	Low construction	47.5	High construction	78.5	
	h											
Low construction	47.5											
High construction	78.5											
	Protection cover for hoods cable to cable metal	09 30 016 5426										

Stock items in bold type

for 4 modules

Identification		Part No.		M	Drawing	Dimensions in mm
		Low construction	High construction			
Hoods	Hoods side-entry	19 30 016 1541 19 30 016 1542	19 30 016 0547 19 30 016 0548	25 32		
				32 40		
	Hoods top-entry	19 30 016 1441 19 30 016 1442	19 30 016 0447 19 30 016 0448	25 32		
				32 40		
Housings	Housings bulkhead mounting		09 30 016 0307 with thermo-plastic cover 09 30 016 0306 with metal cover 09 30 016 0318	— — —	Panel cut out 82 x 35 mm 	
	Housings surface mounting		19 30 016 1251	25 32		
	1 side-entry	19 30 016 1291	25 32			
	2 side-entries	with thermo-plastic cover 19 30 016 1256	25			
	1 side-entry	with thermo-plastic cover 19 30 016 1296	25 32			
	2 side-entries	with metal cover 19 30 016 2296	25 32			
	2 side-entries		25 32			
	Hoods cable to cable		19 30 016 1751	25 32		
			19 30 016 0757			
	Dust protection cover		09 30 016 5406			

Han
Modular

¹⁾ Blind way for one cable entry

	h
Low construction	56
High construction	81

	h
Low construction	47.5
High construction	78.5

Stock items in bold type

for 6 modules

		Part No.											
Identification		Low construction	High construction	M	Drawing	Dimensions in mm							
Hoods	Hoods side-entry	19 30 024 1521 19 30 024 1522	19 30 024 0527 19 30 024 0528	25 32									
	Hoods top-entry	19 30 024 1422	19 30 024 0427 19 30 024 0428	32 40									
	Protection covers for hoods thermoplastic/metal	09 30 024 5401 09 30 024 5422											
Housings	Housing bulkhead mounting	09 30 024 0301		—	Panel cut out 108 x 35 mm 								
	Housings surface mounting 1 side-entry	19 30 024 1231	19 30 024 0232	25 32									
	Housings surface mounting 2 side-entries	19 30 024 1271	19 30 024 0272 19 30 024 0273	25 32 40	Blind way for one cable entry <table border="1"><thead><tr><th></th><th>h</th></tr></thead><tbody><tr><td>Low construction</td><td>56</td></tr><tr><td>High construction</td><td>81</td></tr></tbody></table>		h	Low construction	56	High construction	81		
		h											
	Low construction	56											
High construction	81												
Protection covers for housings bulkhead/surface mounting thermoplastic/metal	09 30 024 5405 09 30 024 5425												
Hoods cable to cable	19 30 024 1732	19 30 024 0737 19 30 024 0738	32 40										
	Protection cover for hoods metal	09 30 024 5426											

Stock items in bold type

for 6 modules

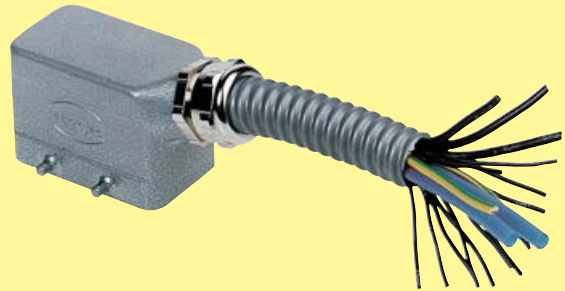
Identification		Part No.		M	Drawing	Dimensions in mm
		Low construction	High construction			
Hoods	Hoods side-entry	19 30 024 1541 19 30 024 1542		25 32		
			19 30 024 0547 19 30 024 0548	32 40		
	Hoods top-entry	19 30 024 1442	19 30 024 0447	32		
			19 30 024 0448	40		
Housings	Housings bulkhead mounting	09 30 024 0307 with thermo-plastic cover 09 30 024 0304 with metal cover 09 30 024 0318		— — —	Panel cut out 108 x 35 mm 	
	Housings surface mounting	1 side-entry 19 30 024 1251		25		
		2 side-entries 19 30 024 1291	19 30 024 0292	25 32		
		1 side-entry 19 30 024 1256		25		
		2 side-entries 19 30 024 1296	19 30 024 0297	25 32		
		2 side-entries 19 30 024 2296	19 30 024 7297	25 32		
	Hoods cable to cable	19 30 024 1752	19 30 024 0757	32		
	Dust protection cover	09 30 024 5406				

Han
Modular

The integration of several electrical wires with different gauges, optical control lines and/or air tubes in one connector

Protective tube

- ❑ Single wires have more space to move
- ❑ Ideal for short-run production
- ❑ Easy maintenance/service



Special cable

- ❑ Optimal solution for large-scale production
- ❑ Professional design



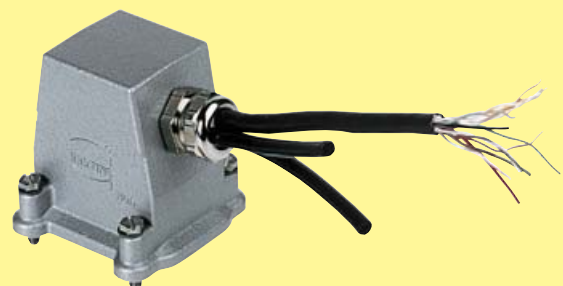
Hood with several cable entries

- ❑ Single wires are less expensive than special wires
- ❑ Easy maintenance/service



Cable seal with several cable inlets

- ❑ Ideal for wires/tubes with approximately similar wire gauges
- ❑ Easy maintenance/service



Han® HsB

Page

Technical characteristics Han® HsB	07.10
Han® 6 HsB	07.11
Han® 12 HsB	07.14

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals

 , SEV

Inserts

Number of contacts 6, 12 (2 x 6) + PE

Electrical data
acc. to DIN EN 61 984

35 A 400/690 V 6 kV 3

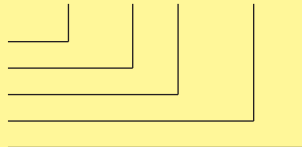
Working current

Working voltage conductor – ground

Working voltage conductor – conductor

Rated impulse voltage

Pollution degree



or

35 A 500 V 6 kV 3

Working voltage
acc. to UL/CSA

600 V

Insulation resistance

$\geq 10^{10} \Omega$

Material

Polycarbonate

Limiting temperatures

- 40 °C / +125 °C

Flammability acc. to UL 94

V 0

Mechanical working life

- Mating cycles

≥ 500

Contacts

Material

copper alloy

Surface

- hard-silver plated

3 µm Ag

Contact resistance

$\leq 1 \text{ m}\Omega$

Screw terminal

- mm²

6 mm²

- AWG

10

- Tightening torque

1.2 Nm

Hoods/Housings

Material

die cast aluminium

Surface

powder-coated

RAL 7037

Locking element

Han-Easy Lock®

Hoods/Housings seal

NBR

Limiting temperatures

- 40 °C / +125 °C

Degree of protection

acc. to DIN EN 60 529
for coupled connector

IP 65

Further selection

of hoods/housings

chapter 30 / chapter 31

Accessories

Cable clamps

chapter 40

Coding of hoods/housings

chapter 40

Label acc. to CSA-approval

chapter 40

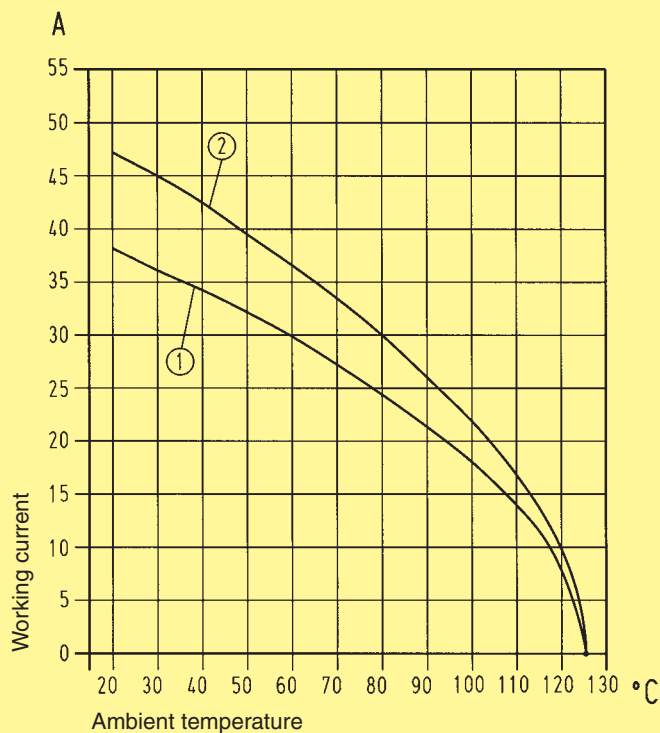
Han-Snap®

chapter 11

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.

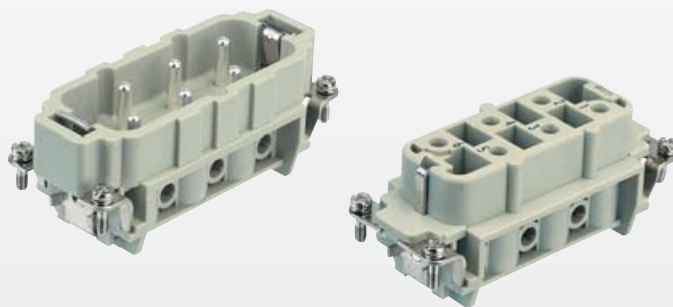


① Wire gauge: 4 mm²

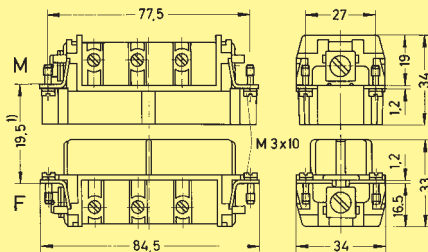
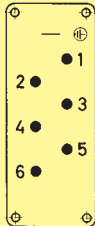
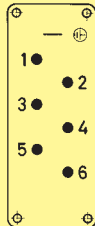
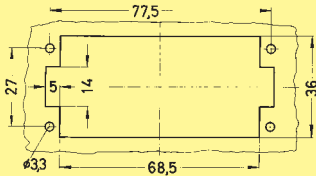
② Wire gauge: 6 mm²

Number of contacts

6 +



Inserts

		Part No.			
Identification	Series	Male insert (M)	Female insert (F)	Drawing	Dimensions in mm
Screw terminal	Han® HsB				
		09 31 006 2601	09 31 006 2701		
1) Distance for contact max. 21 mm					
Contact arrangement View from termination side					
 M  F					
Panel cut out for inserts for use without hoods/housings					
					

Part No.

Identification

Low construction

High construction

M

Drawing

Dimensions in mm

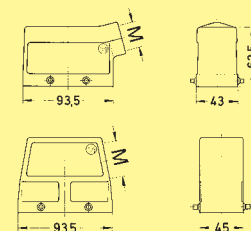
Hoods

Hoods
side-entry

19 30 016 1521
19 30 016 1522

19 30 016 0527
19 30 016 0528

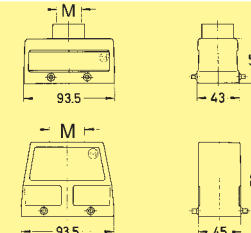
25
32

Hoods
top-entry

19 30 016 1421
19 30 016 1422

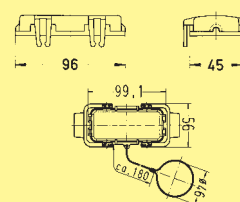
19 30 016 0427
19 30 016 0428

25
32

Protection covers for housings
thermoplastic/metal

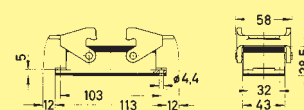
09 30 016 5401

09 30 016 5422

Housing
bulkhead
mounting

09 30 016 0301

Panel cut out 82 x 35 mm

Housings
surface mounting

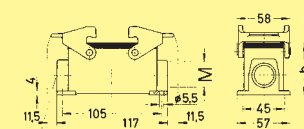
1 side-entry



19 30 016 1231

19 30 016 0232

25
32



2 side-entries

19 30 016 1271

19 30 016 0271
19 30 016 0272
19 30 016 0273

25
32
40

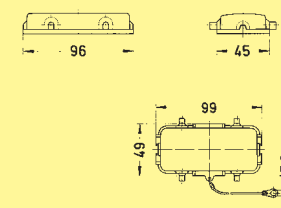
Blind way for one cable entry

	h
Low construction	56
High construction	81

Protection covers
for housings bulkhead mounting
thermoplastic/metal

09 30 016 5405

09 30 016 5425



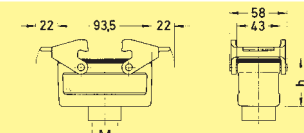
Housings

Hoods
cable to cable

19 30 016 1731

19 30 016 0736
19 30 016 0737

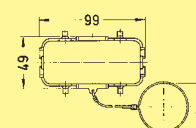
25
32



	h
Low construction	47.5
High construction	78.5

Protection cover
for hoods cable to cable
metal

09 30 016 5426



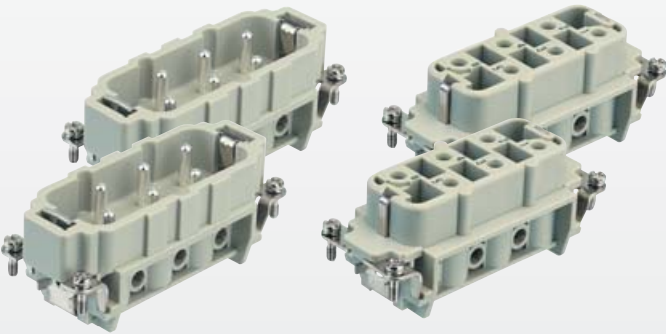
Stock items in bold type

Identification		Part No.		M	Drawing	Dimensions in mm						
		Low construction	High construction									
Hoods	Hoods side-entry	19 30 016 1541 19 30 016 1542	19 30 016 0547 19 30 016 0548	25 32								
				32 40								
	Hoods top-entry	19 30 016 1441 19 30 016 1442	19 30 016 0447 19 30 016 0448	25 32								
				32 40								
Housings bulkhead mounting		09 30 016 0307 with thermo-plastic cover 09 30 016 0306 with metal cover 09 30 016 0318		— — —	Panel cut out 82 x 35 mm 							
Housings surface mounting		19 30 016 1251 19 30 016 1291 with thermo-plastic cover 19 30 016 1256 with thermo-plastic cover 19 30 016 1296 with metal cover 19 30 016 2296	19 30 016 0252 19 30 016 0291 19 30 016 0292 with thermo-plastic cover 19 30 016 0297	25 32 25 32 25 32 25								
Housings	2 side-entries											
	1 side-entry				1) Blind way for one cable entry							
	2 side-entries				<table><tr><td></td><td>h</td></tr><tr><td>Low construction</td><td>56</td></tr><tr><td>High construction</td><td>81</td></tr></table>			h	Low construction	56	High construction	81
	h											
Low construction	56											
High construction	81											
Hoods cable to cable		19 30 016 1751	19 30 016 0757	25 32	<table><tr><td></td><td>h</td></tr><tr><td>Low construction</td><td>47,5</td></tr><tr><td>High construction</td><td>78,5</td></tr></table>			h	Low construction	47,5	High construction	78,5
	h											
Low construction	47,5											
High construction	78,5											

Number of contacts

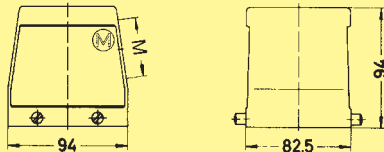
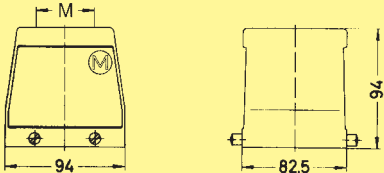
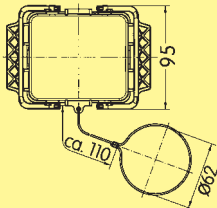
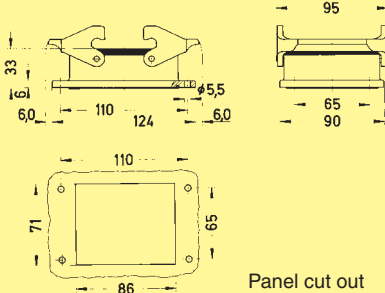
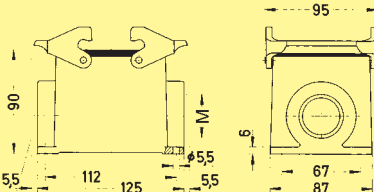
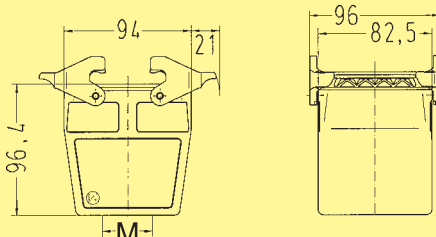
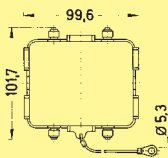
12

+

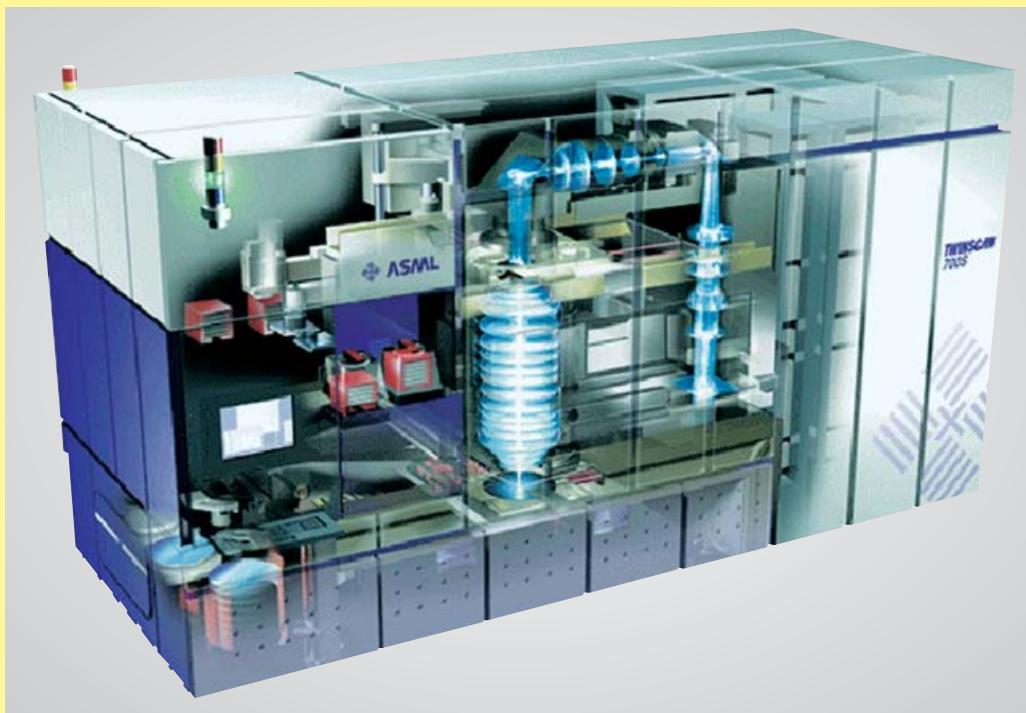


Inserts

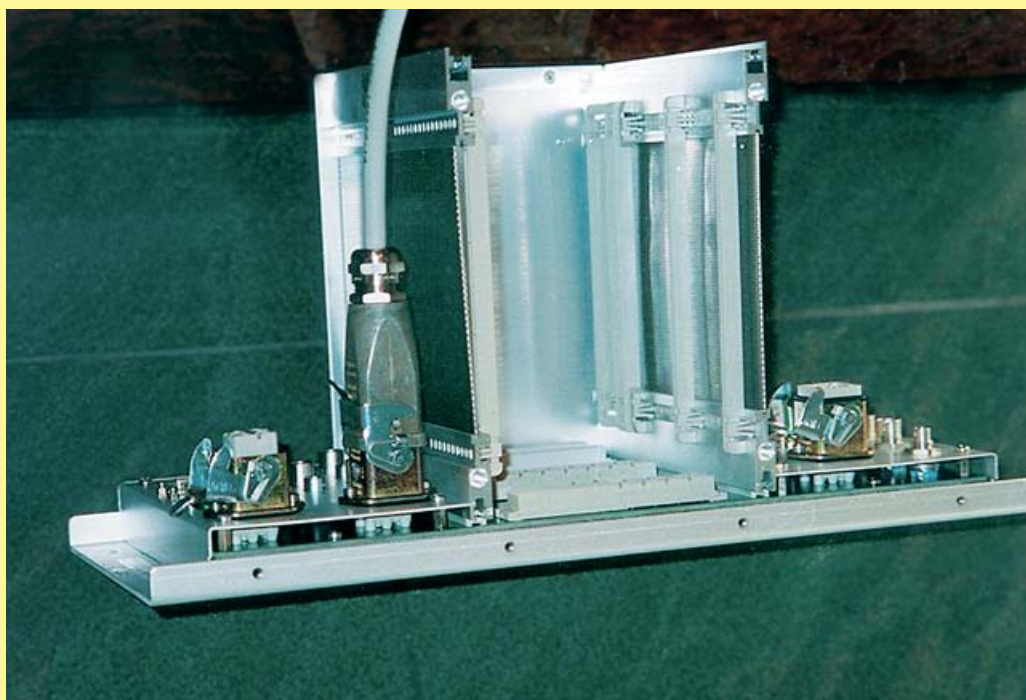
		Part No.			
Identification	Series	Male insert (M)	Female insert (F)	Drawing	Dimensions in mm
Screw terminal	Han [®] HsB			Dimensions for inserts see page 07.11	
		1– 6 7–12	09 31 006 2601 09 31 006 2611	09 31 006 2701 09 31 006 2711	Contact arrangement View from termination side M F Panel cut out for inserts for use without hoods/housings

Identification		Part No.	M	Drawing	Dimensions in mm
Hoods	Hoods side-entry		19 30 032 0527 19 30 032 0528 19 30 032 0529	32 40 50	
	Hoods top-entry		19 30 032 0427 19 30 032 0428 19 30 032 0429	32 40 50	
	Protection cover for hoods		09 30 032 5420	—	
Housings	Housing bulkhead mounting		09 30 032 0301	—	
	Housings surface mounting		19 30 032 0232 19 30 032 0272 19 30 032 0273	1 x 32 2 x 32 2 x 40	
	Hoods cable to cable		19 30 032 0738	2 x 40	
	Protection covers for housings		09 30 032 5425	—	

Han
HsB



“Wafer scanner” TWINSKAN
ASML, Lithography, Veldhoven, Netherlands



Han® Q 5/0 PCB adapter used at
ASML, Lithography, Veldhoven, Netherlands

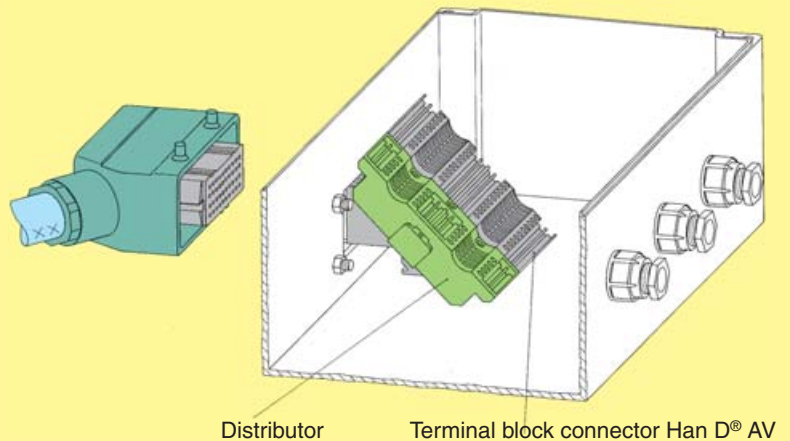
Han[®]-Terminal Block Connectors

Page

Details of the Han [®] -Terminal block connector	08.02
Han D [®] AV	08.10
Han D [®] AV Distributor	08.12
Han E [®] AV	08.14
Han [®] ES AV	08.16
Han [®] -Terminal block connectors accessories	08.17

Mounting example

Terminal block connector Han D® AV with mountable distributor



Distributor

Terminal block connector Han D® AV

Possibilities in switch cabinet

Left or right hand mounting in the switch cabinet, therefore allows use of the same pre-prepared interface cable.

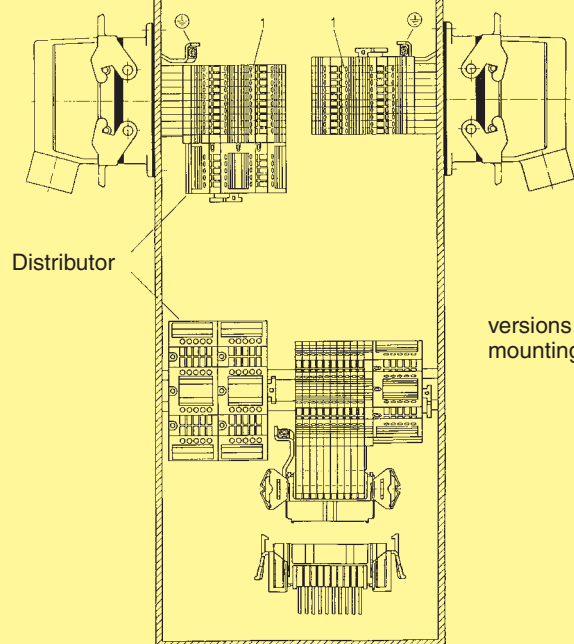
Internal use on standard rails in the switch cabinet in conjunction with Han-Snap®.

Distributor lockable on standard rails or mountable at terminal block connector Han D® AV

The terminal block connectors can be supplied for left hand or right hand applications. Hence the ground and connecting terminal for contact no. 1 will always be accessible from above in both types of installation.

left hand version

right hand version

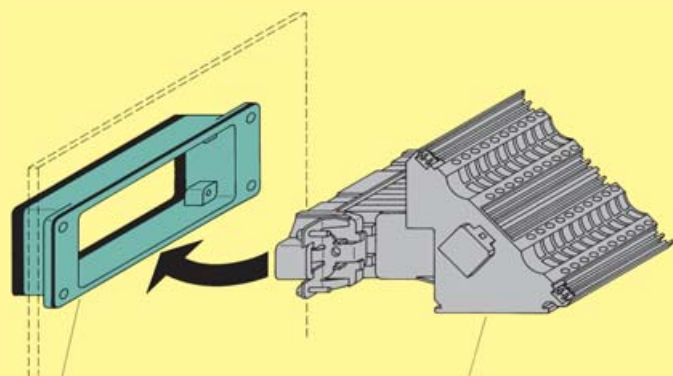


Distributor

versions for rail mounting

Assembly of terminal block connectors

Terminal block connectors can be mounted from the inside of the switch cabinet into standard bulkhead housings. Therefore pre-assembly is possible.



Standard bulkhead housing

Terminal block connector

Possibilities in switch cabinet

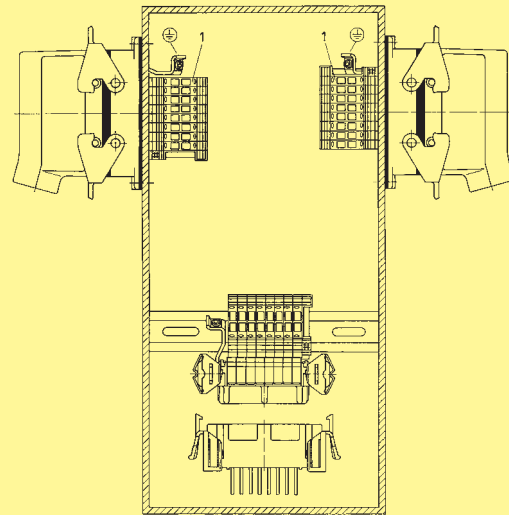
Left or right hand mounting in the switch cabinet, therefore allows use of the same pre-prepared interface cable.

Internal use on standard rails in the switch cabinet in conjunction with Han-Snap®.

The terminal block connectors can be supplied for left hand or right hand applications. Hence the ground and connecting terminal for contact no. 1 will always be accessible from above in both types of installation.

left hand
version

right hand
version



version for
rail
mounting

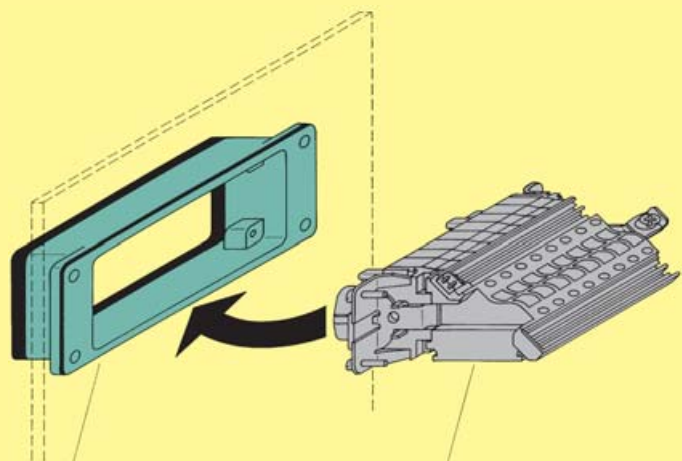
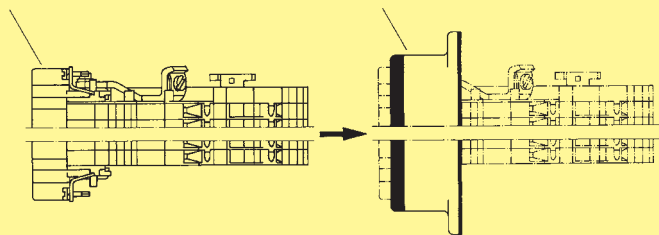
Assembly of terminal block connector

The terminal block connector is fixed in the standard bulkhead housing in the normal way.

Han E® AV and Han® ES AV with 16 and 24 pins can be mounted from the inside of the switch cabinet into standard bulkhead housings. Therefore pre-assembly is possible.

Male or female insert

housing (bulkhead mounting)



Standard housing (bulkhead mounting) Terminal block connector Han E® AV

Counterparts

For suitable mating inserts with screw, cage-clamp or crimp terminals, hoods and bulkhead housings please refer to the chapter 03.

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

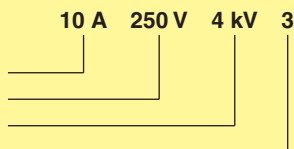
Approvals



Inserts

Number of contacts 40, 64 + PE

Electrical data
acc. to DIN EN 61 984



Working current
Working voltage
Rated impulse voltage
Pollution degree

– Pollution degree 2 also 10 A 230/400 V 4 kV 2

Working voltage
acc. to UL/CSA 600 V

Insulation resistance $\geq 10^{10} \Omega$
Material Polycarbonate
Limiting temperatures - 40 °C / +125 °C
Flammability acc. to UL 94 V0
Mechanical working life
- Mating cycles ≥ 500

Contacts

Material copper alloy
Surface
- mating side 3 μm Ag
- termination side tin plated
Contact resistance $\leq 4 \text{ m}\Omega$

Screw terminal
- mm² 0.2-2.5 mm²
- AWG 24-14
- Tightening/test torque 0.5 Nm

Hoods/Housings

Material die cast aluminium
Surface powder-coated RAL 7037
Locking elements Han-Easy Lock®
Hoods/Housings seal NBR
Limiting temperatures - 40 °C / +125 °C
Degree of protection acc. to DIN EN 60 529 for coupled connector IP 65

Identification strips

Multi contour (MK)
the following identification strips may be used

- HARTING – 09 21 000 9971
- Murrplastik – KPX 5/10-5
- Weidmüller – dekafix 5
- Phoenix – 4 K – DST 5
- Phoenix – DS 5
- Phoenix – RBS 5
- Phoenix – ZB 5
- WAGO – WSB 5

Single contour (SK)
the following identification strips may be used

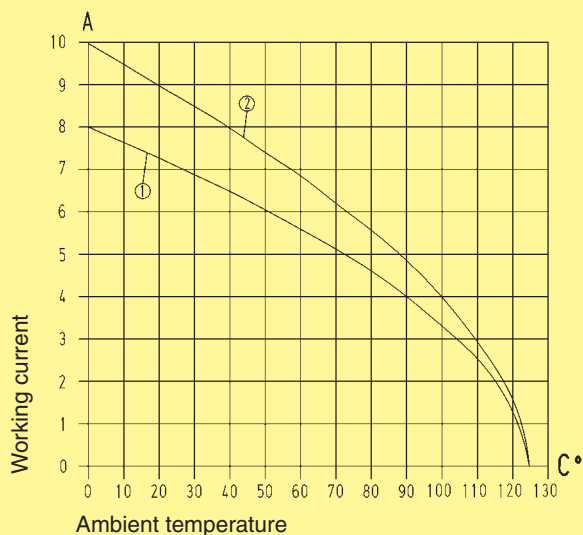
- Murrplastik – KWI 5/10
- Murrplastik – KWI 5/10-5
- Murrplastik – KWI 8.6-5
- Wieland – 9705 A 5/10
- WAGO – Mini - WSB

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.

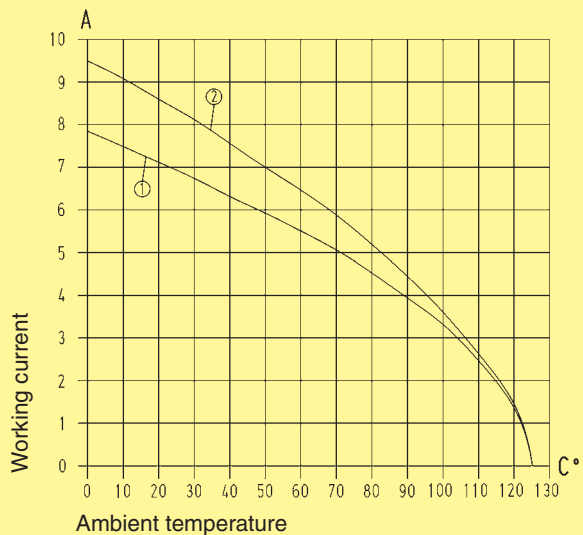
Han 40 D® AV



① Wire gauge: 0.75 mm²

② Wire gauge: 1.5 mm²

Han 64 D® AV



① Wire gauge: 0.75 mm²

② Wire gauge: 1.5 mm²

Identification

The individual terminals have the same identification as on the mating face.

In addition each circuit may be separately labelled with identification strips fitted in the adjacent slots.

Number of contacts

40, 64 +



Terminal block connectors

Identification	Number of contacts	Part No.		Drawing	Dimensions in mm
		Male insert	Female insert		
Left hand version Multi contour (MK)	40	09 21 040 4601	09 21 040 4701		
	64	09 21 064 4601	09 21 064 4701		
Left hand version Single contour (SK)	40	09 21 040 4602	09 21 040 4702		
	64	09 21 064 4602	09 21 064 4702		
Right hand version Multi contour (MK)	40	09 21 040 4611	09 21 040 4711		
	64	09 21 064 4611	09 21 064 4711		
Right hand version Single contour (SK)	40	09 21 040 4612	09 21 040 4712		
	64	09 21 064 4612	09 21 064 4712		

	a	b
Han® 40 D	51	77.5
Han® 64 D	81.5	104

Han
AV

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals



Distributor

Number of contacts 20, 2 x 10, 4 x 4

Electrical data
acc. to DIN EN 61 984

16 A 400/690 V 6 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree



– Pollution degree 2 also 16 A 480/830 V 6 kV 2

Working voltage
acc. to UL/CSA 600 V

Insulation resistance $\geq 10^{10} \Omega$
Material Polycarbonate
Limiting temperatures - 40 °C / +125 °C
Flammability acc. to UL 94 V0
Mechanical working life
– Mating cycles ≥ 500

Contacts

Material copper alloy
Surface
– termination side tin plated

Screw terminal
– mm² 0.2-2.5 mm²
– AWG 24-14
– Tightening/test torque 0.5 Nm

Identification strips

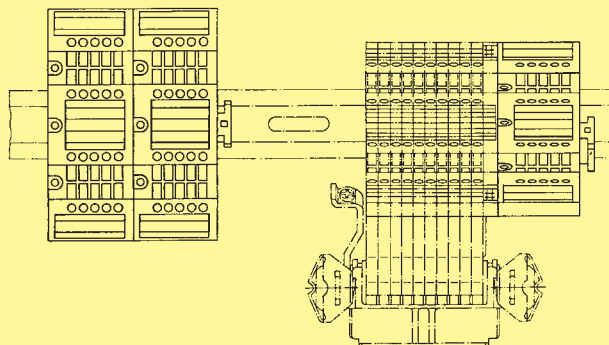
the following identification strips may be used

- HARTING – 09 21 000 9971
- Murrplastik – KPX 5/10-5
- Phoenix – 4 K – DST 5
- Phoenix – RBS 5
- Phoenix – ZB 5
- Phoenix – DS 5

Mounting example

Distributor
on standard rail

Distributor
with terminal block connector
Han D®



Identification

The individual terminals have the same identification as on the mating face.

In addition each circuit may be separately labelled with identification strips fitted in the adjacent slots.

Terminals

20



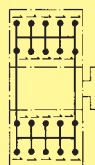
Distributors

Identification	Terminals	Part No.	Drawing	Dimensions in mm
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Distributor with screw terminals				
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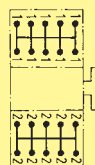
20

09 42 020 0111



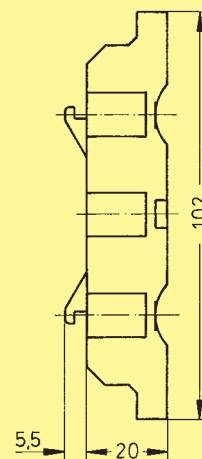
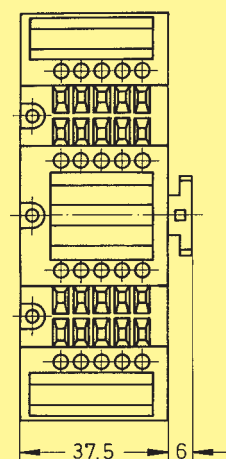
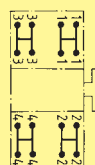
2 x 10

09 42 020 0121



4 x 4

09 42 020 0131



Optionally mountable on terminal block connectors
Han D® AV

Han
AV

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

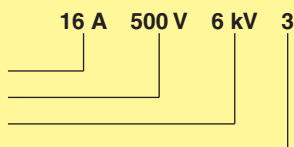
Approvals



Inserts

Number of contacts 6, 10, 16, 24, 32 (2 x 16),
48 (2 x 24) + PE

Electrical data
acc. to DIN VDE 0627



Working current
Working voltage
Rated impulse voltage
Pollution degree

– Pollution degree 2 also 16 A 400/690 V 6 kV 2

Working voltage
acc. to UL/CSA 600 V
Working current acc. to CSA 12 A (only for Han® ES)

Test voltage U_{rms} 3 kV
Insulation resistance $\geq 10^{10} \Omega$
Material Polycarbonate
Limiting temperatures -40 °C / +125 °C
Flammability acc. to UL 94 V0
Mechanical working life
– Mating cycles ≥ 500

Contacts

Material copper alloy
Surface
– mating side 3 μm Ag
– termination side tin plated
Contact resistance $\leq 4 \text{ m}\Omega$

Screw terminal
– mm² 0.2-2.5 mm²
– AWG 24-14
– Tightening/test torque 0.5 Nm

Cage-clamp terminal
– Wire gauge 0.14-2.5 mm²
– AWG 26-14

Identification strips Han E® AV

Multi contour (MK)
the following identification strips may be used
● HARTING 6 x 10 – 09 33 000 9971
● Murrplastik – KPX 6 / 10
● Weidmüller – dekafix 6.5
● Phoenix – 4 K – DST 6
● Phoenix – DST 6
● WAGO – WSB

Single contour (SK)
the following identification strips may be used
● Murrplastik – KWI 6/10
● Wieland – 9705 A/6.7
● WAGO – Mini - WSB

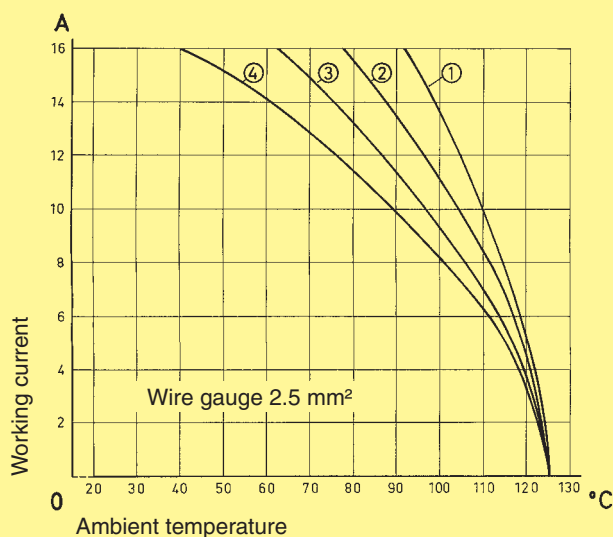
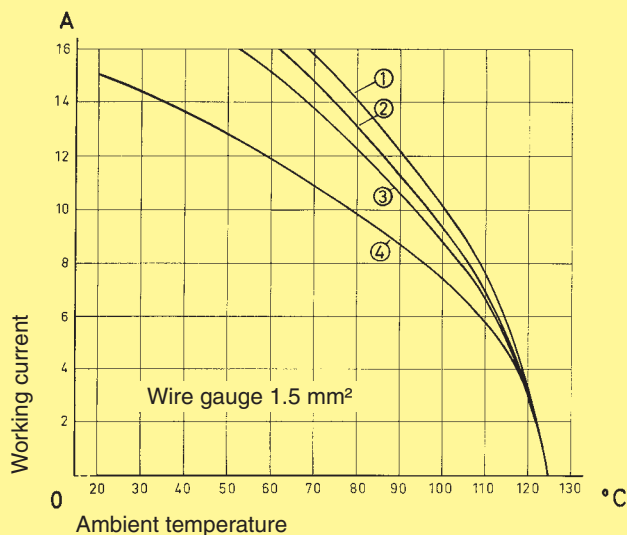
Identification strips Han® ES AV

the following identification strips may be used
● HARTING – 09 33 000 9973 (6 x 15)
● Murrplastik – KWI 6/15
● Wieland – 9705 A/6.7
● WAGO – Mini - WSB

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



- ① Han 6 E® AV / Han® 6 ES AV
- ② Han 10 E® AV / Han® 10 ES AV
- ③ Han 16 E® AV / Han® 16 ES AV
- ④ Han 24 E® AV / Han® 24 ES AV

Identification

The individual terminals have the same identification as on the mating face.
In addition each circuit may be separately labelled with identification strips fitted in the adjacent slots.

Number of contacts

6-24 +



Terminal block connectors

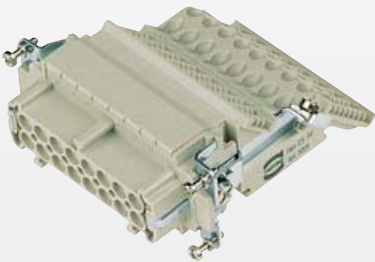
Identification	Number of contacts	Part No.		Drawing	Dimensions in mm
Left hand version Multi contour (MK)	6	09 33 006 4625	09 33 006 4725		
	10	09 33 010 4625	09 33 010 4725		
	16	09 33 016 4625	09 33 016 4725		
	24	09 33 024 4625	09 33 024 4725		
Left hand version Single contour (SK)	6	09 33 006 4626	09 33 006 4726		
	10	09 33 010 4626	09 33 010 4726		
	16	09 33 016 4626	09 33 016 4726		
	24	09 33 024 4626	09 33 024 4726		
Right hand version Multi contour (MK)	6	09 33 006 4635	09 33 006 4735		
	10	09 33 010 4635	09 33 010 4735		
	16	09 33 016 4635	09 33 016 4735		
	24	09 33 024 4635	09 33 024 4735		
Right hand version Single contour (SK)	6	09 33 006 4636	09 33 006 4736		
	10	09 33 010 4636	09 33 010 4736		
	16	09 33 016 4636	09 33 016 4736		
	24	09 33 024 4636	09 33 024 4736		

	a	b
Han® 6 E	20	44
Han® 10 E	34	57
Han® 16 E	54	77.5
Han® 24 E	81	104

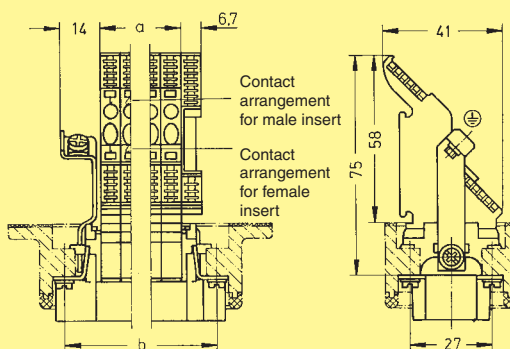
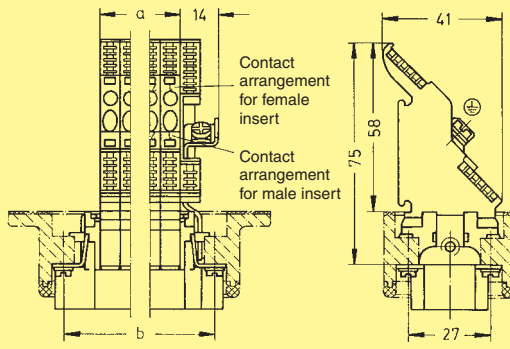


Number of contacts

6-24 + 



Terminal block connectors (cage-clamp terminal)

Identification	Number of contacts	Part No.		Drawing	Dimensions in mm															
		Male insert	Female insert																	
Left hand version Single contour (SK)					<table><tr><td></td><td>a</td><td>b</td></tr><tr><td>Han® 6 E</td><td>20</td><td>44</td></tr><tr><td>Han® 10 E</td><td>34</td><td>57</td></tr><tr><td>Han® 16 E</td><td>54</td><td>77.5</td></tr><tr><td>Han® 24 E</td><td>81</td><td>104</td></tr></table>		a	b	Han® 6 E	20	44	Han® 10 E	34	57	Han® 16 E	54	77.5	Han® 24 E	81	104
		a	b																	
	Han® 6 E	20	44																	
	Han® 10 E	34	57																	
	Han® 16 E	54	77.5																	
Han® 24 E	81	104																		
6	09 33 006 4629	09 33 006 4729																		
10	09 33 010 4629	09 33 010 4729																		
16	09 33 016 4629	09 33 016 4729																		
24	09 33 024 4629	09 33 024 4729																		
Right hand version Single contour (SK)					<table><tr><td></td><td>a</td><td>b</td></tr><tr><td>Han® 6 E</td><td>20</td><td>44</td></tr><tr><td>Han® 10 E</td><td>34</td><td>57</td></tr><tr><td>Han® 16 E</td><td>54</td><td>77.5</td></tr><tr><td>Han® 24 E</td><td>81</td><td>104</td></tr></table>		a	b	Han® 6 E	20	44	Han® 10 E	34	57	Han® 16 E	54	77.5	Han® 24 E	81	104
		a	b																	
	Han® 6 E	20	44																	
	Han® 10 E	34	57																	
	Han® 16 E	54	77.5																	
Han® 24 E	81	104																		
6	09 33 006 4639	09 33 006 4739																		
10	09 33 010 4639	09 33 010 4739																		
16	09 33 016 4639	09 33 016 4739																		
24	09 33 024 4639	09 33 024 4739																		

Stock items in bold type



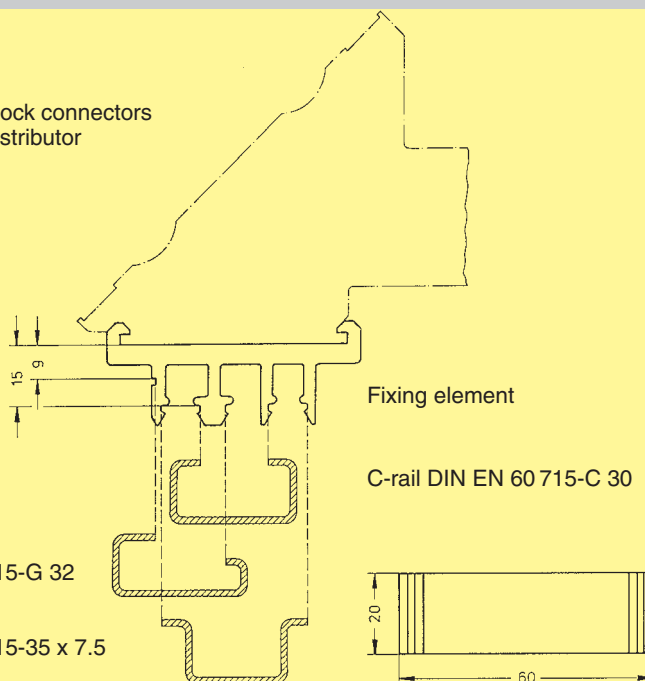
Fixing element

Identification	Part No.	Drawing	Dimensions in mm
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Fixing element
for terminal block connector
Han D® and distributor

09 33 000 9928

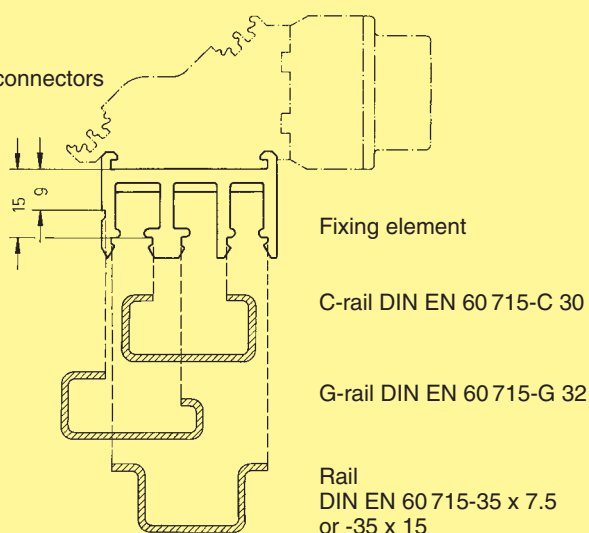
Terminal block connectors
Han D®, Distributor



Fixing element
for
terminal block connector
Han E®
terminal block connector
Han® ES

09 33 000 9929

Terminal block connectors
Han E®



There are moulded slots at the rear of the terminal block connectors and distributors to accept the fixing elements. When used these elements, for example, can be used to secure the connectors inside the switch cabinets on standard rails.

For mounting
Terminal block connector Han E®/Han® ES
Han® 6 E = 1 fixing element
Han® 10 E, 16 E and 24 E = 2 fixing elements

Terminal block connector Han D®
Han® 40 D, 64 D = 2 fixing elements
Distributor = 1 fixing element

Han
AV



**Han
AV**

Staf®

Page

Technical characteristics Staf®	09.10
Staf® 6	09.11
Staf® 14	09.14
Staf® 20	09.16
Staf® 40	09.18

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals

, SEV

Inserts

Number of contacts 6, 14, 20, 40 (2 x 20)

Electrical data

acc. to DIN EN 61 984

Working current 10 A

Working voltage ~ 25 V / – 60 V

Working voltage

acc. to UL/CSA 50 V

Insulation resistance

Material $\geq 10^{10} \Omega$
Polyamide

Limiting temperatures - 40 °C / +100 °C

Flammability acc. to UL 94 HB

Mechanical working life
- Mating cycles ≥ 500

Contacts

Material copper alloy

Surface

- hard-silver plated 3 μm Ag

Contact resistance $\leq 2 \text{ m}\Omega$

Screw terminal

- mm² 1.5 mm²

- AWG 16

- Tightening/test torque 0.5 Nm

Solder terminal

- mm² 2.5 mm²

- AWG 14

In accordance with the appropriate regulation a wire-end sleeve has to be used at clamps without wire protection (s. p. 00.12).

Hoods/Housings thermoplastic, Size 3 A

Material Polycarbonate RAL 7032

Locking element Polyamide RAL 7032

Flammability acc. to UL 94 V 0

Hoods/Housings seal NBR

Limiting temperatures - 40 °C / +125 °C

Degree of protection acc. to DIN

EN 60 529 for coupled connector IP 44

Hoods/Housings metal

Material Die cast aluminium alloy

Material size 3 A Die cast zinc alloy

Locking element Han-Easy Lock®

Locking element size 3 A Steel, zinc plated

Flammability acc. to UL 94 V 0

Hoods/Housings seal NBR

Limiting temperatures - 40 °C / +125 °C

Degree of protection acc. to DIN

EN 60 529 for coupled connector IP 44

Further selection

of hoods/housings chapter 30 / chapter 31

Accessories

Cable clamps chapter 40

Coding of hoods/housings chapter 40

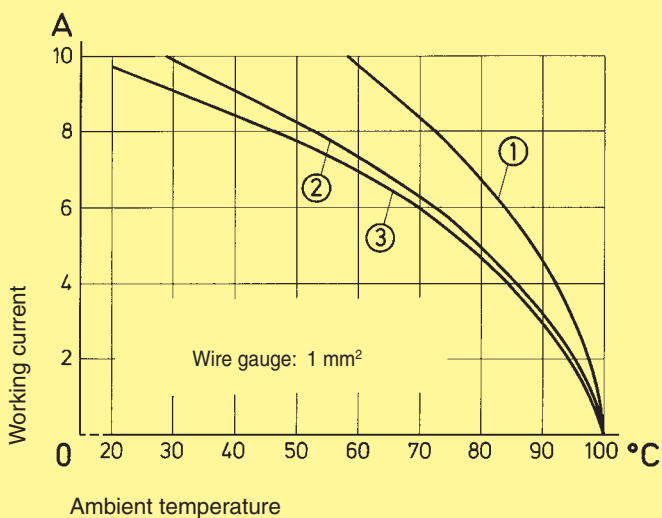
Label acc. to CSA-approval chapter 40

Test connectors chapter 20

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



① Staf® 6

② Staf® 14

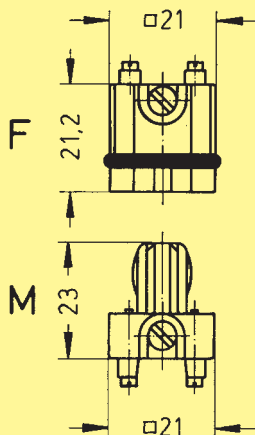
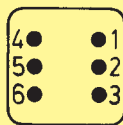
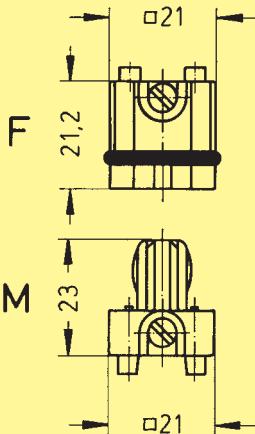
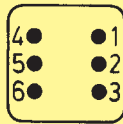
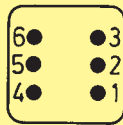
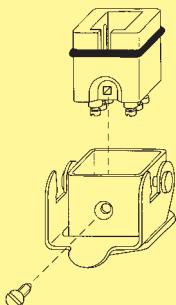
③ Staf® 20

Number of contacts

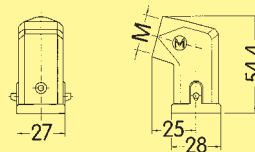
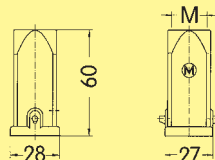
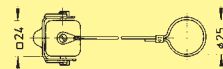
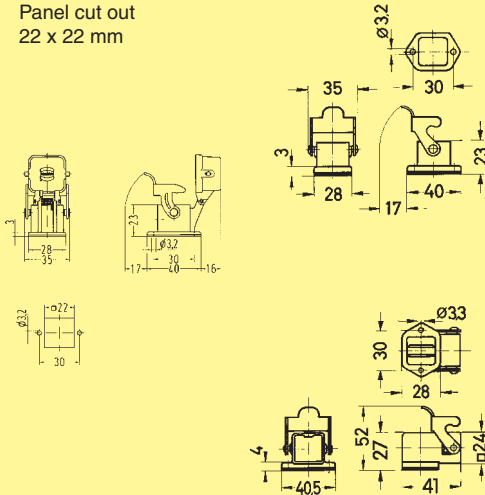
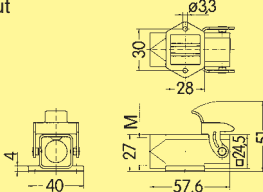
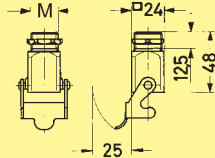
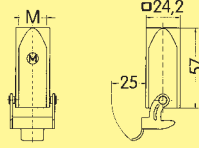
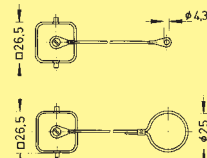
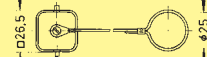
6



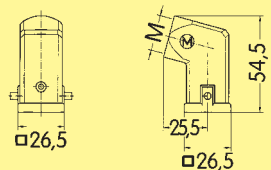
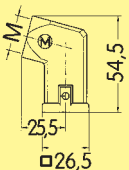
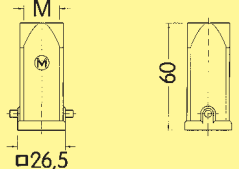
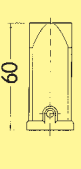
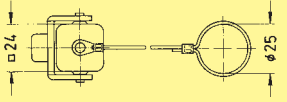
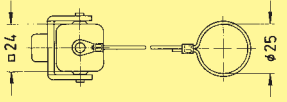
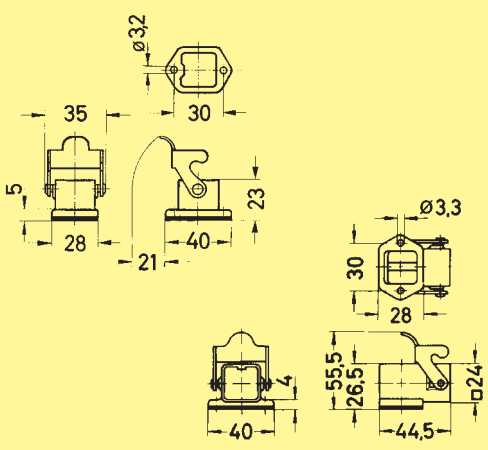
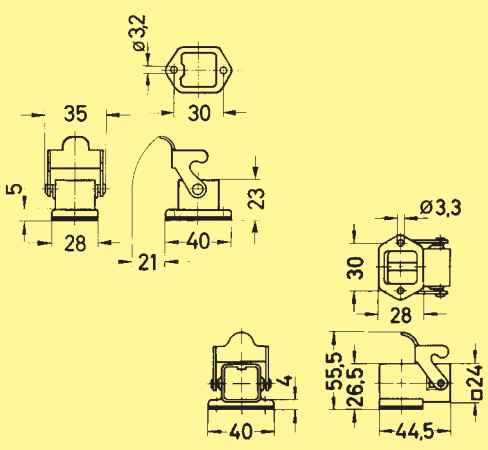
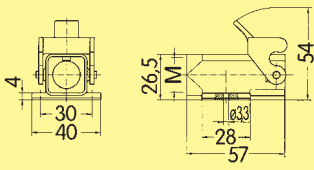
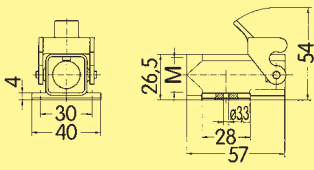
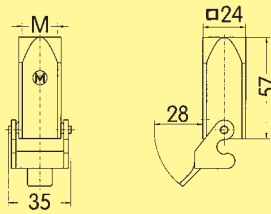
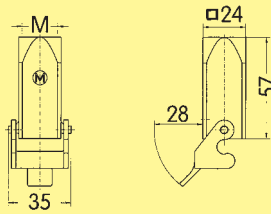
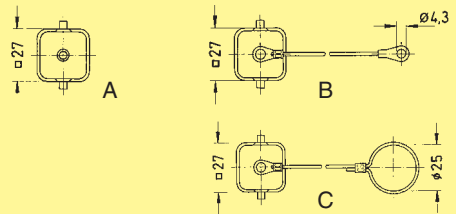
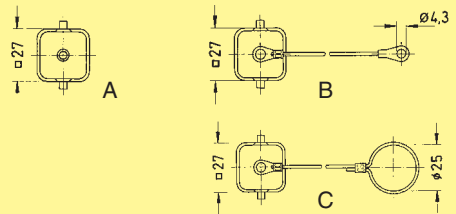
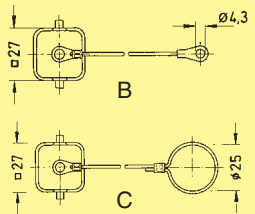
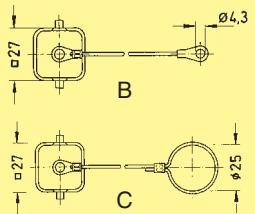
Inserts

		Part No.		Drawing	Dimensions in mm
Identification	Series	Female insert (M)	Male insert (F)		
Screw terminal 	Staf®	09 70 006 2813	09 70 006 2616		Contact arrangement View from termination side  
Solder terminal 	Staf®	09 70 006 2812	09 70 006 2615		Contact arrangement View from termination side  
				Mounting example 	

Staf

Identification			Part No.	M	Drawing	Dimensions in mm
Hoods	Hood side-entry		19 20 003 1640	20		
	Hood top-entry		19 20 003 1440	20		
	Protection covers for hoods		09 20 003 5422 ¹⁾ 09 20 003 5421 ²⁾			
Housings	Housings bulkhead mounting		09 20 003 0301		Panel cut out 22 x 22 mm 	
	with fixed cover		09 20 003 0305 ¹⁾			
	without sealing		09 20 003 0306 ²⁾			
	with sealing		09 20 003 0801			
	Housing surface mounting		19 20 003 1250	20	Panel cut out 22 x 22 mm 	
	1 side-entry		19 20 003 1250	20		
	bottom closed		19 20 003 1252	20		
	Housing screw mounting		19 20 003 1150	20		
	Hood cable to cable		19 20 003 1750	20		
	Protection covers for housings		09 20 003 5426 ¹⁾ 09 20 003 5425 ²⁾			
	for hoods cable to cable		09 20 003 5428 ¹⁾ 09 20 003 5427 ²⁾			

¹⁾ for mounted male insert ²⁾ for mounted female insert

Identification		Part No.	M	Drawing	Dimensions in mm
Hoods	Hoods side-entry	 grey 19 20 003 0620 schwarz 19 20 003 0627	20 20		
	Hoods top-entry	 grey 19 20 003 0420 schwarz 19 20 003 0427	20 20		
	Protection covers for hoods	09 20 003 5442 ¹⁾ 09 20 003 5441 ²⁾			
Housings	Housings bulkhead mounting	 grey 09 20 003 0320 grey 09 20 003 0820	— —		
	Housings surface mounting 1 side-entry	 grey 19 20 003 0220	20		
	Hoods cable to cable	 grey 19 20 003 0720 schwarz 19 20 003 0727	20 20		
	Protection covers for housings	A 09 20 003 5407 ¹⁾³⁾ 09 20 003 5408 ²⁾³⁾⁴⁾ B 09 20 003 5445²⁾ 09 20 003 5446 ¹⁾ 09 20 003 5447 ²⁾³⁾⁴⁾			
	Protection covers for hoods cable to cable	C 09 20 003 5448 ¹⁾			

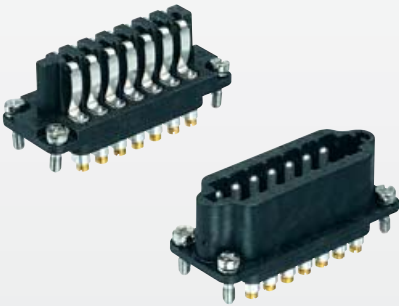
¹⁾ for mounted male insert
²⁾ for mounted female insert

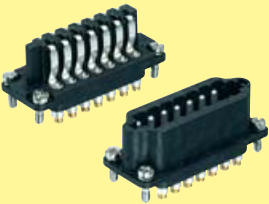
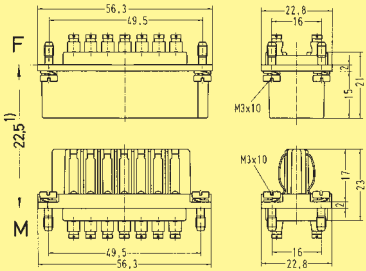
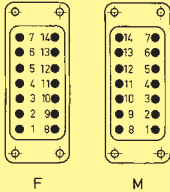
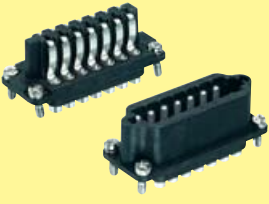
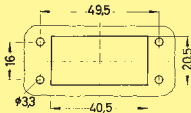
³⁾ for metal housings and cable to cable hoods also
⁴⁾ for mounted Han-Brid® male and female insert

Number of contacts

14

Inserts



		Part No.		Drawing	Dimensions in mm
Identification	Series	Female insert (M)	Male insert (F)		
Screw terminal 	Staf®	09 70 014 2811	09 70 014 2614	 ¹⁾ Distance for contact max. 24 mm Contact arrangement View from termination side 	
Solder terminal 	Staf®	09 70 014 2810	09 70 014 2613	Panel cut out for inserts for use without hoods/housings 	

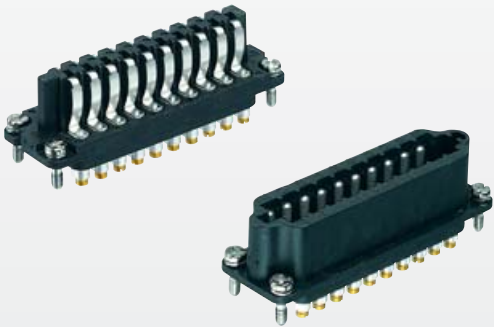
Stock items in bold type

Identification		Part No.		M	Drawing	Dimensions in mm
		Low construction	High construction			
Hoods	Hoods side-entry	19 20 010 1540		20		
			19 20 010 0546	25		
	Hoods top-entry	19 20 010 1440		20		
			19 20 010 0446	25		
	Protection covers for hoods	09 20 010 5423				
						Sta
Housings	Housings bulkhead mounting	09 20 010 0301		—		
		with thermo-plastic cover 09 20 010 0321		—		
	Housings surface mounting	19 20 010 0251		1 x 25		
	1 side-entry	19 20 010 0290		2 x 20		
	2 side-entries	with thermo-plastic cover 19 20 010 0295		2 x 20		
	Protection covers for housings	09 20 010 5425				

Number of contacts

20

Inserts



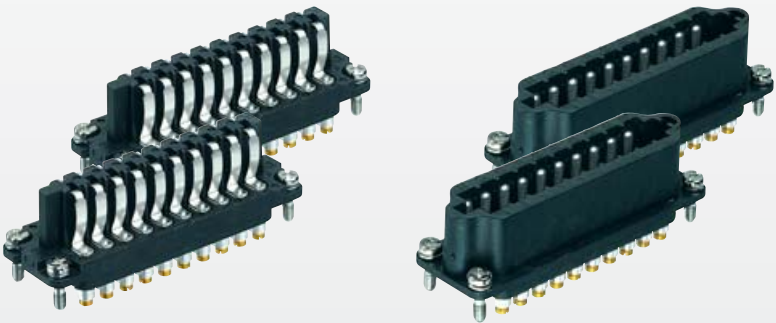
		Part No.		Drawing	Dimensions in mm
Identification	Series	Female insert (M)	Male insert (F)		
Screw terminal	Staf®	09 70 020 2817	09 70 020 2622		¹⁾ Distance for contact max. 24 mm Contact arrangement View from termination side
Solder terminal	Staf®	09 70 020 2816	09 70 020 2621	Panel cut out for inserts for use without hoods/housings	

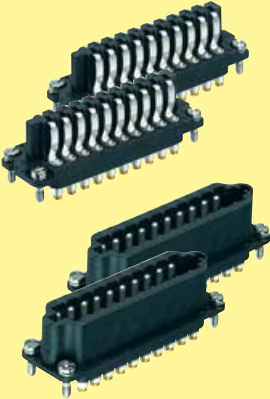
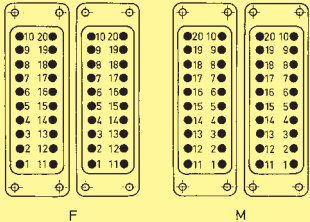
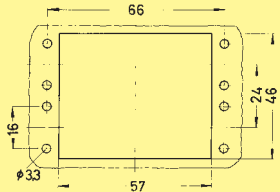
Identification		Part No.		M	Drawing	Dimensions in mm
		Low construction	High construction			
Hoods	Hoods side-entry	19 20 016 1540	19 20 016 0546	20		
				25		
	Hoods top-entry	19 20 016 1440	19 20 016 0446	20		
				25		
	Protection covers for hoods	09 20 016 5423				Sta
Housings	Housings bulkhead mounting	09 20 016 0301		—		
		with thermo- plastic cover 09 20 016 0321		—		
	Housings surface mounting	19 20 016 0251		1 x 25		
	1 side-entry	19 20 016 0290		2 x 20		
	2 side- entries	with thermo- plastic cover 19 20 016 0295		2 x 20		
	Protection covers for housings	09 20 016 5425				09 17

Number of contacts

40

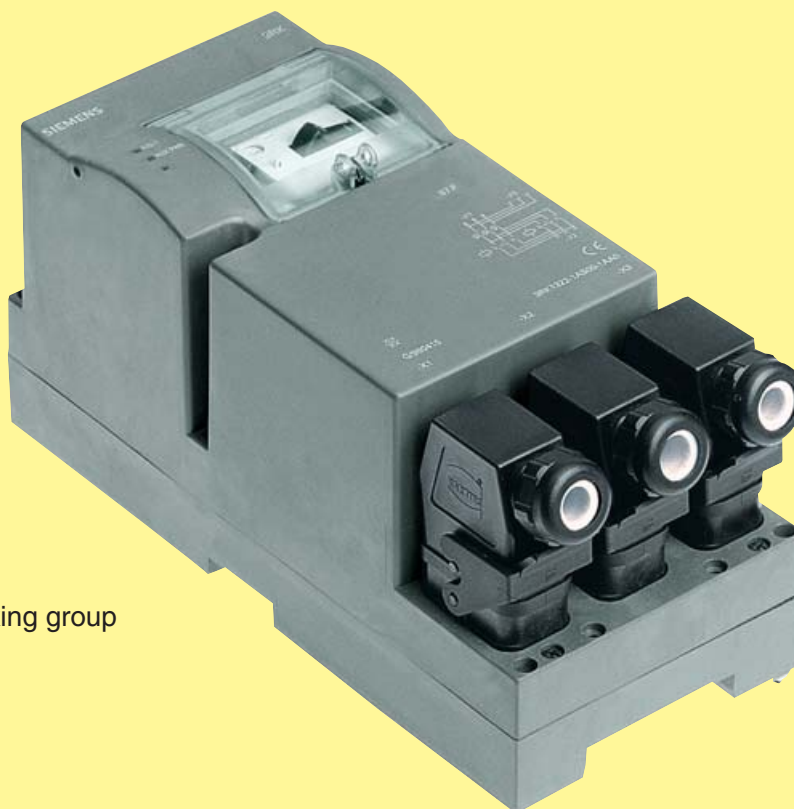
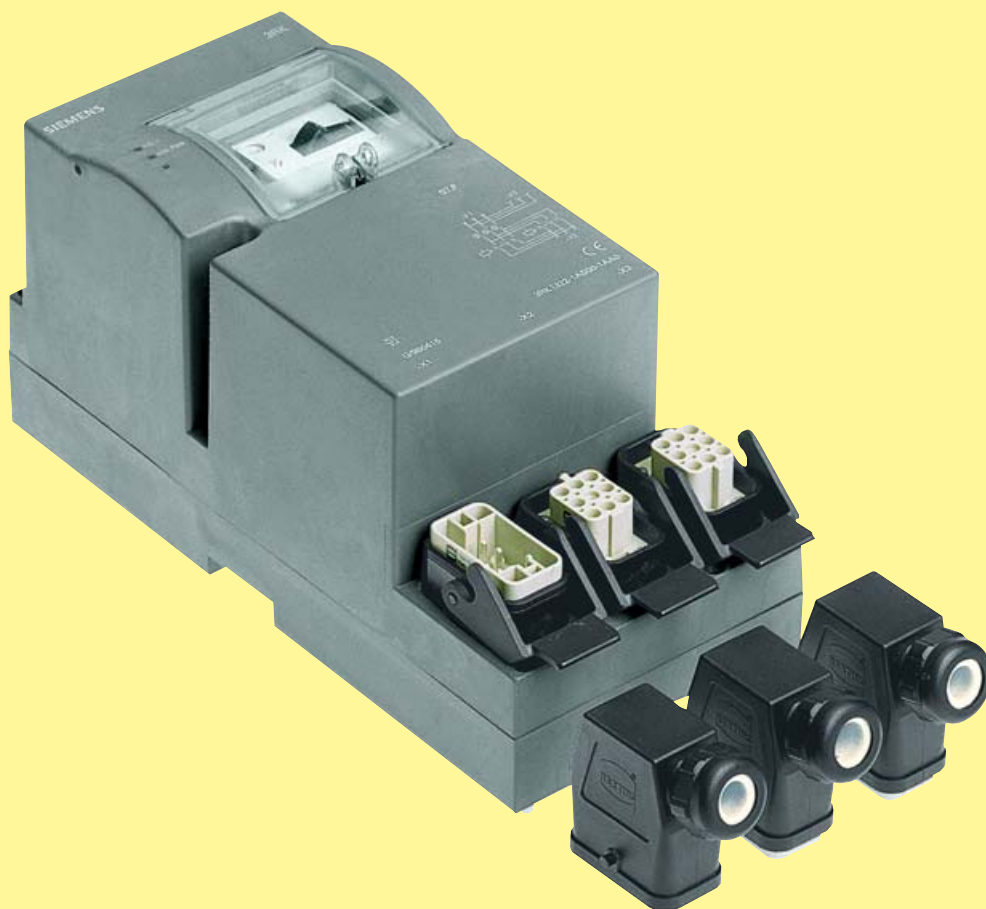
Inserts



		Part No.		Drawing	Dimensions in mm
Identification	Series	Female insert (M)	Male insert (F)		
Screw terminal 	Staf® 1–20 1–20	09 70 020 2817 09 70 020 2817	09 70 020 2622 09 70 020 2622	Dimensions for inserts see page 09.16 Contact arrangement View from termination side 	Panel cut out for inserts for use without hoods/housings 
Solder terminal 	Staf® 1–20 1–20	09 70 020 2816 09 70 020 2816	09 70 020 2621 09 70 020 2621		

		Part No.			Drawing	Dimensions in mm
Identification		Low construction	High construction	M		
Hoods	Hoods side-entry	19 20 032 1521		25		
			19 20 032 0527	32		
	Hoods top-entry		19 20 032 0427	32		
	Protection cover		09 20 032 5401	—		
Housings	Housing bulkhead mounting	09 20 032 0301		—		
	Housings surface mounting		19 20 032 0231 19 20 032 0232 19 20 032 0272	1 x 25 1 x 32 2 x 32		
	Protection cover		09 20 032 5405			

Sta



Han® Q 8/0 is recommended by the working group

DESINA®

Decentralized motor control
Fa. Siemens AG, A & D CD SV VM K

R 15

Page

Technical characteristics R 15	10.10
R 15 Inserts	10.11
R 15 Hoods/Housings	10.12

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

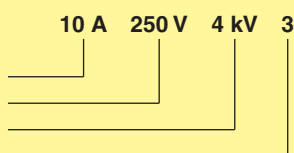
Approvals

 , SEV

Inserts

Number of contacts 7 + PE

Electrical data
acc. to DIN EN 61 984



Working current
Working voltage
Rated impulse voltage
Pollution degree

Working voltage
acc. to UL/CSA

600 V

Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
- Mating cycles

$\geq 10^{10} \Omega$
Polyamide
- 40 °C / +125 °C
HB
 ≥ 500

Contacts

Material copper alloy

Surface

- hard-silver plated
- hard-gold plated

3 μm Ag
2 μm Au over 3 μm Ni
 $\leq 3 \text{ m}\Omega$

Contact resistance

Crimp terminal

- mm²
- AWG

0.14 - 2.5 mm²
26 - 14

Hoods/Housings

Material

metal hoods/housings
thermoplastic resin

Hoods/Housings seal

NBR

Limiting temperatures

- 40 °C / +125 °C

Degree of protection acc. to DIN
40 050 for coupled connector

IP 65

Accessories

Crimping tools

chapter 99

Cable clamps

chapter 40

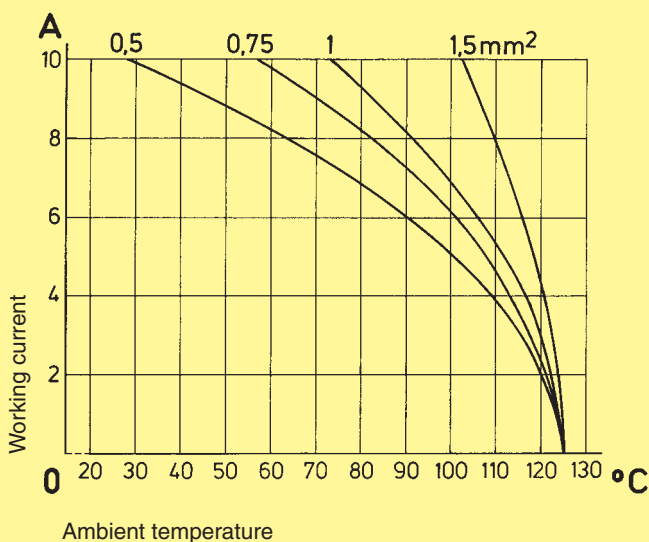
Label acc. to CSA-approval

chapter 40

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



Number of contacts

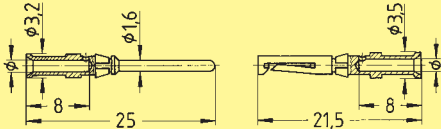
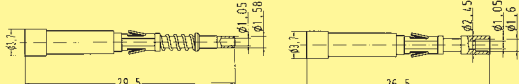
7 +

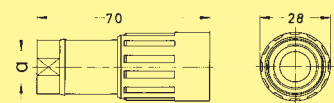
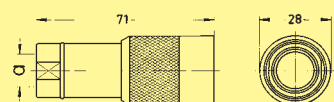
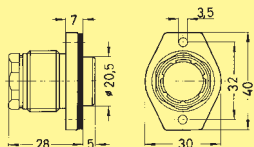
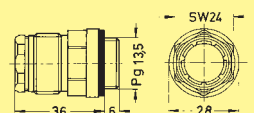
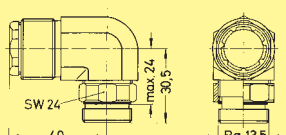
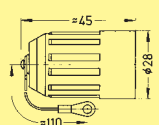
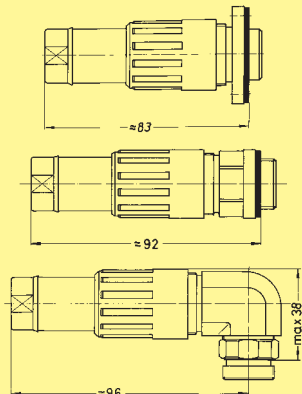


Inserts

Identification	Series	Part No.		Drawing	Dimensions in mm
Crimp terminal Inserts for thermo-plastic hoods/housings Order crimp contacts separately 	R 15	Male insert (M)	Female insert (F)	Contact arrangement View from termination side Male insert (M)	
Crimp terminal Inserts for metal hoods/housings Order crimp contacts separately 	R 15	Male insert (M)	Female insert (F)	Female insert (F)	
Mounting example 					

R 15

		Wire gauge	Part No.																															
Identification		(mm ²)	Male contacts	Female contacts	Drawing	Dimensions in mm																												
Crimp contacts																																		
silver plated		0.14-0.37	09 15 000 6104	09 15 000 6204																														
		0.5	09 15 000 6103	09 15 000 6203																														
		0.75	09 15 000 6105	09 15 000 6205																														
		1.0	09 15 000 6102	09 15 000 6202																														
		1.5	09 15 000 6101	09 15 000 6201																														
		2.5	09 15 000 6106	09 15 000 6206																														
gold plated		0.14-0.37	09 15 000 6124	09 15 000 6224	<table><tr><th colspan="2">Wire gauge</th><th>ø</th><th>Stripping length</th></tr><tr><td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>0.90 mm</td><td>8 mm</td></tr><tr><td>0.5 mm²</td><td>AWG 20</td><td>1.10 mm</td><td>8 mm</td></tr><tr><td>0.75 mm²</td><td>AWG 18</td><td>1.30 mm</td><td>8 mm</td></tr><tr><td>1 mm²</td><td>AWG 18</td><td>1.45 mm</td><td>8 mm</td></tr><tr><td>1.5 mm²</td><td>AWG 16</td><td>1.75 mm</td><td>8 mm</td></tr><tr><td>2.5 mm²</td><td>AWG 14</td><td>2.25 mm</td><td>6 mm</td></tr></table>	Wire gauge		ø	Stripping length	0.14-0.37 mm ²	AWG 26-22	0.90 mm	8 mm	0.5 mm ²	AWG 20	1.10 mm	8 mm	0.75 mm ²	AWG 18	1.30 mm	8 mm	1 mm ²	AWG 18	1.45 mm	8 mm	1.5 mm ²	AWG 16	1.75 mm	8 mm	2.5 mm ²	AWG 14	2.25 mm	6 mm	
	Wire gauge		ø	Stripping length																														
	0.14-0.37 mm ²	AWG 26-22	0.90 mm	8 mm																														
	0.5 mm ²	AWG 20	1.10 mm	8 mm																														
	0.75 mm ²	AWG 18	1.30 mm	8 mm																														
	1 mm ²	AWG 18	1.45 mm	8 mm																														
1.5 mm ²	AWG 16	1.75 mm	8 mm																															
2.5 mm ²	AWG 14	2.25 mm	6 mm																															
	0.5	09 15 000 6123	09 15 000 6223																															
	0.75	09 15 000 6125	09 15 000 6225																															
	1.0	09 15 000 6122	09 15 000 6222																															
	1.5	09 15 000 6121	09 15 000 6221																															
	2.5	09 15 000 6126	09 15 000 6226																															
FOC contacts for 1 mm plastic fibre																																		
			20 10 001 3211	20 10 001 3221																														
																																		

Identification		Part No.		Drawing	Dimensions in mm				
		thermoplastic	metal						
Hoods	Hoods  09 15 000 0401 19 15 000 0401		Pg 11 M 16						
	 09 15 000 0421		Pg 11	 <table border="1"><tr><td></td><td>M</td><td>Pg</td></tr><tr><td>a</td><td>16</td><td>11</td></tr></table>		M	Pg	a	16
	M	Pg							
a	16	11							
Housings	Housings bulkhead mounting  09 15 000 0301		—						
	Housings screw mounting  09 15 000 0101 09 15 000 0121		— —						
	Housings angled  09 15 000 0102 09 15 000 0122		— —						
	Cover screw mounting  09 15 000 5401		—						
	Mounting example								

Stock items in bold type

Han-Snap®

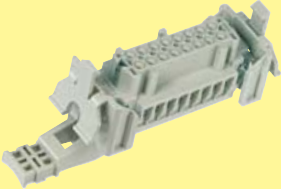
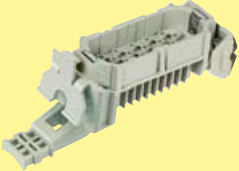
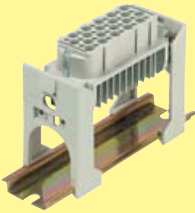
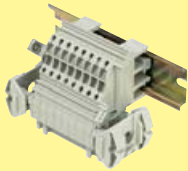
Page

Features	11.02
Component range	11.03
Description of parts	11.04
Latching parts without/with strain relief (Free connector)	
Latching parts with strain relief and panel mounting part (Connector for free coupling)	11.10
Panel mounting parts (Fixed connector)	11.12
Insert mounting parts with carrier element (Fixed connector on standard rail, cross direction)	11.14
Insert mounting parts (Fixed connector on standard rail, in line)	11.16
Plastic hoods	11.18
Accessories Han A®	11.20
Accessories Identification Strips	11.21

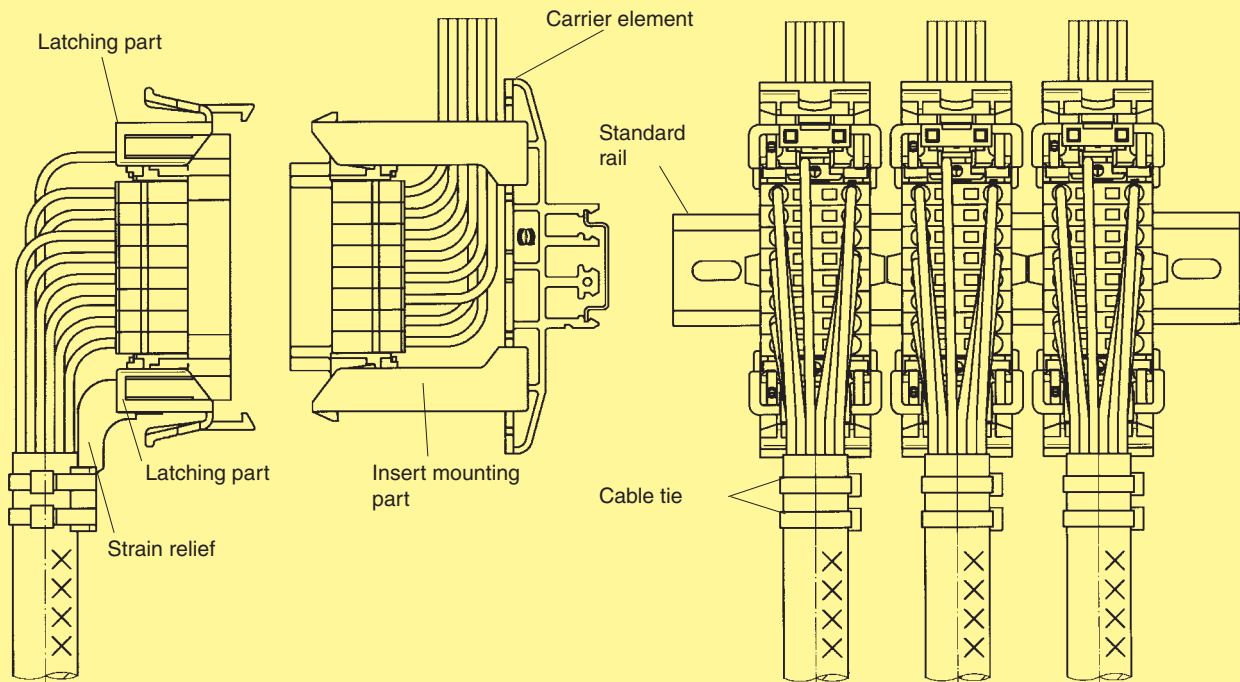
Note:

A connector mounted with Han-Snap® elements does not offer finger safe protection to the relevant standards. In this case protection against electric shock must be provided by the installation methods of the user.

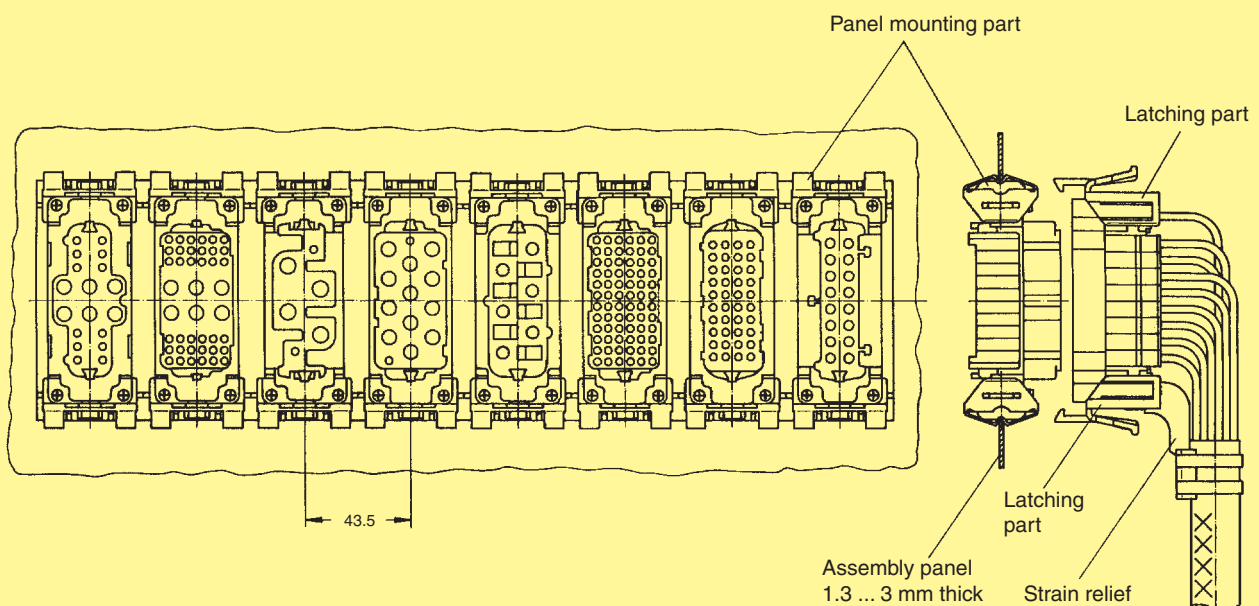
- ❑ The Han-Snap® system is ideal for connectors within closed electrical operating environments.
These can be rooms, cabinets or termination boxes.
- ❑ The Han-Snap® components are an innovative design which offer the following advantages and characteristics:
 - reduction of material and assembly costs;
 - fast and easy installation;
 - preassembly of Han connectors;
 - secure and rigid mounting of Han connectors;
 - frequent use of latching systems is possible (up to several thousand cycles).
- ❑ The Han-Snap® elements are compatible with the standard inserts and terminal block connectors of the following series (named series Han B as follows)
 - Han D®, 40 and 64 pins
 - Han DD®
 - Han E®
 - Han® EE
 - Han® ES
 - Han Hv E®
 - Han® Hv ES
 - Han® HsB
 - Han® HsC
 - Han-Com®
 - Han-Modular®
- ❑ With the Han-Snap® adapter the following standard inserts are compatible (named series Han A as follows):
 - Han D®, 15 and 25 pins
 - Han A®, 10 and 16 pins
- ❑ The Han-Snap® elements are a mechanical system for the mounting assembly and security of Han connectors.
Normally the elements are assembled to the connector insert using the standard insert fixing screws.
If coding is required the standard fixing screws may be replaced by either code pins or guide pins and bushes.
- ❑ On free connectors the wires or cables can be secured to the strain relief element with standard cable ties of 5 mm width maximum.

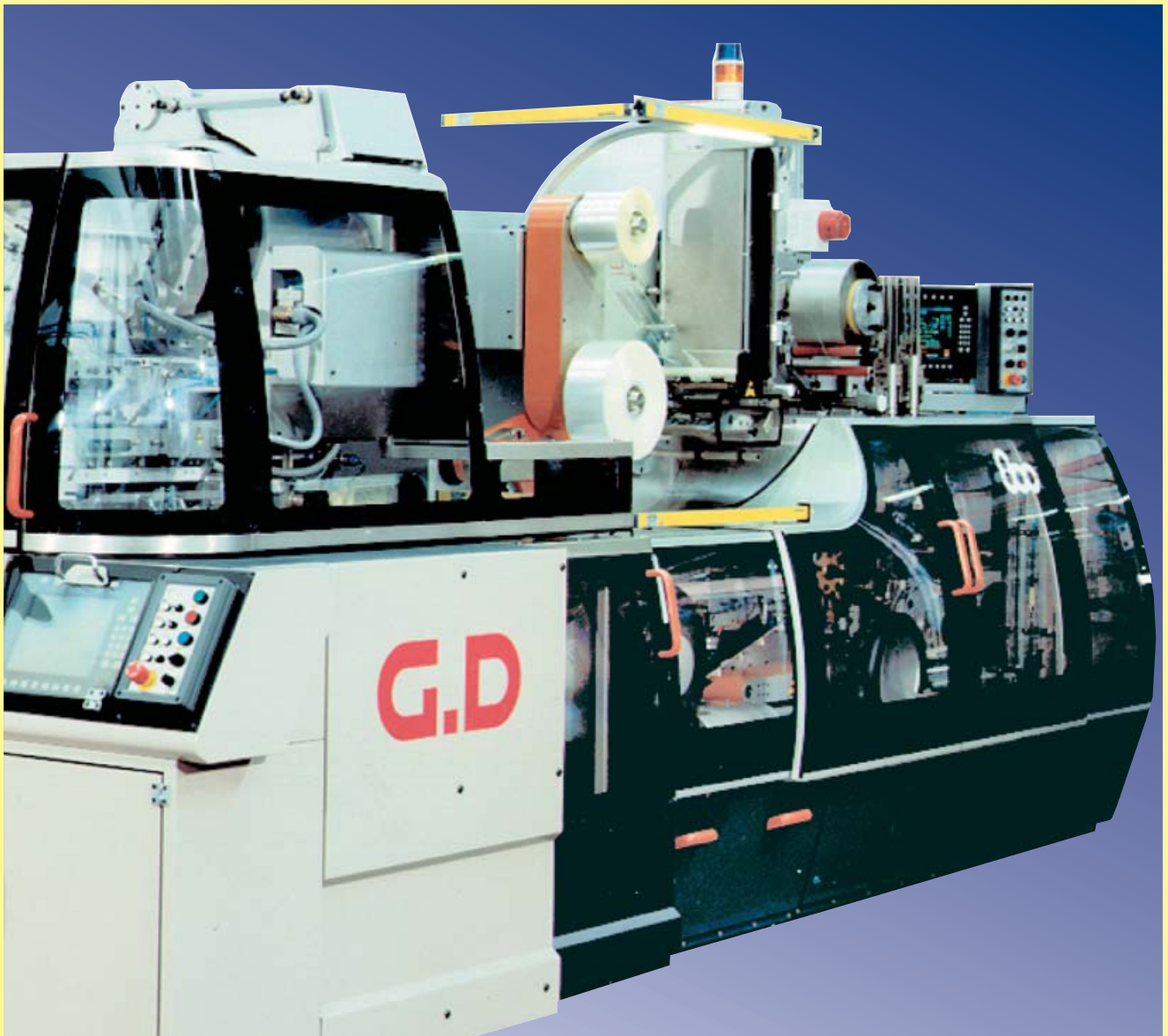
	Figure	Han-Snap® Component	Application
Top		Latching parts	For free connector.
		Latching parts with strain relief	For free connector.
		Latching part with strain relief and panel mounting part	For free coupling of male and female inserts.
		Plastic housings	For free connector.
Base		Insert mountings with carrier element	For fixing of Han connectors on standard rails, cross direction.
		Insert mountings	For fixing of Han connectors on caprail, in line.
		Rail mounting	For mating of free connector with terminal block connector, whereby terminal block connector is fixed by means of the combi-fixing element on standard rail.
		Panel mounting parts	Fixing elements for fixed connectors, standard inserts or terminal block connectors, for fixing in sheet metal panel.

Han-Snap® on standard rail



Han-Snap® in panel cut out





Cigarette packing machine C 800,
G. D. S. p. A., Bologna, Italy

Characteristics

- ❑ The accessories are suitable for all Han inserts which fit the hoods and housings of series Han B; series Han A with corresponding adapter (see page 11.20)
- ❑ Practical and easy handling
- ❑ Reduction of material and assembly costs
- ❑ Cable to cable connections realisable through combination of latching parts with strain relief and panel mounting part

Inserts can be mounted on the panel mounting part and the latching part with the standard insert mounting screws.

High mechanical security of the fixings.
No functional impairment is caused by slight over tightening of the fixing screws.

Alternatively, Han coding elements (code pins or guide pins and bushes) may be used.

Please note: The strain relief element should be assembled to the latching part at the end of the insert opposite to the ground screw.

Up to 2 cable ties with max. 5 mm width can be used on the strain relief.

Label 9 x 20 mm may be fitted in both sides of each latching element.

Label 7 x 20 mm may be fitted to the top of the latching part without the strain relief element.

(more information page 11.21)

Technical Details

Min. retention force on counter-part	without guiding system	with guiding system
	200 N	300 N
Vibration resistance	IEC 60 068, part 2-6/ BN 74018	
Resistance to shock	IEC 60 068, part 2-27/ BN 74018	
Torsional moment of fixing screws/ coding elements	0.8 Nm	
Material	Thermoplastic resin, polycarbonate, RAL 7032, grey	
Flammability	V0 acc. to UL 94	
Limiting temperatures	– 40 °C / + 125 °C	
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 20	

Pack Contents

Delivery comprises for one insert

- 09 33 000 9987 - 2 latching parts
- 09 33 000 9991 - 1 latching part with strain relief
- 1 latching part
- 09 33 000 9990 - 1 latching part with strain relief
- 1 panel mounting part



Latching parts without/with strain relief

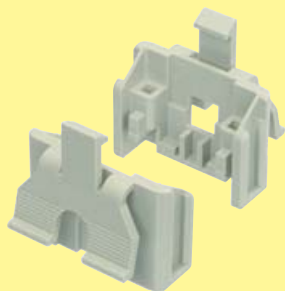
Identification

Part No.

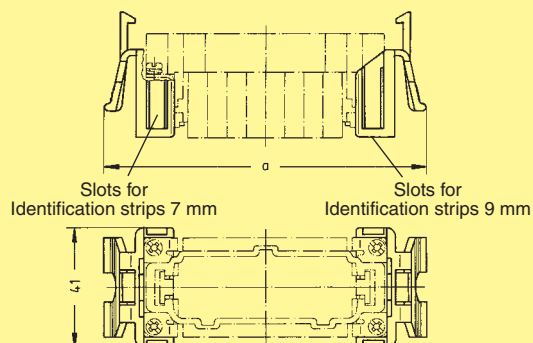
Drawing

Dimensions in mm

Latching part



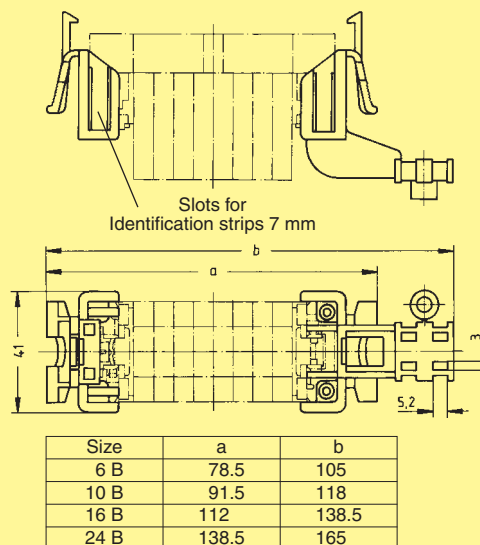
09 33 000 9987



Latching part with strain relief



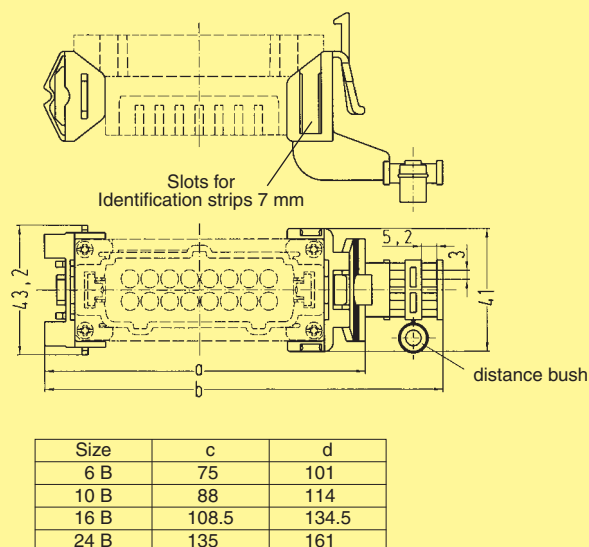
09 33 000 9991



Latching part with strain relief and panel mounting part



09 33 000 9990



Han
Snap

Plastic Panel Mounting

Features

- ❑ Accessories are suitable for all Han inserts compatible with hoods and housings of the Han® B series and terminal blocks; Han A® series with the relevant adaptor (see also page 11.20)
- ❑ Practical and easy handling
- ❑ Possible preassembly of cables
- ❑ Snap element for sheet-metal cut out
- ❑ Reduction of material and assembly costs

Connector inserts and terminal block connectors can be fixed on elements for panel mounting with standard insert mounting screws.

High mechanical security of the fixings. No functional impairment is caused by slight over tightening of the fixing screws.

Alternatively, Han coding elements (code pins or guide pins and bushes) may be used.

Connector assembly into the panel (sheet-metal) cut out or two parallel mounted rails is possible from mating or termination side.

Technical Details

Min. retention force in sheet-metal cut out	Mating		Unmating	
	without guiding system	with guiding system	without guiding system	with guiding system
	250 N	400 N	400 N	500 N
Vibration resistance	IEC 60 068, part 2-6 / BN 74018			
Resistance to shock	IEC 60 068, part 2-27 / BN 74018			
Torsional moment of fixing screws/ coding elements	0.8 Nm			
Material	Thermoplastic resin, polycarbonate, RAL 7032, grey			
Flammability	V0 acc. to UL 94			
Limiting temperatures	– 40 °C / + 125 °C			

Pack Contents

Delivery comprises

- 2 panel plastic mounting parts sufficient for one insert or terminal block connector

Metallic Panel Mounting

Features

- ❑ Accessories are suitable for all Han inserts compatible with hoods and housings of the Han® B series and terminal blocks
- ❑ Practical and easy handling
- ❑ Possible preassembly of cables
- ❑ Screw element for sheet-metal cut out
- ❑ Reduction of material and assembly costs

Connector inserts and terminal block connectors can be fixed on elements for panel mounting with standard insert mounting screws.

High mechanical security of the fixings.

Alternatively, Han coding elements (code pins or guide pins and bushes) may be used.

Connector assembly into the panel (sheet-metal) cut out or two parallel mounted rails is possible from mating or termination side.

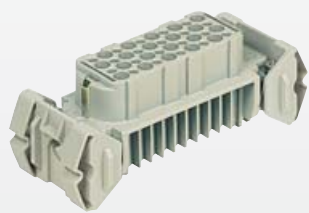
Technical Details

Min. retention force in sheet-metal cut out	Mating		Unmating	
	without guiding system	with guiding system	without guiding system	with guiding system
	250 N	400 N	400 N	500 N
Vibration resistance with relevant security fixing for the screws	IEC 60 068, part 2- 6 / BN 74018			
Resistance to shock	IEC 60 068, part 2-27 / BN 74018			
Torsional moment of fixing screws/ coding elements	0.8 Nm			
Material	Die cast zinc alloy			
Limiting temperatures	– 40 °C / + 125 °C			

Pack Contents

Delivery comprises

- 2 panel metallic mounting parts sufficient for one insert or terminal block connector



Plastic Panel Mounting



Metallic Panel Mounting

Identification

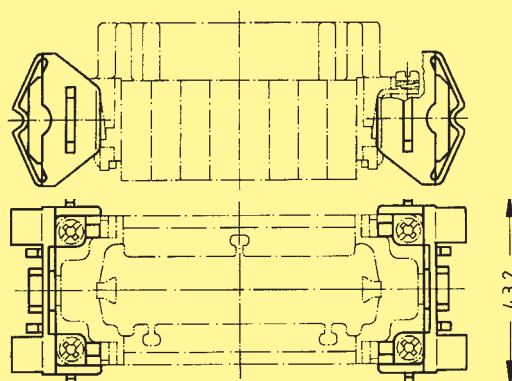
Part No.

Drawing

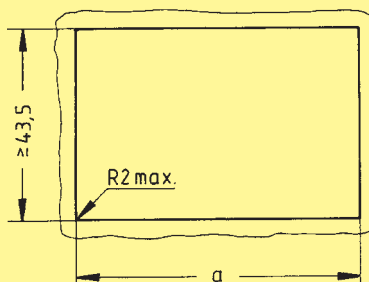
Dimensions in mm

Panel Mounting
Plastic

09 33 000 9985



Panel cut out
Sheet-metal thickness 1.3 - 3 mm



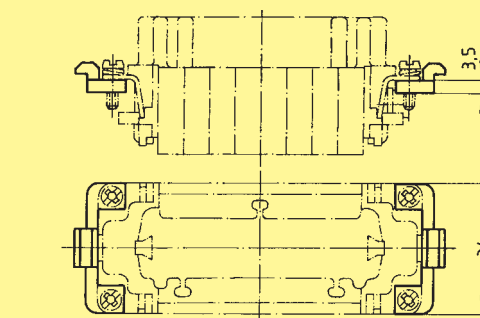
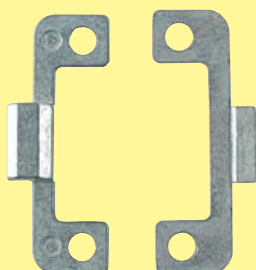
Size	a ^{+0.5}
6 B	65
10 B	78
16 B	98
24 B	125

Size	a ^{+0.5}
10 A*	81.5
16 A*	98

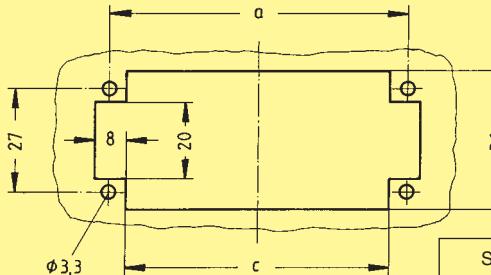
* with corresponding adapter
(see page 11.20)

Panel mounting
Metal

09 33 000 9984



Panel cut out



Size	a	c
6 B	44	36
10 B	57	49
16 B	77.5	69.5
24 B	104	96

Han
Snap

Characteristics

- ❑ The accessories are compatible with inserts of series Han B; series Han A with corresponding adapter (see page 11.20)
- ❑ Carrier elements offer a practical method of mounting inserts on standard rails, which are commonly used in the market
- ❑ Reduction of assembly costs

The carrier element is the basic element to mount the inserts in the cross direction on standard rails, for example:

- Caprail, 35 x 7.5 or 35 x 15 acc. to DIN EN 60 715
- C-rail, C 30 acc. to DIN EN 60 715
- G-rail, G 32 acc. to DIN EN 60 715

Where vibration is likely to be encountered, use the 35 x 15 mounting rails. When using the large carrier element, the 35 x 15 mounting rails are recommended to give greater stability.

Insert mounting type 6/10 is suitable for inserts of sizes Han 6 B and Han 10 B.

Insert mounting type 6/24 is suitable for all insert sizes:

Han 6 B / 10 B / 16 B / 24 B,
Han 16 A with the corresponding adapter.

Inserts can be assembled to the insert mountings with the standard insert mounting screws.

High mechanical security of the fixings. No functional impairment is caused by slight over tightening of the fixing screws.

Alternatively, Han coding elements (code pins or guide pins and bushes) may be used.

The following labels may be fitted to the insert mounting parts for circuit identification purposes.

label 7 x 20 mm

or

label 9 x 20 mm

(more information page 11.21)

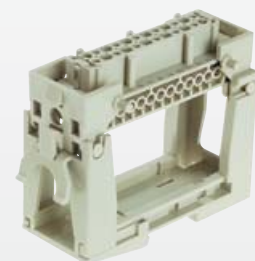
Technical Details

Min. retention force on rail	450 N
Vibration resistance on rail (Caprail 35 x 15, DIN EN 60 715)	IEC 60 068, part 2-6/ BN 74018
Resistance to shock on rail (Caprail 35 x 15, DIN EN 60 715)	IEC 60 068, part 2-27/ BN 74018
Torsional moment of fixing screws/ coding elements	0.8 Nm
Material	Thermoplastic resin, polycarbonate, RAL 7032, grey
Flammability	V0 acc. to UL 94
Limiting temperatures	– 40 °C / + 125 °C

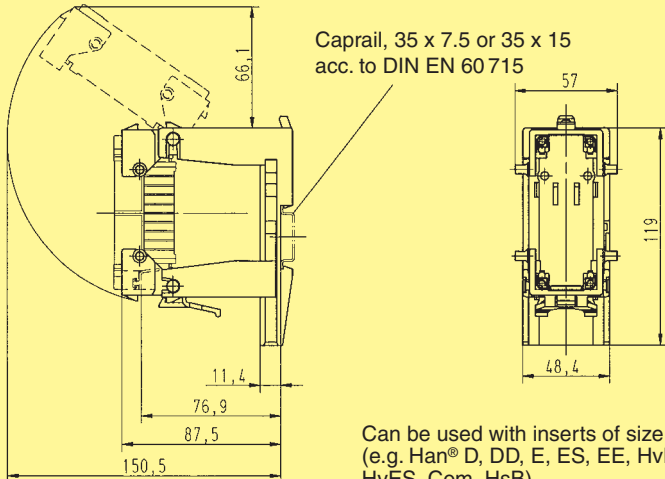
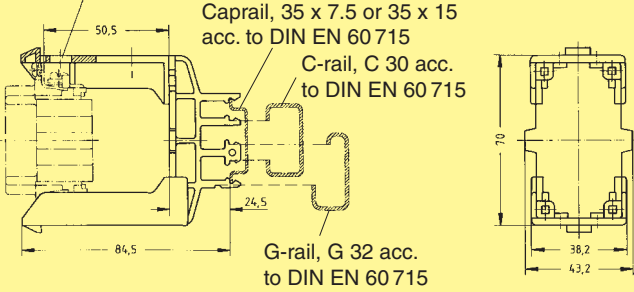
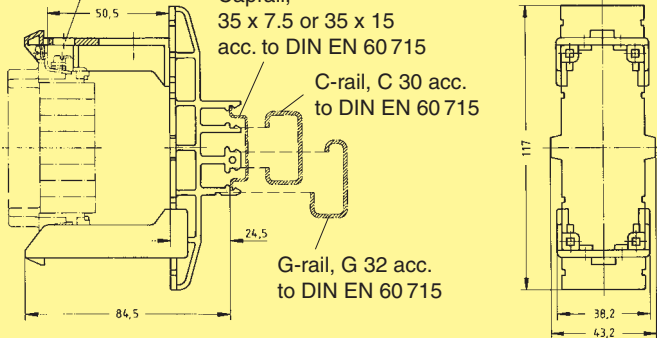
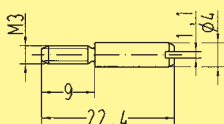
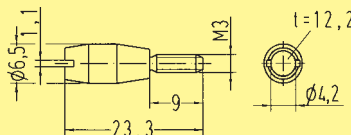
Pack Contents

Delivery comprises

- 2 insert mounting parts
- 1 carrier element



Insert mountings with carrier element

Identification	Part No.	Drawing	Dimensions in mm
Insert mounting parts, swinging for standard inserts  for Han-Modular® hinged frames 	09 33 000 9801 09 33 000 9803	 Caprail, 35 x 7.5 or 35 x 15 acc. to DIN EN 60 715 Can be used with inserts of size Han B (e.g. Han® D, DD, E, ES, EE, HvE, HvES, Com, HsB)	
Insert mounting with carrier element Type 6/10 for size 6 B, 10 B 	09 33 000 9988	Slot for identification strip  Caprail, 35 x 7.5 or 35 x 15 acc. to DIN EN 60 715 C-rail, C 30 acc. to DIN EN 60 715 G-rail, G 32 acc. to DIN EN 60 715	
Type 6/24* for size 6 B, 10 B, 16 B, 24 B 	09 33 000 9989	Slot for identification strip  Caprail, 35 x 7.5 or 35 x 15 acc. to DIN EN 60 715 C-rail, C 30 acc. to DIN EN 60 715 G-rail, G 32 acc. to DIN EN 60 715	
Guide pin	09 33 000 9956	 Guide pin	
Guide bushing	09 33 000 9957	 Guide bush	

* Han A-size 16 by using the corresponding adapter (see page 11.20)

Stock items in bold type

Han
Snap

Characteristics

- ❑ The accessories are compatible with inserts of the series Han B; series Han A with corresponding adapter (see page 11.20)
- ❑ A practical solution to fix the inserts directly in line on standard rails 35 x 15 or 35 x 7.5
- ❑ Reduction of assembly costs

The insert mounting locks directly on standard rail 35 x 15 or 35 x 7.5 mm.

Inserts can be assembled on the insert mounting with the standard insert fixing screws.

High mechanical security of the fixings. No functional impairment is caused by slight over tightening of the fixing screws.

Alternatively, Han® coding elements (code pins or guide pins and bushes) may be used.

The following labels may be fitted alternatively to the insert mounting parts for circuit identification purposes:

label 7 x 20 mm
or
label 9 x 20 mm
(more information page 11.21)

Technical Details

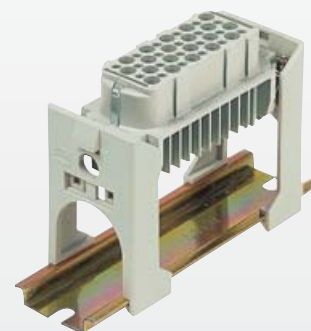
Min. retention force on rail	tension	300 N
	pressure	1000 N
Torsional moment of fixing screws/coding elements		0.8 Nm
Material		Thermoplastic resin, polycarbonate, RAL 7032, grey
Flammability		V0 acc. to UL 94
Limiting temperatures		– 40 °C / + 125 °C

Pack Contents

Delivery comprises

- 2 insert mounting parts

Insert mountings



Identification

Part No.

Drawing

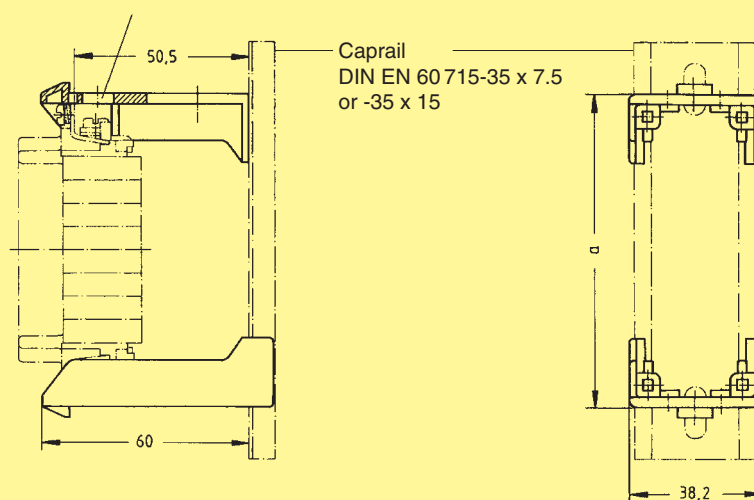
Dimensions in mm

Insert
mounting

09 33 000 9980



Slots for identification strips



Size	a
6 B	57
10 B	70
16 B	90.5
24 B	117

Size	a
10 A*	74
16 A*	90.5

* with corresponding adapter (see page 11.20)

Han
Snap

Characteristics

- ❑ Ideal for use within closed electrical operating environments
- ❑ Allows use of preassembled cables
- ❑ Thermoplastic resin, self-extinguishing with high impact resistance
- ❑ Optimised costs of material and assembly

2 identical half shells form a shell housing.

Each housing has 3 cable entries, one on top and one at each end. 2 x cable entries can be closed by enclosed blind plugs.

In the area of cable entries there are rectangular openings for mounting of cable ties up to max. 5 mm width.

In the mating area both housing shells are fixed by the standard insert fixing screws.

To release the half shells use screw driver (3.5 x 0.5), see drawing.

Alternatively, Han® coding elements (code pins or guide pins and bushings) may be used.

High mechanical security of the fixings.
No functional impairment is caused by slight over tightening of the fixing screws.

The blind plugs have slots for identification strips.
The following labels can be fitted:

label 7 x 20 mm

or

label 9 x 20 mm

(more information page 11.21)

Technical Details

Min. retention force, fixed	300 N
Vibration resistance	IEC 60 068, part 2-6/ BN 74018
Resistance to shock	IEC 60 068, part 2-27/ BN 74018
Torsional moment of fixing screws/ coding elements	0.8 Nm
Material	Thermoplastic resin, polycarbonate, RAL 7032, grey
Flammability	V0 acc. to UL 94
Limiting temperatures	– 40 °C / + 125 °C

Pack Contents

Delivery comprises

- 2 half shells with blind plugs



Plastic housings

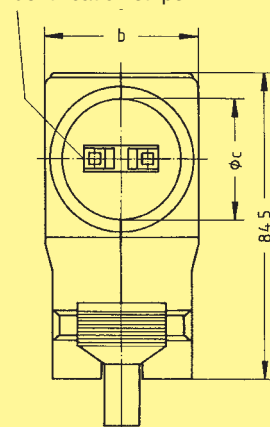
Identification Size Part No. Drawing Dimensions in mm

Plastic housings

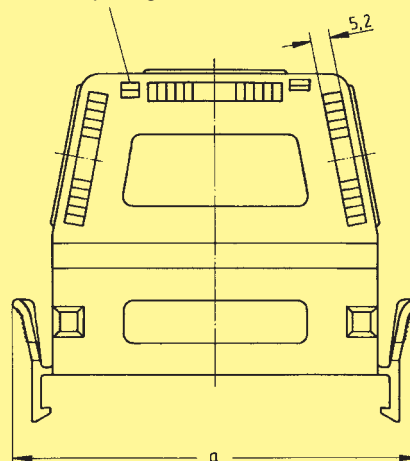


6 B	09 33 006 0401
10 B	09 33 010 0401
16 B*	09 33 016 0401
24 B	09 33 024 0401

Blind plug with slot for identification strips



Opening for release



Size	a	b	c
6 B	78.5	39	24
10 B	91.5	43	30
16 B	112	43	34
24 B	138.5	43	34

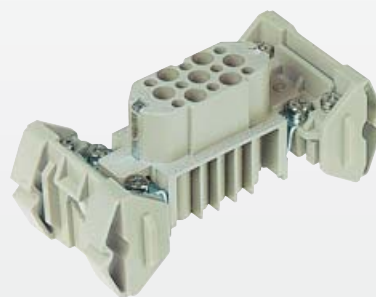
* compatible for size Han 16 A by using the corresponding adapter (see page 11.20)

Protection covers

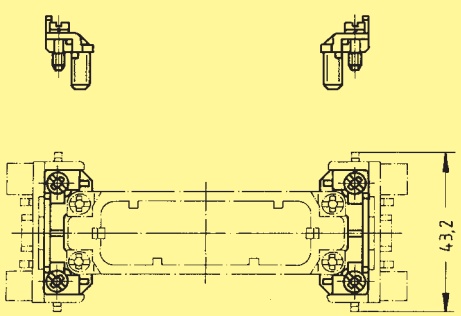
6 B	09 33 006 5401
10 B	09 33 010 5401
16 B	09 33 016 5401
24 B	09 33 024 5401

a
81.5
94.5
115
141.5





Adapter

Identification	Part No.	Drawing	Dimensions in mm
Adapter Han A® 	09 20 000 9933		

Characteristics

- ☐ Accessories compatible for all contact inserts series Han A®, 10 and 16 pins; series Han D®, 15 and 25 pins
- ☐ Practical and easy handling
- ☐ Reduction of material and assembly costs
- ☐ Compatible with Han-Snap® elements:
 - Panel mounting parts
 - Latching parts
 - Insert mountings
 - Plastic hood size 16 for Han 25 D® and Han A® 16 poles

Inserts can be assembled to the adapters with the standard insert fixing screws.

With the included screws the adapter can be fixed to the selected Han-Snap® element.

Technical Details

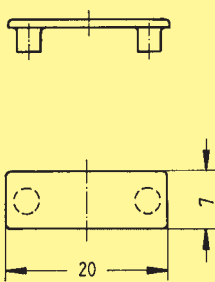
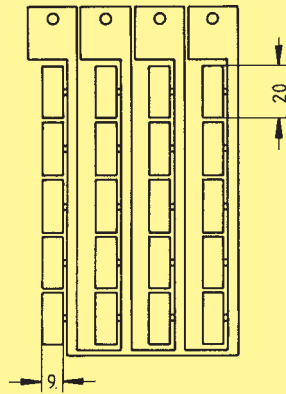
Material	Thermoplastic resin, polycarbonate, RAL 7032, grey
Flammability	V0 acc. to UL 94
Torsional moment of fixing screws/coding elements	0.8 Nm
Limiting temperatures	- 40 °C / + 125 °C

Pack Contents

Delivery comprises

- 2 adapters
- 4 fixing screws

Identification strips

Identification	Part No.	Drawing	Dimensions in mm
Identification strips single 7 mm wide 20 mm long	09 33 000 9981		
Identification strips 20 pieces in one block 9 mm wide 20 mm long	09 33 000 9982		

Han-Port®

Page

Features	12.02
Technical Details	12.03
Frame	12.04
Plug sockets	12.05
Data connectors	12.07
Cables	12.09

Features

- ❑ Plug sockets for the European and international market
- ❑ Standard interfaces for easy connection of devices within and outside of the control cabinet
- ❑ Suitable for rough industrial environments

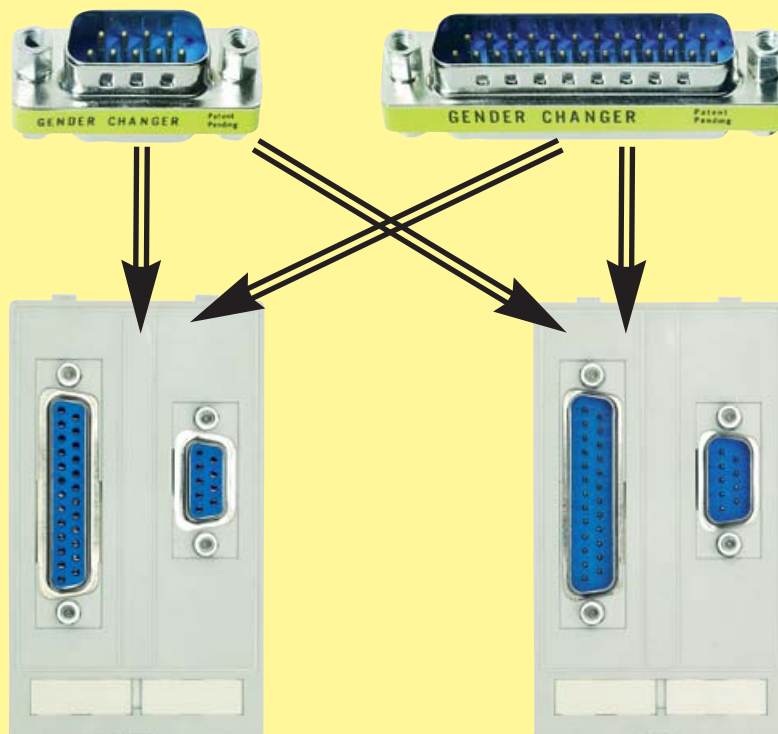
Benefits

- ❑ Modular assembly, suitable for different adaptor plates
- ❑ Lockable cover guarantees security
- ❑ Individual marking possible
- ❑ Easy and flexible customer specific solutions
- ❑ Professional design
- ❑ Protection degree IP 65 (with closed cover)
- ❑ EMC shielding for data cables
- ❑ Operating voltage display (indication)
- ❑ Clear labelling

Termination technology of data connector

Gender Changer

- ❑ Termination technology pluggable from both sides
- ❑ No soldering necessary
- ❑ Assembly male/female interchangeable



Technical Details

Frames

Material	zinc die cast, smouthed surface
Suitable to wall thickness	1 up to 5 mm
Dimensions outside (HxWxD)	single 114 x 66 x 32 up to 62 mm (depending on equipment) double 114 x 131 x 32 up to 62 mm (depending on equipment)
Operating temperature range	-10°C up to +60°C
Stock temperature range	-25°C up to +60°C
Protection degree	IP 65

Plug sockets

	Germany (VDE)	USA / Japan	France (UTE)
Max. nominal voltage	250 V AC	125 V AC	250 V AC
Nominal frequency	50 Hz	60 Hz	50 Hz
Max. nominal current	10 - 16 A	15 A	10 - 16 A
LED display	yellow ¹⁾	-	yellow
Terminal	screw terminals	screw terminals	screw terminals
Mounting depth assembled	appr. 62 mm	appr. 20 mm	appr. 62 mm

Plug sockets

	Great Britain (BS)	Italy	Australia / China	Denmark
Max. nominal voltage	250 V AC	250 V AC	250 V AC	250V
Nominal frequency	50/60 Hz	50 Hz	50/60 Hz	50 Hz
Max. nominal current	13 A	10 - 16 A	10 A	13 A
LED display	-	-	-	-
Terminal	screw terminals	screw terminals	screw terminals	spring clamp terminal
Mounting depth assembled	appr. 20 mm	appr. 20 mm	appr. 20 mm	appr. 20 mm

Data connectors

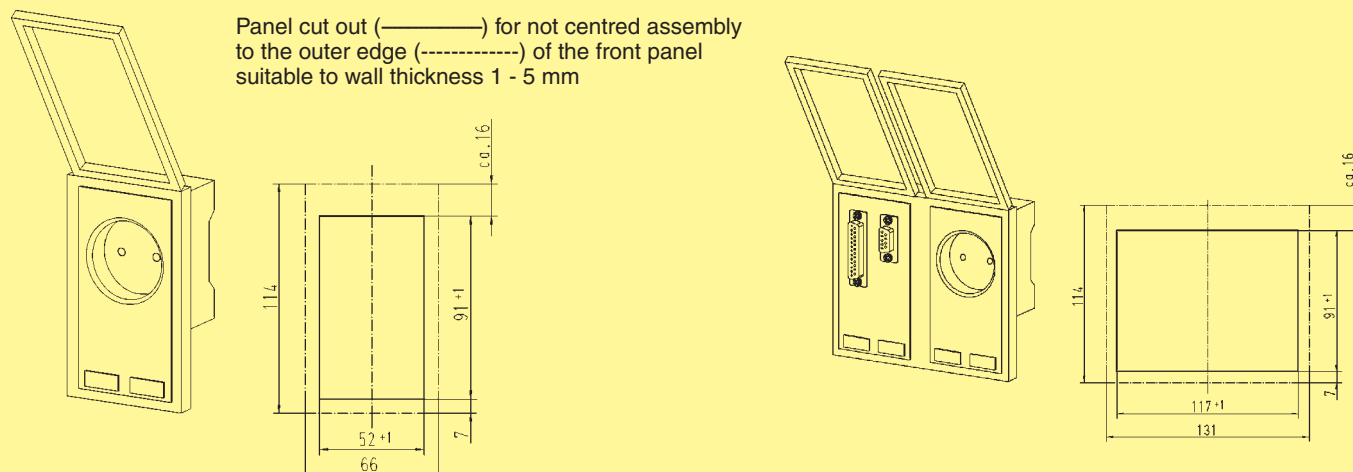
	SUB-D	RJ45	USB
Max. nominal voltage	125 V AC/150 V DC	50 V AC/DC	30 V AC/DC
Nominal frequency	3 A	1 A	1 A
Locking	UNC 4 ... 40 bolt	stop bolt	snap-in
Specification	DIN 41 652 / IEC 807	CAT 5e	size A acc. to 2.0
Mounting depth assembled	appr. 32 mm	appr. 32 mm	appr. 80 mm

Terminal

Gender Changer	interchangeable termination technology
----------------	--

1) Plug socket yellow without LED display

Drawings



Frame

single

metal version, nickel plated
silver
electrically conductive
IP 65

transparent plastic cover

metal cover

Part-Number

Depiction

39 50 000 0100

39 50 000 0110



double

metal version, nickel plated
silver
electrically conductive
IP 65

transparent plastic cover

metal cover

39 50 000 0200

39 50 000 0210



Accessories

Blind plates

flat
free space for self assembly
of connectors or switches
free space 45 x 75 mm

Part-Number

Depiction

39 50 000 0890



Identification strips

set of 20 pieces

39 50 000 0900



Plug sockets

Part-Number

Depiction

Germany (VDE)

with LED display
screw terminal max. 6 mm²
connection at the rear

39 50 001 0001



Germany (VDE), yellow¹⁾

for assembly in front of main switch
fluorescent colour yellow (RAL 1016)
screw terminal for max. 6 mm²
connection at the rear

39 50 001 0002



¹⁾ Plug socket yellow without LED display

USA / Japan (NEMA 5-15)

finger protected
screw terminal for max. AWG 14
(2.5 mm²)

39 50 001 0004



France (UTE)

with LED display
screw terminal for max. 6 mm²
connection at the rear

39 50 001 0005



Plug sockets

Part-Number

Depiction

Great Britain (BS)

finger protected
screw terminal for max. 4 mm²

39 50 001 0006



Italy double (CEI 23-16)

finger protected
screw terminal for max. 2.5 mm²

39 50 001 0007



Australia / China

with screw terminal for max. 2.5 mm²

39 50 001 0009



Denmark

with spring clamp terminal for max. 2.5 mm²

39 50 001 0017



Data connectors

Part-Number

Depiction

2 x D-Sub 9

2 x female/male
Gender Changer
not screened

39 50 003 0020



1 x D-Sub 9

1 x female/female
Gender Changer
not screened

39 50 003 0024



1 x D-Sub 9, 1 x D-Sub 25

2 x female/male
Gender Changer
not screened

39 50 003 0040



1 x D-Sub 25

1 x female/male
Gender Changer
not screened

39 50 003 0074



Data connectors

Part-Number

Depiction

2 x USB size A

2 x USB size A acc. to specification 2.0
female/female, Gender Changer
screened

39 50 002 0093



1 x RJ45, 2 x D-Sub 9

1 x RJ45 8-pins, metal, CAT5e
female/female, Gender Changer
1 x D-Sub 9
female/female, Gender Changer
1 x D-Sub 9
male/male, Gender Changer
not screened

39 50 003 0111



2 x RJ45

2 x RJ45 8-pins, metal, CAT5e
female/female, Gender Changer
screened

39 50 002 0120



1 x USB size A, RJ45, D-Sub 9

1 x USB size A, acc. to specification 2.0
female/female, Gender Changer
1 x RJ45 8-pins, metal, CAT5e
female/female, Gender Changer
1 x D-Sub 9
female/male, Gender Changer
screened

39 50 002 0143



Data connectors

Part-Number

Depiction

1 x USB size A, RJ45, D-Sub 25

- 1 x USB – size A acc. to specification 2.0 female/female, Gender Changer
- 1 x RJ45 8-pins, metal, CAT5e female/female, Gender Changer
- 1 x D-Sub 25 female/male, Gender Changer screened

39 50 002 0145



1 x RJ45, D-Sub 9, D-Sub 25

- 1 x RJ45 8-pins, metal, CAT5e male/male, Gender Changer
- 1 x D-Sub 9 female/male, Gender Changer
- 1 x D-Sub 25 female/male, Gender Changer not screened

39 50 003 0170



Cables for

Part-Number

Depiction

	Length	Terminal
D-Sub 9	2 m	male/male
	5 m	male/male
	2 m	female/male
	5 m	female/male
D-Sub 25	1.8 m	female/male
	5 m	female/male
USB	2 m	male/male, size A acc. to specification 2.0
	5 m	male/male, size A acc. to specification 2.0
RJ45	2 m	8-pins, metal, CAT5e
	5 m	8-pins, metal, CAT5e

3950 903 0010
3950 903 0011
3950 903 0020
3950 903 0021

3950 903 0040
3950 903 0041

3950 903 0050
3950 903 0051

3950 903 0060
3950 903 0061



D-Sub 9



D-Sub 25



USB



RJ45

Gender Changer for

Part-Number

Depiction

	Terminal
D-Sub 9	female/female
	female/male
	male/male
D-Sub 25	female/female
USB	female/female, size A acc. to specification 2.0
RJ45	female/female, 8-pins, CAT5e

3950 904 0030
3950 904 0031
3950 904 0032

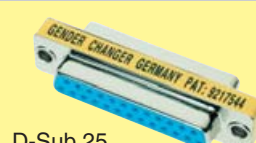
3950 904 0050

3950 904 0020

3950 904 0010



D-Sub 9



D-Sub 25



USB



RJ45



Worm gear motor used as servodrive with integrated motor connector Han-Drive®
Flender-Himmelwerk GmbH

Han® Q

Page

Technical characteristics Han® Q 5/0	13.10
Han® Q 5/0	13.11
Technical characteristics Han® Q 7/0	13.12
Han® Q 7/0	13.13
Standard Hoods/Housings for Han® Q 5/0 and Q 7/0	13.14
Technical characteristics Han® Q 8/0	13.16
Han® Q 8/0	13.17
Technical characteristics Han® Q 17	13.18
Han® Q 17	13.19
Technical characteristics Han® Q 4/2	13.20
Han® Q 4/2	13.21
Han-Compact® Hoods/Housings for Han® Q 8/0 and Han® Q 17	13.22

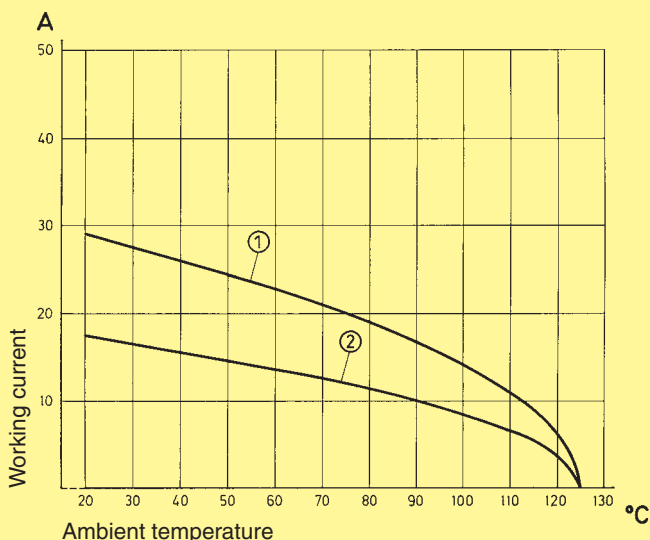
Features

- ❑ 5 contact chambers for the power contacts of the series Han E® (16 A)
- ❑ Space-saving and compact design
- ❑ Leading protective ground with screw terminal
- ❑ Crimp terminal with standard Han E® contacts
- ❑ Use of standard tools
- ❑ Compatible with metal and plastic hoods of the series Han® 3 A / 4 A
- ❑ The contacts can be removed with the aid of a removal tool from the termination side
- ❑ Degree of protection IP 65²⁾

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60512-3.



① Wire gauge: 2.5 mm²

② Wire gauge: 1.5 mm²

Technical characteristics

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61984

Approvals



Inserts

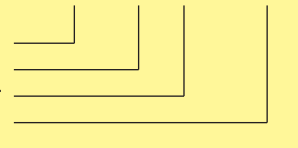
Number of contacts

5 + PE

Electrical data
acc. to DIN EN 61984

16 A 230/400 V 4 kV 3

Working current
Working voltage conductor – ground
Working voltage conductor – conductor
Rated impulse voltage
Pollution degree



– Pollution degree 2 also

16 A 320/500 V 4 kV 2

Working voltage
according to CSA

600 V

Insulation resistance

≥ 10¹⁰ Ω

Material

Polycarbonate

Limiting temperatures

– 40 °C / + 125 °C

Flammability acc. to UL 94

V 0

Mechanical working life

– mating cycles
≥ 500

Contacts

Material

copper alloy

Surface

- hard-silver plated
- hard-gold plated

3 µm Ag

2 µm Au over 3 µm Ni

Contact resistance

≤ 1 mΩ

Crimp terminal

- mm²
- AWG

0.5 - 2.5 mm²

20 - 14

Plastic Hoods/Housings

Material

Polycarbonate RAL 7032

Locking element

Polyamide RAL 7032

Flammability acc. to UL 94

V 0

Hoods/Housings seal

NBR

Limiting temperatures

– 40 °C / + 125 °C

Degree of protection acc. to DIN 40 050 for coupled connector

IP 67

Metal Hoods/Housings

Material

die cast zinc alloy

Locking element

steel, galvanized

Hoods/Housings seal

NBR

Limiting temperatures

– 40 °C / + 125 °C

Degree of protection acc. to DIN 40 050 for coupled connector

IP 44

IP 67 with sealing screw

09 20 000 9918

Further selection
of hoods/housings

chapter 30 / chapter 31

Accessories

Crimping tools

chapter 99

Cable clamps

chapter 40

IP 65 fixing screw

chapter 40

Number of contacts

5 +


Inserts

		Part No.		Drawing	Dimensions in mm
Identification		Male insert (M)	Female insert (F)		
Crimp terminal Order crimp contacts separately		09 12 005 3001	09 12 005 3101	 Contact arrangement View from termination side	
Coding Pin 		09 33 000 9954		Use of the coding pin prevents incorrect mating to other connectors of the same type. The male pin should be omitted from the opposing cavity in the male insert. 	

		Part No.		Drawing	Dimensions in mm
Identification	Wire gauge (mm²)	Male contacts	Female contacts		
Crimp contacts Han E® contacts					
Power contacts	0.14-0.37	09 33 000 6127*	09 33 000 6227*	Crimp contact identification	
silver plated	0.5	09 33 000 6121	09 33 000 6220		
	0.75	09 33 000 6114	09 33 000 6214		
	1.0	09 33 000 6105	09 33 000 6205		
	1.5	09 33 000 6104	09 33 000 6204		
	2.5	09 33 000 6102	09 33 000 6202		
gold plated	0.14-0.37	09 33 000 6117*	09 33 000 6217*		
	0.5	09 33 000 6122	09 33 000 6222		
	0.75	09 33 000 6115	09 33 000 6215		
	1.0	09 33 000 6118	09 33 000 6218		
	1.5	09 33 000 6116	09 33 000 6216		
	2.5	09 33 000 6123	09 33 000 6223		
Relay contacts silver plated	0.75-1	09 33 000 6109			
	1.5	09 33 000 6110			
	2.5	09 33 000 6111			

Identification	Wire gauge		Stripping length
no groove	0.14-0.37 mm²	AWG 26-22	7.5 mm
no groove	0.5 mm²	AWG 20	7.5 mm
1 groove*	0.75 mm²	AWG 18	7.5 mm
1 groove	1 mm²	AWG 18	7.5 mm
2 grooves	1.5 mm²	AWG 16	7.5 mm
3 grooves	2.5 mm²	AWG 14	7.5 mm

* on the back crimp collar

--	--

* only to be used with BUCHANAN crimping tool 09 99 000 0001 and adjustment gauge 09 99 000 0203

Stock items in bold type

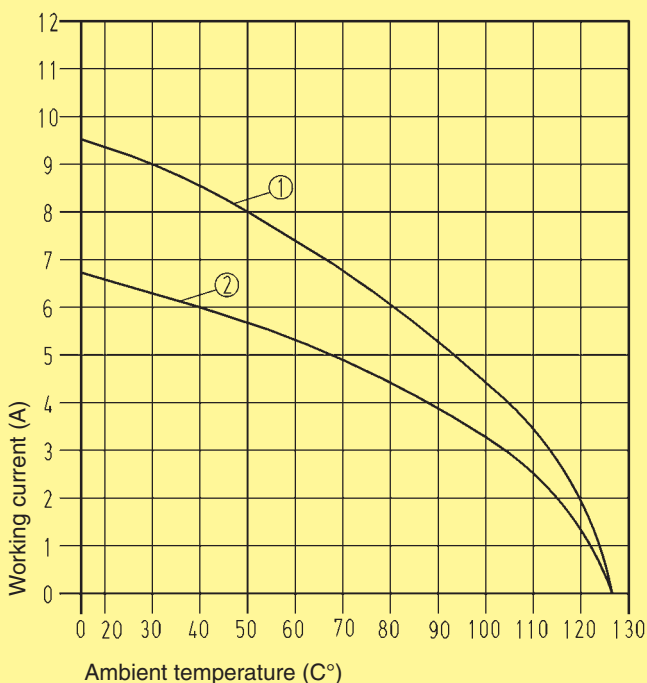
Features

- ❑ 7 contact chambers taking the control contacts of the series Han D® (10 A)
- ❑ Space-saving and compact design
- ❑ Crimp terminal with standard Han D® contacts
- ❑ Insert is suitable for the hoods and housings of the series Han® 3A
- ❑ The contacts can be removed with the aid of a removal tool from the mating side
- ❑ 6 fold coding by means of a coding pin

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60512-3.



Wire gauge: ① 1,5 mm²
② 0,75 mm²

Technical characteristics

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61984

Approvals



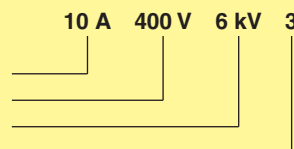
Inserts

Number of contacts

7 + PE

Electrical data
acc. to DIN EN 61984

Working current
Working voltage
Rated impulse voltage
Pollution degree



– Pollution degree 2 also

10 A 400/690 V 6 kV 2

Working voltage
according to UL

600 V

Insulation resistance

≥ 10¹⁰ Ω

Material

Polycarbonate

Limiting temperatures

– 40 °C / + 125 °C

Flammability acc. to UL 94

V 0

Mechanical working life

– mating cycles
≥ 500

Contacts

Material

Copper alloy

Surface

- hard-silver plated
- hard-gold plated

3 µm Ag

2 µm Au over 3 µm Ni

Contact resistance

Crimp terminal

≤ 3 mΩ

– mm²

0.14 - 2.5

– AWG

26 - 14

PE screw terminal

– mm²

2.5

– AWG

14

Plastic hoods/housings

Material

Polycarbonate

Locking element

Polyamide

Flammability acc. to UL 94

V 0

Hood/Housings seal

NBR

Limiting temperatures

– 40 °C / + 125 °C

Degree of protection

acc. to DIN EN 60529

in locked position

IP 67

Metal hoods/housings

Material

die cast zinc alloy

Locking element

steel galvanized

Hoods/Housings seal

NBR

Limiting temperatures

– 40 °C / + 125 °C

Degree of protection

acc. to DIN EN 60529

in locked position

IP 44

IP 67 with sealing screw

09 20 000 9918

Accessories

Crimping tools

chapter 99

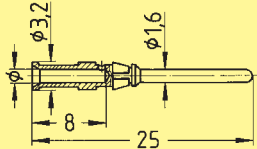
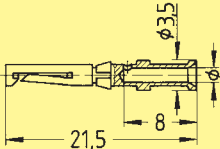
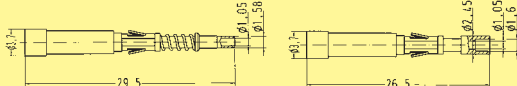
Number of contacts

7 +



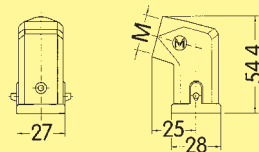
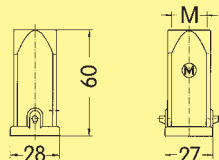
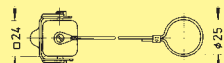
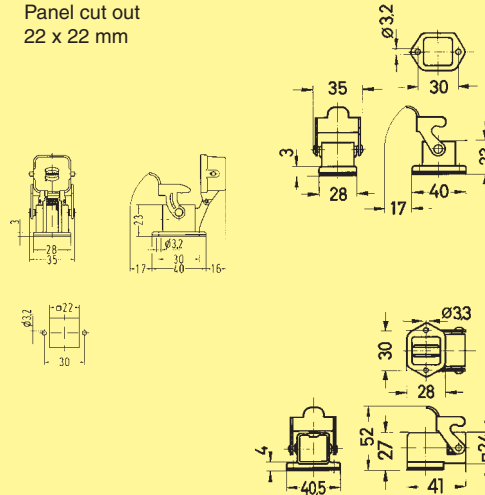
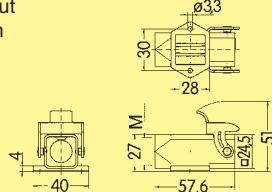
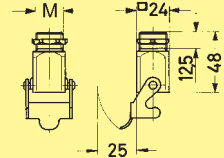
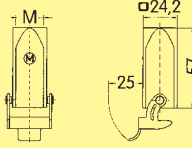
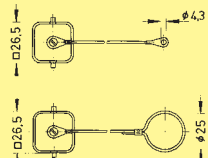
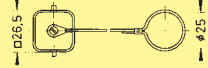
Inserts

Identification	Part No.		Drawing	Dimensions in mm
	Male insert (M)	Female insert (F)		
Crimp terminal Order crimp contacts separately 	09 12 007 3001	09 12 007 3101		
Coding pins 	09 12 000 9901	09 12 000 9902		

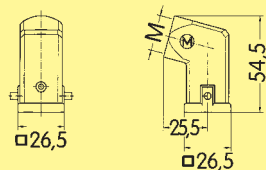
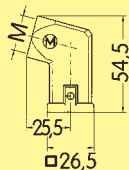
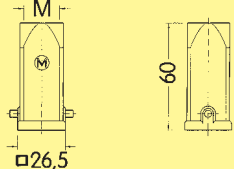
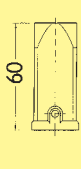
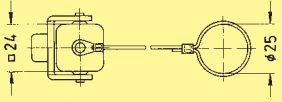
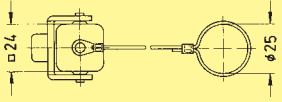
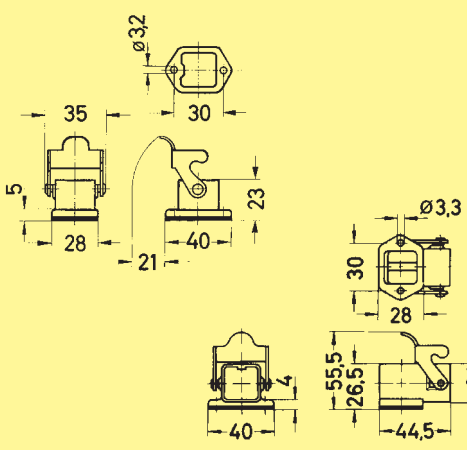
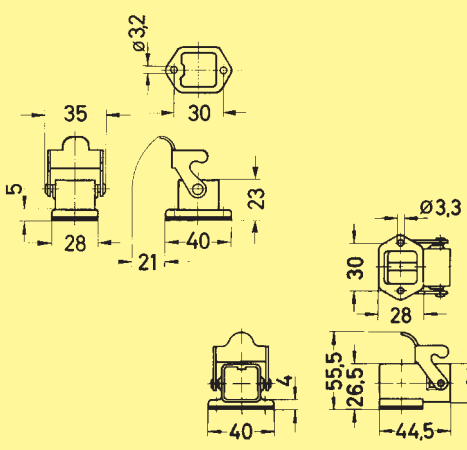
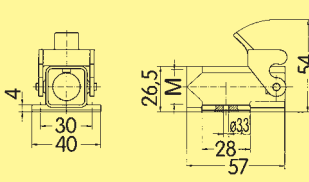
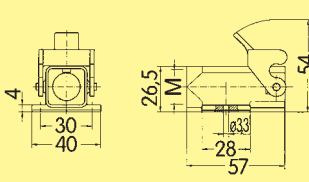
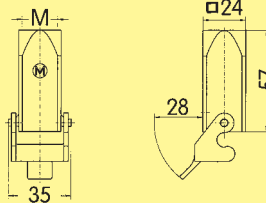
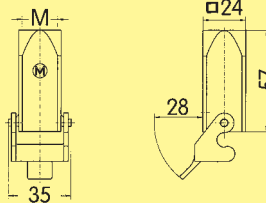
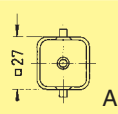
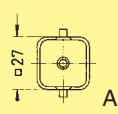
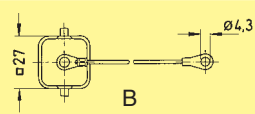
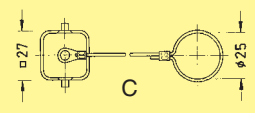
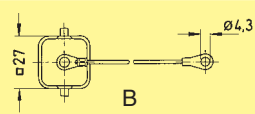
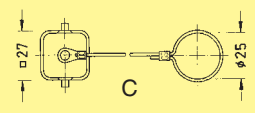
Identification		Wire gauge (mm ²)	Male contacts	Female contacts	Drawing	Dimensions in mm																												
Crimp contacts																																		
Han D® contacts																																		
silver plated		0.14-0.37	09 15 000 6104	09 15 000 6204																														
		0.5	09 15 000 6103	09 15 000 6203																														
		0.75	09 15 000 6105	09 15 000 6205																														
		1.0	09 15 000 6102	09 15 000 6202																														
		1.5	09 15 000 6101	09 15 000 6201																														
		2.5*	09 15 000 6106	09 15 000 6206																														
gold plated		0.14-0.37	09 15 000 6124	09 15 000 6224	<table><thead><tr><th>Wire gauge</th><th></th><th>ø</th><th>Stripping length</th></tr></thead><tbody><tr><td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>0.90 mm</td><td>8 mm</td></tr><tr><td>0.5 mm²</td><td>AWG 20</td><td>1.10 mm</td><td>8 mm</td></tr><tr><td>0.75 mm²</td><td>AWG 18</td><td>1.30 mm</td><td>8 mm</td></tr><tr><td>1 mm²</td><td>AWG 18</td><td>1.45 mm</td><td>8 mm</td></tr><tr><td>1.5 mm²</td><td>AWG 16</td><td>1.75 mm</td><td>8 mm</td></tr><tr><td>2.5 mm²</td><td>AWG 14</td><td>2.25 mm</td><td>6 mm</td></tr></tbody></table>	Wire gauge		ø	Stripping length	0.14-0.37 mm ²	AWG 26-22	0.90 mm	8 mm	0.5 mm ²	AWG 20	1.10 mm	8 mm	0.75 mm ²	AWG 18	1.30 mm	8 mm	1 mm ²	AWG 18	1.45 mm	8 mm	1.5 mm ²	AWG 16	1.75 mm	8 mm	2.5 mm ²	AWG 14	2.25 mm	6 mm	
	Wire gauge		ø	Stripping length																														
	0.14-0.37 mm ²	AWG 26-22	0.90 mm	8 mm																														
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1.5 mm ²	AWG 16	1.75 mm	8 mm																															
2.5 mm ²	AWG 14	2.25 mm	6 mm																															
	0.5	09 15 000 6123	09 15 000 6223																															
	0.75	09 15 000 6125	09 15 000 6225																															
	1.0	09 15 000 6122	09 15 000 6222																															
	1.5	09 15 000 6121	09 15 000 6221																															
	2.5*	09 15 000 6126	09 15 000 6226																															
FOC contacts for 1 mm plastic fibre			20 10 001 3211	20 10 001 3221																														

* partly loaded insert

Stock items in bold type

Identification		Part No.	M	Drawing	Dimensions in mm
Hoods	Hood side-entry		19 20 003 1640	20	
	Hood top-entry		19 20 003 1440	20	
	Protection covers for hoods	09 20 003 5422¹⁾ 09 20 003 5421²⁾			
Housings	Housings bulkhead mounting		09 20 003 0301		Panel cut out 22 x 22 mm 
	with fixed cover		09 20 003 0305¹⁾		
	without sealing		09 20 003 0306²⁾		
	with sealing		09 20 003 0801		
	Housing surface mounting		19 20 003 1250	20	Panel cut out 22 x 22 mm 
	1 side-entry		19 20 003 1250	20	
	bottom closed		19 20 003 1252	20	
	Housing screw mounting		19 20 003 1150	20	
	Hood cable to cable		19 20 003 1750	20	
	Protection covers for housings		09 20 003 5426¹⁾ 09 20 003 5425²⁾		
	for hoods cable to cable		09 20 003 5428¹⁾ 09 20 003 5427²⁾		

¹⁾ for mounted male insert ²⁾ for mounted female insert

Identification		Part No.	M	Drawing	Dimensions in mm
Hoods	Hoods side-entry	 grey 19 20 003 0620 black 19 20 003 0627	20 20		
	Hoods top-entry	 grey 19 20 003 0420 black 19 20 003 0427	20 20		
	Protection covers for hoods	09 20 003 5442 ¹⁾ 09 20 003 5441 ²⁾			
Housings	Housings bulkhead mounting	 grey 09 20 003 0320 black 09 20 003 0327 grey 09 20 003 0820 black 09 20 003 0827	— — — —		
	Housings surface mounting 1 side-entry	 grey 19 20 003 0220 black 19 20 003 0227	20 20		
	Hoods cable to cable	 grey 19 20 003 0720 black 19 20 003 0727	20 20		
	Protection covers for housings	A 09 20 003 5407 ¹⁾³⁾ 09 20 003 5408²⁾³⁾⁴⁾			
	Protection covers for hoods cable to cable	B 09 20 003 5445²⁾ 09 20 003 5446 ¹⁾ 09 20 003 5447 ²⁾³⁾⁴⁾ C 09 20 003 5448 ¹⁾		 	 

¹⁾ for mounted male insert
²⁾ for mounted female insert

³⁾ for metal housings and cable to cable hoods also
⁴⁾ for mounted Han-Brid® male and female insert

Features

- ❑ 8 contact chambers taking the Han E® power contacts
- ❑ Space-saving and compact design
- ❑ Leading protective ground
- ❑ Crimp terminal with standard Han E® contacts
- ❑ Use of standard tools
- ❑ Insert is suitable for the hoods and housings of the series Han® Q 8/0
- ❑ The contacts can be removed with the aid of a removal tool from the termination side

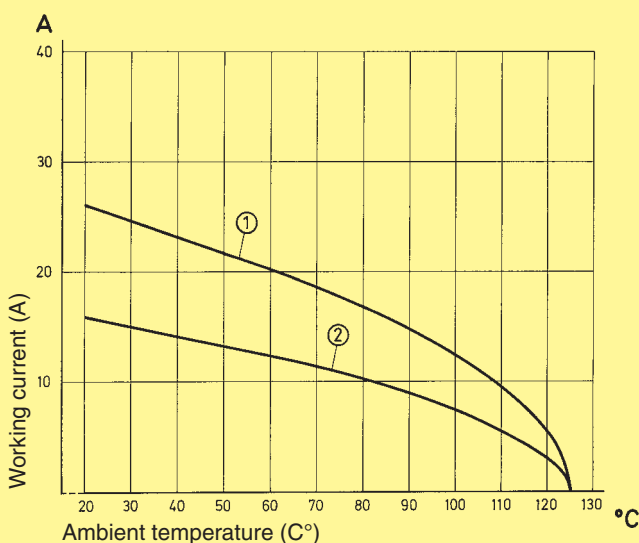
❑ **DESINA** conform product



Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



Control and test procedures according to DIN IEC 512-3

Wire gauge: ① 2.5 mm²

② 1.5 mm²

Technical characteristics

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals



Inserts

Number of contacts

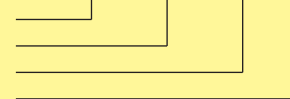
8 + PE

Electrical data
acc. to DIN EN 61 984

Mounted plastic hood

16 A 500 V 6 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree



– Pollution degree 2 also

16 A 400/690 V 6 kV 2

Mounted metal hood

16 A 230/400 V 4 kV

Working voltage
acc. to UL

500 V

Insulation resistance

$\geq 10^{10} \Omega$

Material

Polycarbonate

Limiting temperatures

– 40 °C / + 125 °C

Flammability acc. to UL 94

V 0

Mechanical working life

≥ 500

– mating cycles

Contacts

Material

Copper alloy

Surface

- hard-silver plated
- hard-gold plated

3 µm Ag

2 µm Au over 3 µm Ni

Contact resistance

< 1 mΩ

Crimp terminal

– mm²

0.5 - 2.5 mm²

partly loaded up to 4 mm² is possible

– AWG

20 - 14

Plastic hoods/housings

Material

Polycarbonate RAL 9005

Locking element

Polyamide RAL 9005

Flammability acc. to UL 94

V 0

Hood/Housings seal

NBR

Limiting temperatures

– 40 °C / + 125 °C

Degree of protection acc. to DIN EN 60 529

IP 65

in locked position

Metal hoods/housings

Material

die cast zinc alloy

Locking element

V2A steel

Hoods/Housings seal

NBR

Limiting temperatures

– 40 °C / + 125 °C

Degree of protection acc. to DIN EN 60 529

IP 65

in locked position

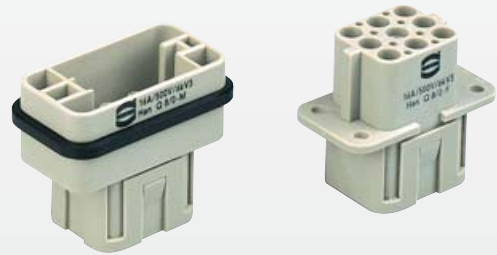
Accessories

Crimping tools

chapter 99

Number of contacts

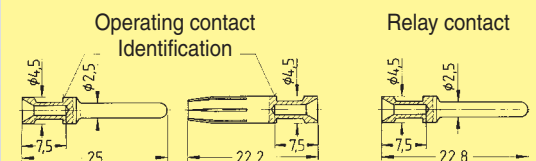
8 +



Inserts

Identification	Part No.		Drawing	Dimensions in mm
	Male insert (M)	Female insert (F)		
Crimp terminal Order crimp contacts separately	09 12 008 3001	09 12 008 3101		
Coding Pin 	09 33 000 9954		Use of the coding pin prevents incorrect mating to other connectors of the same type. The male pin should be omitted from the opposing cavity in the male insert.	

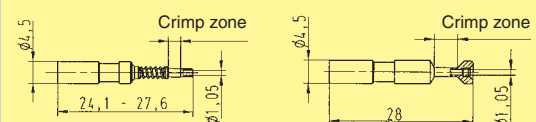
Identification	Wire gauge (mm²)	Part No.		Drawing	Dimensions in mm
		Male contacts	Female contacts		
Crimp contacts Han E® contacts					
Power contacts silver plated	0.14-0.37 0.5 0.75 1.0 1.5 2.5 4.0	09 33 000 6127* 09 33 000 6121 09 33 000 6114 09 33 000 6105 09 33 000 6104 09 33 000 6102 09 33 000 6107	09 33 000 6227* 09 33 000 6220 09 33 000 6214 09 33 000 6205 09 33 000 6204 09 33 000 6202 09 33 000 6207		
gold plated	0.14-0.37 0.5 0.75 1.0 1.5 2.5 4.0	09 33 000 6117* 09 33 000 6122 09 33 000 6115 09 33 000 6118 09 33 000 6116 09 33 000 6123 09 33 000 6119	09 33 000 6217* 09 33 000 6222 09 33 000 6215 09 33 000 6218 09 33 000 6216 09 33 000 6223 09 33 000 6221		
Relay contacts silver plated	0.75-1 1.5 2.5	09 33 000 6109 09 33 000 6110 09 33 000 6111			
FOC contacts for 1 mm plastic fibre		20 10 001 3311	20 10 001 3321		



Crimp contact identification

Identification	Wire gauge		Stripping length
no groove	0.14-0.37 mm²	AWG 26-22	7.5 mm
no groove	0.5 mm²	AWG 20	7.5 mm
1 groove*	0.75 mm²	AWG 18	7.5 mm
1 groove	1 mm²	AWG 18	7.5 mm
2 grooves	1.5 mm²	AWG 16	7.5 mm
3 grooves	2.5 mm²	AWG 14	7.5 mm
no groove	4.0 mm²	AWG 12	7.5 mm

* on the back crimp collar



* only to be used with BUCHANAN crimping tool 09 99 000 0001 and adjustment gauge 09 99 000 0203

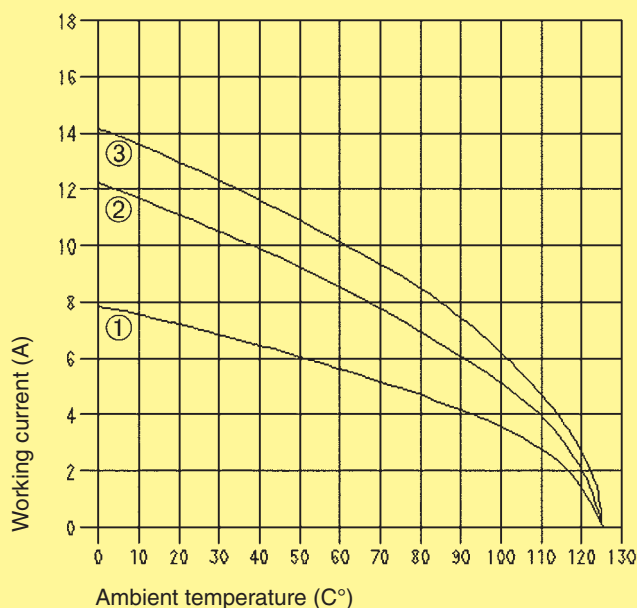
Features

- ❑ 17 contact chambers taking the control contacts of the series Han D® (10 A)
- ❑ Space-saving and compact design
- ❑ Leading protective ground
- ❑ Crimp terminal with standard Han D® contacts
- ❑ Use of standard tools
- ❑ Insert is suitable for the hoods and housings of the series Han-Compact®
- ❑ The contacts can be removed with the aid of a removal tool from the mating side

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



Wire gauge: ① 0.5 mm²
 ② 1.0 mm²
 ③ 1.5 mm²

Technical characteristics

Specifications

DIN EN 61 984
 DIN VDE 0110

Approvals



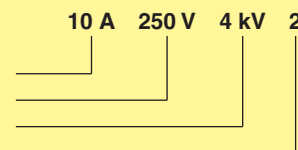
Inserts

Number of contacts

17 + PE

Electrical data
 acc. to DIN EN 61 984

Working current
 Working voltage
 Rated impulse voltage
 Pollution degree



Working voltage
 acc. to UL

250 V

Insulation resistance
 Material
 Limiting temperatures
 Flammability acc. to UL 94
 Mechanical working life
 - mating cycles

≥ 10¹⁰ Ω
 Polycarbonate
 - 40 °C / + 125 °C
 V 0
 ≥ 500

Contacts

Material
 Surface

Copper alloy

- hard-silver plated
 - hard-gold plated

3 μm Ag
 2 μm Au over 3 μm Ni

Contact resistance

Crimp terminal

- mm²
 - AWG

< 3 mΩ
 0.14 - 2.5 mm²
 26 - 14

Plastic hoods/housings

Material
 Locking element
 Flammability acc. to UL 94
 Hood/Housings seal
 Limiting temperatures
 Degree of protection
 acc. to DIN EN 40 050
 in locked position
 Cable gland

Polycarbonate RAL 9005
 Polyamide
 V 0
 NBR
 - 40 °C / + 125 °C

 IP 65
 Pg 16, M 25

Metal hoods/housings

Material
 Locking element
 Hoods/Housings seal
 Limiting temperatures
 Degree of protection
 acc. to DIN EN 60 529
 in locked position

die cast zinc alloy
 V2A steel
 NBR
 - 40 °C / + 125 °C

 IP 65

Accessories

Crimping tools

chapter 99

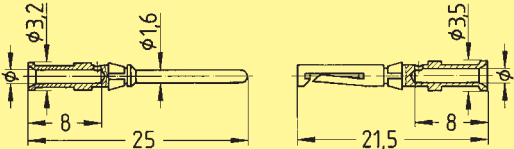
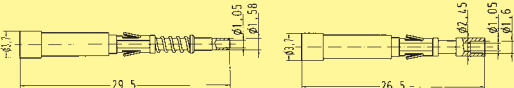
Number of contacts

17 +



Inserts

Identification	Part No.		Drawing	Dimensions in mm
	Male insert (M)	Female insert (F)		
Crimp terminal Order crimp contacts separately 	09 12 017 3001	09 12 017 3101		
Contact arrangement View from termination side				

Identification	Wire gauge (mm²)	Male contacts	Female contacts	Drawing	Dimensions in mm																												
Crimp contacts Han D® contacts																																	
silver plated	0.14-0.37 0.5 0.75 1.0 1.5 2.5*	09 15 000 6104 09 15 000 6103 09 15 000 6105 09 15 000 6102 09 15 000 6101 09 15 000 6106	09 15 000 6204 09 15 000 6203 09 15 000 6205 09 15 000 6202 09 15 000 6201 09 15 000 6206																														
gold plated	0.14-0.37 0.5 0.75 1.0 1.5 2.5*	09 15 000 6124 09 15 000 6123 09 15 000 6125 09 15 000 6122 09 15 000 6121 09 15 000 6126	09 15 000 6224 09 15 000 6223 09 15 000 6225 09 15 000 6222 09 15 000 6221 09 15 000 6226																														
				<table><tr><th colspan="2">Wire gauge</th><th>ø</th><th>Stripping length</th></tr><tr><td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>0.90 mm</td><td>8 mm</td></tr><tr><td>0.5 mm²</td><td>AWG 20</td><td>1.10 mm</td><td>8 mm</td></tr><tr><td>0.75 mm²</td><td>AWG 18</td><td>1.30 mm</td><td>8 mm</td></tr><tr><td>1 mm²</td><td>AWG 18</td><td>1.45 mm</td><td>8 mm</td></tr><tr><td>1.5 mm²</td><td>AWG 16</td><td>1.75 mm</td><td>8 mm</td></tr><tr><td>2.5 mm²</td><td>AWG 14</td><td>2.25 mm</td><td>6 mm</td></tr></table>	Wire gauge		ø	Stripping length	0.14-0.37 mm²	AWG 26-22	0.90 mm	8 mm	0.5 mm²	AWG 20	1.10 mm	8 mm	0.75 mm²	AWG 18	1.30 mm	8 mm	1 mm²	AWG 18	1.45 mm	8 mm	1.5 mm²	AWG 16	1.75 mm	8 mm	2.5 mm²	AWG 14	2.25 mm	6 mm	
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2.5 mm²	AWG 14	2.25 mm	6 mm																														
FOC contacts for 1 mm plastic fibre		20 10 001 3211	20 10 001 3221																														

* partly loaded insert

Stock items in bold type

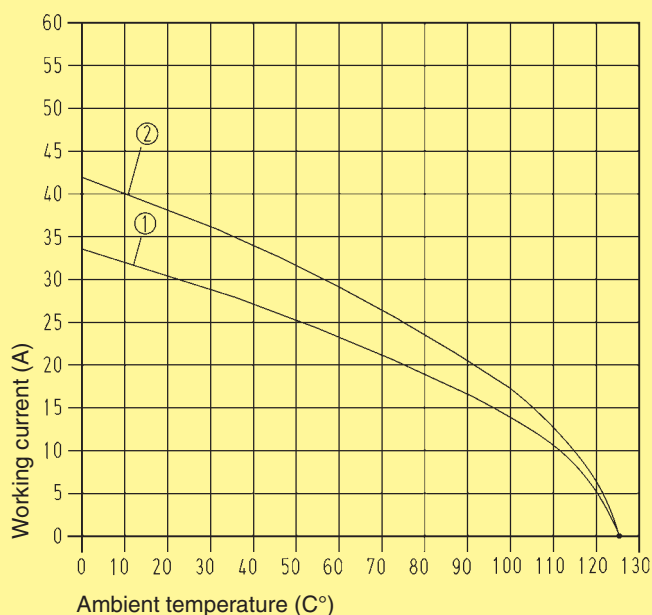
Features

- ❑ 4 power contacts Han® C 40 A
2 signal contacts Han D® 10 A
- ❑ Leading protective ground
- ❑ Protection against contact with the fingers acc. IEC 60 529
- ❑ Inserts are suitable for hoods and housings of the series Han-Compact® (not suitable for 19 12 008 0501)
- ❑ The power contacts can be removed with the aid of a removal tool from the termination side
- ❑ 3 coding possibilities by using a coding pin instead of the fixing screw

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



Wire gauge ① 2,5 mm²
② 4 mm²

Technical characteristics

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals



Inserts

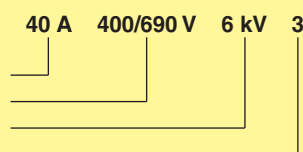
Number of contacts

4/2 + PE

Electrical data
acc. to DIN EN 61 984

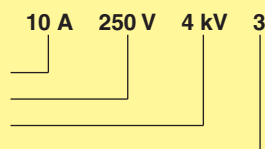
Power area

Working current
Working voltage
Rated impulse voltage
Pollution degree



Signal area

Working current
Working voltage
Rated impulse voltage
Pollution degree



Working voltage
acc. to UL

600/250 V

Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
- mating cycles

$\geq 10^{10} \Omega$
Polycarbonate
- 40 °C / + 125 °C
V 0
 ≥ 500

Contacts

Material
Surface
- hard-silver plated
- hard-gold plated
Contact resistance
Crimp terminal
- mm²
- AWG
Max. insulation
- Power contacts

copper alloy
3 µm Ag
2 µm Au over 3 µm Ni
 $\leq 0.3 \text{ m}\Omega$
1.5 - 6 mm² / 0.14 - 2.5 mm²
16 - 10 / 26 - 14
 $\varnothing = 5 \text{ mm}$

Plastic hoods/housings

Material
Locking element
Flammability acc. to UL 94
Hood/Housings seal
Limiting temperatures
Degree of protection
acc. to DIN EN 60 529
in locked position

Polycarbonate RAL 9005
Polyamide RAL 9005
V 0
NBR
- 40 °C / + 125 °C
IP 65

Accessories

Crimping tools

chapter 99

Number of contacts

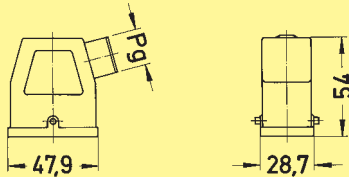
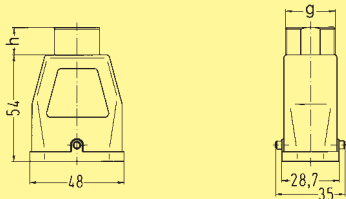
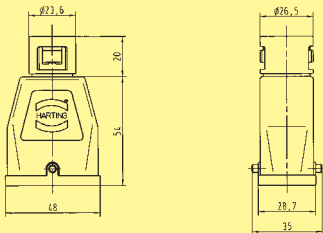
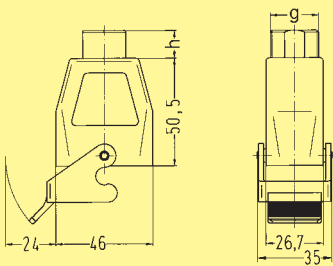
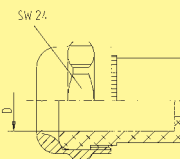
4/2 +


Inserts

Identification	Part No.		Drawing	Dimensions in mm
	Male insert (M)	Female insert (F)		
Crimp terminal Order crimp contacts separately 	09 12 006 3041	09 12 006 3141		Contact arrangement View from termination side

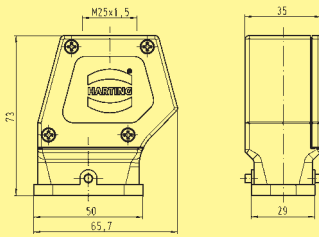
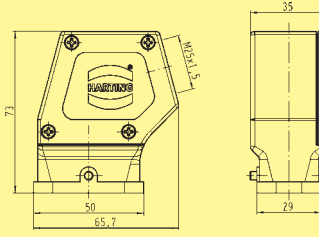
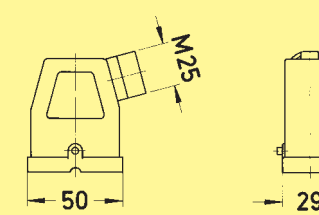
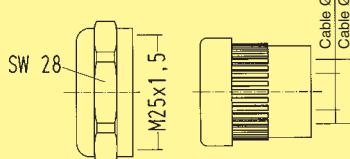
Identification	Wire gauge (mm²)	Part No.		Drawing	Dimensions in mm																												
		Male contacts	Female contacts																														
Crimp contacts Han C® contacts Power contacts silver plated 	2.5 4.0 6.0	09 32 000 6105 09 32 000 6107 09 32 000 6108	09 32 000 6205 09 32 000 6207 09 32 000 6208		<table border="1"> <thead> <tr> <th colspan="2">Wire gauge</th><th>Ø</th><th>Stripping length</th></tr> </thead> <tbody> <tr> <td>2.5 mm²</td><td>AWG 14</td><td>2.25</td><td>9</td></tr> <tr> <td>4.0 mm²</td><td>AWG 12</td><td>2.85</td><td>9.6</td></tr> <tr> <td>6.0 mm²</td><td>AWG 10</td><td>3.5</td><td>9.6</td></tr> </tbody> </table>	Wire gauge		Ø	Stripping length	2.5 mm²	AWG 14	2.25	9	4.0 mm²	AWG 12	2.85	9.6	6.0 mm²	AWG 10	3.5	9.6												
Wire gauge		Ø	Stripping length																														
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6.0 mm²	AWG 10	3.5	9.6																														
Crimp contacts Han D® contacts Signal contacts silver plated gold plated 	0.14-0.37 0.5 0.75 1.0 1.5 2.5* 0.14-0.37 0.5 0.75 1.0 1.5 2.5*	09 15 000 6104 09 15 000 6103 09 15 000 6105 09 15 000 6102 09 15 000 6101 09 15 000 6106 09 15 000 6124 09 15 000 6123 09 15 000 6125 09 15 000 6122 09 15 000 6121 09 15 000 6126	09 15 000 6204 09 15 000 6203 09 15 000 6205 09 15 000 6202 09 15 000 6201 09 15 000 6206 09 15 000 6224 09 15 000 6223 09 15 000 6225 09 15 000 6222 09 15 000 6221 09 15 000 6226		<table border="1"> <thead> <tr> <th colspan="2">Wire gauge</th><th>Ø</th><th>Stripping length</th></tr> </thead> <tbody> <tr> <td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>0.90 mm</td><td>8 mm</td></tr> <tr> <td>0.5 mm²</td><td>AWG 20</td><td>1.10 mm</td><td>8 mm</td></tr> <tr> <td>0.75 mm²</td><td>AWG 18</td><td>1.30 mm</td><td>8 mm</td></tr> <tr> <td>1 mm²</td><td>AWG 18</td><td>1.45 mm</td><td>8 mm</td></tr> <tr> <td>1.5 mm²</td><td>AWG 16</td><td>1.75 mm</td><td>8 mm</td></tr> <tr> <td>2.5 mm²</td><td>AWG 14</td><td>2.25 mm</td><td>6 mm</td></tr> </tbody> </table>	Wire gauge		Ø	Stripping length	0.14-0.37 mm²	AWG 26-22	0.90 mm	8 mm	0.5 mm²	AWG 20	1.10 mm	8 mm	0.75 mm²	AWG 18	1.30 mm	8 mm	1 mm²	AWG 18	1.45 mm	8 mm	1.5 mm²	AWG 16	1.75 mm	8 mm	2.5 mm²	AWG 14	2.25 mm	6 mm
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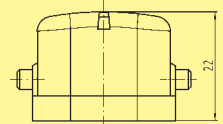
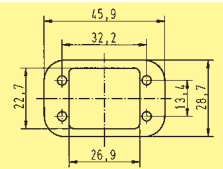
Han
Q

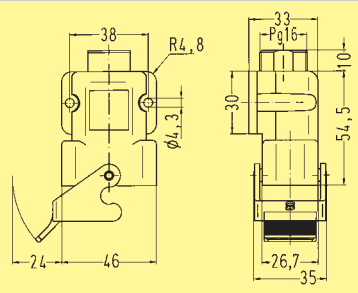
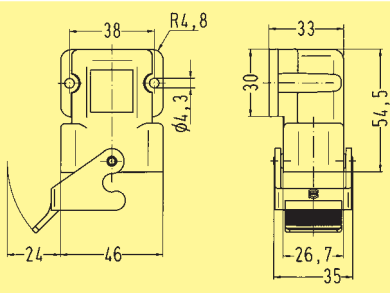
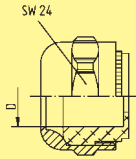
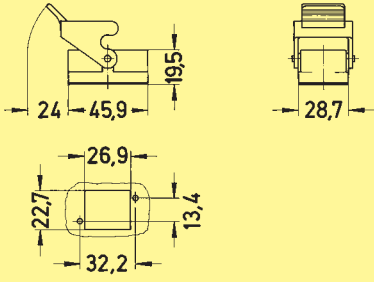
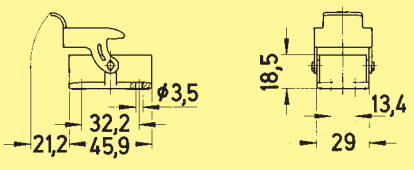
Identification		Part No.	Drawing	Dimensions in mm																		
Hoods	Hood thermoplastic Cable gland order separately 	09 12 008 0527	Pg 16																			
	Hood thermoplastic Cable gland order separately 	09 12 008 0427 19 12 008 0429	Pg 16 M 25	<table border="1"><thead><tr><th>h</th><th>g</th></tr></thead><tbody><tr><td>13</td><td>Pg 16</td></tr><tr><td>14</td><td>M 25x1.5</td></tr></tbody></table>		h	g	13	Pg 16	14	M 25x1.5											
	h	g																				
	13	Pg 16																				
	14	M 25x1.5																				
Hood thermoplastic Cable gland order separately 	09 12 008 0428	PAFS 18																				
Housing cable to cable thermoplastic Cable gland order separately 	09 12 008 0727 19 12 008 0729	Pg 16 M 25	<table border="1"><thead><tr><th>h</th><th>g</th></tr></thead><tbody><tr><td>13</td><td>Pg 16</td></tr><tr><td>14</td><td>M 25x1.5</td></tr></tbody></table>		h	g	13	Pg 16	14	M 25x1.5												
h	g																					
13	Pg 16																					
14	M 25x1.5																					
Cable seal thermoplastic for hoods Thrust bolt and insert 	09 00 000 5059 19 12 000 5157 19 12 000 5158	Pg 16 M 25 M 25	<table border="1"><thead><tr><th rowspan="2"></th><th rowspan="2">Colour</th><th rowspan="2">SW</th><th colspan="2">Cable</th></tr><tr><th>min.</th><th>max.</th></tr></thead><tbody><tr><td>Pg 16</td><td rowspan="3">white</td><td rowspan="3">24</td><td>11.5 mm</td><td>15.5 mm</td></tr><tr><td>M 25</td><td>10.5 mm</td><td>14 mm</td></tr><tr><td>M 25</td><td>14 mm</td><td>17 mm</td></tr></tbody></table>			Colour	SW	Cable		min.	max.	Pg 16	white	24	11.5 mm	15.5 mm	M 25	10.5 mm	14 mm	M 25	14 mm	17 mm
	Colour	SW	Cable																			
			min.	max.																		
Pg 16	white	24	11.5 mm	15.5 mm																		
M 25			10.5 mm	14 mm																		
M 25			14 mm	17 mm																		

Stock items in bold type

Housings

Hood metal top-entry  Cable gland order separately	19 12 008 0426	M 25							
Hood metal side-entry  Cable gland order separately	19 12 008 0526	M 25							
Hood metal  Cable gland order separately	19 12 008 0501	M 25							
Cable seals metal  Thrust bolt, insert	19 12 000 5057 19 12 000 5058	M 25 M 25	<table><tr><th>Cable Ø min.</th><th>Cable Ø max.</th></tr><tr><td>10.5 mm</td><td>14 mm</td></tr><tr><td>14 mm</td><td>17 mm</td></tr></table> 	Cable Ø min.	Cable Ø max.	10.5 mm	14 mm	14 mm	17 mm
Cable Ø min.	Cable Ø max.								
10.5 mm	14 mm								
14 mm	17 mm								

Identification	Part No.	Drawing	Dimensions in mm
Protection covers thermoplastic 	for male insert without sealing 09 12 008 5407	for female insert with sealing 09 12 008 5408	
Gasket Han® Q 8/0 	09 12 000 9912		

Identification		Part No.	Drawing	Dimensions in mm
Housings	Housing surface mounting thermo- plastic angled Cable gland order separately 	09 12 008 0901	Pg 16	
	Housing bulkhead mounting thermo- plastic angled 	09 12 008 0902		
	Cable seal thermoplastic for housings Thrust bolt and insert 	09 00 000 5058	Pg 16	
	Housing bulkhead mounting thermoplastic 	09 12 008 0327		
	Housing bulkhead mounting metal 	09 12 008 0301		

Stock items in bold type

Han® K 3/0, K 3/2 / Han® HC Modular

Page

Technical characteristics Han® K 3/0, Han® K 3/2	14.10
Inserts Han® K 3/0, Han® K 3/2	14.11
Han® 24 HPR special hoods/housings for Han® K 3/0, Han® K 3/2	14.12
Technical characteristics Han® HC Modular 350	14.14
Contacts Han® HC Modular 350	14.15
Hoods/housings for working voltage: 2 000 V Han® HC Modular	14.16
Hoods/housings for working voltage: 4 000 V Han® HC Modular	14.17
Assembly details for Han® HC Modular 350	14.19
Technical characteristics Han® HC Modular 650	14.20
Contacts Han® HC Modular 650	14.21
Hoods/housings for Han® HC Modular 650	14.21
Assembly details for Han® HC Modular 650	14.22
Han® 48 HPR	14.23

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Inserts

Number of contacts 3, 3/2 + PE

Electrical data
acc. to DIN EN 61 984

Power area

200 A 1150/2000 V 8 kV 3

Working current
Working voltage conductor – ground
Working voltage conductor – conductor
Rated impulse voltage
Pollution degree

– Pollution degree 2 also

200 A 2000 V 12 kV 2

Signal area

16 A 400 V 6 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree

– Pollution degree 2 also

16 A 500 V 6 kV 2

Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
– Mating cycles

≥ 10¹⁰ Ω
Polycarbonate
- 40 °C / +125 °C
V 0
≥ 500

Contacts

Material copper alloy
Surface silver
Contact resistance ≤ 0.2 mΩ

Axial screw contact

- Wire gauge
- Tightening torque

mm ²	35	50	70
Nm	8	9	10

Power contact

- Wire gauge¹⁾ 35 - 70 mm²
- AWG 2 - 2/0
- Tightening torque 8 - 10 Nm
- Hexagonal wrench SW 5, 09 99 000 0371, page 99.05
- Stripping length 22 mm

PE contact (only Han K 3/2)¹⁾

- Wire gauge 16 - 35 mm²
- AWG 5 - 2
- Tightening torque 6 Nm
- Hexagonal wrench SW 4, 09 99 000 0370, page 99.05
- Stripping length 14 mm

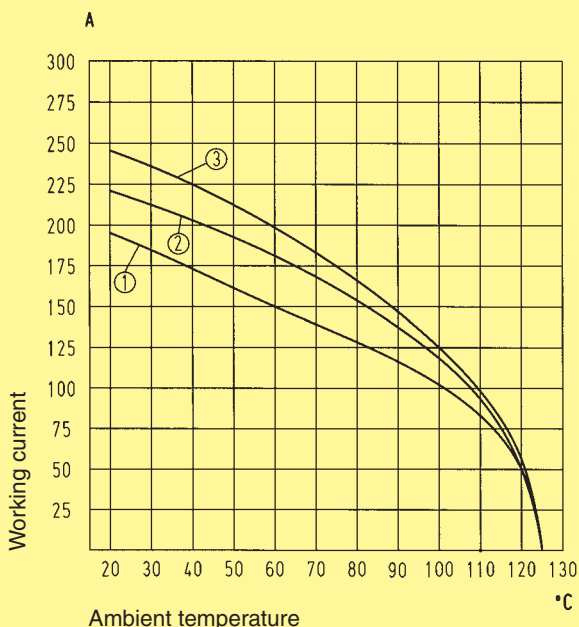
Signal contact (only Han K 3/2)

- Wire gauge 2,5 mm²
- AWG 14
- Tightening torque 0.5 Nm
- Stripping length 7 mm

Current carrying capacity acc. to IEC 512

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 512-3.



① Wire gauge: 35 mm²

② Wire gauge: 50 mm²

③ Wire gauge: 70 mm²

Features

- Only to be used with Han® 24 HPR special hoods and housings (see page 14.12)
- Only available with axial screw termination
- The vertical and angled versions offer solutions for almost all applications
- The ideal connector for transmission of high currents requiring little space

Han® HPR hoods/housings

Technical characteristics

Material	corrosion resistant aluminium alloy
Surface	
- top coat	Epoxy powder paint
Locking elements	V2A
Kind of locking	Screw
Seal	NBR
Limiting temperatures	- 40 °C / +125 °C
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 68

Features

- Epoxy powder paint finish
- EMC protection
- Corrosion resistant
- Pressure tight

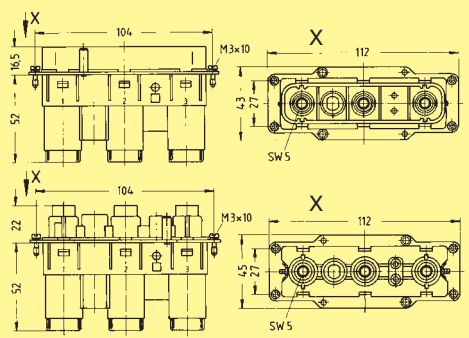
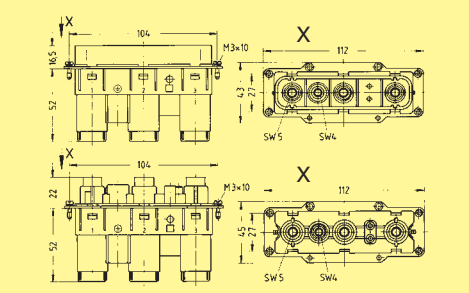
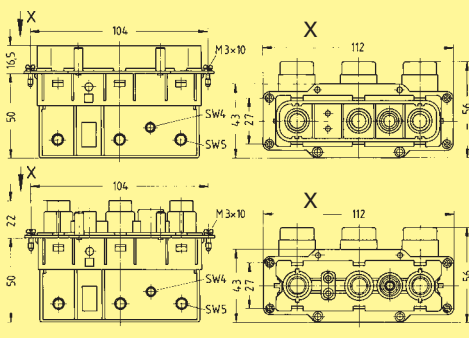
Number of contacts

3/0 without

3/2 with

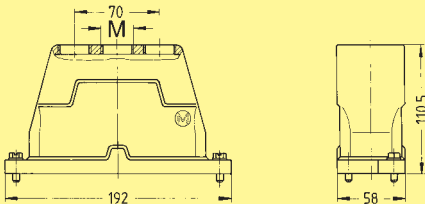
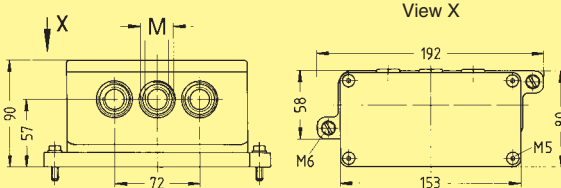
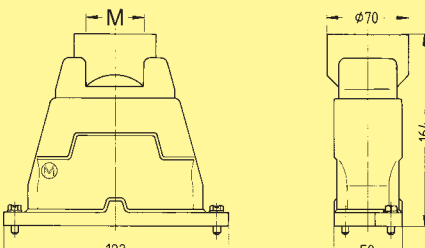
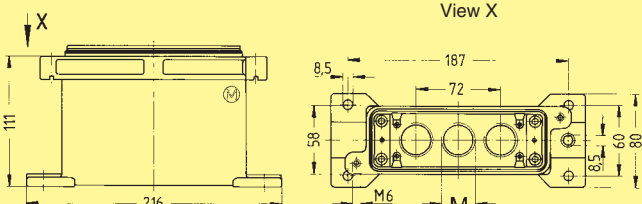
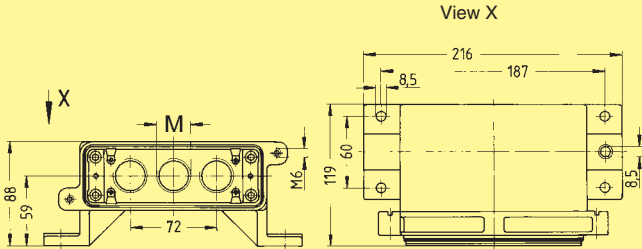
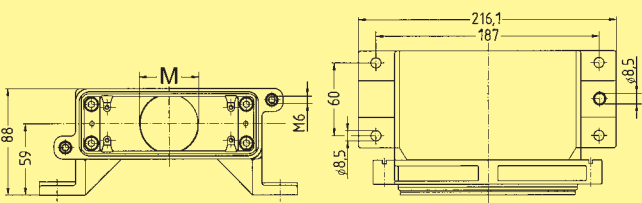
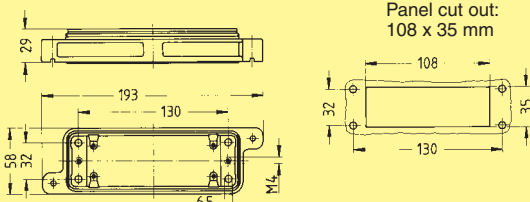
Inserts



		Part No.		Drawing	Dimensions in mm
Identification	Series	Male insert (M)	Female insert (F)		
Axial screw terminal top-entry  angled 	Han® K	3/0	09 38 005 2621	09 38 005 2721	
Axial screw terminal top-entry  angled 	Han® K	3/2	09 38 005 2601	09 38 005 2701	
Axial screw terminal top-entry  angled 	Han® K	3/2	09 38 005 2602	09 38 005 2702	

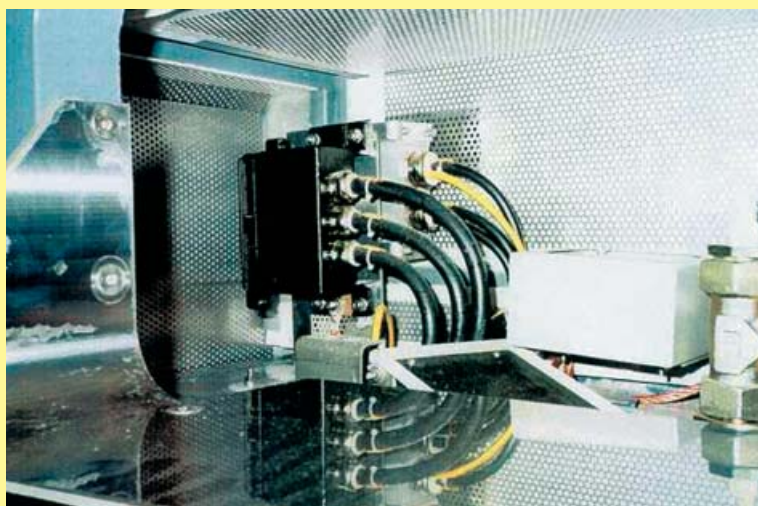
¹⁾ Distance for contact max. 21 mm¹⁾ Distance for contact max. 21 mmHan HC
Modular

Stock items in bold type

Identification	Part No. Screw locking	Serie M	Drawing	Dimensions in mm
Hood top-entry 	19 40 024 0461	Han® K 3/0 3 x 25		
angled entry 	19 40 024 0631	3 x 25		
top-entry for M 63 	19 40 024 0420	Han® K 3/2 63		
Housing surface mounting straight version 	19 40 024 1231	Han® K 3/0 3 x 25		
horizontal version 	19 40 024 0931	3 x 25		
	19 40 024 0914	50		
Housing bulkhead mounting 	09 40 024 0311	Han® K 3/0 + 3/2 24		Panel cut out: 108 x 35 mm

Stock items in bold type

Regional Express Railcars
of the series ET 424-426
Bombardier Transportation,
Siemens AG, ALSTOM



Motor connection of the traction bogie
with Han® K 3/0 and Han® HPR
hood/housing
Bombardier Transportation,
Siemens AG, ALSTOM

Han HC
Modular

Modular High Current Connector System



Technical characteristics

Specification

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Inserts

Number of contacts 1, 2, 3 or 3 + PE

Electrical data
acc. to DIN EN 61 984

without adapter

350 A 2000 V 12 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree

with adapter

350 A 4000 V 18 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree

Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
- Mating cycles

$\geq 10^{10} \Omega$
Polyamide
- 40 °C / +125 °C
V 0
 ≥ 500

Contacts

Material
Surface
Contact resistance
Axial screw terminal
- Wire gauge¹⁾

copper alloy
silver
 $\leq 0.2 \text{ m}\Omega$
35 - 70 mm² or
95 - 120 mm²
1 - 00
000 - 0000
SW 5, 09 99 000 0371, page 99.05

- AWG
- Hexagonal wrench
- Tightening torque

mm ²	35	50	70	95	120
Nm	8	10	12	14	16

Stripping length
Max. cable diameter
Screw terminal

19⁺¹ mm
19.5 mm

- Thread
- Hexagonal wrench
- Tightening torque

M 10
SW 17
14 Nm

Frame

Tightening torque of the
fixing screws
Tightening torque of the
cross-tying screws
on the frame for 4 poles

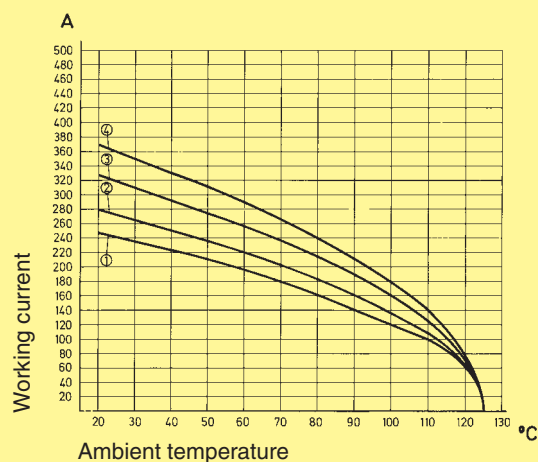
0.5 Nm

1.5 Nm

Current carrying capacity acc. to IEC 512

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 512-3.



- ① Wire gauge: 50 mm²
- ② Wire gauge: 70 mm²
- ③ Wire gauge: 95 mm²
- ④ Wire gauge: 120 mm²

three contacts in HPR size 24

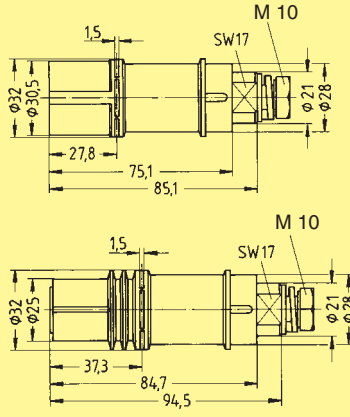
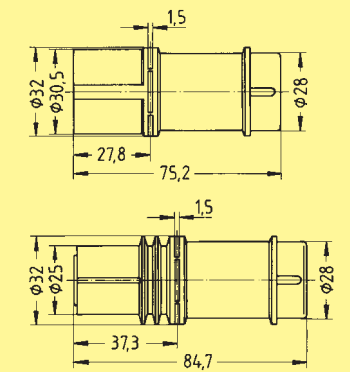
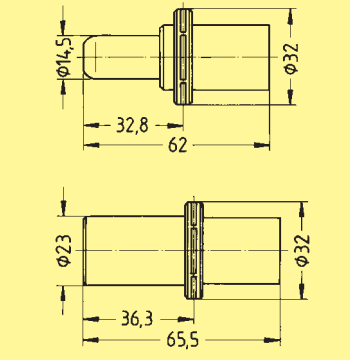
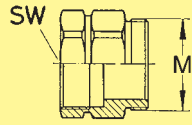
Han® HPR Hoods/Housings

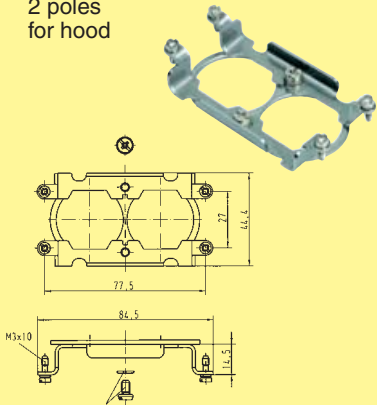
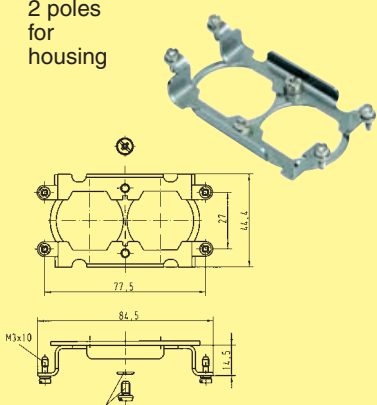
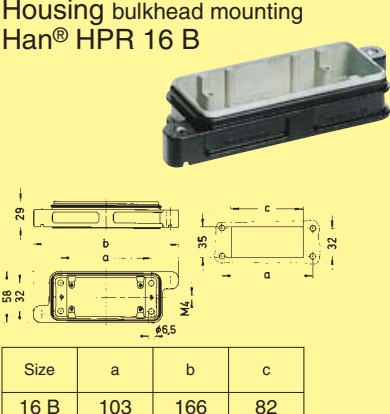
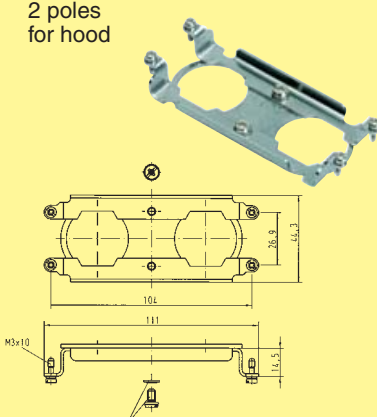
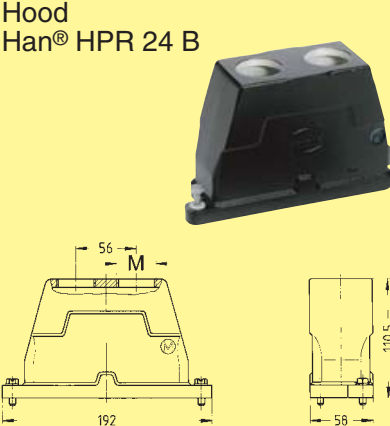
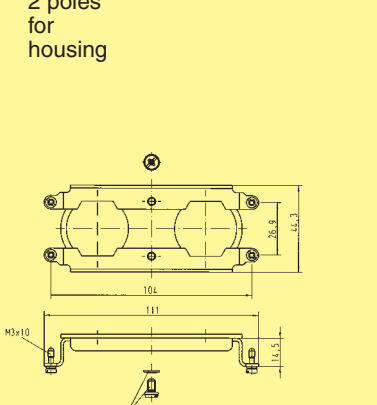
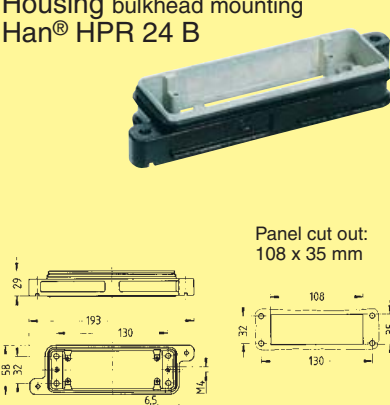
Material corrosion resistant aluminium die-cast
Surface powder paint RAL 9005
- Top coat
Locking elements V2A steel
Kind of locking screw
Seal NBR
Limiting temperatures - 40 °C / +125 °C
Degree of protection acc. to DIN 40 050 for coupled connector IP 68

Han® M Hoods/Housings

Material corrosion resistant aluminium die-cast
Surface chromated
- Priming
- Top coat powder paint RAL 9005
Locking elements V2A steel
Seal FPM
Limiting temperatures - 40 °C / +125 °C
Degree of protection acc. to DIN 40 050 for coupled connector IP 65

¹⁾ geometrical diameter

Contacts	Part No.		Wire gauge	Drawing	Dimensions in mm
	Male contact (M)	Female contact (F)			
Straight version with screw terminal only for housing bulkhead mounting					
	09 11 001 2655	09 11 001 2755	for cable lug up to max. 120 mm ²		
with axial screw terminal					
	09 11 001 2651 09 11 001 2652	09 11 001 2751 09 11 001 2752	35 - 70 mm ² 95 - 120 mm ²		
PE contact with axial screw terminal					
	09 11 000 6156	09 11 000 6256	35 - 70 mm ²		
Hexagonal wrench adapter (SW 5)	09 99 000 0371				
					
Hexagonal adapter	Part No.	M	SW	Drawing	Dimensions in mm
Metal version with O-Ring					
	19 36 000 5134 19 36 000 5135	25 32	30 40		

Frame	Part No.	Hoods/Housings top-entry	M	Part No.								
2 poles for hood 	09 11 000 9952	Hood Han® HPR 16 B 	2 x 25	19 40 016 0431								
2 poles for housing 	09 11 000 9952	Housing bulkhead mounting Han® HPR 16 B  <table border="1"><thead><tr><th>Size</th><th>a</th><th>b</th><th>c</th></tr></thead><tbody><tr><td>16 B</td><td>103</td><td>166</td><td>82</td></tr></tbody></table>	Size	a	b	c	16 B	103	166	82	—	09 40 016 0311
Size	a	b	c									
16 B	103	166	82									
2 poles for hood 	09 11 000 9956	Hood Han® HPR 24 B 	2 x 32	19 40 024 0432								
2 poles for housing 	09 11 000 9956	Housing bulkhead mounting Han® HPR 24 B  Panel cut out: 108 x 35 mm	—	09 40 024 0311								

* A working voltage of 4 000 V is only possible to realize by using a hexagonal adapter and the HARTING cable gland, in order to realize the clearance and creepage distances according to DIN VDE 0110.

Frame

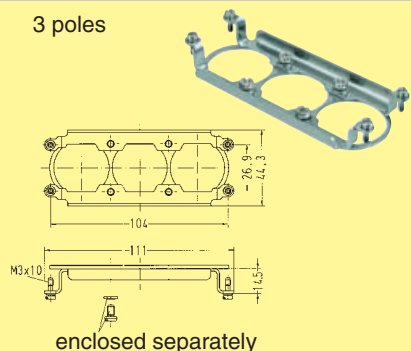
Part No.

Hoods/Housings top-entry

M

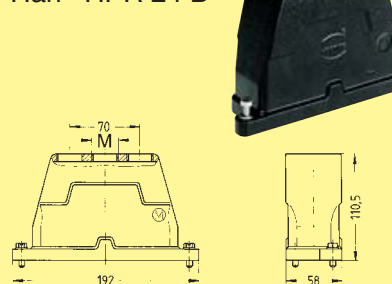
Part No.

3 poles



09 11 000 9963

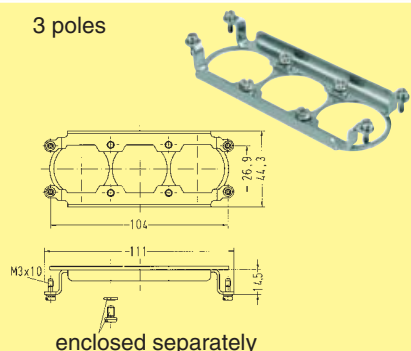
Hood
Han® HPR 24 B



3 x 25

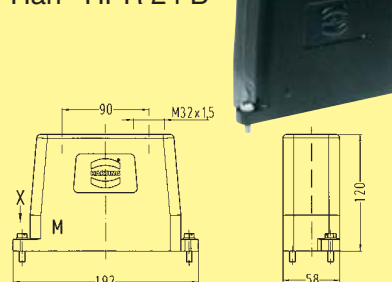
19 40 024 0461

3 poles



09 11 000 9963

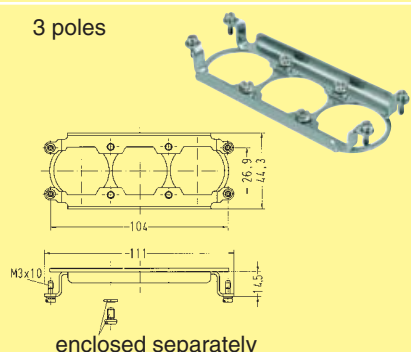
Hood
Han® HPR 24 B



3 x 32

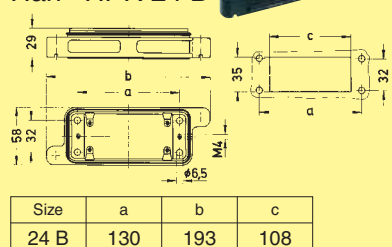
19 40 024 0467

3 poles



09 11 000 9963

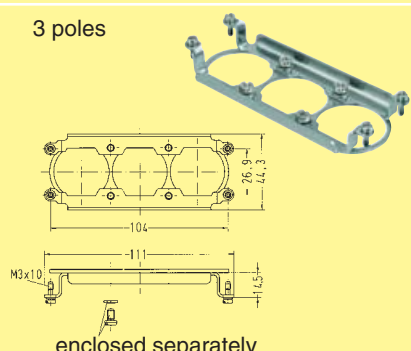
Housing
bulkhead mounting
Han® HPR 24 B



—

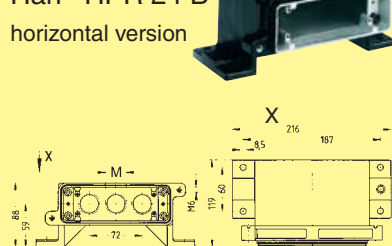
09 40 024 0311

3 poles



09 11 000 9963

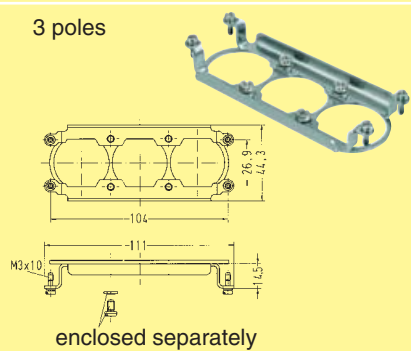
Housing
surface mounting
Han® HPR 24 B



3 x 25

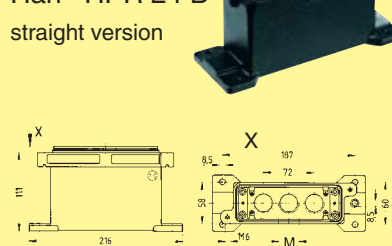
19 40 024 0931

3 poles



09 11 000 9963

Housing
surface mounting
Han® HPR 24 B



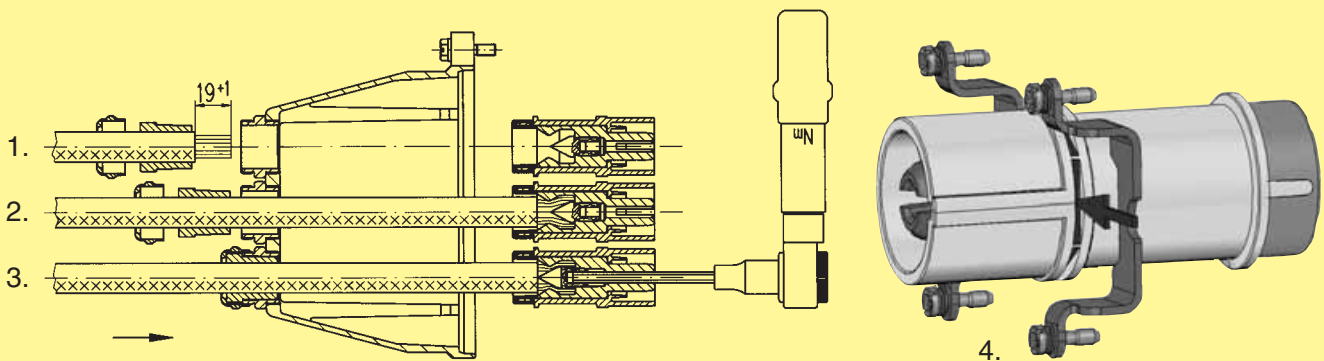
3 x 25

19 40 024 1231

* A working voltage of 4 000 V is only possible to realize by using a hexagonal adapter and the HARTING cable gland, in order to realize the clearance and creepage distances according to DIN VDE 0110.

Stock items in bold type

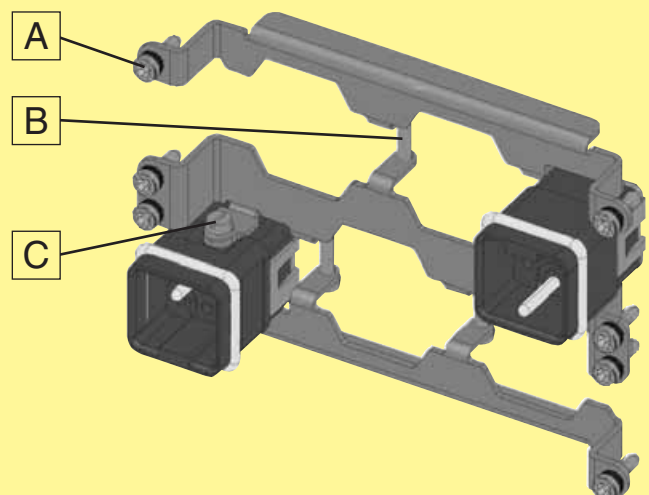
Assembly Details



1. Strip cable to 19+1 mm.
2. Push conductors through the cable gland and the housing. Push the stripped end of the conductor into the connection entry of the module until the insulation touches the contact.
3. To tighten the locking screw, a hexagonal wrench size 5 is needed. Insert the hexagonal wrench on the mating side of the contact. At the same time, push the conductor over the axial screw. The locking screw has to be tightened with the recommended tightening torque that is determined by the conductor's cross section (6 - 14 Nm).
4. Once all modules are terminated, they are mounted into the housing by means of two metal frames (tightening torque of the fixing screws = 0.5 Nm). The modules have a hexagonal around it which mates with the metal frame. The heads of the fixing screws have to face the mating direction of the module. Due to the hexagonal slot, each module can be used in 6 different positions (turning every 60 degrees) to create a coding system.

Therefore it is important that the corresponding modules are assembled in the correct position or mating is not possible.

5. After the assembly of the modules in the housing, the tightening torque of the locking screw can be checked and corrected if necessary.
6. After final assembly of the contacts, the user should ensure that the cable is adequately strain relieved to protect the contact from radial stress.
7. During the assembly of the frame for 4 poles the following tightening torques have to be taken into consideration:
 - A = 0.5 Nm
 - B = 1.5 Nm
 - C = 0.25 Nm





Modular High Current Connector System

Technical characteristics

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Contacts

Material	copper alloy
Surface	silver
Contact resistance	≤ 0.2 mΩ
Axial screw contact	
- Wire gauge ¹⁾	70 - 120 mm ² oder 150 - 185 mm ²
- MCM	138 - 236 oder 300 - 350

Inserts

Number of contacts 1, 2

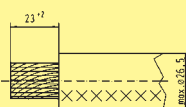
Electrical data
acc. to DIN EN 61 984

650 A 4000 V 18 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree

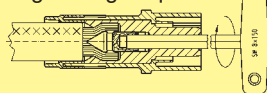
Insulation resistance ≥ 10¹⁰ Ω
Material Polyamide
Limiting temperatures - 40 °C / +125 °C
Flammability acc. to UL 94 V 0
Mechanical working life
- Mating cycles ≥ 500

Stripping length



Axial screw contact

- Wire gauge
- Tightening torque



mm ²	70	95	120	150	185
Nm	12	14	16	17	18

min. length of wrench: 60 mm

Hexagonal wrench

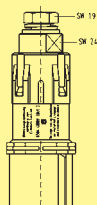
Adapter (SW8)

09 99 000 0372
page 99.05



Screw contact

- Thread M 12
- 16 - 18 Nm



Please ensure to hold up the contact with a wrench size 24 to apply the tightening torque

Frame

Material V2A
Tightening torque
of the locking screws 0.5 Nm

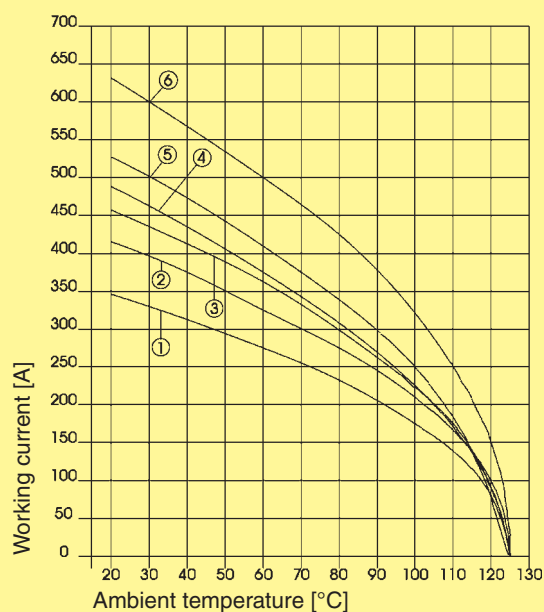
Han® HPR hoods/housings

Material Corrosion resistant aluminium die-cast
Surface - top coat Epoxy powder paint RAL 9005
Locking elements V2A
Kind of locking screw
Sealing NBR
Limiting temperatures - 40 °C / +125 °C
Degree of protection acc. to DIN 40 050 for coupled connector IP 68

Current carrying capacity acc. to IEC 512

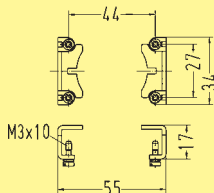
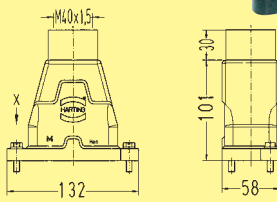
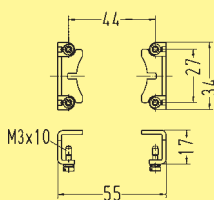
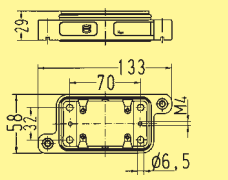
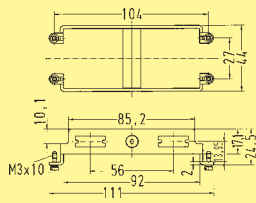
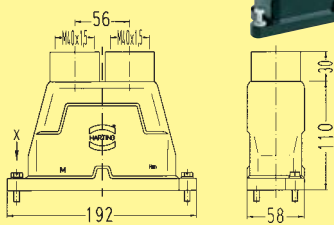
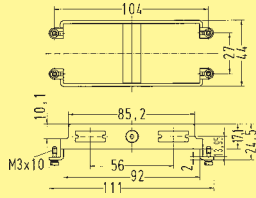
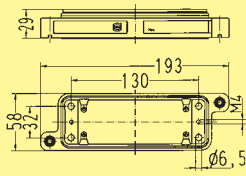
The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 512-3.



- ① Wire gauge: 70 mm²
② Wire gauge: 95 mm²
③ Wire gauge: 120 mm²
④ Wire gauge: 150 mm²
⑤ Wire gauge: 180 mm²
⑥ Wire gauge: 240 mm²
with cable SHXAFO1x240, 4 kV

Contacts	Part No.		Wire gauge		
	Male contact (M)	Female contact (F)		Male contact	Female contact
Straight version					
	with screw terminal*	09 11 001 2675	09 11 001 2775	70 - 240 mm ²	 
with axial screw terminal	09 11 001 2671 09 11 001 2672	09 11 001 2771 09 11 001 2772	70 - 120 mm ² 150 - 185 mm ²	 	

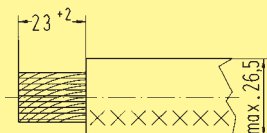
Frame	Part No.	Hoods/Housings top-entry	M	Part No.
1 pole for hood		Hood Han® HPR 6 B		
 	09 11 000 9971	 	40	19 40 006 0418
1 pole for housing		Housing bulkhead mounting Han® HPR 6 B		
 	09 11 000 9971	 	—	09 40 006 0314
2 poles for hood		Hood Han® HPR 24 B		
 	09 11 000 9972	 	40	19 40 024 0438
2 poles for housing		Housing bulkhead mounting Han® HPR 24 B		
 	09 11 000 9972	 	—	09 40 024 0311

* only for bulkhead mounting housings

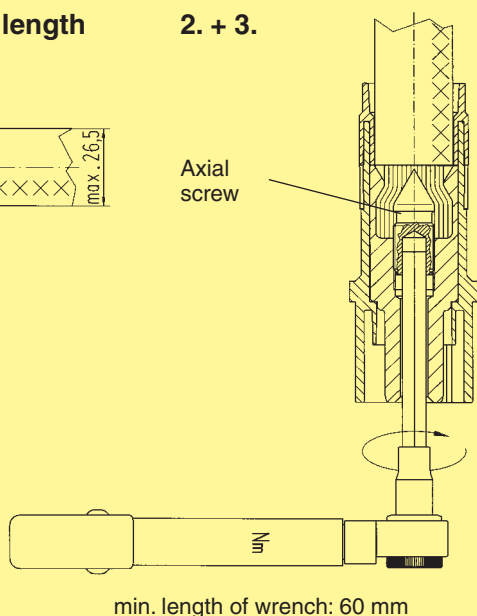
Stock items in bold type

Assembly details

1. Stripping length



2. + 3.

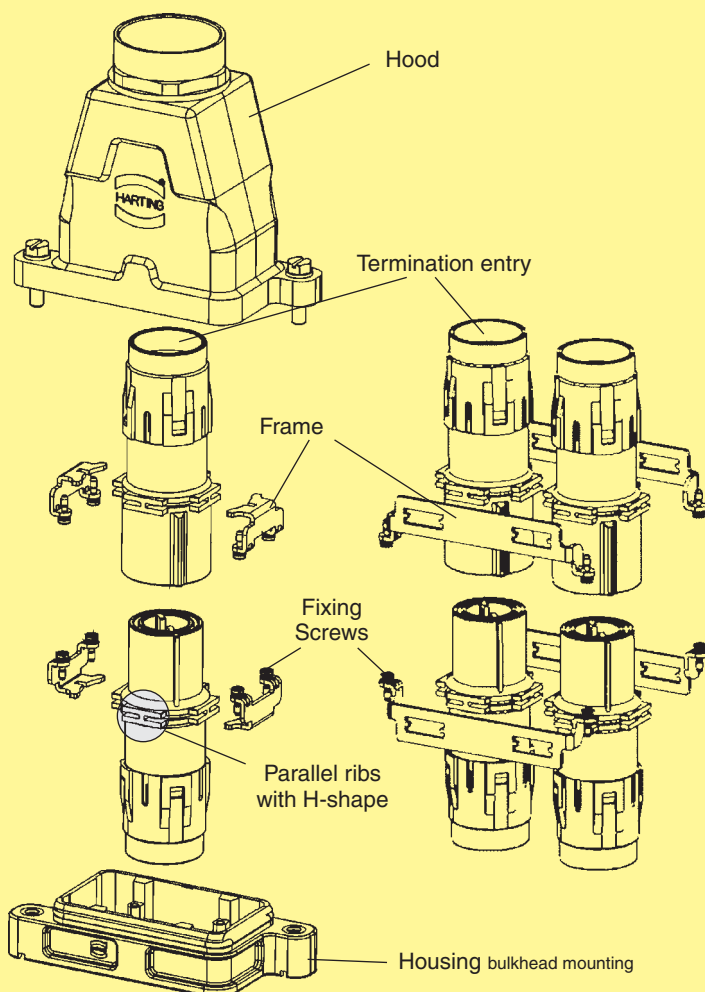


1. Strip cable to 23^{+2} mm.

2. Push conductor through the cable gland and the housing. Push the stripped end of the conductor into the termination entry of the module until the insulation touches the contact.

3. To tighten the axial screw, a hexagonal wrench size 8 is needed. Insert the hexagonal wrench on the mating side of the contact. At the same time, push the conductor over the axial screw. The locking screw has to be tightened with the recommended tightening torque that is determined by the conductor's cross section.

4. + 5.



4. Once the modules are terminated, they are mounted into the housing by using two metal frames (tightening torque of the fixing screws = 0.5 Nm). The modules have 4 pegs formed by 2 parallel ribs (each peg shapes like a "H"). Each rib takes 1 pole frame, where the lateral link has to go into the relief of the frame.

The 2 pole frames have 2 cutouts on the wall which get fitted to the "H"-shaped pegs (see figure).

The heads of the screws have to face the mating direction of the module. Coding can be established by rotating the contact by 90 degrees. Therefore it is important that the corresponding modules are assembled in the correct position otherwise mating is not possible.

5. After assembling the modules in the housing, the tightening torque of the locking screw can be checked and corrected if necessary.

6. After final assembly of the contacts, the user should ensure that the cable is adequately strain relieved to protect the contact from radial stress.



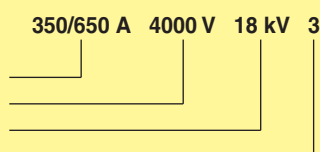
Technical characteristics

Inserts

Number of contacts i. e. 4, 5, 6, 10
depending on the frame

Electrical data
acc. to DIN EN 61 984

Working current
Working voltage
Rated impulse voltage
Pollution degree



Insulation resistance
Material
Contact resistance
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
- Mating cycles

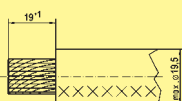
$\geq 10^{10} \Omega$
Polyamide
 $\leq 0,2 \text{ m}\Omega$
- 40 °C / +125 °C
V 0
 ≥ 500

Contacts HC 350

Material
Surface
Contact resistance
Axial screw termination
- Wire gauge¹⁾
- AWG

copper alloy
silver
 $\leq 0,2 \text{ m}\Omega$
35 - 70 mm² or
95 - 120 mm²
1 - 00 or
000 - 0000

Stripping length



- Wire gauge
- Tightening torque

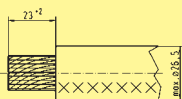
mm ²	35	50	70	95	120
Nm	8	10	12	14	16

Contacts HC 650

Material
Surface
Contact resistance
Axial screw termination
- Wire gauge¹⁾
- MCM

copper alloy
silver
 $\leq 0,2 \text{ m}\Omega$
70 - 120 mm² or
150 - 185 mm²
138 - 236 or
300 - 350

Stripping length



- Wire gauge
- Tightening torque

mm ²	70	95	120	150	185
Nm	12	14	16	17	18

Features

- ☐ Well proven Han® HPR design
- ☐ Corrosion resistant alloy
- ☐ Good EMC features
- ☐ Degree of protection IP 68
- ☐ Easy assembly
- ☐ Secure termination, easy to control
- ☐ Vibration resistant acc. to DIN EN 61 373
- ☐ Ideal motor / drive connector for the transportation sector

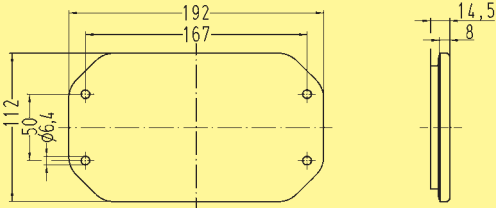
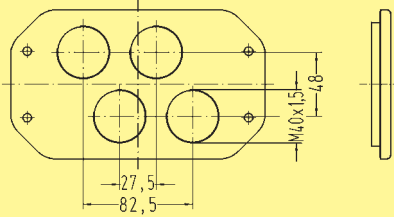
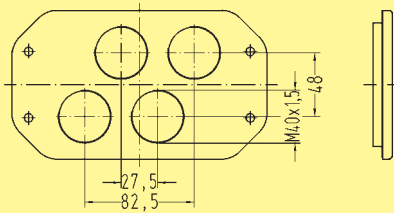
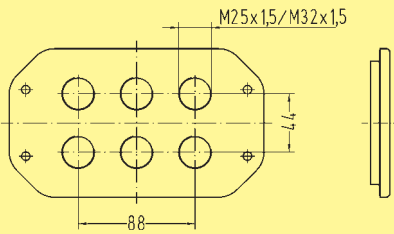
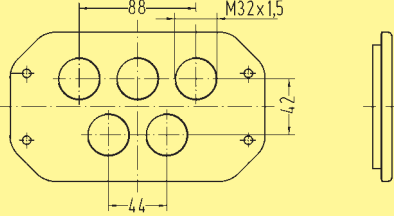
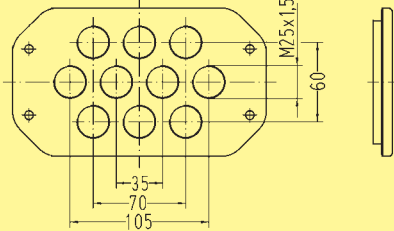
Frame

Material V2A
Tightening torque
of the locking screws 2 Nm

Han® HPR hoods/housings

Material Corrosion resistant
aluminium die-cast
Surface Epoxy powder paint RAL 9005
Locking elements V2A
Tightening torque 4 Nm
Sealing NBR
Limiting temperatures - 40 °C / +125 °C
Degree of protection acc. to
DIN 60 529 for coupled connector IP 68

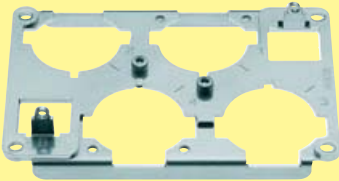
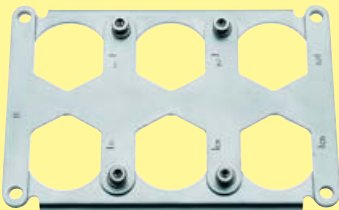
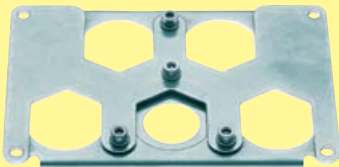
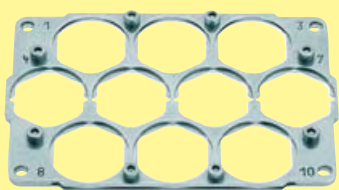
¹⁾ geometrical diameter

Identification	Part No.	Drawing	Dimensions in mm
Cover* without cable entry 	09 40 048 9801		
Cover* 4 x M40 for male inserts 	19 40 048 9801		
Cover* 4 x M40 for female inserts 	19 40 048 9901		
Cover* 6 x M25 6 x M32 	19 40 048 9820 19 40 048 9822		
Cover* 5 x M32 	19 40 048 9812		
Cover* 10 x M25 	19 40 048 9860		

* Included in delivery range: 4 distance pieces
4 screws M6
4 washers

Stock items in bold type

Han HC
Modular

Identification	Part No.		Depiction
	Male (M)	Female (F)	
Frame for 4 standard inserts size 16 B Suitable for hoods and surface mounted housings only	09 40 048 9912	09 40 048 9912	
Frame for 4 x HC 350 contacts + 2 x Han® Q 5/0	09 40 048 9810	09 40 048 9910	
Frame for 4 x HC 650 contacts + 2 x Han® Q 5/0	09 40 048 9811	09 40 048 9911	
Frame for 6 x HC 350 contacts	09 40 048 9806	09 40 048 9906	
Frame for 4 x HC 350 contacts + PE	09 40 048 9809	09 40 048 9909	
Frame for 10 x HC 350 contacts	09 40 048 9860	09 40 048 9960	

Stock items in bold type

Power Distribution

Page

Technical characteristics	15.10
Han-Power® S	15.12
Han® Q 8/0	15.14
Han® Q 4/2	15.16
System cables	15.18
Accessories	15.20

Technical characteristics

Specifications	DIN VDE 61 984 DIN VDE 0110
----------------	--------------------------------

Inserts Han® Q 8/0

Number of contacts	6 + PE
Rated current (partly loaded)	25 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Insulation resistance	$\geq 10^{10} \Omega$
Flammability acc. to UL 94	V 0
Mechanical working life	≥ 500 mating cycles

Han® E contacts

Material	Copper alloy
Surface: hard silver plated	3 μm Ag
Contact resistance	$\leq 1 \text{ m}\Omega$
Crimp terminal – mm ²	2.5 - 4 mm ²
– AWG	18 - 12

Inserts Han® Q 4/2

Number of contacts	4/2 + PE
Rated current	40 A
Rated voltage	400 / 690 V
Rated impulse voltage	6 kV
Pollution degree	3
Insulation resistance	$\geq 10^{10} \Omega$
Temperature range	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	≥ 500 mating cycles

Han® C contacts

Material	Copper alloy
Surface: hard silver plated	5 μm Ag
Contact resistance	$\leq 0.3 \text{ m}\Omega$
Crimp terminal – mm ²	2.5 - 6 mm ²
– AWG	14 - 10
Max. insulation diameter of single strand	5 mm

Hoods/housings

Material	Polycarbonate
Colour	RAL 9005
Sealing	NBR
Temperature range	
– Connecting temperature	-25 °C ... +40 °C
– Working temperature	-25 °C ... +80 °C
Flammability acc. to UL 94	V 0
Protection degree acc. to DIN 40 050 in locked position	IP 65

Cable

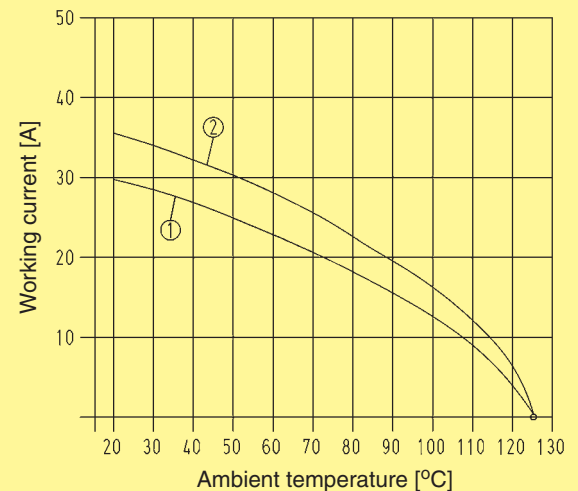
Design of conductor	acc. to DIN VDE 0295 and DIN VDE 0281
Single strand	
Wire gauge 2.5 mm ²	
Number of single strands	50 x 0.25 mm Ø
Outer diameter	3.6 mm Ø
Wire gauge 4 mm ²	
Number of single strands	56 x 0.30 mm Ø
Outer diameter	4.2 mm Ø

Current carrying capacity

Current carrying capacity

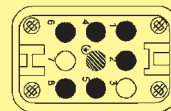
The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.

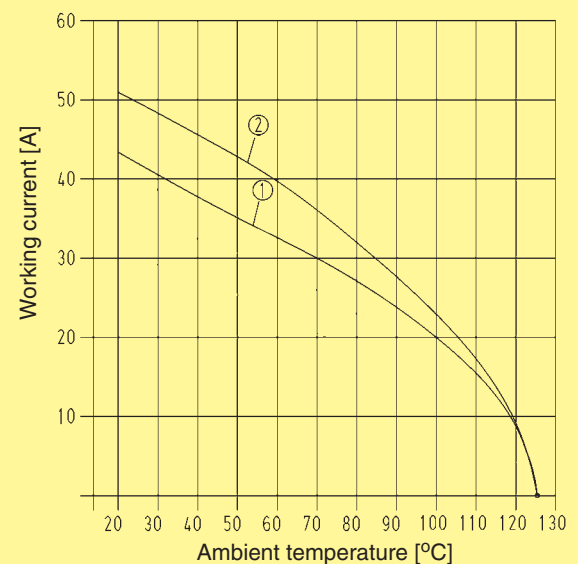


① Han® Q 8/0 wire gauge: 2.5 mm²

② Han® Q 8/0 wire gauge: 4 mm²

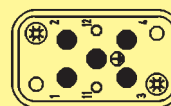


Han® Q 8/0 partly loaded with wire gauge 7 x 4 mm²



① Han® Q 4/2 wire gauge: 4 mm²

② Han® Q 4/2 wire gauge: 6 mm²



Han® Q 4/2 fully loaded with wire gauge 4 x 6 mm²

Features

- 6 IDCs + PE for 2.5 mm² up to 6 mm² wire gauge
- No interruption of the energy supply
- Space-saving and compact design
- Leading protective ground within the insert
- Assembly with standard tools
- T-functionality for max. 500 V:
 - Energy bus structure: 7 x 4 mm² or 7 x 6 mm²
 - Power supply structure: 7 x 4 mm² (Han-Power® S)
7 x 2.5 mm² (Han-Power® S)
- Marking of the terminal strip for the contact arrangement
- Power supply
 - Han-Power® S: Power supply has to be realized with 1 x Han® Q 8/0 in a Han-Compact® cable to cable hood.
 - Han-Power® S: Power supply has to be realized with 2 x Han® Q 8/0 in Han-Compact® hoods.
 - Han-Power® S: Power supply has to be realized with 1 x Han® Q 4/2 in a Han-Compact® cable to cable hood.

Description

The Han-Power® S connector is suitable for the assembly of serial power bus. Having assembled the energy supply Han-Power® S can be inserted at any place of the power cable. The cable mantle has to be removed, the conductor is placed **without** interruption in the IDC. Han-Power® S is suitable for cables with single strands manufactured acc. to DIN VDE 0281/ DIN VDE 0295 with wire gauges of 2.5 mm² up to 6 mm². For the distribution of the device Han-Compact® hoods or cable to cable housings are used.

Panel feed through sealings

Part No.

Drawing

Han-Power



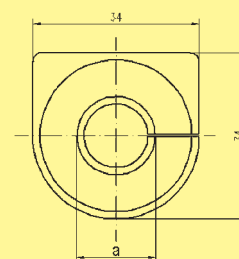
Blind grommet

09 12 000 9969
09 12 000 9970
09 12 000 9971
09 12 000 9972
09 12 000 9973

09 12 000 9974

Cable-ø

7 – 10
10 – 13
13 – 16
16 – 19
19 – 22



Han-Power® S 1 x Han® Q 4/2

Part No.

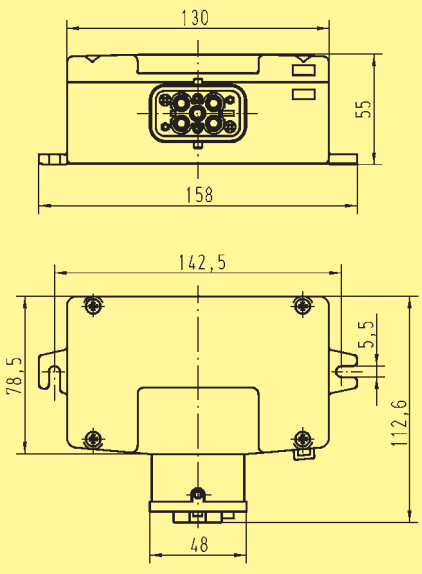
Drawing

Dimensions in mm

Power supply
with 1 Han-Compact® hood
with Han® Q 4/2



09 12 008 4804



Cabling systems in fixed lengths

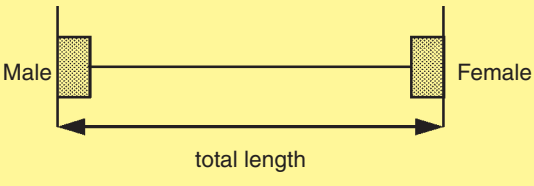
Part No.

Drawing

Cable lengths in m

(total length)
pre-assembled on both sides,
plastic hood, black,
top entry,
cable to cable hood with male insert
and hood with female insert
Cable: 5 x 4 mm²

1.5	20 88 641 1015
3	20 88 641 1030
5	20 88 641 1050
10	20 88 641 1100
15	20 88 641 1150
30	20 88 641 1300



Han-Power® S 2 x Han® Q 4/2

Part No.

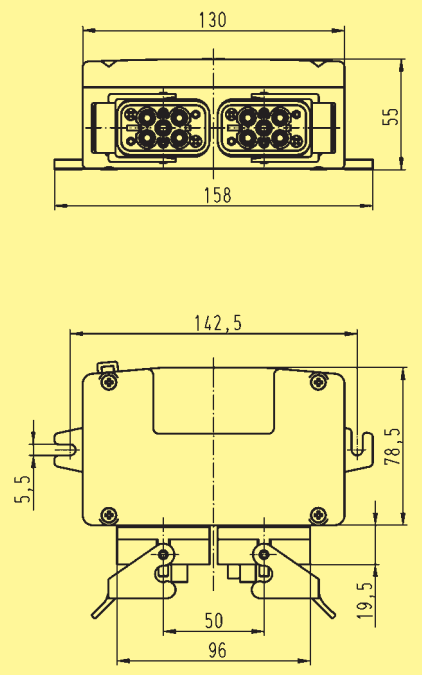
Drawing

Dimensions in mm

Power supply
with 2 Han-Compact® housings
with 2 x Han® Q 4/2



09 12 008 4807



Stock items in bold type

Han-Power

Han-Power® S 1 x Han® Q 8/0

Part No.

Drawing

Dimensions in mm

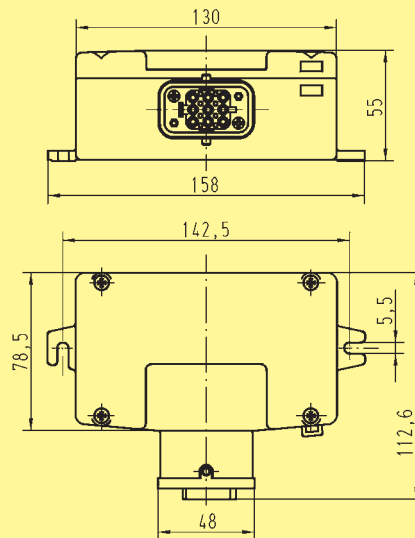
Power supply

with 1 Han-Compact® hood
with Han® Q 8/0



Suitable Panel Feed Through sealings
see page PD10.02

09 12 008 4801



Cabling systems in fixed lengths

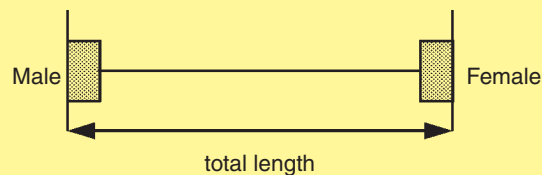
Part No.

Drawing

Cable lengths in m

(total length) 1.5
pre-assembled on both sides, 3
plastic hood, black, 5
top entry, 10
cable to cable hood with male insert 15
and hood with female insert 30
Cable: 7 x 2.5 mm²

20 88 841 0015
20 88 841 0030
20 88 841 0050
20 88 841 0100
20 88 841 0150
20 88 841 0300



Han-Power® S 2 x Han® Q 8/0

Part No.

Drawing

Dimensions in mm

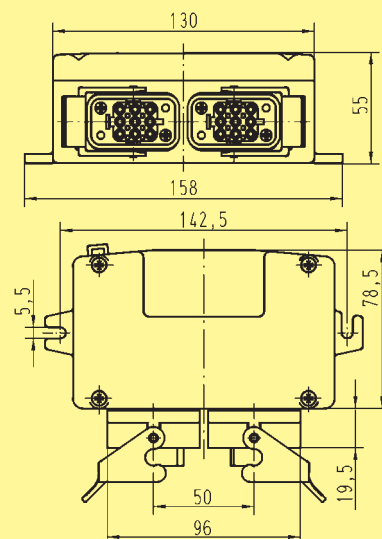
Power supply

with 2 screwed Han-Compact®
bulkhead mounted housings
with 2 x Han® Q 8/0



Suitable Panel Feed Through sealings
see page PD10.02

09 12 008 4802



Cabling systems in fixed lengths

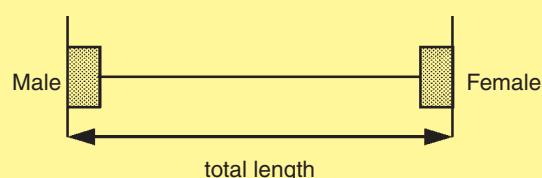
Part No.

Drawing

Cable lengths in m

(total length) 1.5
pre-assembled on both sides, 3
plastic hood, black, 5
top entry, 10
cable to cable hood with male insert 15
and hood with female insert 30
Cable: 7 x 2.5 mm²

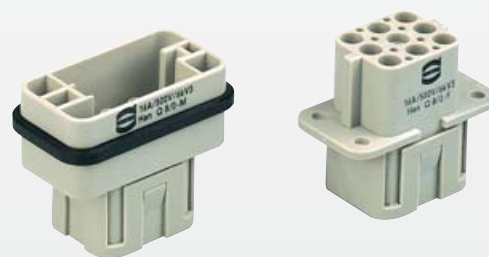
20 88 821 0015
20 88 821 0030
20 88 821 0050
20 88 821 0100
20 88 821 0150
20 88 821 0300



Stock items in bold type

Number of contacts

8 +



Inserts

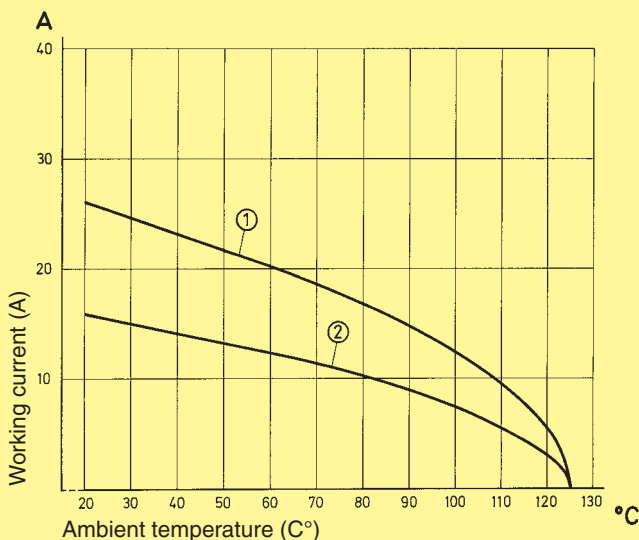
Features

- ☐ 8 contact chambers taking the Han E® power contacts
- ☐ Space-saving and compact design
- ☐ Leading protective ground
- ☐ Crimp terminal with standard Han E® contacts
- ☐ Use of standard tools
- ☐ Insert is suitable for the hoods and housings of the series Han® Q 8/0
- ☐ The contacts can be removed with the aid of a removal tool from the termination side
- ☐ **DESINA**® conform product
- ☐ ISO 23570

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60512-3.



Control and test procedures according to DIN IEC 512-3

Wire gauge: ① 2.5 mm²

② 1.5 mm²

Technical characteristics

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals



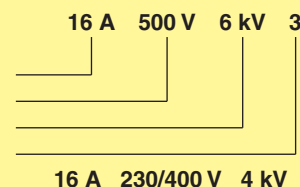
Inserts

Number of contacts

8 + PE

Electrical data
acc. to DIN EN 61 984

Rated current
Rated voltage
Rated impulse voltage
Pollution degree
Mounted metal hood



– Pollution degree 2 also

16 A 400/690 V 6 kV 2

Rated voltage
acc. to UL/CSA

600 V

Insulation resistance
Material
Temperature range
Flammability acc. to UL 94
Mechanical working life
- mating cycles

$\geq 10^{10} \Omega$
Polycarbonate
– 40 °C ... + 125 °C
V 0
 ≥ 500

Contacts

Material
Surface
- hard-silver plated
- hard-gold plated
Contact resistance
Crimp terminal
- mm²
- AWG

Copper alloy
3 μm Ag
2 μm Au over 3 μm Ni
 $< 1 \text{ m}\Omega$
0.5 - 2.5 mm²
partly loaded up to 4 mm²
is possible
20 - 14

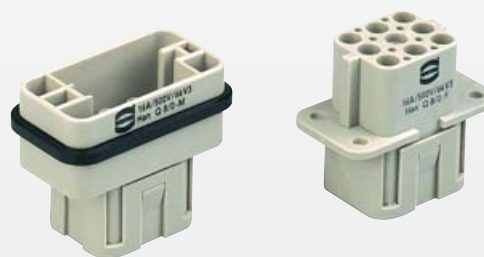
Plastic hoods/housings

Material
Locking element
Flammability acc. to UL 94
Hood/Housings seal
Temperature range
Degree of protection
acc. to DIN EN 60 529
in locked position

Polycarbonate RAL 9005
Polyamide RAL 9005
V 0
NBR
– 40 °C ... + 125 °C
IP 65

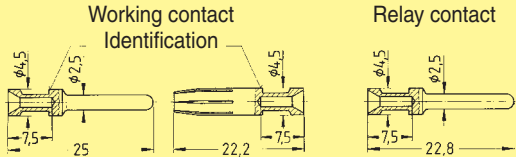
Number of contacts

8 +



Inserts

Identification	Part No.		Drawing	Dimensions in mm
	Male insert (M)	Female insert (F)		
Crimp terminal Crimp contacts order separately	09 12 008 3001	09 12 008 3101		Contact arrangement View from termination side

Identification	Wire gauge (mm²)	Part No.		Drawing	Dimensions in mm
		Male contacts	Female contacts		
Crimp contacts					
Han E® contacts					
Power contacts					
silver plated					
	1.5 2.5 4.0	09 33 000 6104 09 33 000 6102 09 33 000 6107	09 33 000 6204 09 33 000 6202 09 33 000 6207		
Identification of crimp contacts					
Identification	Wire gauge		Stripping length		
2 grooves	1.5 mm²	AWG 16	7.5 mm		
3 grooves	2.5 mm²	AWG 14	7.5 mm		
no grooves	4.0 mm²	AWG 12	7.5 mm		

Han-
Power

Number of contacts

4/2 +



Inserts

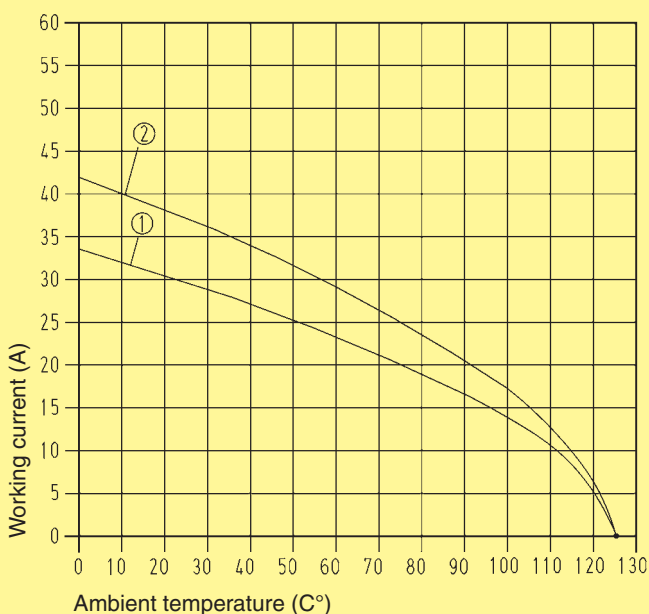
Features

- ❑ 2 contact rooms for power contacts Han D® 10 A
- ❑ Leading protective ground (40 A)
- ❑ Protection against contact with the fingers acc. IEC 60 529
- ❑ Insert is suitable for the hoods and housings of the series Han-Compact® (not suitable for 19 12 008 0501, 09 12 008 0301)
- ❑ The power contacts can be removed with the aid of a removal tool from the termination side
- ❑ 3 coding possibilities by using a coding pin instead of the fixing screw

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



Wire gauge ① 2,5 mm²
② 4 mm²
power contacts

Technical characteristics

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Inserts

Number of contacts

4/2 + PE

Electrical data

acc. to DIN EN 61 984

40 A 400/690 V 6 kV 3

Rated current

Rated voltage

Testing voltage

Pollution degree

Insulation resistance

 $\geq 10^{10} \Omega$

Material

Polycarbonate

Temperature range

- 40 °C ... + 125 °C

Flammability acc. to UL 94

V 0

Mechanical working life

- mating cycles

 ≥ 500

Han® C contacts (Power contacts)

Material

Copper alloy

Surface

- hard-silver plated

5 µm Ag

Contact resistance

Crimp terminal

 $\leq 3 \text{ m}\Omega$

- mm²

2.5 - 6 mm²

- AWG

14 - 10

Max. insulation OD

5 mm

Plastic hoods/housings

Material

Polycarbonate RAL 9005

Locking element

Polyamide RAL 9005

Flammability acc. to UL 94

V 0

Hood/Housings seal

NBR

Temperature range

- 40 °C ... + 125 °C

Degree of protection
acc. to DIN EN 60 529

IP 65

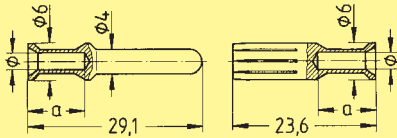
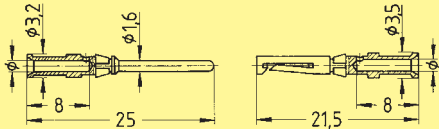
in locked position

Number of contacts

4/2 +


Inserts

Identification	Part No.		Drawing	Dimensions in mm
	Male insert (M)	Female insert (F)		
Crimp terminal Order crimp contacts separately	09 12 006 3041	09 12 006 3141		Contact arrangement View from termination side

Identification	Wire gauge (mm²)	Male contacts	Female contacts	Part No.	Drawing	Dimensions in mm																												
Crimp contacts Han C® contacts Power contacts silver plated	2.5 4.0 6.0	09 32 000 6105 09 32 000 6107 09 32 000 6108	09 32 000 6205 09 32 000 6207 09 32 000 6208			<table><tr><th colspan="2">Wire gauge</th><th>Ø</th><th>Stripping length</th></tr><tr><td>2.5 mm²</td><td>AWG 14</td><td>2.25</td><td>9</td></tr><tr><td>4.0 mm²</td><td>AWG 12</td><td>2.85</td><td>9.6</td></tr><tr><td>6.0 mm²</td><td>AWG 10</td><td>3.5</td><td>9.6</td></tr></table>	Wire gauge		Ø	Stripping length	2.5 mm²	AWG 14	2.25	9	4.0 mm²	AWG 12	2.85	9.6	6.0 mm²	AWG 10	3.5	9.6												
Wire gauge		Ø	Stripping length																															
2.5 mm²	AWG 14	2.25	9																															
4.0 mm²	AWG 12	2.85	9.6																															
6.0 mm²	AWG 10	3.5	9.6																															
Crimp contacts Han D® contacts Power contacts silver plated	0.14-0.37 0.5 0.75 1.0 1.5 2.5	09 15 000 6104 09 15 000 6103 09 15 000 6105 09 15 000 6102 09 15 000 6101 09 15 000 6106	09 15 000 6204 09 15 000 6203 09 15 000 6205 09 15 000 6202 09 15 000 6201 09 15 000 6206			<table><tr><th colspan="2">Wire gauge</th><th>Ø</th><th>Stripping length</th></tr><tr><td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>0.90 mm</td><td>8 mm</td></tr><tr><td>0.5 mm²</td><td>AWG 20</td><td>1.10 mm</td><td>8 mm</td></tr><tr><td>0.75 mm²</td><td>AWG 18</td><td>1.30 mm</td><td>8 mm</td></tr><tr><td>1 mm²</td><td>AWG 18</td><td>1.45 mm</td><td>8 mm</td></tr><tr><td>1.5 mm²</td><td>AWG 16</td><td>1.75 mm</td><td>8 mm</td></tr><tr><td>2.5 mm²</td><td>AWG 14</td><td>2.25 mm</td><td>6 mm</td></tr></table>	Wire gauge		Ø	Stripping length	0.14-0.37 mm²	AWG 26-22	0.90 mm	8 mm	0.5 mm²	AWG 20	1.10 mm	8 mm	0.75 mm²	AWG 18	1.30 mm	8 mm	1 mm²	AWG 18	1.45 mm	8 mm	1.5 mm²	AWG 16	1.75 mm	8 mm	2.5 mm²	AWG 14	2.25 mm	6 mm
Wire gauge		Ø	Stripping length																															
0.14-0.37 mm²	AWG 26-22	0.90 mm	8 mm																															
0.5 mm²	AWG 20	1.10 mm	8 mm																															
0.75 mm²	AWG 18	1.30 mm	8 mm																															
1 mm²	AWG 18	1.45 mm	8 mm																															
1.5 mm²	AWG 16	1.75 mm	8 mm																															
2.5 mm²	AWG 14	2.25 mm	6 mm																															

Han-Power

ISO 23 570



Cabling system Han[®] Q 8/0
Energy bus transmission

Identification

Hoods

Han-Compact[®] hoods
Cable glands order separately
Plastic version Polycarbonate

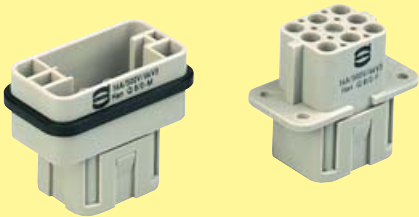
Insert

Han[®] Q 8/0 male and female are available with standard crimp contacts Han[®] E, silver (optional gold) plated

Cable

Outer diameter D < 14 mm
Material outside jacket PUR
Construction:
– electrical (power supply) 7 x 2.5 mm²

Components



Technical characteristics

Temperature range
– little movements - 40 °C ... + 90 °C
– permanent movements - 20 °C ... + 70 °C
Degree of protection IP 65 / IP 67
Operating rated voltage [DC] 500 V
Operating rated current 25 A

Features

- Chemical application conditions:
very resistant to oil and chemicals

Contact arrangement		1	2	3	4	5	6	7	8	PE
	male	Optional reserved for N	L2	–	Reserved for (+ 24 V)	Reserved for (0 V)	L3	–	L1	PE
	female									

Han-
Power

ISO 23 570

Cabling system Han[®] Q 4/2
Energy bus transmission



Identification

Hoods

Han-Compact[®] hoods
Cable glands order separately
Plastic version Polycarbonate

Insert

Han[®] Q 4/2 male and female are available with standard crimp contacts Han[®] C, silver (optional gold) plated

Cable

Outer diameter D < 14 mm
Material outside jacket PUR
Construction:
– electrical (power supply) 5 x 4.0 mm²

Components



Han-
Power

Technical characteristics

Temperature range

– little movements - 40 °C ... + 90 °C
– permanent movements - 20 °C ... + 70 °C

Degree of protection IP 65 / IP 67

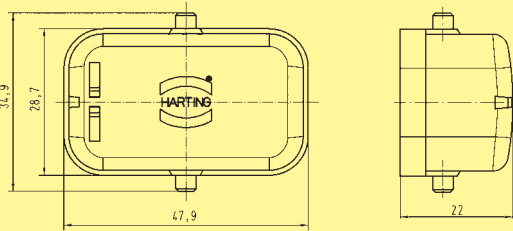
Operating rated voltage [DC] 400/690 V

Operating rated current 25 A

Features

- Chemical application conditions:
very resistant to oil and chemicals

Contact arrangement		1	2	3	4	11	12	PE
	male	L1	L2	L3	N	Reserved for (0 V)	Reserved for (+ 24 V)	PE
	female							

Accessories	Part No.	Drawing	Dimensions in mm
Protection covers  for male insert cover without sealing 09 12 008 5407 for female insert cover with sealing 09 12 008 5408			
Crimping tool	09 99 000 0021		
HARTING-crimping tool	09 99 000 0110	Wire gauge 0.5 - 2.5 mm² 	
Locator	09 99 000 0111	 order separately	

Stock items in bold type

Han-Brid®

Page

Features	19.10
Overview	19.12
Han-Brid® Cu	19.13
Han-Brid® F.O.	19.15
Han-Brid® Quintax	19.16
Han-Brid® RJ45 C	19.18

Features

General Description

The Han-Brid® series allows the connection of a data interface and a power supply in a single space saving connector.

This means that it is now possible to provide data transmission and power to devices in a single bus structure.

This hybrid connector family includes provision for connection of a max. 50 V, 10 A power supply together with a range of inserts for connection of a variety of data protocols and transmission medias:

- Han-Brid® F.O. for plastic (POF) or for HCS®* optical fibre.
- Han-Brid® Cu for shielded twisted pair.
- Han-Brid® Quintax 3A for shielded 4 wire bus systems (2 pair STP).
- Han-Brid® RJ45 C for Ethernet application

Han-Brid® inserts fit into the standard plastic as well as metal hoods and housings of the Han® 3A series offering a degree of protection IP 65 according to DIN EN 60529. For harsher environments Han® 3 HPR hoods and housings with a degree of protection of IP 68 can be used.

Power Supply

- Han D® male and female are standard crimp contacts
- Rated current: 10 A
- Rated voltage: max. 50 V
- Wire gauge: 0.14 - 2.5 mm²
- Specification UL

Data interfaces

Han-Brid® F.O.

- Is suitable for all HP Versatile Link (Horizontal Package) transmitters and receivers
 - Data rates: Standard 12 MBit/s
 - suitable for all common fieldbus systems
- Insert allows integration of HP standard contacts: suitable for POF and HCS®* fibres crimp for POF and HCS crimpless for POF
- Temperature range: -40 °C to +70 °C

Han-Brid® Cu

- For termination of a shielded twisted pair
- Insert for 2 x Han D® male or female contacts
- Connection of the shield by means of shielding plate and fixing clamps
- Connection of the device side can be realized either by a printed circuit board as a modular version or as part of the appliance PCB
- Temperature range: -40 °C to +125 °C
- Insert for bulkhead mounted housing a the coupling housing are always equipped with an screening spring.

Bus Terminator

- Active bus terminator in male and female version
- Standard Han® 3A hoods and housings
- Power supply to the termination network via electrical contacts of Han-Brid®
- Integrated, galvanically separated DC/DC converter 24V / 5V

Han-Brid® Quintax 3A

- Possibility to terminate shielded 4 wires conductors (2 pair STP)
- Suitable for all 4 wires bus systems
- Suitable for shielded cable conductor diameter 3 – 9.5 mm
- Transmission of shielding separately from the hood's ground
- Connections are carried out acc. to DIN EN 50 173, cat. 5
- Temperature range: -40 °C to +70 °C

Han-Brid® RJ45 C

- Suitable for standard RJ 45 Plug and Jack, shielded version
- Connections provided for conductors acc. to DIN EN 50 173, cat. 5
- Termination from the device side is carried out via a PCB, two versions are possible: modular version or as part of the appliance PCB
- Assembly with standard tools
- Insert for 2 Han-D® male or female contacts offers the combination with electrical bus connector
- Han-D® male and female are standard crimp contacts
- Rated current: 10 A
Rated voltage: 24 V
- Termination range: 0.14-2.5 mm²

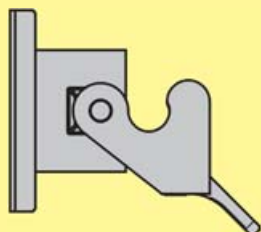
Overview

Plastic:

09 20 003 0320 (grey)
09 20 003 0327 (black)

Metal:

09 20 003 0301



Device side

09 12 006 2611
09 12 006 2695
09 12 006 2694

Cable side

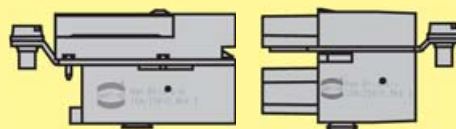
09 12 006 3111

Plastic:

09 20 003 0423 (grey)
09 20 003 0426 (black)

Metal:

09 20 003 1443

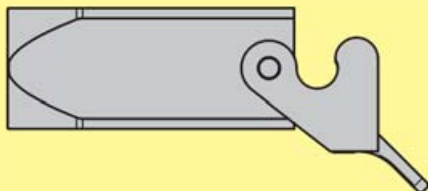


Plastic:

09 20 003 0720 (grey)
09 20 003 0727 (black)

Metal:

09 20 003 1750



Device side

09 12 006 2701
09 12 006 2795
09 12 006 2794

Cable side

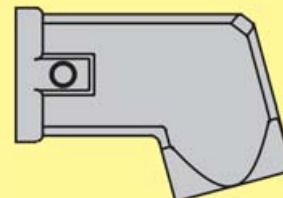
09 12 006 3001

Plastic:

09 20 003 0623 (grey)
09 20 003 0626 (black)

Metal:

09 20 003 1643

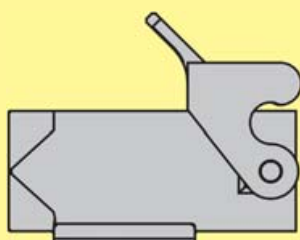


Plastic:

09 20 003 0220 (grey)
09 20 003 0227 (black)

Metal:

09 20 003 1250



ISO 23570



Hybrid Field Bus Connector
for shielded twisted pair
+ 4 electrical contacts 10 A
+ option for PE



Inserts

Part number

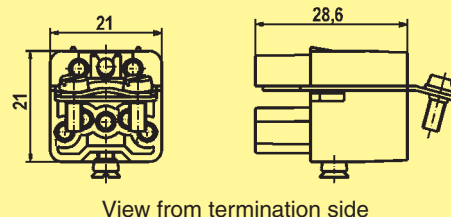
Drawing

Dimensions in mm

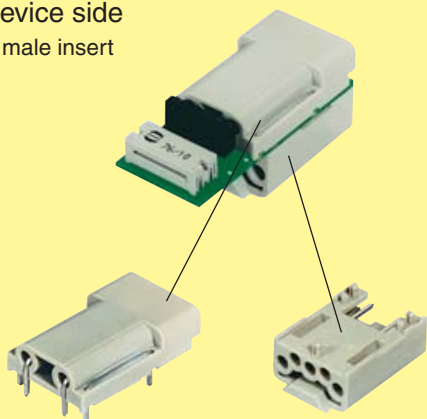
Cable side
female insert



09 12 006 3111



Device side
male insert



09 12 006 2611

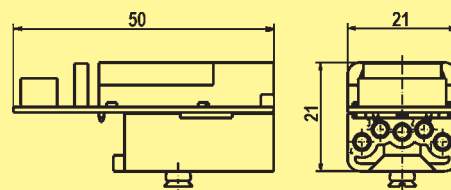
Also available
as single parts

loaded
09 12 002 2611

unloaded
09 12 002 3011

Also available
as single parts

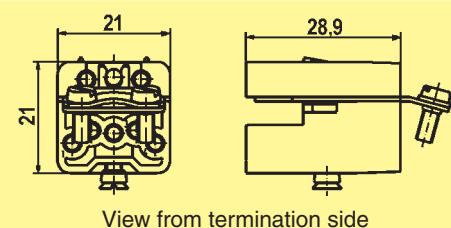
unloaded
09 12 004 3011



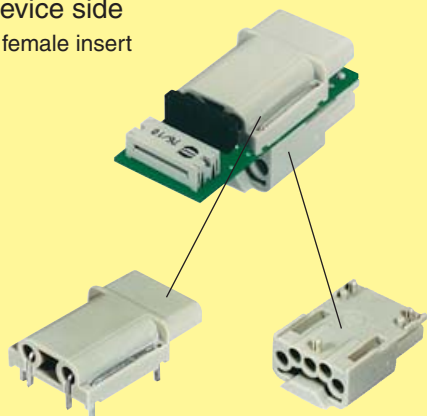
Cable side
male insert



09 12 006 3001



Device side
female insert



09 12 006 2701

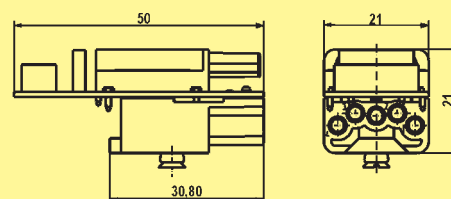
Also available
as single parts

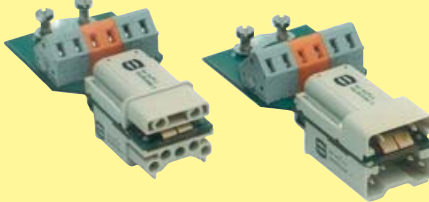
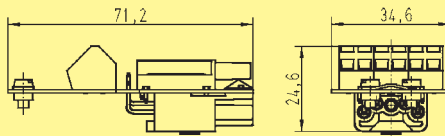
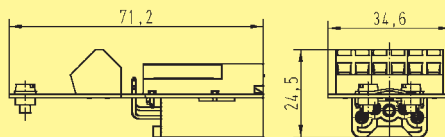
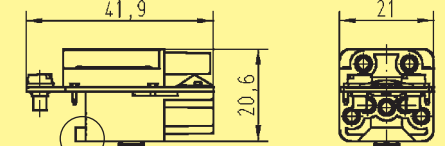
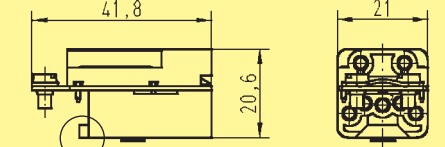
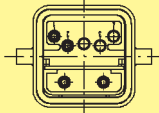
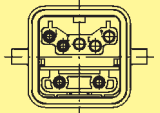
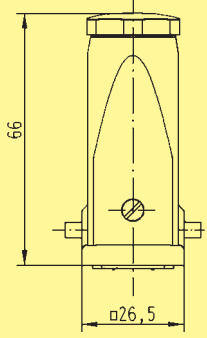
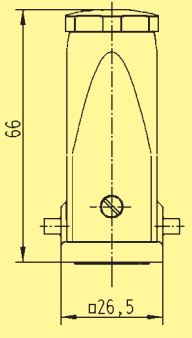
loaded
09 12 002 2701

unloaded
09 12 002 3101

Also available
as single parts

unloaded
09 12 004 3101



Inserts	Part number		Drawing	Dimensions in mm
	Female insert (F)	Male insert (M)		
Panel feed through with cage clamp 	09 12 006 2795	09 12 006 2695	Drawing 09 12 006 2795  Drawing 09 12 006 2695 	
Coupling/Panel feed through 	09 12 006 2794	09 12 006 2694	Drawing 09 12 006 2794  Drawing 09 12 006 2694 	
X = Cutting off the fin allows the use in cable to cable housings				
Bus terminator Plastic version  Metal version 	09 12 006 2791	09 12 006 2691	M  F   	
	09 12 006 2792	09 12 006 2692		

Stock items in bold type

ISO 23570



Hybrid Field Bus Connector
with FOC transmitter and receiver
+ 4 electrical contacts 10 A
+ option for PE



Inserts

Part number

Drawing

Dimensions in mm

Cable side

LWL sti + Han D® bu



Also available
as single parts

for POF
09 12 004 2711

for
POF crimpless
09 12 004 2713

for HCS®* Fibre
09 12 004 2716

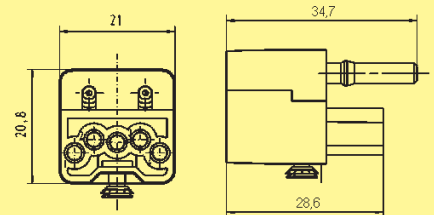
Also available
as single parts

for POF
09 12 004 3111

for
POF crimpless
09 12 004 3116

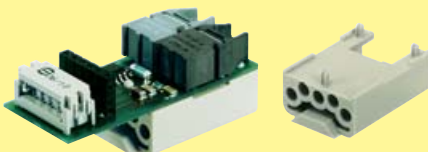
for HCS®* Fibre
09 12 004 3116

View from
termination side



Device side

LWL bu + Han D® sti



for POF
09 12 004 2611

for
POF crimpless
09 12 004 2611

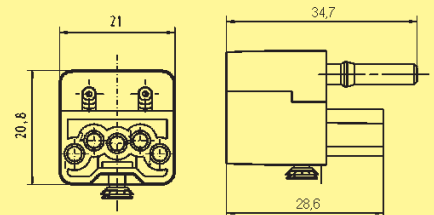
for HCS®* Fibre
09 12 004 2611

for POF
09 12 004 3011

for
POF crimpless
09 12 004 3011

for HCS®* Fibre
09 12 004 3011

View from
termination side



Cable side

LWL sti + Han D® sti



Also available
as single parts

for POF
09 12 004 2601

for
POF crimpless
09 12 004 2603

for HCS®* Fibre
09 12 004 2606

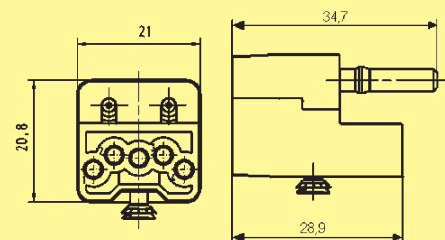
Also available
as single parts

for POF
09 12 004 3001

for
POF crimpless
09 12 004 3003

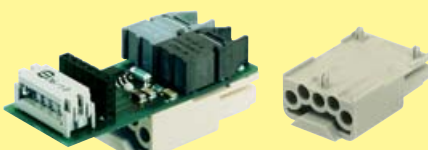
for HCS®* Fibre
09 12 004 3006

View from
termination side



Device side

LWL bu + Han D® bu



for POF
09 12 004 2701

for
POF crimpless
09 12 004 2701

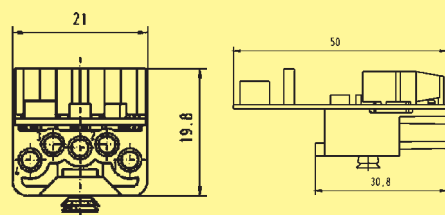
for HCS®* Fibre
09 12 004 2701

for POF
09 12 004 3101

for
POF crimpless
09 12 004 3101

for HCS®* Fibre
09 12 004 3101

View from
termination side



Description

The Han-Brid® series combines a data and power interface for industrial communication in the smallest possible space.

The components in this hybrid connector family all contain the facility to load power contacts rated at 50 V 10 A to provide a power supply for distributed devices. This means that a power supply can be provided to all devices in a bus structure via a single connector.

Han-Brid® Quintax 3 A for 4-wire bus systems with continuous screen connection.

The contact inserts can be used either in the standard plastic housing or the metal housing from the Han® 3 A series. The protection level of the housings corresponds to DIN EN 60 529, IP 65.

Data interface

- Can be connected to screened 4-wire cables
- Can be used for all 4-wire bus systems
- Accepts screened cable with a diameter from 3 to 9.5 mm
- Continuity of screen is independent of housing potential
- Cable connection in accordance with DIN EN 50 173, Category 5

Power supply

- Standard Han D® male and female crimp contacts
- Rated current: 10 A
- Rated voltage: 50 V
- Connection range: 0.14 to 2.5 mm² stranded
- Approval: UL

Technical characteristics

Transmission properties in accordance with Category 5 ISO/IEC 11 801:2002 and EN 50173-1

Protection level: IP 65 / IP 67

Wire gauge data: 0.14 - 2.5 mm² stranded
AWG 26 - 14

Wire gauge power supply: 0.14 - 2.5 mm² stranded
AWG 26 - 14

Temperature range: -40° C ... +70° C

Cable sheath diameter: 3 mm - 9.5 mm

Mating cycles: ≥ 500

4 contacts + shielding

+ 2 power contacts

Suitable for Han® 3 A metric hoods and housings

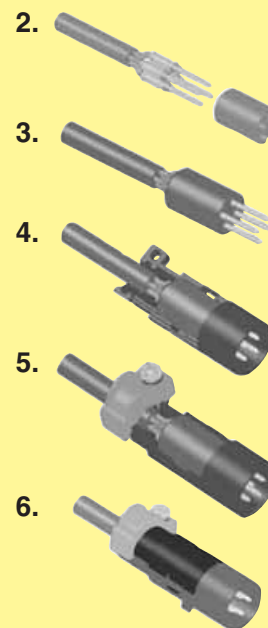
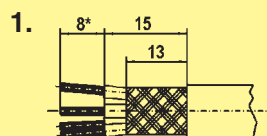


Identification	Cable Ø mm	Part No.		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
Quintax-Insert 	—	09 15 003 3001			
	—		09 15 003 3101		
Quintax-Z-Contact Zinc alloy Crimp contacts order separately 	3 - 9.5	09 15 004 3013	09 15 004 3113		
Special clamp for cable diameter 3 - 6 and 6 - 9.5 mm included in delivery range					

Assembly Manual

Quintax-Z-contact

- Strip cable acc. to drawing 1 and fold the shielding over the cable.
- Crimp Han D® contacts onto the wires.
- Insert Han D® contacts into corresponding cavities of insulator until they are snapped in.
- Fit the insert including the cable into the opened shielded bushing. The coding pin of the shielded bushing has to meet the groove of the insulator.
- Clamp the tilt over the shielding onto the cable by means of the special clamp (small opening for cable diameter of 3 - 6 mm, large opening for cable diameter of 6 - 9.5 mm).
- Check the wiring.
- Close the shielded bushing with the cover and insert it into the corresponding cavity of the Quintax Module as usual.



Description

Han-Brid® RJ 45 realizes the connection of network components in an industrial environment. The integration of standard RJ 45 plugs and jacks in industrial connector hoods and housings of the series Han® 3 A offers the advantages:

- Many different hoods and housings in thermoplastic, metal and pressure tight versions are available for flexible adaption to the relevant environment
- Standard RJ 45 components
- Integration of two additional contacts with a rated current of 10 A to supply the network components allows a cost effective installation and a optimal space saving design.

Only standard tools are necessary for the field assembly, thus it is possible to assemble the components for example for Ethernet in an industrial environment.

Bus Termination

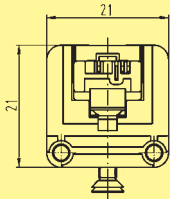
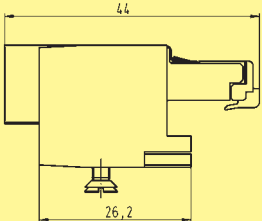
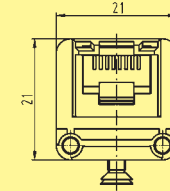
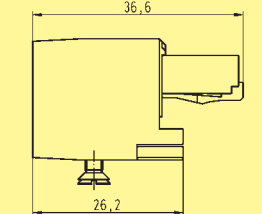
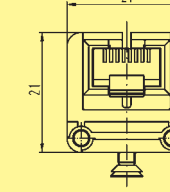
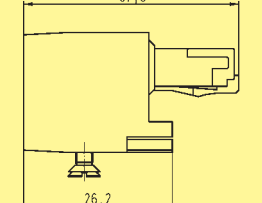
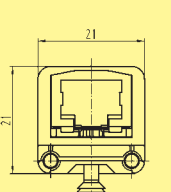
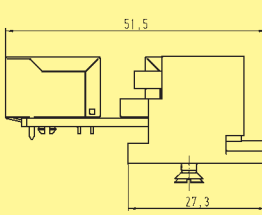
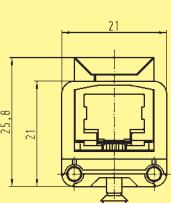
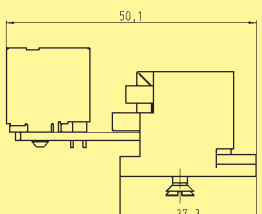
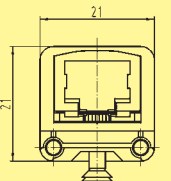
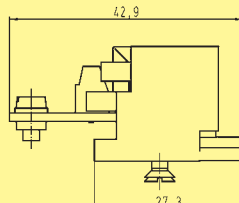
- Suitable for standard RJ 45 Plug and Jack, shielded version
- Connections provided for conductors acc. to DIN EN 50 173, cat. 5
- Termination from the device side is carried out via a PCB, two versions are possible: modular version or as part of the appliance PCB
- Assembly with standard tools

Power Supply

- Insert for 2 Han-D® male or female contacts offers the combination with electrical bus connector
- Han-D® male and female are standard crimp contacts
- Rated current: 10 A
Rated voltage: 24 V
- Termination range: 0.14-2.5 mm²

Hybrid Network Connector
+ 2 electrical contacts 10 A



Identification	Part No.	Drawing	Dimensions in mm
Han-Brid® RJ45 C with RJ Industrial 	09 12 003 3011		
Han-Brid® RJ45 C with Stewart RJ45 	09 12 003 3021		
Han-Brid® RJ45 C with HIROSE RJ45 	09 12 003 3031		
Panel feed-through straight 	09 12 003 2774		
Panel feed-through angled 	09 12 003 2776		
Han-Brid® RJ45 C with 4 pole terminalblock 	09 12 003 2770		

Han-Brid



Han-
Brid

Han[®] PCB-adapter

Page

Technical characteristics Han DD [®] with PCB-adapter	20.02
Han DD [®] with PCB-adapter	20.03
Technical characteristics Han E [®] with PCB-adapter	20.04
Han E [®] with PCB-adapter	20.05
Technical characteristics Han [®] Q 5/0 with PCB-adapter	20.06
Han [®] Q 5/0 with PCB-adapter	20.07
Technical characteristics Han [®] Q 7/0 with PCB-adapter	20.08
Han [®] Q 7/0 with PCB-adapter	20.09
Technical characteristics Han-Modular [®] with PCB-adapter	20.10
Han-Modular [®] with PCB-adapter	20.11

Features

- ❑ Robust design
- ❑ Suitable for standard and EMC housing
- ❑ Low wiring costs
- ❑ Higher contact density

Technical characteristics

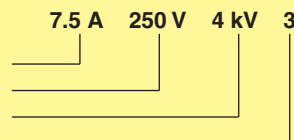
Approvals



Inserts

Number of contacts 24, 42, 72, 108

Electrical data
acc. to DIN VDE 0627



Working current
Working voltage
Rated impulse voltage
Pollution degree

Working voltage
acc. to UL

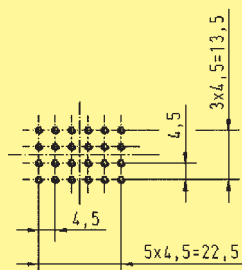
250 V

Testing voltage U_{rms}
Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
- Mating cycles
Wire gauge

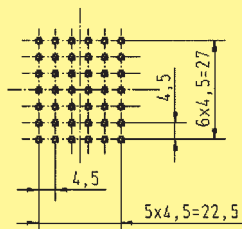
2 kV
 $\geq 10^{10} \Omega$
Polyamide
- 40 °C / +125 °C
HB
 ≥ 500
0.14 - 2.5 mm²

Layout of printed circuit boards

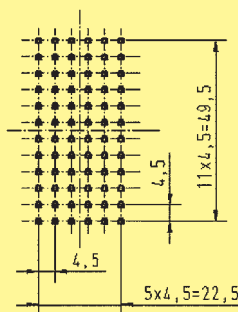
Han[®] 24 DD



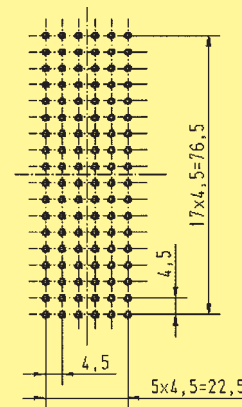
Han[®] 42 DD



Han[®] 72 DD

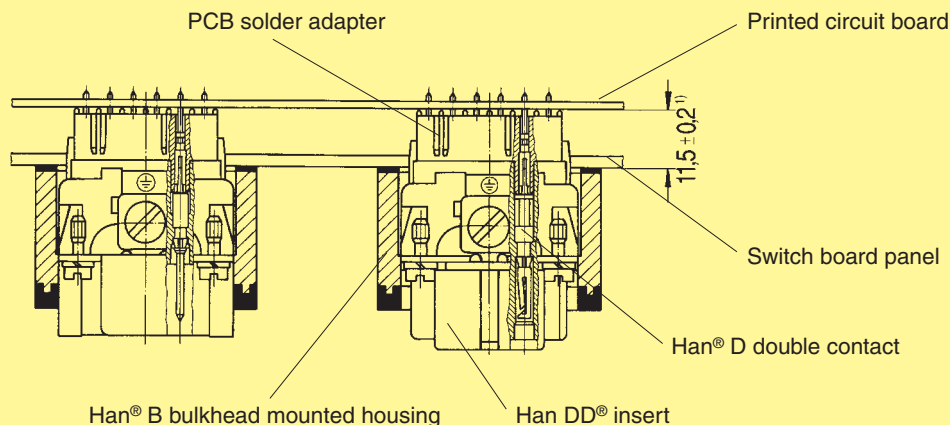


Han[®] 108 DD

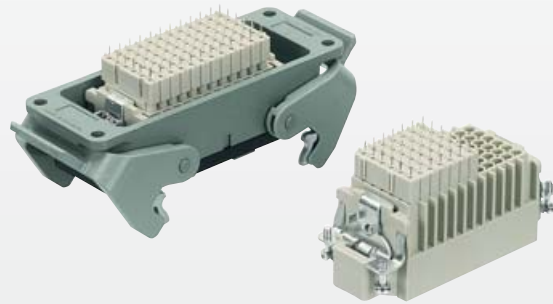


Recommended hole diameter: 0.8 mm

Assembly situation



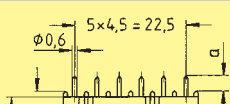
¹⁾ for Han[®] B EMC hoods/housings spacing of 12.5 ± 0.2 is necessary as no flange seal is used.

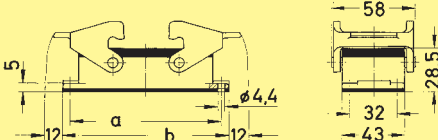


Device side

Insert	Size	Male insert (M)	Female insert (F)	Part No.	Drawing	Dimensions in mm
Order contacts separately						
Han® 24 DD	6 B	09 16 024 3001	09 16 024 3101		1) Distance for contact max. 21 mm	
Han® 42 DD	10 B	09 16 042 3001	09 16 042 3101			
Han® 72 DD	16 B	09 16 072 3001	09 16 072 3101			
Han® 108 DD	24 B	09 16 108 3001	09 16 108 3101			

Han DD [®] double contacts	Part No.		Drawing	Dimensions in mm
to connect the PCB-adapter	Male contacts	Female contacts		
	09 15 000 6191	09 15 000 6291		

PCB solder adapter	Part No.	Drawing	Dimensions in mm						
for PCBs up to 1.6 mm for PCBs up to 2.4 mm	09 16 000 9905 09 16 000 9908		<table><tr><th></th><th>a</th></tr><tr><td>09 16 000 9905</td><td>2.6</td></tr><tr><td>09 16 000 9908</td><td>3.4</td></tr></table>		a	09 16 000 9905	2.6	09 16 000 9908	3.4
	a								
09 16 000 9905	2.6								
09 16 000 9908	3.4								
									

Housing	Size	Part No.	Drawing	Dimensions in mm																				
	6 B 10 B 16 B 24 B	09 30 006 0301 09 30 010 0301 09 30 016 0301 09 30 024 0301		<table border="1"><thead><tr><th>Size</th><th>a</th><th>b</th><th>Panel cut out</th></tr></thead><tbody><tr><td>6 B</td><td>70</td><td>80</td><td>48 x 35</td></tr><tr><td>10 B</td><td>83</td><td>93</td><td>60 x 35</td></tr><tr><td>16 B</td><td>103</td><td>113</td><td>82 x 35</td></tr><tr><td>24 B</td><td>130</td><td>140</td><td>108 x 35</td></tr></tbody></table> Size 6 B with 1 locking lever	Size	a	b	Panel cut out	6 B	70	80	48 x 35	10 B	83	93	60 x 35	16 B	103	113	82 x 35	24 B	130	140	108 x 35
Size	a	b	Panel cut out																					
6 B	70	80	48 x 35																					
10 B	83	93	60 x 35																					
16 B	103	113	82 x 35																					
24 B	130	140	108 x 35																					

PCB-Adapter

Cable side

Counter connector				
Crimpanschluss			See chapter 02	

Features

- ❑ Robust design
- ❑ Suitable for standard and EMC housings
- ❑ Low wiring costs
- ❑ Counter connector available with screw, crimp or cage clamp termination

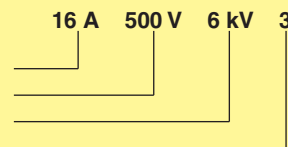
Technical characteristics

Inserts

Number of contacts 6, 10, 16, 24

Electrical data
acc. to DIN EN 61 984

Working current
Working voltage
Rated impulse voltage
Pollution degree

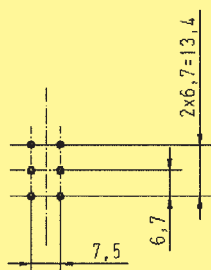


Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
- Mating cycles
Wire gauge

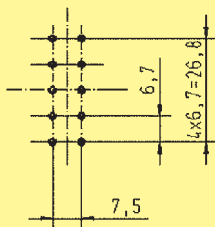
$\geq 10^{10} \Omega$
Polycarbonate
- 40 °C / +125 °C
V 0
 ≥ 500
0.5 - 4 mm²

Layout of printed circuit boards

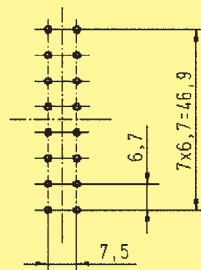
Han® 6 E



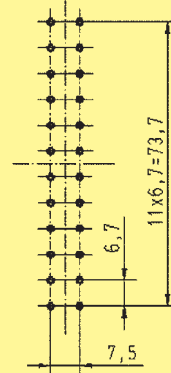
Han® 10 E



Han® 16 E



Han® 24 E



Recommended hole diameter: 1.8 mm

Assembly situation

PCB solder
adapter

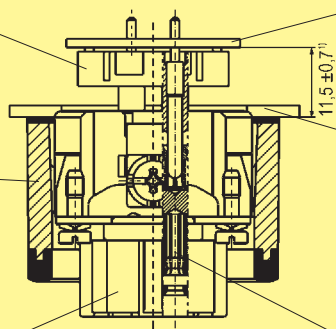
Printed
circuit board

Han® B housing
bulkhead mounting

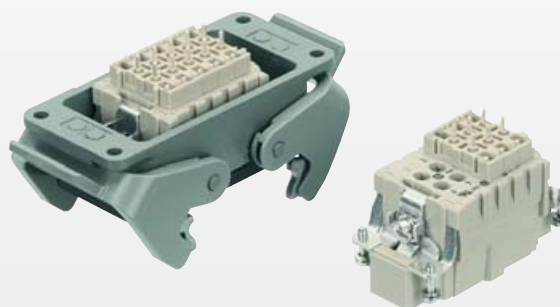
Switch cabinet
panel

Han E® Insert

Han E® double contact



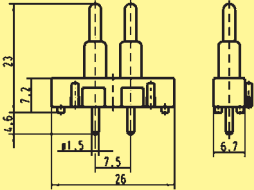
¹⁾ for Han® B EMC hoods/housings spacing of 12.5 ± 0.7 is necessary as no flange seal is used

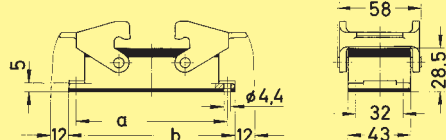


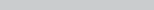
Inserts	Size	Part No.		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
Order contacts separately					1) Distance for contact max. 21 mm
Han® 6 E	6 B	09 33 006 2602	09 33 006 2702		
Han® 10 E	10 B	09 33 010 2602	09 33 010 2702		
Han® 16 E	16 B	09 33 016 2602	09 33 016 2702		
Han® 24 E	24 B	09 33 024 2602	09 33 024 2702		

	a	b
6 E	44	51
10 E	57	64
16 E	77.5	84.5
24 E	104	111

Han E [®] double contacts	Male contacts	Female contacts	Drawing	Dimensions in mm
to connect the PCB-adapter				
	09 33 000 6180	09 33 000 6280		

PCB solder adapter	Part No.	Drawing	Dimensions in mm
	09 33 000 9996		

Housing	Size	Part No.	Drawing	Dimensions in mm																				
	6 B 10 B 16 B 24 B	09 30 006 0301 09 30 010 0301 09 30 016 0301 09 30 024 0301		<table border="1"><thead><tr><th>Size</th><th>a</th><th>b</th><th>Panel cut out</th></tr></thead><tbody><tr><td>6 B</td><td>70</td><td>80</td><td>48 x 35</td></tr><tr><td>10 B</td><td>83</td><td>93</td><td>60 x 35</td></tr><tr><td>16 B</td><td>103</td><td>113</td><td>82 x 35</td></tr><tr><td>24 B</td><td>130</td><td>140</td><td>108 x 35</td></tr></tbody></table> Size 6 B with 1 locking lever	Size	a	b	Panel cut out	6 B	70	80	48 x 35	10 B	83	93	60 x 35	16 B	103	113	82 x 35	24 B	130	140	108 x 35
Size	a	b	Panel cut out																					
6 B	70	80	48 x 35																					
10 B	83	93	60 x 35																					
16 B	103	113	82 x 35																					
24 B	130	140	108 x 35																					

Counter connector		
Crimp termination		See chapter 03
Screw termination		
Cage clamp termination		

Features

- ❑ Robust design
- ❑ Suitable for EMC housings
- ❑ Low wiring costs
- ❑ Additional robust and secure PE-connection between housing and PCB

Technical characteristics

Approvals



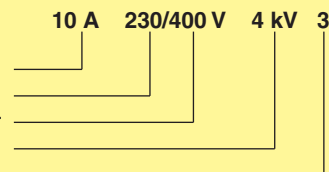
Inserts

Number of contacts 5

Electrical data
acc. to DIN EN 61 984

10 A 230/400 V 4 kV 3

Working current
Working voltage conductor – ground
Working voltage conductor – conductor
Rated impulse voltage
Pollution degree

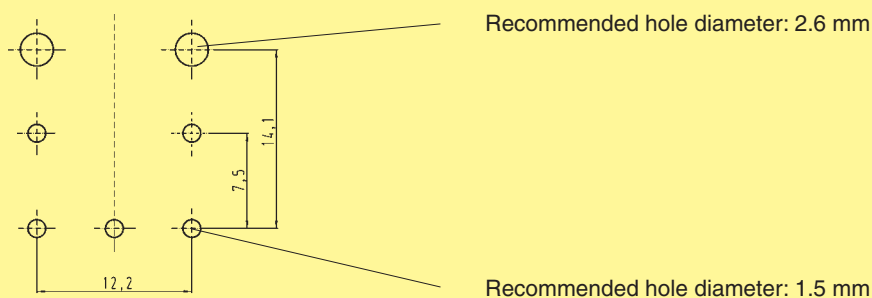


- pollution degree 2 also 10 A 320/500 V 4 kV 2

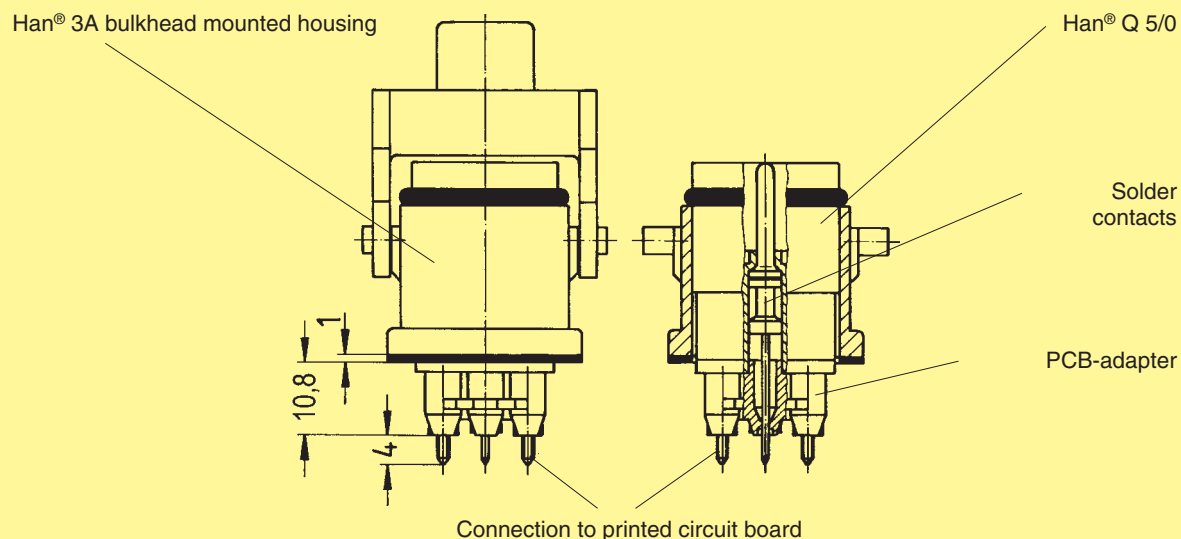
Working voltage
acc. to UL/CSA 400 V

Insulation resistance $\geq 10^{10} \Omega$
Material Polycarbonate
Limiting temperatures - 40 °C ... +125 °C
Flammability acc. to UL 94 V 0
Mechanical working life
- Mating cycles ≥ 500

Layout of printed circuit boards



Assembly situation





Device side

Insert	Part No.		Drawing	Dimensions in mm
	Male insert (M)	Female insert (F)		
Order contacts separately	09 12 005 3001	09 12 005 3101		
1) Distance for contact max. 21 mm				

PCB-adapter	Part No.		Drawing	Dimensions in mm
with PE contact panel for Han® Q 5/0	09 12 000 9905			
			Adapter	PE contact panel

Solder contacts	Part No.		Drawing	Dimensions in mm
	Male contact	Female contact		
to connect the PCB-adapter	09 33 000 6195	09 33 000 6295		

Housing	bulkead mounting	Part No.	Drawing	Dimensions in mm
		09 62 003 0304		
			Panel cut out 22 x 22 mm	

PCB-Adapter

Cable side

Counter connector			
Crimp termination			See chapter 13

Features

- ❑ Robust design
- ❑ Suitable for standard and EMC housings
- ❑ Low cost wiring
- ❑ High contact density

Technical characteristics

Approvals



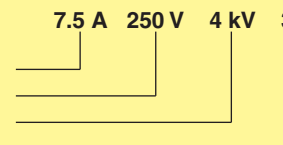
Inserts

Number of contacts 7

Electrical data
acc. to DIN EN 61 984

7.5 A 250 V 4 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree

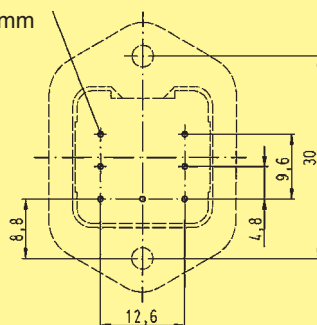


Insulation resistance $\geq 10^{10} \Omega$
Material Polycarbonate
Limiting temperatures $-40^\circ\text{C} \dots +125^\circ\text{C}$
Flammability acc. to UL 94 V 0
Mechanical working life
- Mating cycles ≥ 500

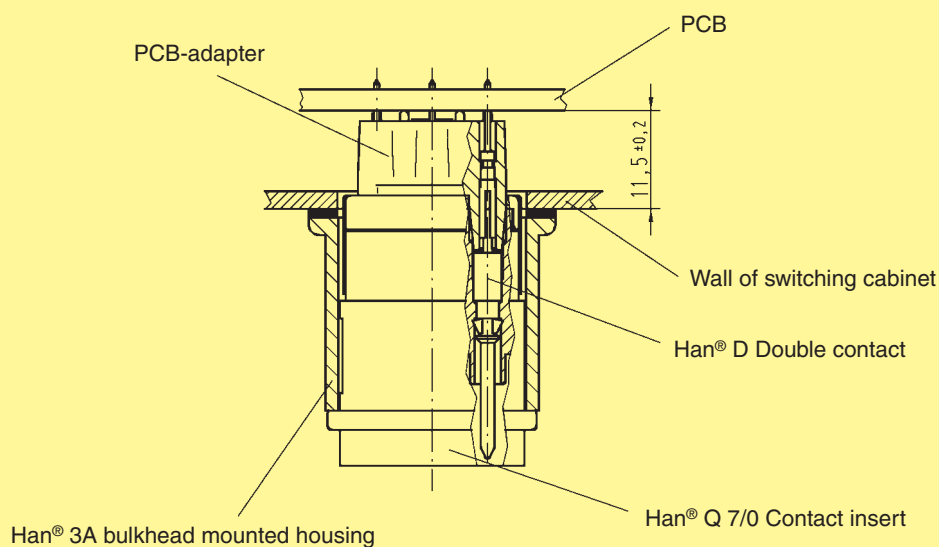
Layout of printed circuit boards

Recommended hole diameter: 0.8 mm

Dimensions in mm

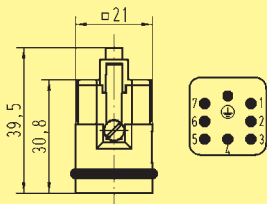
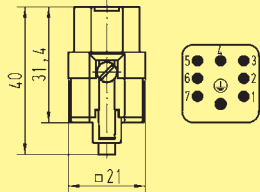


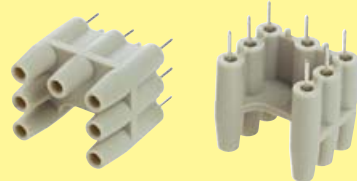
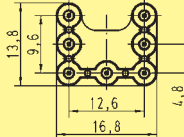
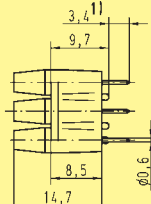
Assembly situation

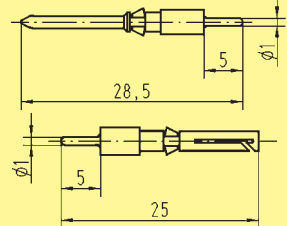


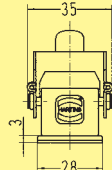
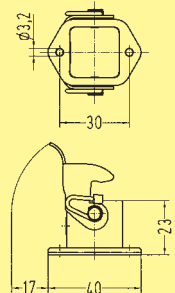


Device side

Insert	Part No.		Drawing	Dimensions in mm
	Male insert (M)	Female insert (F)		
Order contacts separately				
	09 12 007 3001	09 12 007 3101		
Coding	09 12 000 9901	09 12 000 9902		

PCB-adapter	Part No.	Drawing	Dimensions in mm
for PCB up to 2.4 mm			
	09 12 000 9908		

Solder contacts	Part No.		Drawing	Dimensions in mm
	Male contact	Female contact		
to connect the PCB-adapter				
	09 15 000 6190	09 15 000 6290		

Housing	bulkead mounting	Part No.	Drawing	Dimensions in mm
		09 20 003 0301	Panel cut out 22 x 22 mm 	

Counter connector		
Crimp termination		See chapter 13

Cable side

PCB-Adapter

Features

- ❑ Modular assembly
- ❑ Robust design
- ❑ Suitable for standard and EMC housings
- ❑ Low wiring costs

Technical characteristics

Han DD® module with PCB-adapter

Number of contacts	12
Working current	7.5 A
Working voltage	250 V
Wire gauge	0.14 - 2.5 mm ²

Han® axial screw module for PCB adaptations

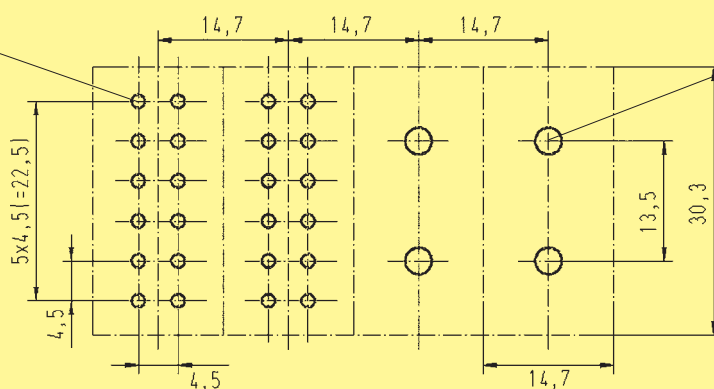
Number of contacts	2
Working current	40 A
Working voltage	500 V
Wire gauge	2.5 - 10 mm ²

Layout of printed circuit boards

Depiction

Recommended
hole diameter: 0,8 mm

Recommended
hole diameter: 3,2 mm



Han DD® module

Han® axial screw module 40 A

Assembly situation

Han DD® solder adapter

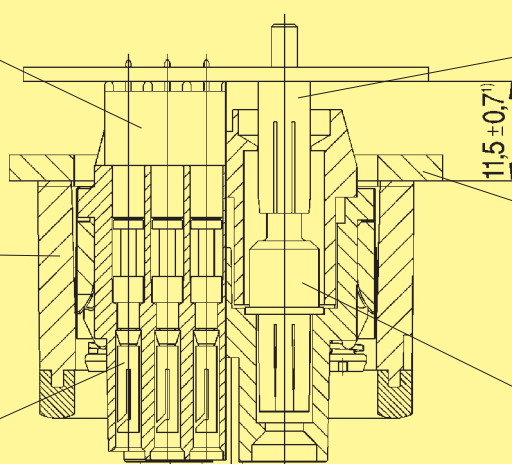
Solder contact

Han® B bulkhead
mounted housing

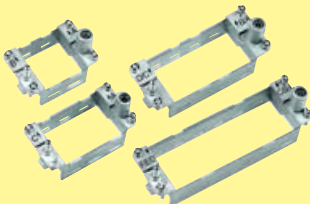
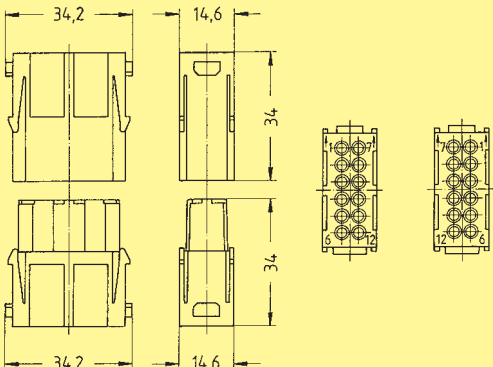
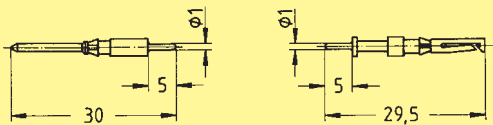
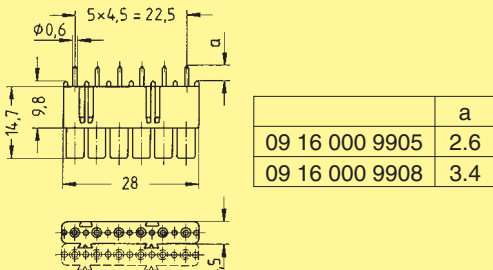
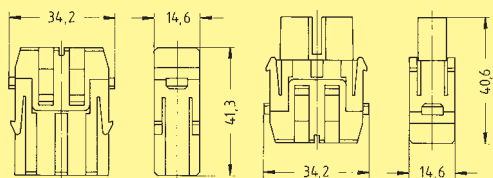
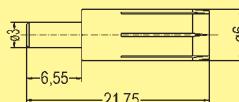
Switch cabinet panel

Han D® double contact

Module for connection
to printed circuit board



¹⁾ for Han® B EMC hoods/housings spacing of 12.5 ± 0.7 is necessary as no flange seal is used

Hinged frame	No. of modules	Part No.		Size	Figure						
		Male insert (M)	Female insert (F)								
	1	09 14 000 0304	09 14 000 0304	10 A	Drawings and further details see chapter 06						
	2	09 14 006 0303	09 14 006 0313	6 B							
	3	09 14 010 0303	09 14 010 0313	10 B							
	4	09 14 016 0303	09 14 016 0313	16 B							
	6	09 14 024 0303	09 14 024 0313	24 B							
Identification		Male insert (M)	Female insert (F)	Drawing	Dimensions in mm						
Han DD® module PCB termination/ crimp termination 		09 14 012 3001	09 14 012 3101								
Han D® double contacts to connect the PCB 		09 15 000 6191	09 15 000 6291								
PCB solder adapter for PCBs up to 1.6 mm for PCBs up to 2.4 mm 		09 16 000 9905 09 16 000 9908			<table><tr><td></td><td>a</td></tr><tr><td>09 16 000 9905</td><td>2.6</td></tr><tr><td>09 16 000 9908</td><td>3.4</td></tr></table>		a	09 16 000 9905	2.6	09 16 000 9908	3.4
	a										
09 16 000 9905	2.6										
09 16 000 9908	3.4										
Han® axial screw module		Male insert (M)	Female insert (F)	Drawing	Dimensions in mm						
Axial screw termination Cable side 09 14 002 2601			09 14 002 2701								
PCB adaption Device side 		09 14 002 2603	09 14 002 2703								
Solder contact 		09 32 000 6295									

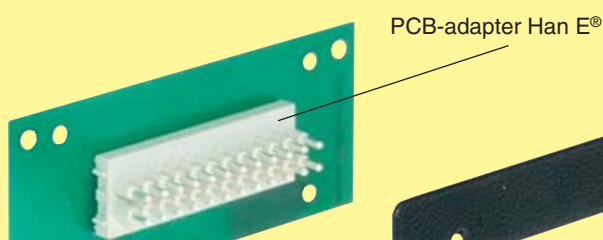
Stock items in bold type

- Secondary mating between industrial connector and printed circuit board.
- No higher force is applied on the soldering joint when mating the industrial connector due to an additional mating point.
- No wiring between printed circuit board and industrial connector necessary.
- thus no wiring faults
⇒ no testing, no costs
- Connecting times are minimized.
- Easy handling is time and cost saving.
- The production of mechanical and electrical / electronic components can be completely separated.
- Possibility to reach a higher degree of automation in the production (i. e. wave soldering of the PCBs).



Han DD® and Han® Q 5/0 PCB-adapter
Wilhelm Fette GmbH, Germany

Han E® PCB-adapter



PCB-adapter Han E®

Printed circuit board

Switch cabinet panel



Han E® connector in a bulkhead mounted housing

Hoods/Housings with PG entries

Page

Technical characteristics	30.02
Han-Easy Lock® – Locking levers for Han® Hoods and Housings	30.03
Standard Hoods/Housings size Han A	30.10
Standard Hoods/Housings size Han B	30.16
– with 2 levers on the housing	30.18
– with 1 lever on the housing	30.20
– with 2 levers on the hood	30.22
– with central locking lever	30.23
– for 2 inserts	30.24
Han® M Hoods/Housings for harsh environmental requirements	30.26
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Han® EMC Hoods/Housings	30.32
Han® EMC/B Hoods/Housings	30.35
Han-Drive® Housings for motor applications	30.36
Hoods/Housings for special applications	30.37



Enclosure type acc. UL 50: NEMA 4/12
(File E235076)

Han® 3 A Hoods/Housings thermoplastic

Material	Polycarbonate RAL 7032
Locking element	Polyamide RAL 7032
Hoods/Housings seal	NBR
Limiting temperatures	- 40 °C / +125 °C
Enclosure type acc. to UL 50	NEMA 4/12
Flammability acc. to UL 94	V 0
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 67

Han® 3 A Hoods/Housings metal

Material	Die cast zinc alloy
Surface	powder-coated RAL 7037 (grey)
Locking element	Steel, zinc plated
Hoods/Housings seal	NBR
Limiting temperatures	- 40 °C / +125 °C
Enclosure type acc. to UL 50	NEMA 4/12
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 44 IP 67 is achieved with seal screw 09 20 000 9918

Han® Standard Hoods/Housings

Material	Die cast aluminium alloy
Surface	powder-coated RAL 7037 (grey)
Locking element	V2A Steel/ Steel, zinc plated / Han-Easy Lock®
Hoods/Housings seal	NBR
Limiting temperatures	- 40 °C / +125 °C
Enclosure type acc. to UL 50	NEMA 4/12
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 65

Han® M Hoods/Housings for harsh environmental requirements

Material	Die cast aluminium alloy
Surface	
- Priming	Chromated
- Top Coat	Epoxy powder paint (black)
Locking element	V2A Steel
Hoods/Housings seal	FPM
Limiting temperatures	- 40 °C / +125 °C
Enclosure type acc. to UL 50	NEMA 4/12
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 65
Size Han® 3 A	IP 44 IP 67 is achieved with seal screw 09 20 000 9918

Han® HPR Hoods/Housings pressure tight and highly EMI resistant

Material	corrosion resistant die cast aluminium alloy
Surface	
- Top Coat	Epoxy powder paint (black)
Locking element	
- Screw locking	M 6
- Material	V2A Steel
- Tightening torque	4 Nm
- Toggle locking	
- Material	V2A Steel
Hoods/Housings seal	NBR
Limiting temperatures	- 40 °C / +125 °C
Enclosure type acc. to UL 50	NEMA 4/12
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 68

Han® EMC Hoods/Housings for high shielding

Material	Die cast aluminium alloy
Surface	conductive finish
Locking element	V2A Steel/ Steel, zinc plated
Hoods/Housings seal	NBR
Limiting temperatures	- 40 °C / +125 °C
Enclosure type acc. to UL 50	NEMA 4/12
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 65
Size Han® 3 A	IP 44 IP 67 is achieved with seal screw 09 20 000 9918

Han® EMC/ B Hoods/Housings for high shielding

Material	
- hoods/housings	Die cast aluminium alloy
- shielded frames	Die cast zinc alloy
Surface	
- hoods/housings	electrical conductive
- shielded frames	electrical conductive
Locking element	Han-Easy Lock®
Hoods/Housings seal	NBR
Limiting temperatures	- 40 °C / +125 °C
Enclosure type acc. to UL 50	NEMA 4/12
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 65

Han-Drive® Housings for motor applications

Material	Die cast aluminium alloy
Surface	powder-coated RAL 7037 (grey)
Locking element	Steel, zinc plated Han-Easy Lock®
Hoods/Housings seal	NBR
Limiting temperatures	- 40 °C / +125 °C
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 65

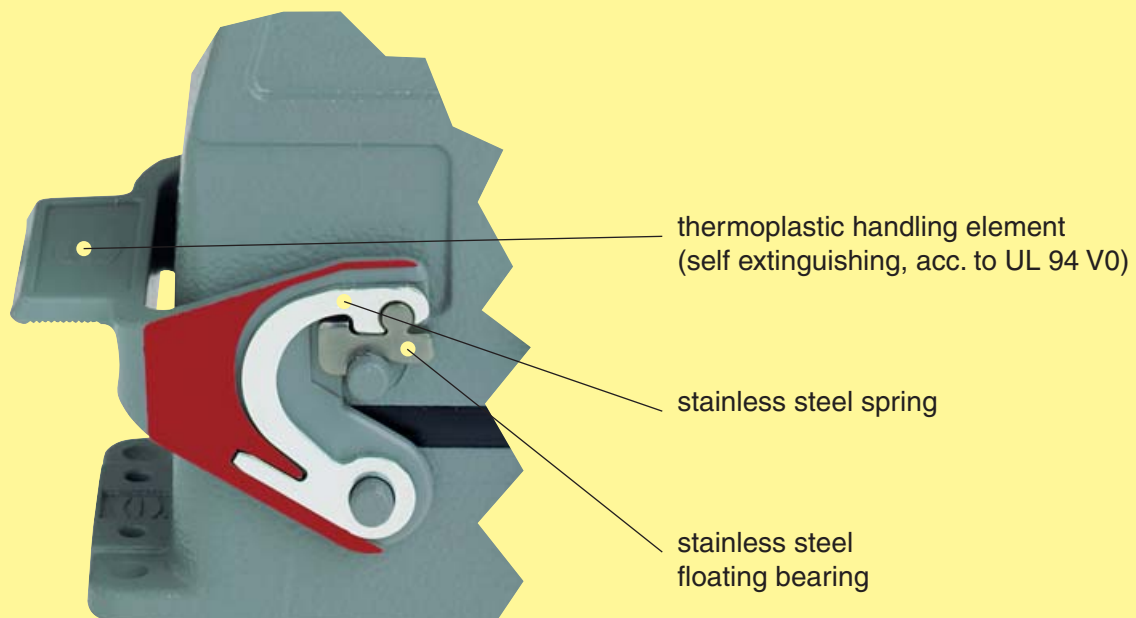
Characteristics

The industrial market places high demands on connector systems. In order to meet these diverse demands HARTING has developed a new locking concept. The Han-Easy Lock® lever system differs in all component parts to any product previously offered on the market.

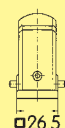
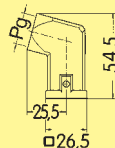
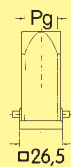
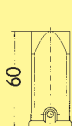
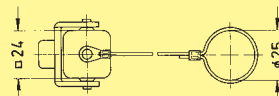
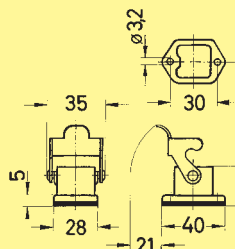
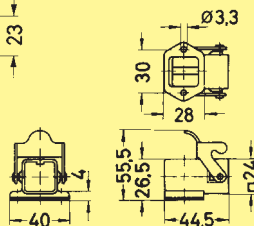
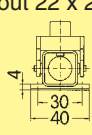
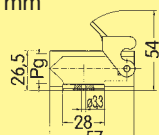
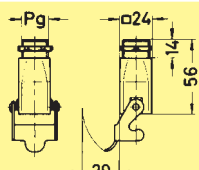
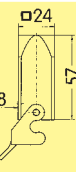
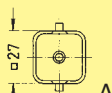
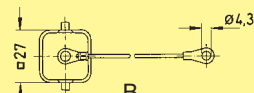
With the combination of a plastic element and stainless steel springs and bearings, the following major application advantages are given:

- Easy handling
- Low operating forces
- Stable lever position
- Excellent sealing
- High number of operating cycles
- Corrosion resistance

Easy and secure handling of the connector, even in areas with awkward or restricted access.



Thermoplastic

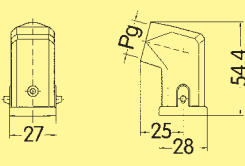
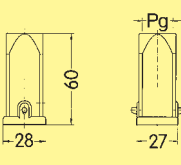
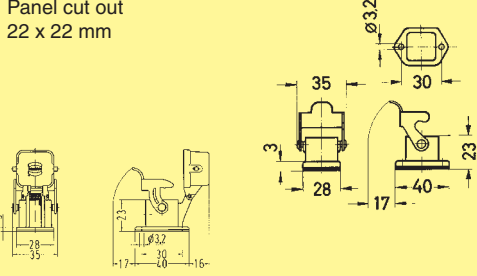
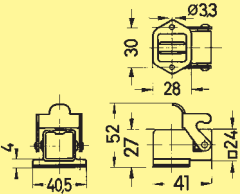
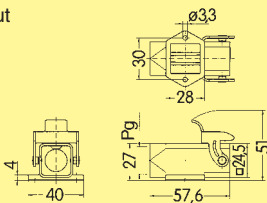
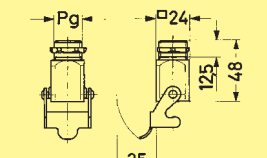
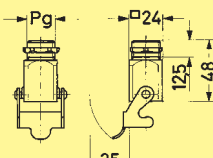
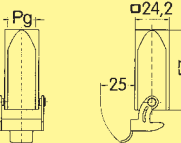
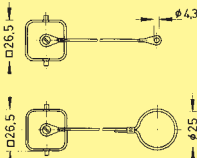
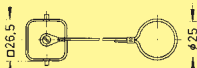
Identification			Part No.	Pg	Drawing	Dimensions in mm
Hoods	Hoods side-entry		grey 09 20 003 0620	11	 	
		black 09 20 003 0627	11			
	Hoods top-entry		grey 09 20 003 0420	11	 	
		black 09 20 003 0427	11			
	Protection covers for hoods		09 20 003 5442 ¹⁾ 09 20 003 5441 ²⁾			
Housings	Housings bulkhead mounting		grey 09 20 003 0320	—	 	Panel cut out 22 x 22 mm
		black 09 20 003 0327	—			
		grey 09 20 003 0820	—			
		black 09 20 003 0827	—			
	Housings surface mounting 1 side-entry		grey 09 20 003 0220	11	 	Panel cut out 22 x 22 mm
		black 09 20 003 0227	11			
	Housings screw mounting		grey 09 20 003 0120	13.5		
	Hoods cable to cable		grey 09 20 003 0720	11	 	
			black 09 20 003 0727	11		
	Protection covers	for housings A  B 	09 20 003 5407 ¹⁾³⁾ 09 20 003 5408 ²⁾³⁾⁴⁾ 09 20 003 5445 ²⁾ 09 20 003 5446 ¹⁾ 09 20 003 5447 ²⁾³⁾⁴⁾		 	
		for hoods cable to cable C 	09 20 003 5448 ¹⁾ 09 20 003 5449 ²⁾⁴⁾			

¹⁾ for mounted male insert
²⁾ for mounted female insert

³⁾ for metal housings and cable to cable hoods also
⁴⁾ for mounted Han-Brid® male and female insert

Stock items in bold type

Metal

Identification		Part No.	Pg	Drawing	Dimensions in mm
Hoods	Hood side-entry without seal		09 20 003 1640	11	
	Hood top-entry		09 20 003 1440	11	
	Protection covers for hoods		09 20 003 5422¹⁾ 09 20 003 5421²⁾		
Housings	Housings bulkhead mounting		09 20 003 0301		
	with fixed cover		09 20 003 0305¹⁾		
	without sealing		09 20 003 0306²⁾		
	with sealing		09 20 003 0801		
	Housing surface mounting 1 side-entry		09 20 003 1250	11	
	bottom closed		09 20 003 1252	11	
	Housing screw mounting		09 20 003 0102	13.5	
Hoods	Hood cable to cable		09 20 003 1750	11	
	Protection covers for housings		09 20 003 5426¹⁾ 09 20 003 5425²⁾		
for hoods cable to cable			09 20 003 5428¹⁾ 09 20 003 5427²⁾		

¹⁾ for mounted male insert ²⁾ for mounted female insert

Stock items in bold type

with 1 lever on the housing

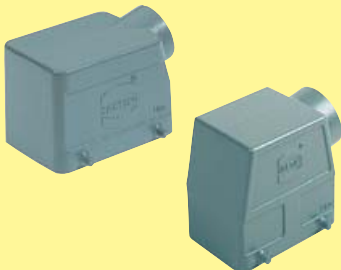
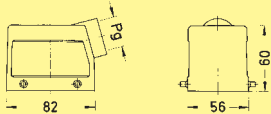
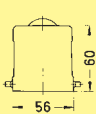
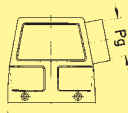
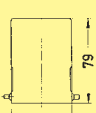
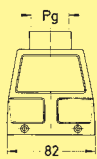
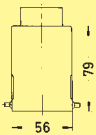
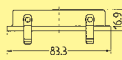
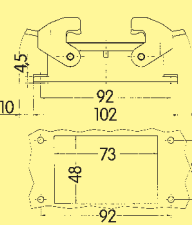
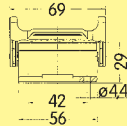
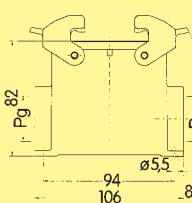
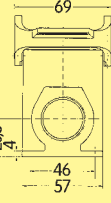
		Part No.		Pg	Drawing	Dimensions in mm
Identification		Low construction	High construction			
Hoods	Hoods side-entry 	09 20 016 1541		16		
			09 20 016 0540 09 20 016 0541	16 21		
	Hoods top-entry without cable-entry	09 20 016 1441	09 20 016 0440 09 20 016 0441 09 20 016 0801	16 21 —	 	
	Protection covers for hoods 	09 20 016 5423				
Housings	Housings bulkhead mounting 	09 20 016 0301		—		
		with thermo-plastic cover 09 20 016 0321		—		
	Housings surface mounting 	09 20 016 0251 09 20 016 0252 09 20 016 0291		1 x 16 1 x 21 2 x 16		
		with thermo-plastic cover 09 20 016 0221 09 20 016 0222 09 20 016 0296		1 x 16 1 x 21 2 x 16		
	Protection covers for housings 	09 20 016 5425				

Han Hoods
Housings

30
13

Stock items in bold type

with 2 levers on the housing for 2 inserts

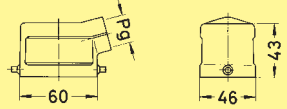
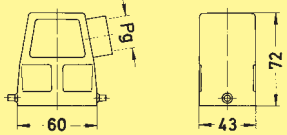
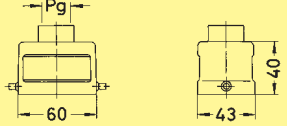
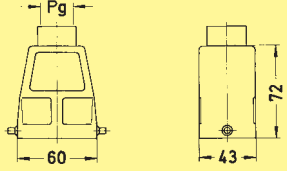
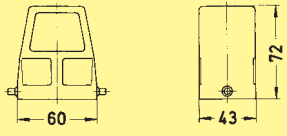
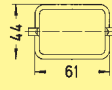
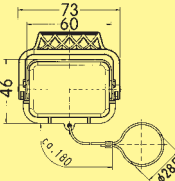
		Part No.		Pg	Drawing	Dimensions in mm
Identification		Low construction	High construction			
Hoods	Hoods side-entry					
		09 20 032 1520		21		
			09 20 032 0520 09 20 032 0521	21 29		
Hoods	Hoods top-entry					
			09 20 032 0420 09 20 032 0421	21 29		
	Protection cover					
			09 20 032 5401			
Housings	Housing bulkhead mounting					
		09 20 032 0301		—		
					Panel cut out	
Housings	Housings surface mounting					
			09 20 032 0230 09 20 032 0231	1 x 21 1 x 29		
			09 20 032 0270 09 20 032 0271	2 x 21 2 x 29	Blind way for one cable entry	
	Protection cover					
			09 20 032 5405			

Stock items in bold type

with 2 levers on the housing with central locking lever for 2 inserts

		Part No.		Pg	Drawing	Dimensions in mm
Identification		Low construction	High construction			
Hoods	Hoods side-entry	09 20 032 1530		21		
			09 20 032 0530 09 20 032 0531	21 29		
	Hoods top-entry		09 20 032 0430 09 20 032 0431	21 29		
Housings	Housings bulkhead mounting	with thermo-plastic cover 09 20 032 0302		—		Panel cut out
	Housings surface mounting		with thermo-plastic cover 09 20 032 0220 09 20 032 0221 with thermo-plastic cover 09 20 032 0260 09 20 032 0261	1 x 21 1 x 29 2 x 21 2 x 29		1) Blind way for one cable entry
	Hood with central locking lever side-entry		09 20 032 0581	29		
	Housing for central locking bulkhead mounting	09 20 032 0381		—		

with 1 lever on the housing

Identification	Part No.		Pg	Drawing	Dimensions in mm
	Low construction	High construction			
Hoods side-entry 	09 30 006 1540 09 30 006 1541		13.5		
			16		
		09 30 006 0542 09 30 006 0543	21		
			29		
Hoods top-entry  without cable-entry	09 30 006 1440 09 30 006 1441		13,5		
			16		
		09 30 006 0442 09 30 006 0443	21		
			29		
		09 30 006 0801	—		
Protection covers metal 	09 30 006 5401 09 30 006 5423			 	

Stock items in bold type

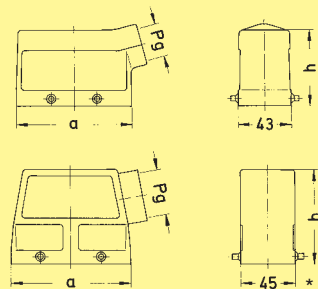
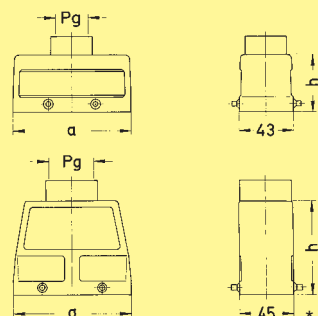
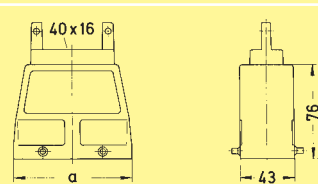
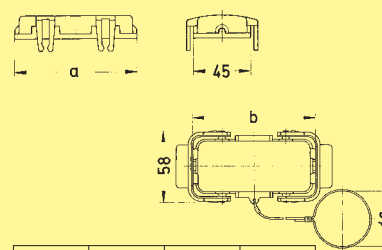
with 1 lever on the housing

		Part No.		Pg	Drawing	Dimensions in mm
Identification		Low construction	High construction			
Housings	Housings bulkhead mounting	09 30 006 0301 with thermo- plastic cover 09 30 006 0302 with metal cover 09 30 006 0318		— — —	Panel cut out 48 x 35 mm 	
	Housings surface mounting	09 30 006 1251 09 30 006 1291 with thermo- plastic cover 09 30 006 1256 09 30 006 1296 with metal cover 09 30 006 2256 09 30 006 2296	09 30 006 0292 09 30 006 0293 with thermo- plastic cover 09 30 006 0297 09 30 006 0298 with metal cover 09 30 006 2297	1 x 16 2 x 16 2 x 21 2 x 29 1 x 16 2 x 16 2 x 21 2 x 29 1 x 16 2 x 16 2 x 21		
	Protection covers thermoplastic	09 30 006 5404				
	metal	09 30 006 5425				
	Hoods cable to cable	09 30 006 1750	09 30 006 0752 09 30 006 0753	13.5 21 29		
	Protection cover metal	09 30 006 5427				

Han Hoods
Housings30
17

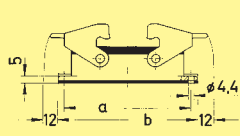
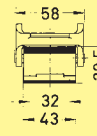
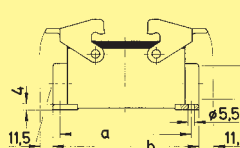
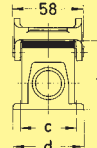
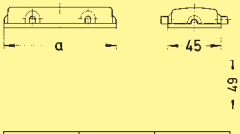
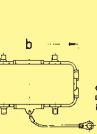
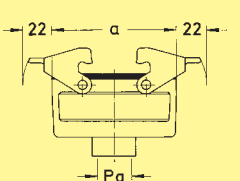
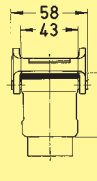
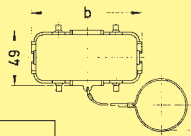
Stock items in bold type

with 2 levers on the housing

Part No.																						
Identification	Size	Low construction	High construction	Pg	Drawing	Dimensions in mm																
Hoods side-entry 	10	09 30 010 1521	09 30 010 0522 09 30 010 0523	16		<table><tr><th>Size</th><th>a</th><th>Low construction h</th><th>High construction h</th></tr><tr><td>10 B</td><td>73</td><td>57</td><td>72</td></tr><tr><td>16 B</td><td>93.5</td><td>62.5</td><td>76</td></tr><tr><td>24 B</td><td>120</td><td>62.5</td><td>76</td></tr></table> * 10 B: housing width 43 mm	Size	a	Low construction h	High construction h	10 B	73	57	72	16 B	93.5	62.5	76	24 B	120	62.5	76
	Size			a			Low construction h	High construction h														
	10 B			73			57	72														
	16 B	93.5	62.5	76																		
	24 B	120	62.5	76																		
	10																					
	10																					
	16	09 30 016 1520	09 30 016 0520 09 30 016 0521	21																		
	16			29																		
	24	09 30 024 1520	09 30 024 0520 09 30 024 0521	21																		
24	29																					
Hoods top-entry  without cable-entry 	10	09 30 010 1421	09 30 010 0422 09 30 010 0423	16		<table><tr><th>Size</th><th>a</th><th>Low construction h</th><th>High construction h</th></tr><tr><td>10 B</td><td>73</td><td>45</td><td>72</td></tr><tr><td>16 B</td><td>93.5</td><td>45</td><td>76</td></tr><tr><td>24 B</td><td>120</td><td>55</td><td>76</td></tr></table> * 10 B: housing width 43 mm	Size	a	Low construction h	High construction h	10 B	73	45	72	16 B	93.5	45	76	24 B	120	55	76
	Size			a			Low construction h	High construction h														
	10 B			73			45	72														
	16 B	93.5	45	76																		
	24 B	120	55	76																		
	10																					
	10																					
	16	09 30 016 1420	09 30 016 0420 09 30 016 0421	21																		
	16			29																		
	24	09 30 024 1421	09 30 024 0420 09 30 024 0421	21																		
24	29																					
10		09 30 010 0801	—																			
16		09 30 016 0801	—																			
24		09 30 024 0801	—																			
Hoods Flat cable-entry 	16		09 30 016 4411	—		<table><tr><th>Size</th><th>a</th></tr><tr><td>16 B</td><td>93.5</td></tr><tr><td>24 B</td><td>120</td></tr></table>	Size	a	16 B	93.5	24 B	120										
	Size	a																				
	16 B	93.5																				
24 B	120																					
24		09 30 024 4411	—																			
Protection covers thermoplastic/metal 	10	09 30 010 5401 09 30 010 5423				<table><tr><th>Size</th><th>a</th><th>b</th><th>c</th></tr><tr><td>10 B</td><td>74</td><td>78.5</td><td>28.5</td></tr><tr><td>16 B</td><td>94.5</td><td>99</td><td>44</td></tr><tr><td>24 B</td><td>121</td><td>125.5</td><td>44</td></tr></table>	Size	a	b	c	10 B	74	78.5	28.5	16 B	94.5	99	44	24 B	121	125.5	44
	Size						a	b	c													
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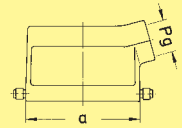
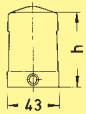
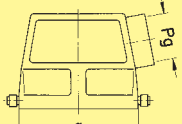
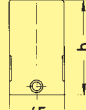
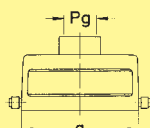
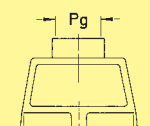
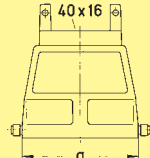
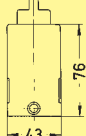
Stock items in bold type

with 2 levers on the housing

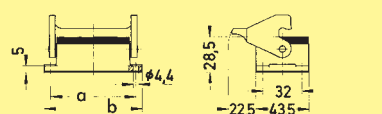
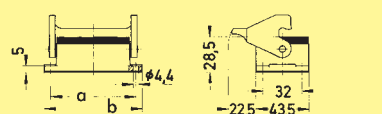
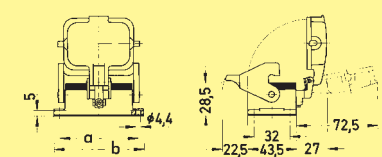
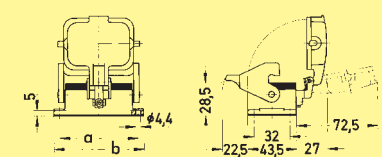
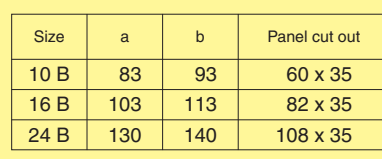
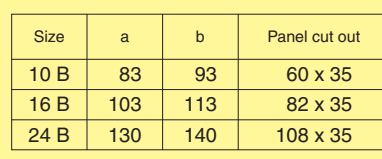
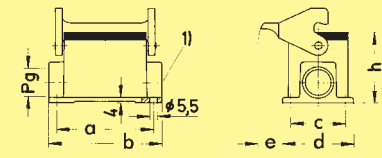
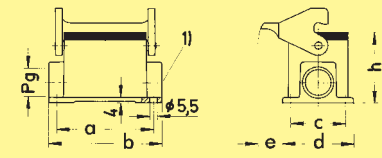
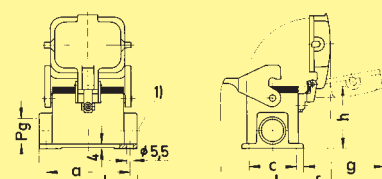
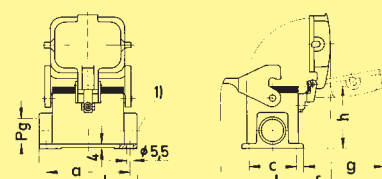
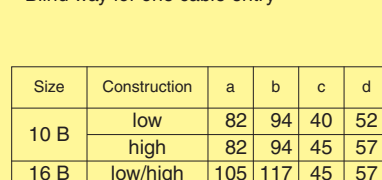
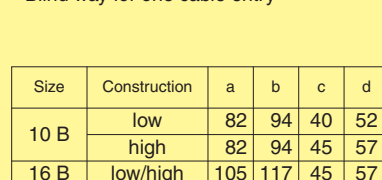
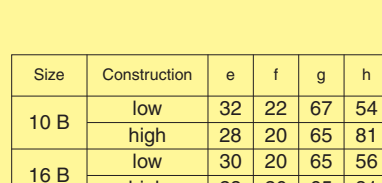
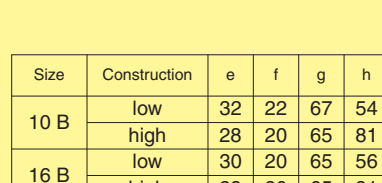
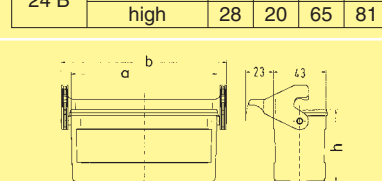
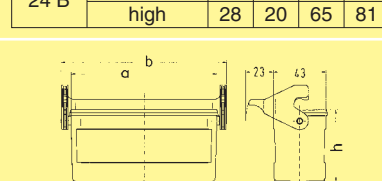
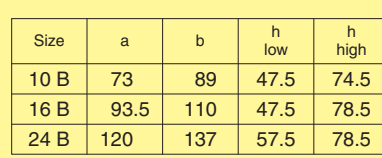
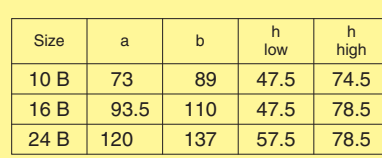
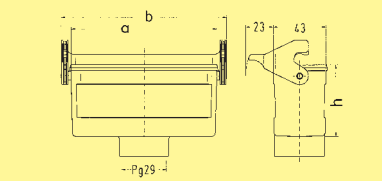
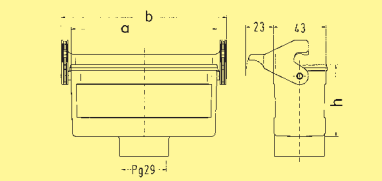
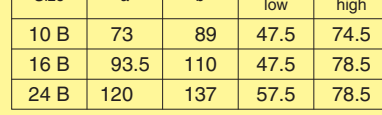
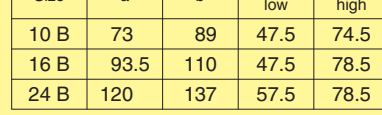
Part No.																																																			
Identification	Size	Low construction	High construction	Pg	Drawing	Dimensions in mm																																													
Housings bulkhead mounting 	10	09 30 010 0301		—	  <table><tr><th>Size</th><th>a</th><th>b</th><th>Panel cut out</th></tr><tr><td>10 B</td><td>83</td><td>93</td><td>60 x 35</td></tr><tr><td>16 B</td><td>103</td><td>113</td><td>82 x 35</td></tr><tr><td>24 B</td><td>130</td><td>140</td><td>108 x 35</td></tr></table>	Size	a	b	Panel cut out	10 B	83	93	60 x 35	16 B	103	113	82 x 35	24 B	130	140	108 x 35																														
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16	09 30 016 0301			—																																															
24	09 30 024 0301			—																																															
Housings surface mounting 	10	09 30 010 1231		1 x 16	  Blind way for one cable entry <table><tr><th>Size</th><th>con- struction</th><th>a</th><th>b</th><th>c</th><th>d</th><th>h</th></tr><tr><td rowspan="2">10 B</td><td>low</td><td>82</td><td>94</td><td>40</td><td>52</td><td>54</td></tr><tr><td>high</td><td>82</td><td>94</td><td>45</td><td>57</td><td>81</td></tr><tr><td rowspan="2">16 B</td><td>low</td><td>105</td><td>117</td><td>45</td><td>57</td><td>56</td></tr><tr><td>high</td><td>105</td><td>117</td><td>45</td><td>57</td><td>81</td></tr><tr><td rowspan="2">24 B</td><td>low</td><td>132</td><td>144</td><td>45</td><td>57</td><td>56</td></tr><tr><td>high</td><td>132</td><td>144</td><td>45</td><td>57</td><td>81</td></tr></table>	Size	con- struction	a	b	c	d	h	10 B	low	82	94	40	52	54	high	82	94	45	57	81	16 B	low	105	117	45	57	56	high	105	117	45	57	81	24 B	low	132	144	45	57	56	high	132	144	45	57	81
	Size	con- struction	a	b		c	d	h																																											
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		high	82	94		45	57	81																																											
	16 B	low	105	117		45	57	56																																											
		high	105	117		45	57	81																																											
	24 B	low	132	144		45	57	56																																											
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	10		09 30 010 0233	1 x 29																																															
	10	09 30 010 1271		2 x 16																																															
	10		09 30 010 0272	2 x 21																																															
	10		09 30 010 0273	2 x 29																																															
	16		09 30 016 0230	1 x 21																																															
	16	09 30 016 1230	09 30 016 0231	1 x 29																																															
	16	09 30 016 1270	09 30 016 0270	2 x 21																																															
	16		09 30 016 0271	2 x 29																																															
24	09 30 024 1230	09 30 024 0230	1 x 21																																																
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24	09 30 024 1270	09 30 024 0270	2 x 21																																																
24		09 30 024 0271	2 x 29																																																
Protection covers Thermoplastic/metal 	10	09 30 010 5407			  <table><tr><th>Size</th><th>a</th><th>b</th></tr><tr><td>10 B</td><td>74</td><td>78.5</td></tr><tr><td>16 B</td><td>94.5</td><td>99</td></tr><tr><td>24 B</td><td>121</td><td>125.5</td></tr></table>	Size	a	b	10 B	74	78.5	16 B	94.5	99	24 B	121	125.5																																		
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24	09 30 024 5405																																																		
24	09 30 024 5425																																																		
Hoods cable to cable 	10	09 30 010 1731		16	  <table><tr><th>Size</th><th>con- struction</th><th>a</th><th>h</th></tr><tr><td rowspan="2">10 B</td><td>low</td><td>73</td><td>47.5</td></tr><tr><td>high</td><td>73</td><td>74.5</td></tr><tr><td rowspan="2">16 B</td><td>low</td><td>93.5</td><td>47.5</td></tr><tr><td>high</td><td>93.5</td><td>78.5</td></tr><tr><td rowspan="2">24 B</td><td>low</td><td>120</td><td>57.5</td></tr><tr><td>high</td><td>120</td><td>78.5</td></tr></table>	Size	con- struction	a	h	10 B	low	73	47.5	high	73	74.5	16 B	low	93.5	47.5	high	93.5	78.5	24 B	low	120	57.5	high	120	78.5																					
	Size	con- struction	a	h																																															
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		high	73	74.5																																															
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		high	93.5	78.5																																															
	24 B	low	120	57.5																																															
		high	120	78.5																																															
	10		09 30 010 0732	21																																															
10		09 30 010 0733	29																																																
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24		09 30 024 0730	21																																																
24	09 30 024 1731	09 30 024 0731	29																																																
Protection covers 	10	09 30 010 5427			 <table><tr><th>Size</th><th>b</th><th>c</th></tr><tr><td>10 B</td><td>78.5</td><td>28.5</td></tr><tr><td>16 B</td><td>99</td><td>44</td></tr><tr><td>24 B</td><td>125.5</td><td>44</td></tr></table>	Size	b	c	10 B	78.5	28.5	16 B	99	44	24 B	125.5	44																																		
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	10 B	78.5	28.5																																																
	16 B	99	44																																																
24 B	125.5	44																																																	
16	09 30 016 5426																																																		
24	09 30 024 5426																																																		

Han Hoods
Housings

with 1 lever on the housing

Part No.																						
Identification	Size	Low construction	High construction	Pg	Drawing	Dimensions in mm																
Hoods side-entry 	10	09 30 010 1541	09 30 010 0542 09 30 010 0543	16	 	 																
	10			21																		
	10			29																		
	16	09 30 016 1540	09 30 016 0540 09 30 016 0541	21																		
	16			29																		
	24	09 30 024 1540	09 30 024 0540 09 30 024 0541	21																		
	24			29																		
					<table><tr><th>Size</th><th>a</th><th>Low construction h</th><th>High construction h</th></tr><tr><td>10 B</td><td>73</td><td>57</td><td>72</td></tr><tr><td>16 B</td><td>93.5</td><td>62.5</td><td>76</td></tr><tr><td>24 B</td><td>120</td><td>62.5</td><td>76</td></tr></table>		Size	a	Low construction h	High construction h	10 B	73	57	72	16 B	93.5	62.5	76	24 B	120	62.5	76
	Size	a	Low construction h	High construction h																		
	10 B	73	57	72																		
16 B	93.5	62.5	76																			
24 B	120	62.5	76																			
				* 10 B: housing width 43 mm																		
Hoods top-entry  without cable entry 	10	09 30 010 1441	09 30 010 0442 09 30 010 0443	16	 	 																
	10			21																		
	10			29																		
	16	09 30 016 1440	09 30 016 0440 09 30 016 0441	21																		
	16			29																		
	24	09 30 024 1441	09 30 024 0440 09 30 024 0441	21																		
	24			29																		
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	Size	a	Low construction h	High construction h																		
	10 B	73	45	72																		
16 B	93.5	45	76																			
24 B	120	55	76																			
				* 10 B: housing width 43 mm																		
Hoods Flat cable-entry 	16		09 30 016 4441	—	 	<table><tr><th>Size</th><th>a</th></tr><tr><td>16 B</td><td>93.5</td></tr><tr><td>24 B</td><td>120</td></tr></table>	Size	a	16 B	93.5	24 B	120										
	Size	a																				
	16 B	93.5																				
24 B	120																					

with 1 lever on the housing

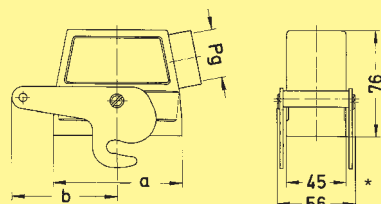
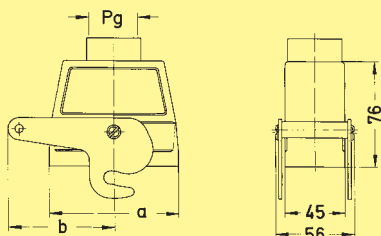
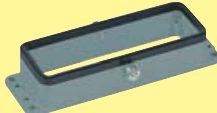
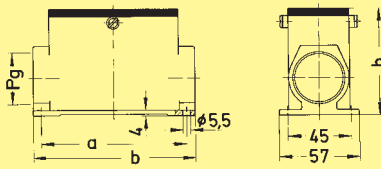
Part No.																																																																										
Identification	Size	Low construction	High construction	Pg	Drawing	Dimensions in mm																																																																				
Housings bulkhead mounting  	10	09 30 010 0305		—																																																																						
	16	09 30 016 0307		—																																																																						
	24	09 30 024 0307		—																																																																						
			with thermo-plastic cover																																																																							
	10	09 30 010 0303		—																																																																						
	16	09 30 016 0306		—																																																																						
			with metal cover																																																																							
	10	09 30 010 0318		—																																																																						
	16	09 30 016 0318		—																																																																						
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16 B	103	113	82 x 35																																																																							
24 B	130	140	108 x 35																																																																							
Housings surface mounting  	10	09 30 010 1251		1 x 16																																																																						
	10	09 30 010 1291		2 x 16																																																																						
	10		09 30 010 0292	2 x 21																																																																						
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	24	09 30 024 1290		2 x 21																																																																						
	24		09 30 024 0290	2 x 21																																																																						
	24		09 30 024 0291	2 x 29																																																																						
			with thermoplastic cover	with thermoplastic cover		1) Blind way for one cable entry																																																																				
	10	09 30 010 1256		1 x 16	<table><tr><th>Size</th><th>Construction</th><th>a</th><th>b</th><th>c</th><th>d</th></tr><tr><td rowspan="2">10 B</td><td>low</td><td>82</td><td>94</td><td>40</td><td>52</td></tr><tr><td>high</td><td>82</td><td>94</td><td>45</td><td>57</td></tr><tr><td>16 B</td><td>low/high</td><td>105</td><td>117</td><td>45</td><td>57</td></tr><tr><td>24 B</td><td>low/high</td><td>132</td><td>144</td><td>45</td><td>57</td></tr></table>	Size	Construction	a	b	c	d	10 B	low	82	94	40	52	high	82	94	45	57	16 B	low/high	105	117	45	57	24 B	low/high	132	144	45	57	<table><tr><th>Size</th><th>Construction</th><th>e</th><th>f</th><th>g</th><th>h</th></tr><tr><td rowspan="2">10 B</td><td>low</td><td>32</td><td>22</td><td>67</td><td>54</td></tr><tr><td>high</td><td>28</td><td>20</td><td>65</td><td>81</td></tr><tr><td rowspan="2">16 B</td><td>low</td><td>30</td><td>20</td><td>65</td><td>56</td></tr><tr><td>high</td><td>28</td><td>20</td><td>65</td><td>81</td></tr><tr><td rowspan="2">24 B</td><td>low</td><td>30</td><td>20</td><td>65</td><td>56</td></tr><tr><td>high</td><td>28</td><td>20</td><td>65</td><td>81</td></tr></table>	Size	Construction	e	f	g	h	10 B	low	32	22	67	54	high	28	20	65	81	16 B	low	30	20	65	56	high	28	20	65	81	24 B	low	30	20	65	56	high	28	20	65	81
	Size	Construction	a	b		c	d																																																																			
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10		09 30 010 0297	2 x 21																																																																							
10		09 30 010 0298	2 x 29																																																																							
16	09 30 016 1255		1 x 21	<table><tr><th>Size</th><th>Construction</th><th>a</th><th>b</th><th>h low</th><th>h high</th></tr><tr><td>10 B</td><td></td><td>73</td><td>89</td><td>47.5</td><td>74.5</td></tr><tr><td>16 B</td><td></td><td>93.5</td><td>110</td><td>47.5</td><td>78.5</td></tr><tr><td>24 B</td><td></td><td>120</td><td>137</td><td>57.5</td><td>78.5</td></tr></table>	Size	Construction	a	b	h low	h high	10 B		73	89	47.5	74.5	16 B		93.5	110	47.5	78.5	24 B		120	137	57.5	78.5	<table><tr><th>Size</th><th>Construction</th><th>e</th><th>f</th><th>g</th><th>h</th></tr><tr><td rowspan="2">10 B</td><td>low</td><td>32</td><td>22</td><td>67</td><td>54</td></tr><tr><td>high</td><td>28</td><td>20</td><td>65</td><td>81</td></tr><tr><td rowspan="2">16 B</td><td>low</td><td>30</td><td>20</td><td>65</td><td>56</td></tr><tr><td>high</td><td>28</td><td>20</td><td>65</td><td>81</td></tr><tr><td rowspan="2">24 B</td><td>low</td><td>30</td><td>20</td><td>65</td><td>56</td></tr><tr><td>high</td><td>28</td><td>20</td><td>65</td><td>81</td></tr></table>	Size	Construction	e	f	g	h	10 B	low	32	22	67	54	high	28	20	65	81	16 B	low	30	20	65	56	high	28	20	65	81	24 B	low	30	20	65	56	high	28	20	65	81						
Size	Construction	a	b		h low	h high																																																																				
10 B		73	89		47.5	74.5																																																																				
16 B		93.5	110	47.5	78.5																																																																					
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10 B	low	32	22	67	54																																																																					
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16 B	low	30	20	65	56																																																																					
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24 B	low	30	20	65	56																																																																					
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16	09 30 016 1295		2 x 21																																																																							
16		09 30 016 0295	2 x 21																																																																							
24	09 30 024 1255		1 x 21																																																																							
24		09 30 024 0255	1 x 29																																																																							
24		09 30 024 0256	1 x 29																																																																							
24	09 30 024 1295		2 x 21																																																																							
24		09 30 024 0295	2 x 21																																																																							
24		09 30 024 0296	2 x 29																																																																							
	with metal cover	with metal cover																																																																								
10	09 30 010 2296		2 x 16																																																																							
10		09 30 010 2297	2 x 21																																																																							
16	09 30 016 2295		2 x 21																																																																							
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24	09 30 024 2295		2 x 21																																																																							
24		09 30 024 2297	2 x 21																																																																							
24		09 30 024 2298	2 x 29																																																																							
Hoods cable to cable 	10	09 30 010 1751		16																																																																						
	10		09 30 010 0752	21																																																																						
	10		09 30 010 0753	29																																																																						
	16	09 30 016 1750		21																																																																						
	16		09 30 016 0750	29																																																																						
	16		09 30 016 0751	29																																																																						
24	09 30 024 1751		29																																																																							
		09 30 024 0751																																																																								

with 2 levers on the housing

		Part No.																				
Identification		Size	Low construction	High construction	Pg	Drawing Dimensions in mm																
Hoods	side-entry	10	09 30 010 1531	09 30 010 0532 09 30 010 0533	16 21 29	<table><tr><th>Size</th><th>a</th><th>Low construction h</th><th>High construction h</th></tr><tr><td>10</td><td>73</td><td>57</td><td>72</td></tr><tr><td>16</td><td>93.5</td><td>62.5</td><td>76</td></tr><tr><td>24</td><td>120</td><td>62.5</td><td>76</td></tr></table> * 10 B and low construction: housing width 43 mm	Size	a	Low construction h	High construction h	10	73	57	72	16	93.5	62.5	76	24	120	62.5	76
		Size					a	Low construction h	High construction h													
		10					73	57	72													
16	93.5	62.5	76																			
24	120	62.5	76																			
10																						
10																						
16	09 30 016 1530	09 30 016 0530 09 30 016 0531	21 29																			
16																						
24	09 30 024 1530	09 30 024 0530 09 30 024 0531	21 29																			
24																						
Hoods	top-entry	10	09 30 010 1431	09 30 010 0432 09 30 010 0433	16 21 29	<table><tr><th>Size</th><th>a</th><th>Low construction h</th><th>High construction h</th></tr><tr><td>10</td><td>73</td><td>45</td><td>72</td></tr><tr><td>16</td><td>93.5</td><td>45</td><td>76</td></tr><tr><td>24</td><td>120</td><td>55</td><td>76</td></tr></table> * 10 B and low construction: housing width 43 mm	Size	a	Low construction h	High construction h	10	73	45	72	16	93.5	45	76	24	120	55	76
		Size					a	Low construction h	High construction h													
		10					73	45	72													
		16	93.5	45	76																	
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16																						
24	09 30 024 1431	09 30 024 0430 09 30 024 0431	21 29																			
24																						
Hoods	flat cable entry	16		09 30 016 4431		a = see above * 10 B and low construction: housing width 43 mm																
Housings	bulkhead mounting	10	with thermoplastic cover 09 30 010 0302 09 30 016 0302 09 30 024 0302			Panel cut out <table><tr><th>Size</th><th>a</th><th>b</th><th>c</th></tr><tr><td>10</td><td>83</td><td>93</td><td>60</td></tr><tr><td>16</td><td>103</td><td>113</td><td>82</td></tr><tr><td>24</td><td>130</td><td>140</td><td>108</td></tr></table>	Size	a	b	c	10	83	93	60	16	103	113	82	24	130	140	108
		Size					a	b	c													
		10					83	93	60													
16	103	113	82																			
24	130	140	108																			
16																						
24																						
Housings	surface mounting	10	with thermoplastic cover 09 30 010 1221	with thermoplastic cover 09 30 010 0222 09 30 010 0223	1 x 16 1 x 21 1 x 29	¹⁾ Blind way for one cable entry																
		10																				
		10																				
		10	09 30 010 1261	09 30 010 0262 09 30 010 0263 09 30 016 0220 09 30 016 0221 09 30 016 0260 09 30 016 0261	2 x 16 2 x 21 2 x 29																	
		10																				
		10																				
		16	09 30 016 1220	09 30 016 0220 09 30 016 0221 09 30 016 0260 09 30 016 0261	1 x 21 1 x 29 2 x 21																	
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		16																				
		16	09 30 016 1260	09 30 016 0260 09 30 016 0261	2 x 21 2 x 29																	
		16																				
		16																				
		24	09 30 024 1220	09 30 024 0220 09 30 024 0221 09 30 024 0260 09 30 024 0261	1 x 21 1 x 29 2 x 21 2 x 29																	
		24																				
		24																				
		24	09 30 024 1260	09 30 024 0260 09 30 024 0261	2 x 21 2 x 29																	
		24																				
		24																				
		10	with metal cover 09 30 010 2261	with metal cover 09 30 010 2263	2 x 16 2 x 29																	
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		16																				
		16	09 30 016 2260	09 30 016 2262	2 x 21																	
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		24	09 30 024 2260	09 30 024 2263	2 x 21																	
		24																				

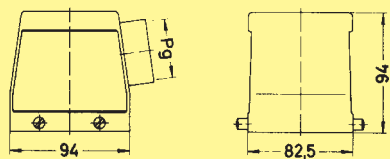
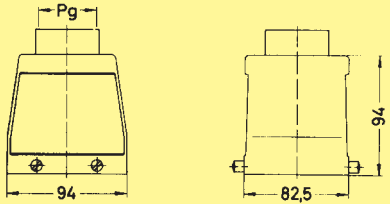
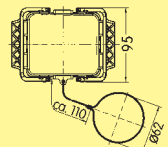
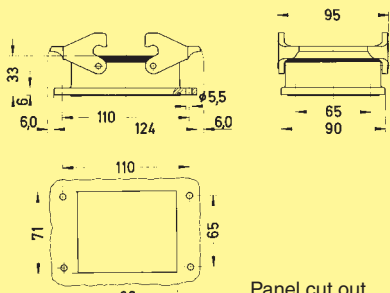
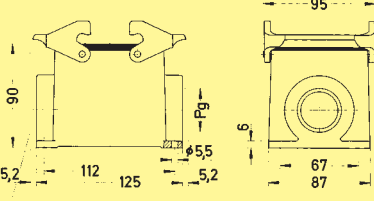
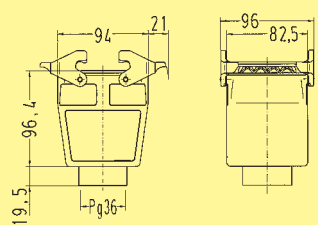
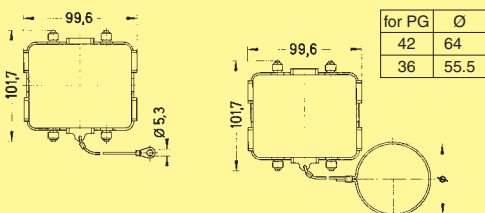
Stock items in bold type

with central locking lever

Identification		Size	Part No.		Pg	Drawing	Dimensions in mm																			
Hoods	Hoods side-entry		Low construction	High construction																						
		6 10 10 16 16 24 24		09 30 006 0581 09 30 010 0581 09 30 010 0582 09 30 016 0580 09 30 016 0581 09 30 024 0580 09 30 024 0581	16 16 21 21 29 21 29	 <table><tr><th>Size</th><th>a</th><th>b</th></tr><tr><td>6</td><td>60</td><td>70</td></tr><tr><td>10</td><td>73</td><td>70</td></tr><tr><td>16</td><td>93.5</td><td>76</td></tr><tr><td>24</td><td>120</td><td>87</td></tr></table> * 6 B, 10 B: housing width 43 mm	Size	a	b	6	60	70	10	73	70	16	93.5	76	24	120	87					
Size	a	b																								
6	60	70																								
10	73	70																								
16	93.5	76																								
24	120	87																								
Hoods	Hoods top-entry																									
		16 16 24 24		09 30 016 0480 09 30 016 0481 09 30 024 0480 09 30 024 0481	21 29 21 29	 <table><tr><th>Size</th><th>a</th><th>b</th></tr><tr><td>16</td><td>93.5</td><td>76</td></tr><tr><td>24</td><td>120</td><td>87</td></tr></table>	Size	a	b	16	93.5	76	24	120	87											
Size	a	b																								
16	93.5	76																								
24	120	87																								
Housings	Housings bulkhead mounting																									
		6 10 16 24		09 30 006 0381 09 30 010 0381 09 30 016 0381 09 30 024 0381		 <table><tr><th>Size</th><th>a</th><th>b</th><th>Panel cut out</th></tr><tr><td>6</td><td>70</td><td>80</td><td>48 x 35</td></tr><tr><td>10</td><td>83</td><td>93</td><td>60 x 35</td></tr><tr><td>16</td><td>103</td><td>113</td><td>82 x 35</td></tr><tr><td>24</td><td>130</td><td>140</td><td>108 x 35</td></tr></table>	Size	a	b	Panel cut out	6	70	80	48 x 35	10	83	93	60 x 35	16	103	113	82 x 35	24	130	140	108 x 35
Size	a	b	Panel cut out																							
6	70	80	48 x 35																							
10	83	93	60 x 35																							
16	103	113	82 x 35																							
24	130	140	108 x 35																							
Housings	Housings surface mounting																									
		16 16 24	09 30 016 1280	09 30 016 0281 09 30 024 0281	2 x 21 2 x 29 2 x 29	 <table><tr><th>Size</th><th>a</th><th>b</th><th>h</th></tr><tr><td>16</td><td>105</td><td>117</td><td>81</td></tr><tr><td>24</td><td>132</td><td>144</td><td>81</td></tr></table>	Size	a	b	h	16	105	117	81	24	132	144	81								
Size	a	b	h																							
16	105	117	81																							
24	132	144	81																							

Stock items in bold type

with 2 levers on the housing for 2 inserts

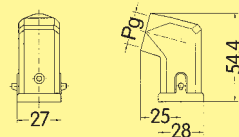
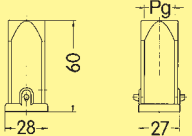
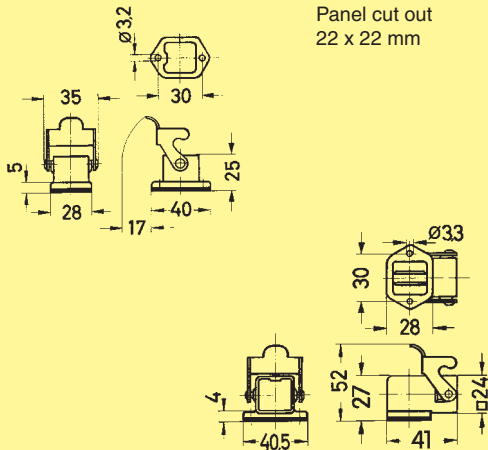
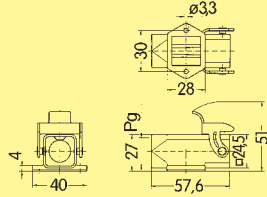
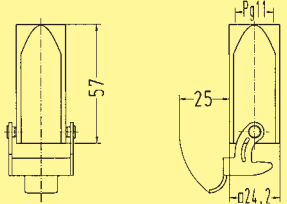
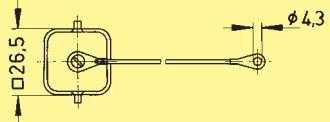
Identification		Part No.	Pg	Drawing	Dimensions in mm
Hoods	Hoods side-entry		09 30 032 0521 09 30 032 0522 09 30 032 0523	29 36 42	
	Hoods top-entry		09 30 032 0421 09 30 032 0422 09 30 032 0423	29 36 42	
	Protection cover for hoods	09 30 032 5420	—		
Housings	Housing bulkhead mounting		09 30 032 0301	—	 Panel cut out
	Housings surface mounting		09 30 032 0231 09 30 032 0232 09 30 032 0271 09 30 032 0272 09 30 032 0273	1 x 29 1 x 36 2 x 29 2 x 36 2 x 42	 Blind way for one cable entry
	Hoods cable to cable		09 30 032 0731 09 30 032 0732 09 30 032 0733	29 36 42	
	Protection covers	for housings	09 30 032 5425	—	
	for cable to cable hoods	09 30 032 5426 09 30 032 5427	42 36		

Stock items in bold type

with 1 lever on the housing for 2 inserts

Identification		Part No.	Pg	Drawing	Dimensions in mm
Hoods	Hoods side-entry	09 30 048 0540 09 30 048 0541 09 30 048 0542	29 36 42		
	Hoods top-entry	09 30 048 0440 09 30 048 0441 09 30 048 0442	29 36 42		
Housings	Housings bulkhead mounting	with thermo- plastic cover 09 30 048 0301 with metal cover 09 30 048 0317	— —	 Panel cut out 	
	Housings surface mounting 2 side-entries	09 30 048 0290 09 30 048 0291 with thermo- plastic cover 09 30 048 0295 09 30 048 0296 with metal cover 09 30 048 2295 09 30 048 2296	29 36 29 36 29 36	 	

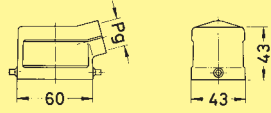
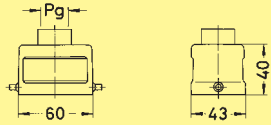
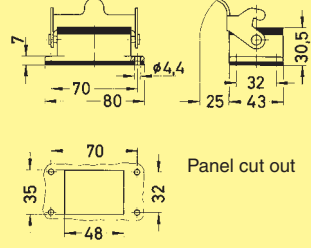
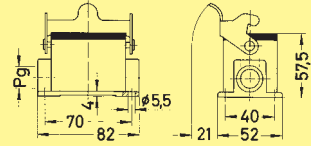
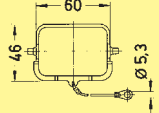
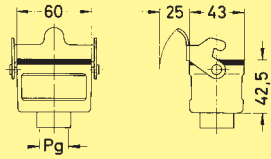
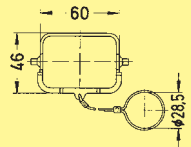
for harsh environmental requirements

Identification		Part No.	Pg	Drawing	Dimensions in mm
Hoods	Hoods side-entry		09 37 003 1640	11	
	Hoods top-entry		09 37 003 1440	11	
	Protection covers for hoods		09 37 003 5402¹⁾ 09 37 003 5401²⁾		
Housings	Housings bulkhead mounting	 	09 37 003 0301 09 37 003 0801		
	Housing surface mounting 1 side-entry		09 37 003 1250	11	
	Hood cable to cable		09 37 003 1750	11	
	Protection cover for housings		09 37 003 5405²⁾ 09 37 003 5406¹⁾		

¹⁾ for mounted male insert ²⁾ for mounted female insert

Stock items in bold type

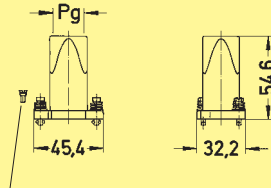
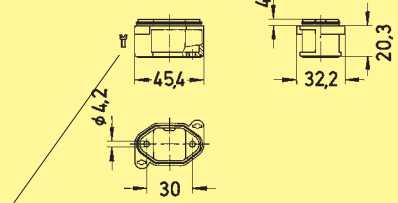
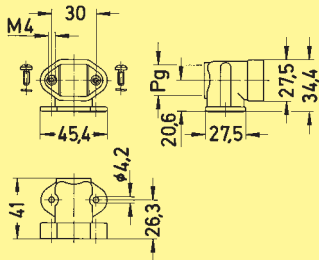
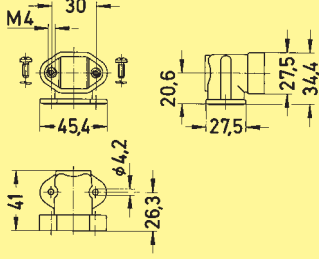
for harsh environmental requirements

Identification		Part No.	Pg	Drawing	Dimensions in mm
Hoods	Hood side-entry	 09 37 006 1540 09 37 006 0542	13.5 21		
	Hoods top-entry	 09 37 006 1440 09 37 006 1441	13.5 16		
Housings	Housing bulkhead mounting	 09 37 006 0301	—		
	Housing surface mounting 2 side-entries	 09 37 006 1291	16		
	Protection cover metal	 09 37 006 5405			
	Hood cable to cable	 09 37 006 1750	13.5		
	Protection cover metal	 09 37 006 5407	13.5		

for harsh environmental requirements

Identification		Size	Part No.	Pg	Drawing		Dimensions in mm
Hoods	Hoods side-entry	10 16 16 24 24	09 37 010 1521 09 37 016 1520 09 37 016 0521 09 37 024 1520 09 37 024 0521	16 21 29 21 29	h a		* 10 B: housing width 43 mm
	Hoods top-entry	10 16 24	09 37 010 1421 09 37 016 0421 09 37 024 0421	16 29 29	h a		* 10 B: housing width 43 mm
	Protection covers metal	10 16 24	09 37 010 5403 09 37 016 5402 09 37 024 5402	— — —	a		
Housings	Housings bulkhead mounting	10 16 24	09 37 010 0301 09 37 016 0301 09 37 024 0301	— — —	a b c		Panel cut out
	Housings surface mounting	10 16 16 24	09 37 010 1271 09 37 016 1230 09 37 016 0271 09 37 024 0271	2 x 16 1 x 21 2 x 29 2 x 29	h a b c d		
	Protection covers metal	10 16 24	09 37 010 5405 09 37 016 5405 09 37 024 5405	— — —	a		
	Hoods cable to cable	10 16	09 37 010 1731 09 37 016 1730	16 21	h a		

Stock items in bold type

Identification	Size	Part no. Toggle locking	Pg	Drawing	Dimensions in mm
Hood with sealing screw* 	3 A	09 40 003 0402	13.5	 Sealing screw	
Housing bulkhead mounting with sealing screw* 	3 A	09 40 003 0301		Panel cut out 21.3 x 21.3 mm  Sealing screw	
Accessories	Size	Reference-Number	Pg	Drawing	Dimensions in mm
Adaptor for assembly of bulkhead mounted housing in angled position with Pg-entry  Pg cable gland not included in delivery range	3 A	09 40 003 0901	13.5		
Adaptor for assembly in angled position 	3 A	09 40 003 0902	—		

* Sealing on the insert has to be removed

Part No.

Identification

Size

Toggle locking

Screw locking

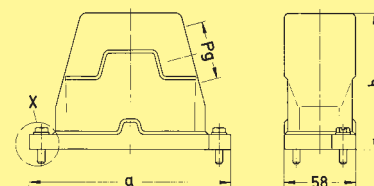
Pg

Drawing

Dimensions in mm

Hoods
side-entry

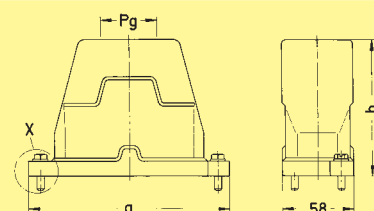
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6	09 40 006 0502	09 40 006 0512	21
10	09 40 010 0502	09 40 010 0512	21
10	09 40 010 0503	09 40 010 0513	29
16	09 40 016 0502	09 40 016 0512	21
16	09 40 016 0503	09 40 016 0513	29
16	09 40 016 0504	09 40 016 0514	36
24	09 40 024 0503	09 40 024 0513	29
24	09 40 024 0504	09 40 024 0514	36



Size	a	h
6 B	133	101
10 B	146	101
16 B	166	111
24 B	193	111

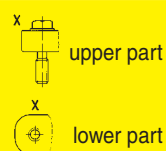
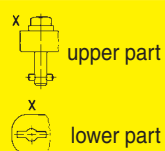
Hoods
top-entry

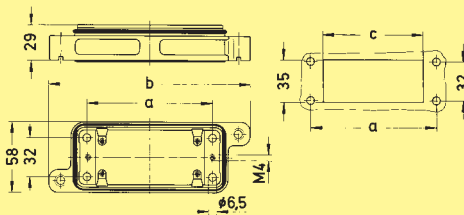
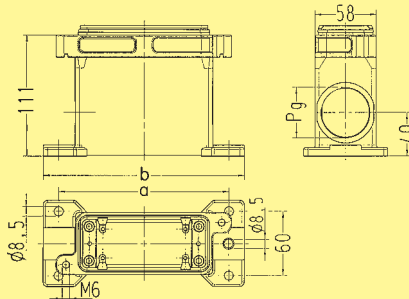
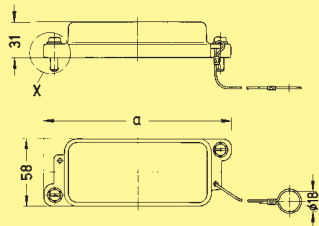
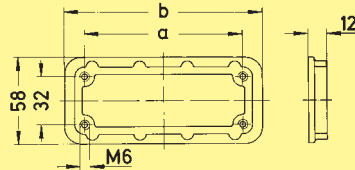
6	09 40 006 0401	09 40 006 0411	16
6	09 40 006 0402	09 40 006 0412	21
6		09 40 006 0413	29
10	09 40 010 0401	09 40 010 0411	16
10	09 40 010 0402	09 40 010 0412	21
10	09 40 010 0403	09 40 010 0413	29
16	09 40 016 0402	09 40 016 0412	21
16	09 40 016 0403	09 40 016 0413	29
16	09 40 016 0404	09 40 016 0414	36
16		09 40 016 0432	2 x 21
24	09 40 024 0402	09 40 024 0412	21
24	09 40 024 0403	09 40 024 0413	29
24	09 40 024 0404	09 40 024 0414	36
24		09 40 024 0433	2 x 29

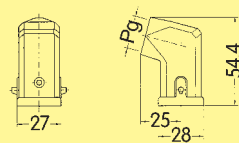
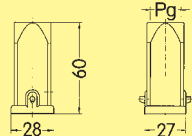
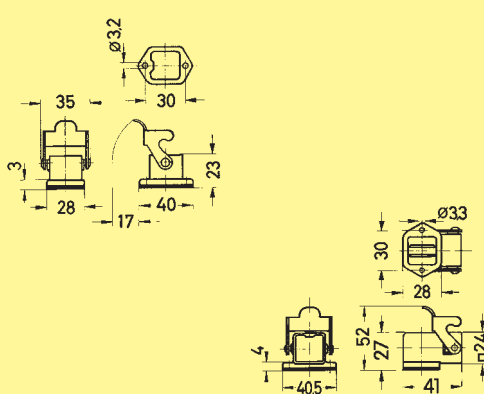
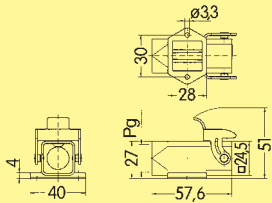
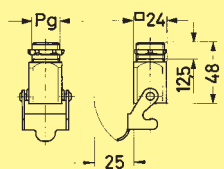
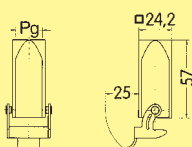


Size	a	h
6 B	133	101
10 B	146	101
16 B	166	111
24 B	193	111

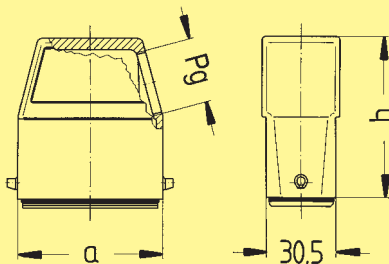
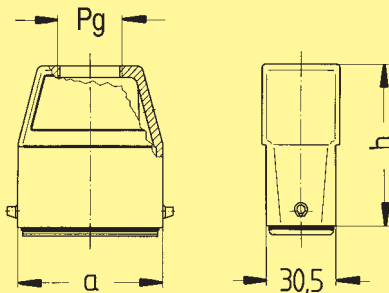
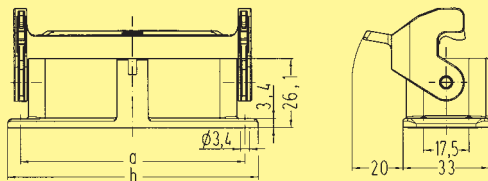
Type of locking



Part No.																										
Identification	Size	Toggle locking	Screw locking	Pg	Drawing	Dimensions in mm																				
Housings bulkhead mounting 	6	09 40 006 0301	09 40 006 0311		 <table border="1"><thead><tr><th>Size</th><th>a</th><th>b</th><th>c</th></tr></thead><tbody><tr><td>6 B</td><td>70</td><td>133</td><td>48</td></tr><tr><td>10 B</td><td>83</td><td>146</td><td>60</td></tr><tr><td>16 B</td><td>103</td><td>166</td><td>82</td></tr><tr><td>24 B</td><td>130</td><td>193</td><td>108</td></tr></tbody></table>	Size	a	b	c	6 B	70	133	48	10 B	83	146	60	16 B	103	166	82	24 B	130	193	108	
	Size	a	b	c																						
	6 B	70	133	48																						
	10 B	83	146	60																						
	16 B	103	166	82																						
24 B	130	193	108																							
10	09 40 010 0301	09 40 010 0311																								
16	09 40 016 0301	09 40 016 0311																								
24	09 40 024 0301	09 40 024 0311																								
Housings surface mounting 	6		09 40 006 1262	1 x 29	 <table border="1"><thead><tr><th>Size</th><th>a</th><th>b</th></tr></thead><tbody><tr><td>6 B</td><td>127</td><td>156</td></tr><tr><td>10 B</td><td>140</td><td>169</td></tr><tr><td>16 B</td><td>160</td><td>189</td></tr><tr><td>24 B</td><td>187</td><td>216</td></tr></tbody></table>	Size	a	b	6 B	127	156	10 B	140	169	16 B	160	189	24 B	187	216						
	Size	a	b																							
	6 B	127	156																							
	10 B	140	169																							
	16 B	160	189																							
24 B	187	216																								
10		09 40 010 1262	1 x 29																							
16		09 40 016 1201	—																							
16		09 40 016 1263	1 x 36																							
24		09 40 024 1263	1 x 36																							
Protection covers 	6	09 40 006 5401	09 40 006 5411		 <table border="1"><thead><tr><th>Size</th><th>a</th></tr></thead><tbody><tr><td>6 B</td><td>133</td></tr><tr><td>10 B</td><td>146</td></tr><tr><td>16 B</td><td>166</td></tr><tr><td>24 B</td><td>193</td></tr></tbody></table>	Size	a	6 B	133	10 B	146	16 B	166	24 B	193											
	Size	a																								
	6 B	133																								
	10 B	146																								
	16 B	166																								
24 B	193																									
10	09 40 010 5401	09 40 010 5411																								
16	09 40 016 5401	09 40 016 5411																								
24	09 40 024 5401	09 40 024 5411																								
Mounting frames 	6		09 40 000 9901		 <table border="1"><thead><tr><th>Size</th><th>a</th><th>b</th></tr></thead><tbody><tr><td>6 B</td><td>70</td><td>96</td></tr><tr><td>10 B</td><td>83</td><td>109</td></tr><tr><td>16 B</td><td>103</td><td>129</td></tr><tr><td>24 B</td><td>130</td><td>156</td></tr></tbody></table>	Size	a	b	6 B	70	96	10 B	83	109	16 B	103	129	24 B	130	156						
	Size	a	b																							
	6 B	70	96																							
	10 B	83	109																							
	16 B	103	129																							
24 B	130	156																								
10		09 40 000 9902																								
16		09 40 000 9903																								
24		09 40 000 9904																								

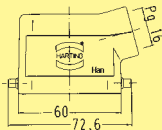
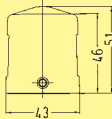
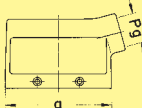
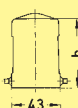
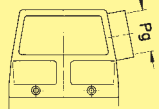
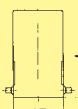
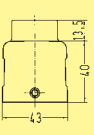
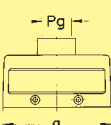
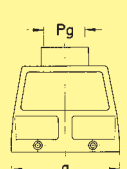
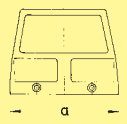
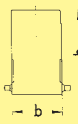
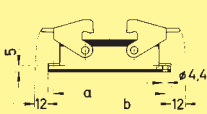
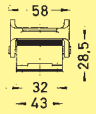
Identification		Part No.	Pg	Drawing	Dimensions in mm
Hoods	Hood side-entry		09 62 003 1640	11	
	Hood top-entry		09 62 003 1440	11	
Housings	Housings bulkhead mounting	 	09 62 003 0301 09 62 003 0801		Panel cut out 22 x 22 mm 
	Housing surface mounting		09 62 003 1250	11	Panel cut out 22 x 22 mm 
	bottom closed		09 62 003 1252	11	
	Housing screw mounting		09 62 003 0102	13.5	
	Hood cable to cable		09 62 003 1750	11	

Stock items in bold type

Identification		Size	Part No.	Pg	Drawing	Dimensions in mm												
Hoods	Hoods side-entry																	
		10 A 10 A	09 62 015 0540 09 62 015 0541	16 21														
		16 A 16 A	09 62 025 0540 09 62 025 0541	16 21														
					<table border="1"><thead><tr><th>Size</th><th>a</th><th>h</th></tr></thead><tbody><tr><td>10 A</td><td>64</td><td>70</td></tr><tr><td>16 A</td><td>80</td><td>70</td></tr></tbody></table>	Size	a	h	10 A	64	70	16 A	80	70				
	Size	a	h															
	10 A	64	70															
	16 A	80	70															
	Hoods top-entry																	
		10 A 10 A	09 62 015 0440 09 62 015 0441	16 21														
		16 A 16 A	09 62 025 0440 09 62 025 0441	16 21														
				<table border="1"><thead><tr><th>Size</th><th>a</th><th>h</th></tr></thead><tbody><tr><td>10 A</td><td>64</td><td>70</td></tr><tr><td>16 A</td><td>80</td><td>70</td></tr></tbody></table>	Size	a	h	10 A	64	70	16 A	80	70					
Size	a	h																
10 A	64	70																
16 A	80	70																
Housings	Housings bulkhead mounting																	
		10 A 16 A	09 62 015 0301 09 62 025 0301															
					<table border="1"><thead><tr><th>Size</th><th>a</th><th>b</th><th>Panel cut out</th></tr></thead><tbody><tr><td>10 A</td><td>81</td><td>70</td><td>24 x 57</td></tr><tr><td>16 A</td><td>96</td><td>86</td><td>24 x 73</td></tr></tbody></table>	Size	a	b	Panel cut out	10 A	81	70	24 x 57	16 A	96	86	24 x 73	
	Size	a	b	Panel cut out														
10 A	81	70	24 x 57															
16 A	96	86	24 x 73															

Identification		Size	Part No.	Pg	Drawing	Dimensions in mm																					
Hoods	Hoods																										
	side-entry	6 6	09 62 006 0540 09 62 006 0541	16 21																							
		10 10 10	09 62 010 0540 09 62 010 0541 09 62 010 0542	16 21 29																							
		16 16	09 62 040 0540 09 62 040 0541	21 29																							
		24 24	09 62 064 0540 09 62 064 0541	21 29																							
	with central locking lever	10 10 10	09 62 010 0580 09 62 010 0581 09 62 010 0582	16 21 29	<table><tr><th>Size</th><th>a</th><th>b</th><th>h</th></tr><tr><td>6</td><td>72</td><td>—</td><td>75</td></tr><tr><td>10</td><td>85</td><td>76</td><td>75</td></tr><tr><td>16</td><td>106</td><td>86</td><td>75</td></tr><tr><td>24</td><td>132</td><td>100</td><td>85</td></tr></table>	Size	a	b	h	6	72	—	75	10	85	76	75	16	106	86	75	24	132	100	85		
	Size	a	b	h																							
	6	72	—	75																							
	10	85	76	75																							
	16	106	86	75																							
	24	132	100	85																							
		16 16	09 62 040 0580 09 62 040 0581	21 29																							
		24 24	09 62 064 0580 09 62 064 0581	21 29																							
	Hoods	Hoods																									
		top-entry	6 6	09 62 006 0440 09 62 006 0441	16 21																						
			10 10 10	09 62 010 0440 09 62 010 0441 09 62 010 0442	16 21 29																						
			16 16	09 62 040 0440 09 62 040 0441	21 29																						
			24 24 24	09 62 064 0440 09 62 064 0441 09 62 064 0442	21 29 36																						
with central locking lever		10	09 62 010 0481	21	<table><tr><th>Size</th><th>a</th><th>h</th></tr><tr><td>6</td><td>72</td><td>75</td></tr><tr><td>10</td><td>85</td><td>75</td></tr><tr><td>16</td><td>106</td><td>75</td></tr><tr><td>24</td><td>132</td><td>85</td></tr></table>	Size	a	h	6	72	75	10	85	75	16	106	75	24	132	85							
Size		a	h																								
6		72	75																								
10		85	75																								
16		106	75																								
24		132	85																								
		16	09 62 040 0481	29																							
		24	09 62 064 0481	29																							
Housings		Housings bulkhead mounting	6 10 16 24	09 62 006 0301 09 62 010 0301 09 62 040 0301 09 62 064 0301																							
			10 16 24	09 62 010 0381 09 62 040 0381 09 62 064 0381				<table><tr><th>Size</th><th>a</th><th>b</th><th>Panel cut out</th></tr><tr><td>6</td><td>80</td><td>70</td><td>48 x 35</td></tr><tr><td>10</td><td>93</td><td>83</td><td>60 x 35</td></tr><tr><td>16</td><td>113</td><td>103</td><td>82 x 35</td></tr><tr><td>24</td><td>140</td><td>130</td><td>108 x 35</td></tr></table>	Size	a	b	Panel cut out	6	80	70	48 x 35	10	93	83	60 x 35	16	113	103	82 x 35	24	140	130
		Size	a	b	Panel cut out																						
		6	80	70	48 x 35																						
		10	93	83	60 x 35																						
	16	113	103	82 x 35																							
	24	140	130	108 x 35																							
	for central locking lever	10 16 24																									
	Housing surface mounting	6	09 62 006 1205	2 x 16																							

Stock items in bold type

Part No.																										
Identification	Size	Low construction	High construction	Pg	Drawing	Dimensions in mm																				
Hoods																										
side-entry	06	09 62 806 1541		16																						
with single levers	06		09 62 806 0542	21																						
with double levers	10	09 62 810 1521		16																						
	10		09 62 810 0522	21																						
	16	09 62 816 1520	09 62 816 0521	21																						
	16			29																						
	24	09 62 824 1520		21																						
	24		09 62 824 0521	29																						
					<table><tr><th>Size</th><th>a</th><th>Low construction h</th><th>High construction h</th></tr><tr><td>10 B</td><td>73</td><td>57</td><td>72</td></tr><tr><td>16 B</td><td>93.5</td><td>62.5</td><td>76</td></tr><tr><td>24 B</td><td>120</td><td>62.5</td><td>76</td></tr></table>		Size	a	Low construction h	High construction h	10 B	73	57	72	16 B	93.5	62.5	76	24 B	120	62.5	76				
Size	a	Low construction h	High construction h																							
10 B	73	57	72																							
16 B	93.5	62.5	76																							
24 B	120	62.5	76																							
Hoods																										
top-entry	06	09 62 806 1441		16																						
with single levers	06		09 62 806 0442	21																						
with double levers	10	09 62 810 1421		16																						
	10		09 62 810 0422	21																						
	16	09 62 816 1420	09 62 816 0421	21																						
	16			29																						
	24	09 62 824 1421	09 62 824 0421	29	<table><tr><th>Size</th><th>a</th><th>Low construction h</th><th>High construction h</th></tr><tr><td>10 B</td><td>73</td><td>45</td><td>72</td></tr><tr><td>16 B</td><td>93.5</td><td>55</td><td>76</td></tr><tr><td>24 B</td><td>120</td><td>55</td><td>76</td></tr></table>		Size	a	Low construction h	High construction h	10 B	73	45	72	16 B	93.5	55	76	24 B	120	55	76				
Size	a	Low construction h	High construction h																							
10 B	73	45	72																							
16 B	93.5	55	76																							
24 B	120	55	76																							
without cable-entry	06		09 62 806 0801	—																						
	10		09 62 810 0801	—																						
	16		09 62 816 0801	—																						
	24		09 62 824 0801	—																						
					<table><tr><th>Size</th><th>a</th><th>b</th><th>h</th></tr><tr><td>10</td><td>73</td><td>43</td><td>72</td></tr><tr><td>16</td><td>93.5</td><td>45</td><td>76</td></tr><tr><td>24</td><td>120</td><td>45</td><td>76</td></tr></table>		Size	a	b	h	10	73	43	72	16	93.5	45	76	24	120	45	76				
Size	a	b	h																							
10	73	43	72																							
16	93.5	45	76																							
24	120	45	76																							
Housings																										
bulkhead mounting	06	09 62 806 0301		—																						
with 2 locking levers	10	09 62 810 0301		—																						
and 1 adapter frame	16	09 62 816 0301		—																						
	24	09 62 824 0301		—																						
Size 6 B with 1 locking lever only					<table><tr><th>Size</th><th>a</th><th>b</th><th>Panel cut out</th></tr><tr><td>6 B</td><td>70</td><td>80</td><td>48 x 35</td></tr><tr><td>10 B</td><td>83</td><td>93</td><td>60 x 35</td></tr><tr><td>16 B</td><td>103</td><td>113</td><td>82 x 35</td></tr><tr><td>24 B</td><td>130</td><td>140</td><td>108 x 35</td></tr></table>		Size	a	b	Panel cut out	6 B	70	80	48 x 35	10 B	83	93	60 x 35	16 B	103	113	82 x 35	24 B	130	140	108 x 35
Size	a	b	Panel cut out																							
6 B	70	80	48 x 35																							
10 B	83	93	60 x 35																							
16 B	103	113	82 x 35																							
24 B	130	140	108 x 35																							



Identification

Part No.

Drawing

Dimensions in mm

Housing for motor terminations

powder-coated RAL 7037

09 30 010 0901

09 30 010 0902

powder-coated with protection cover

09 30 010 0961

unpainted

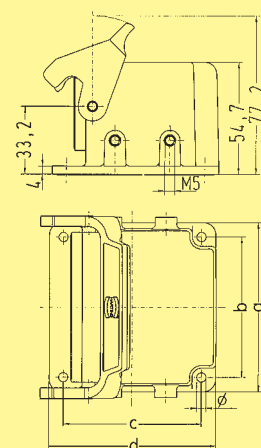
09 30 410 0901

09 30 410 0909

09 30 410 0921

09 30 410 0951

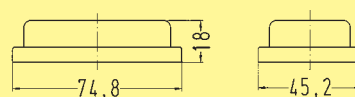
a	b	c	d	Ø
82	68	68	82	4,5
98	—	—	98	—
82	70	70	82	—
82	68	68	82	4,5
98	—	—	98	—
85	73	73	85	—
82	68	68	82	4,5



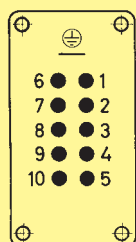
EMC hoods/housings

for highly EMI resistant

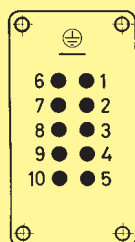
09 62 810 0901

Other dimensions (a + d)
on request (98 x 98 mm)Dust protection
cover**09 30 010 5406**

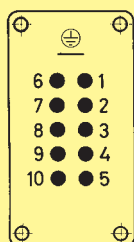
Compatible connector inserts

Screw terminal
500 V
16 A
Han E®Cage-clamp terminal
500 V
16 A
Han® ES
Han® ESSCrimp terminal
500 V
16 A
Han E®Crimp terminal
500 V
16 A
Han® EECrimp terminal
400/160 V
16/10 A
Han-Com®Crimp terminal /
Screw terminal
50 V – 830 V
10 A – 40 A

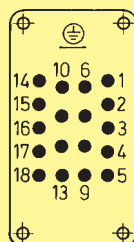
10 +



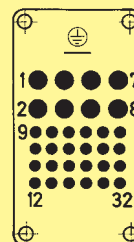
10 +



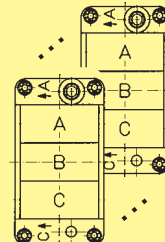
10 +



18 +



8/24 +



Han-Modular +

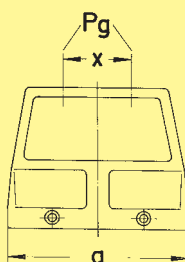
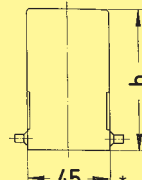
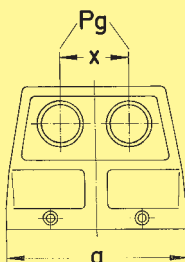
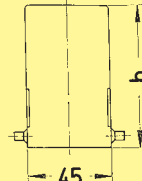
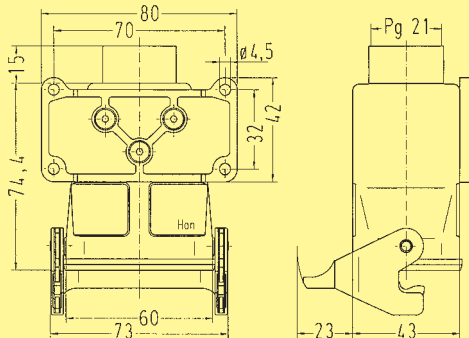
Features

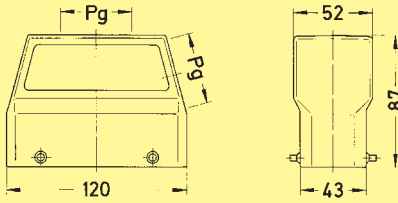
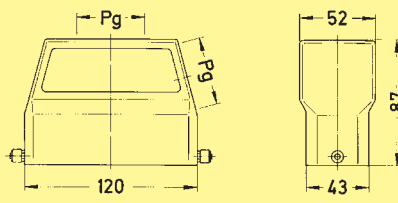
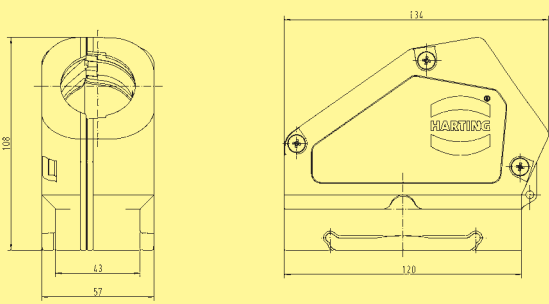
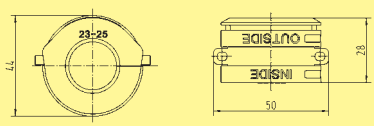
- ☐ Angled housing replaces the terminal box
- ☐ Space saving and compact design
- ☐ The position of the terminal housing can be switched by 90°
- ☐ Compatible with standard hoods for single lever

- ☐ Locking element Han-Easy Lock®
- ☐ Star and delta circuits can be realized in the female connector Han® ESS
- ☐ Suitable for standard inserts (see compatible connector inserts)

Stock items in bold type

for special applications

Identification	Size	Part No.	Pg	Drawing	Dimensions in mm																													
Hoods top-entry 	10 16 16 24 24	09 30 010 0460 09 30 016 0459 09 30 016 0462 09 30 024 0462 09 30 024 0461	2x13.5 2 x 16 2 x 21 2 x 21 2 x 29	  <table><tr><th>Size</th><th>a</th><th>h</th><th>x</th><th>Pg</th></tr><tr><td>10</td><td>73</td><td>72</td><td>20</td><td>2x13.5</td></tr><tr><td>16</td><td>93.5</td><td>76</td><td>36</td><td>2x16</td></tr><tr><td>16</td><td>93.5</td><td>76</td><td>36</td><td>2x21</td></tr><tr><td>24</td><td>120</td><td>76</td><td>52</td><td>2x21</td></tr><tr><td>24</td><td>120</td><td>76</td><td>48</td><td>2x29</td></tr></table> * 10 B: housing width 43 mm	Size	a	h	x	Pg	10	73	72	20	2x13.5	16	93.5	76	36	2x16	16	93.5	76	36	2x21	24	120	76	52	2x21	24	120	76	48	2x29
Size	a	h	x	Pg																														
10	73	72	20	2x13.5																														
16	93.5	76	36	2x16																														
16	93.5	76	36	2x21																														
24	120	76	52	2x21																														
24	120	76	48	2x29																														
Hoods side-entry 	16 24	09 30 016 0663 09 30 024 0663	2 x 21 2 x 21	  <table><tr><th>Size</th><th>a</th><th>x</th><th>Pg</th></tr><tr><td>16</td><td>93.5</td><td>36</td><td>2 x 21</td></tr><tr><td>24</td><td>120</td><td>56</td><td>2 x 21</td></tr></table>	Size	a	x	Pg	16	93.5	36	2 x 21	24	120	56	2 x 21																		
Size	a	x	Pg																															
16	93.5	36	2 x 21																															
24	120	56	2 x 21																															
Flange housing 	6	09 30 006 0757	1 x 21																															

Identification	Part No.	Pg	Drawing	Dimensions in mm
Hoods 2 locking levers side-entry top-entry 	09 30 024 0525 09 30 024 0425	36 36		
Hoods 1 locking lever side-entry top-entry 	09 30 024 0546 09 30 024 0446	36 36		
Han® Easy-Hood 24 B side-entry  Han® Easy-Hood 24 B Cable seal 23 - 25 mm Cable seal 26 - 28 mm Cable seal 29 - 31 mm Cable seal 32 - 34 mm	11 30 024 0520 11 30 000 9956 11 30 000 9957 11 30 000 9958 11 30 000 9959		 	

Hoods

Han Hoods
Housings

Hoods/Housings with metric thread

	Page
Technical characteristics	31.02
Han® Hoods and Housings with metric thread	31.03
Standard Hoods/Housings size Han A	31.10
Standard Hoods/Housings size Han B	31.16
– with 2 levers on the housing	31.18
– with 1 lever on the housing	31.20
– with 2 levers on the hood	31.22
– with central locking lever	31.23
– for 2 inserts	31.24
Han® M Hoods/Housings for harsh environmental requirements	31.26
Han® HPR Hoods/Housings pressure tight and EMI resistant	31.32
Han® EMC Hoods/Housings	31.35
Han® EMC/B Hoods/Housings	31.37
Hoods/Housings for special applications	31.39



Enclosure type acc. UL 50: NEMA 4/12
(File E235076)

Han® 3 A Hoods/Housings thermoplastic

Material	Polycarbonate RAL 7032
Locking element	Polyamide RAL 7032
Hoods/Housings seal	NBR
Limiting temperatures	- 40 °C / +125 °C
Enclosure type acc. to UL 50	NEMA 4/12
Flammability acc. to UL 94	V 0
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 67

Han® 3 A Hoods/Housings metal

Material	Die cast zinc alloy
Surface	powder-coated RAL 7037 (grau)
Locking element	Steel, zinc plated
Hoods/Housings seal	NBR
Limiting temperatures	- 40 °C / +125 °C
Enclosure type acc. to UL 50	NEMA 4/12
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 44 IP 67 is achieved with seal screw 09 20 000 9918

Han® Standard Hoods/Housings

Material	Die cast aluminium alloy
Surface	powder-coated RAL 7037 (grey)
Locking element	V2A Steel/ Steel, zinc plated / Han-Easy Lock®
Hoods/Housings seal	NBR
Limiting temperatures	- 40 °C / +125 °C
Enclosure type acc. to UL 50	NEMA 4/12
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 65

Han® M Hoods/Housings for harsh environmental requirements

Material	Die cast aluminium alloy
Surface	
- Priming	Chromated
- Top Coat	Epoxy powder paint (black)
Locking element	V2A Steel
Hoods/Housings seal	FPM
Limiting temperatures	- 40 °C / +125 °C
Enclosure type acc. to UL 50	NEMA 4/12
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 65
Size Han® 3 A	IP 44 IP 67 is achieved with seal screw 09 20 000 9918

Han® HPR Hoods/Housings pressure tight and highly EMI resistant

Material	corrosion resistant die cast aluminium alloy
Surface	
- Top Coat	Epoxy powder paint (black)
Locking element	
- Screw locking	M 6
- Material	V2A Steel
- Tightening torque	4 Nm
- Toggle locking	
- Material	V2A Steel
Hoods/Housings seal	NBR
Limiting temperatures	- 40 °C / +125 °C
Enclosure type acc. to UL 50	NEMA 4/12
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 68

Han® EMC Hoods/Housings for high shielding

Material	Die cast aluminium alloy
Surface	conductive finish
Locking element	V2A Steel/ Steel, zinc plated
Hoods/Housings seal	NBR
Limiting temperatures	- 40 °C / +125 °C
Enclosure type acc. to UL 50	NEMA 4/12
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 65
Size Han® 3 A	IP 44 IP 67 is achieved with seal screw 09 20 000 9918

Han® EMC/ B Hoods/Housings for high shielding

Material	
- hoods/housings	Die cast aluminium alloy
- shielded frames	Die cast zinc alloy
Surface	
- hoods/housings	electrical conductive
- shielded frames	electrical conductive
Locking element	Han-Easy Lock®
Hoods/Housings seal	NBR
Limiting temperatures	- 40 °C / +125 °C
Enclosure type acc. to UL 50	NEMA 4/12
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 65

The reason for the new product offerings is the publication of the international DIN EN 50262 metric thread specification.

The existing PG series, PG 7 to PG 48 will be, in time, replaced by the metric series M 12 to M 63.

The adoption of metric threads considerably simplifies the understanding and specification of glands as the product type description contains the thread dimension. E.g. M 20 refers to 20 mm thread diameter.

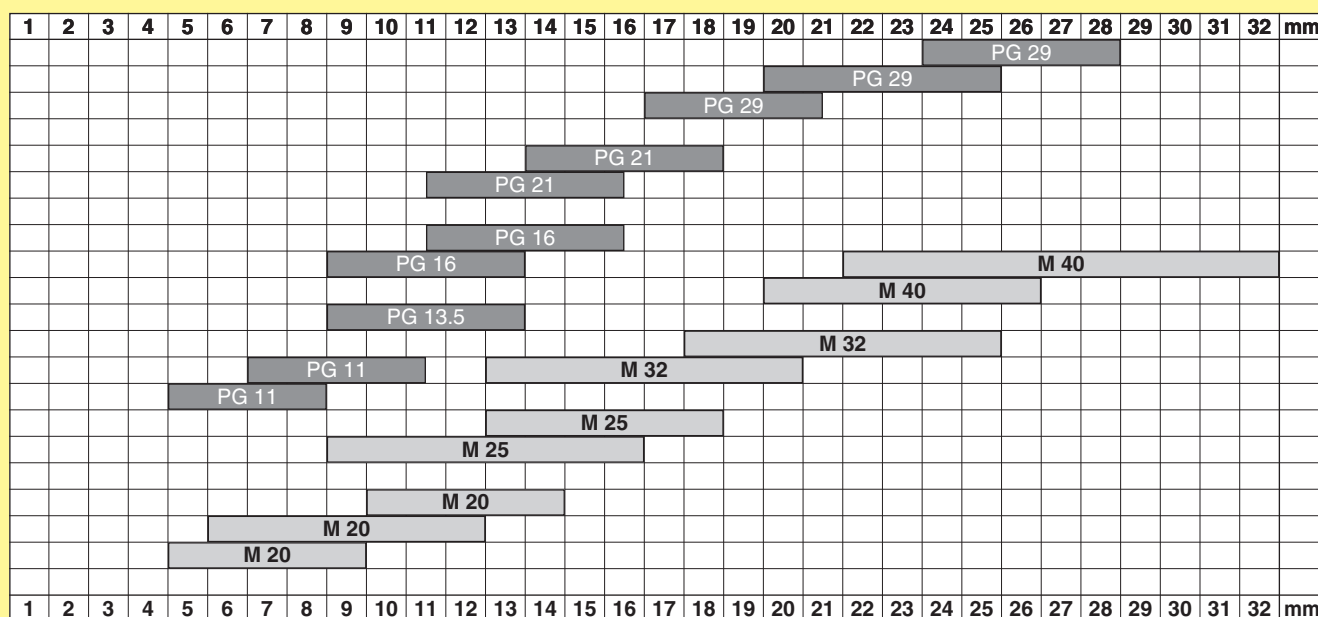
To differentiate the metric threaded hoods and housings from the previous PG versions metric types will be marked with **(M)**.

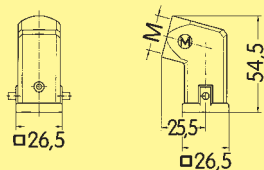
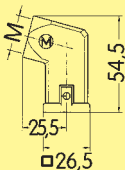
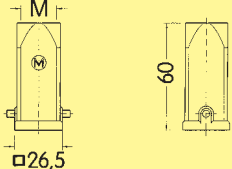
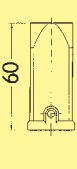
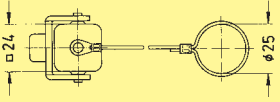
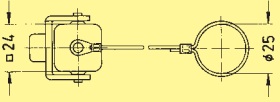
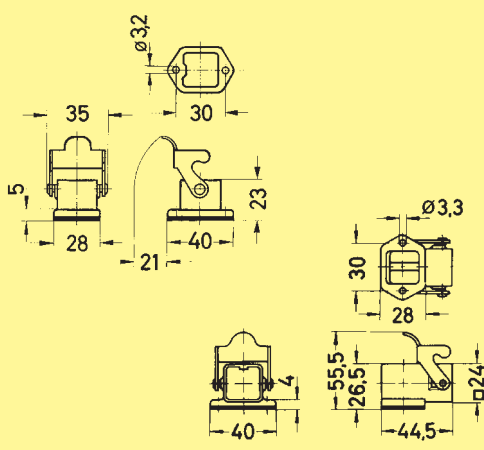
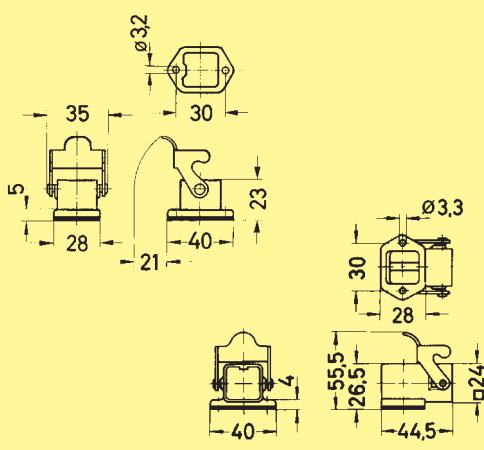
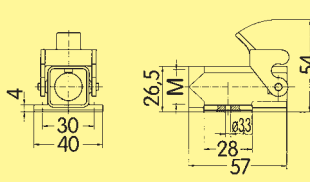
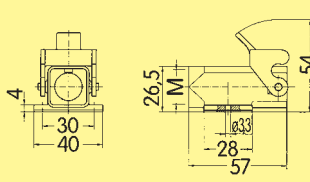
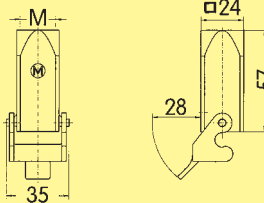
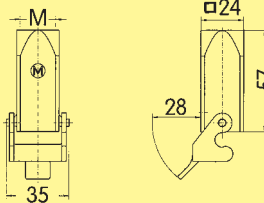
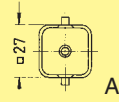
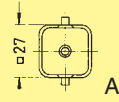
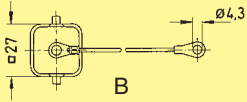
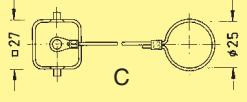
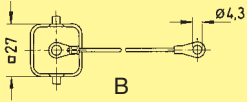
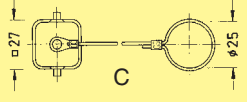
The Cross Reference table shows the correlation between the PG versions and the new metric types.

Please notice that the maximum cable diameter will be reduced by the new metric cable glands.

Cross Reference	
Pg	Metric
Pg 11	M 20
Pg 13.5	
Pg 16	M 25
Pg 21	M 32
Pg 29	M 40
Pg 36	M 50
Pg 42	

Below is shown the cable range of metric glands:



Identification		Part No.	M	Drawing	Dimensions in mm
Hoods	Hoods side-entry	 grey 19 20 003 0620 black 19 20 003 0627	20 20		
	Hoods top-entry	 grey 19 20 003 0420 black 19 20 003 0427	20 20		
	Protection covers for hoods	09 20 003 5442 ¹⁾ 09 20 003 5441 ²⁾			
Housings	Housings bulkhead mounting	 grey 09 20 003 0320 black 09 20 003 0327  grey 09 20 003 0820 black 09 20 003 0827	— — — —		
	Housings surface mounting 1 side-entry	 grey 19 20 003 0220 black 19 20 003 0227	20 20		
	Hoods cable to cable	 grey 19 20 003 0720 black 19 20 003 0727	20 20		
	Protection covers for housings	A 09 20 003 5407 ¹⁾³⁾ 09 20 003 5408 ²⁾³⁾⁴⁾			
	Protection covers for hoods cable to cable	B 09 20 003 5445 ²⁾ 09 20 003 5446 ¹⁾ 09 20 003 5447 ²⁾³⁾⁴⁾ C 09 20 003 5448 ¹⁾ 09 20 003 5449 ²⁾⁴⁾		 	 

¹⁾ for mounted male insert
²⁾ for mounted female insert

³⁾ for metal housings and cable to cable hoods also
⁴⁾ for mounted Han-Brid® male and female insert

1) only metal glands

Stock items in bold type

with 1 lever on the housing

		Part No.			Drawing	Dimensions in mm
Identification		Low construction	High construction	M		
Hoods	Hoods side-entry	19 20 016 1540	19 20 016 0546	20 25		
	Hoods top-entry	19 20 016 1440	19 20 016 0446	20 25		
	Protection covers for hoods	09 20 016 5423				
Housings	Housings bulkhead mounting	09 20 016 0301 with thermo-plastic cover 09 20 016 0321		— —		
	Housings surface mounting 1 side-entry	19 20 016 0251 ¹⁾		1 x 25		
	Housings surface mounting 2 side-entries	19 20 016 0290 19 20 016 0291 with thermo-plastic cover 19 20 016 0295		2 x 20 2 x 25 2 x 20		
	Protection covers for housings	09 20 016 5425				

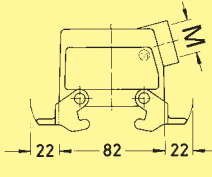
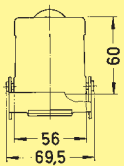
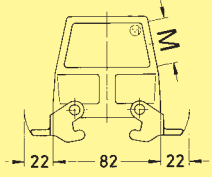
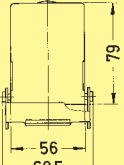
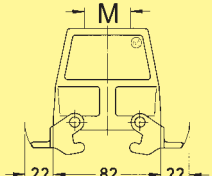
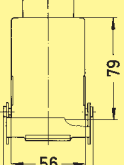
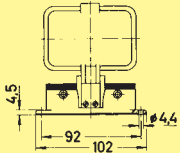
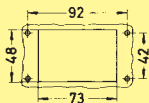
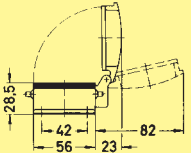
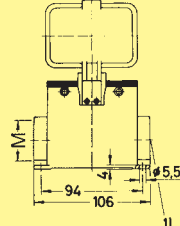
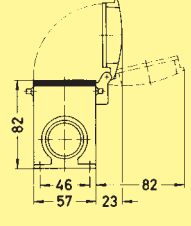
¹⁾ only metal glands

with 2 levers on the housing for 2 inserts

Identification		Part No.			Drawing	Dimensions in mm
		Low construction	High construction	M		
Hoods	Hoods side-entry	19 20 032 1521	19 20 032 0527	25		
				32		
	Hoods top-entry		19 20 032 0426 19 20 032 0427	25 32		
	Protection cover		09 20 032 5401	—		
Housings	Housing bulkhead mounting	09 20 032 0301		—		Panel cut out
	Housings surface mounting		19 20 032 0231 19 20 032 0232 19 20 032 0272	1 x 25 1 x 32 2 x 32		Blind way for one cable entry
	Protection cover		09 20 032 5405			

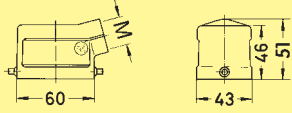
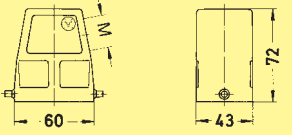
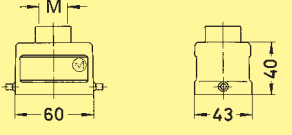
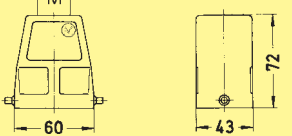
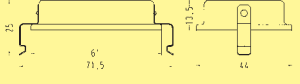
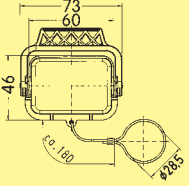
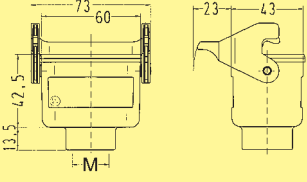
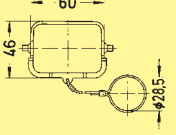
Stock items in bold type

with 2 levers on the housing for 2 inserts

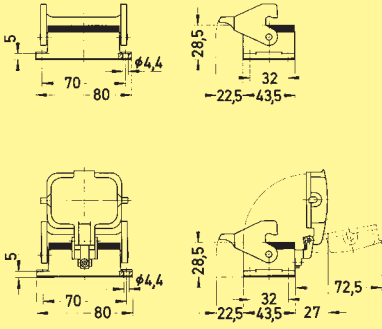
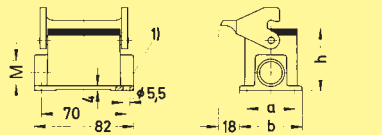
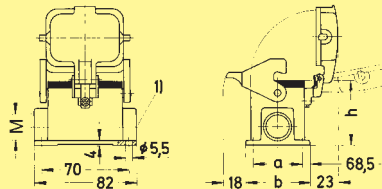
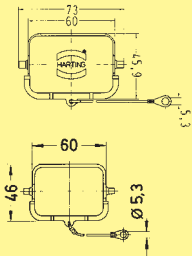
Identification		Part No.		M	Drawing	Dimensions in mm
		Low construction	High construction			
Hoods	Hoods side-entry					
		19 20 032 1531		25		
			19 20 032 0537	32		
	Hoods top-entry					
			19 20 032 0437	32		
Housings	Housings bulkhead mounting					
		with thermo-plastic cover 09 20 032 0302		—	 Panel cut out 	
	Housings surface mounting					
	 1 side-entry		with thermo-plastic cover 19 20 032 0226	1 x 25	 1) Blind way for one cable entry	

Han Hoods
Housings

with 1 lever on the housing

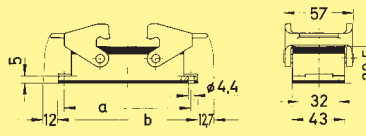
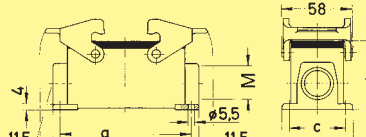
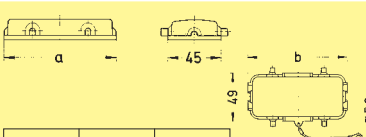
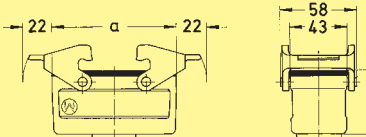
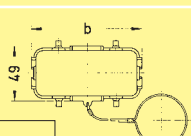
Identification	Part No.			Drawing	Dimensions in mm
	Low construction	High construction	M		
Hoods side-entry 	19 30 006 1540 19 30 006 1541		20		
			25		
		19 30 006 0546 19 30 006 0547	25		
			32		
Hoods top-entry 	19 30 006 1440		20		
			25		
		19 30 006 0446 19 30 006 0447	25		
			32		
Protection covers for hoods metal 	09 30 006 5401				
	09 30 006 5423				
Hoods cable to cable 	19 30 006 1750		20		
			25		
		19 30 006 0756			
Protection cover for cable to cable hood metal 	09 30 006 5427				

Stock items in bold type

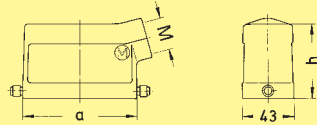
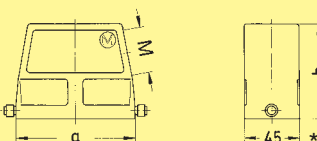
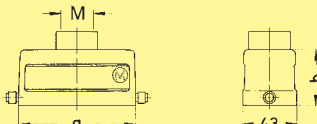
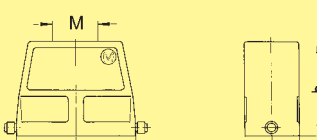
Identification		Part No.		M	Drawing	Dimensions in mm											
		Low construction	High construction														
Housings bulkhead mounting		09 30 006 0301 with thermo-plastic cover		—	Panel cut out 48 x 35 mm 												
		09 30 006 0302 with metal cover		—													
		09 30 006 0318		—													
Housings surface mounting		19 30 006 1250 19 30 006 1290	19 30 006 0291 19 30 006 0292	1 x 20 2 x 20 2 x 25 2 x 32	  1) Blind way for one cable entry <table border="1"> <thead> <tr> <th></th> <th>a</th> <th>b</th> <th>h</th> </tr> </thead> <tbody> <tr> <td>Low construction</td> <td>40</td> <td>52</td> <td>54</td> </tr> <tr> <td>High construction</td> <td>45</td> <td>57</td> <td>74</td> </tr> </tbody> </table>		a	b	h	Low construction	40	52	54	High construction	45	57	74
		a	b	h													
	Low construction	40	52	54													
	High construction	45	57	74													
	with thermo-plastic cover 19 30 006 1255 19 30 006 1295	with thermo-plastic cover 19 30 006 0296 19 30 006 0297	1 x 20 2 x 20 2 x 25 2 x 32														
	with metal cover 19 30 006 2255 19 30 006 2295	with metal cover 19 30 006 7296	1 x 20 2 x 20 2 x 25														
																	
Protection covers metal		09 30 006 5404 09 30 006 5425															

Stock items in bold type

with 2 levers on the housing

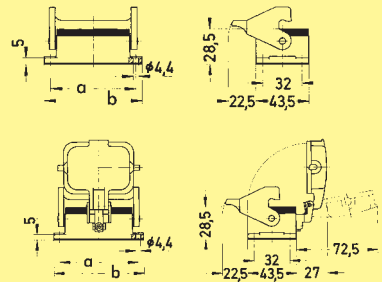
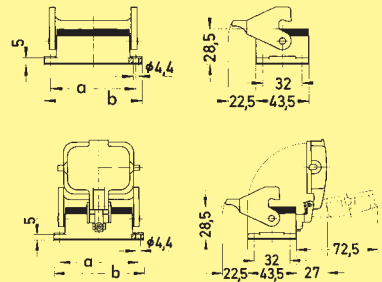
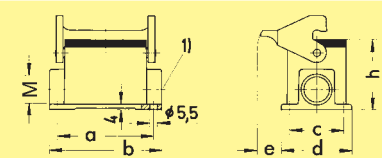
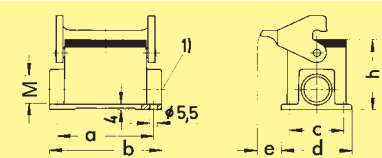
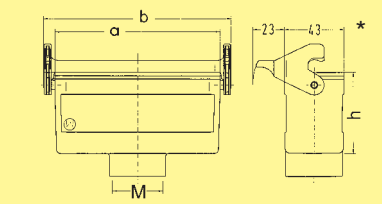
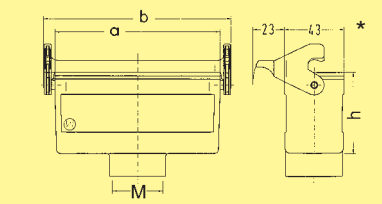
Part No.																						
Identification	Size	Low construction	High construction	M	Drawing	Dimensions in mm																
Housings bulkhead mounting																						
	10	09 30 010 0301		—																		
	16	09 30 016 0301		—																		
	24	09 30 024 0301		—																		
					<table><tr><th>Size</th><th>a</th><th>b</th><th>Panel cut out</th></tr><tr><td>10 B</td><td>83</td><td>93</td><td>60 x 35</td></tr><tr><td>16 B</td><td>103</td><td>113</td><td>82 x 35</td></tr><tr><td>24 B</td><td>130</td><td>140</td><td>108 x 35</td></tr></table>	Size	a	b	Panel cut out	10 B	83	93	60 x 35	16 B	103	113	82 x 35	24 B	130	140	108 x 35	
Size	a	b	Panel cut out																			
10 B	83	93	60 x 35																			
16 B	103	113	82 x 35																			
24 B	130	140	108 x 35																			
Housings surface mounting																						
	10	19 30 010 1230	19 30 010 0231	1 x 20																		
	10	19 30 010 1231		1 x 25																		
	10	19 30 010 1270		2 x 20																		
	10		19 30 010 0271	2 x 25																		
	10		19 30 010 0272	2 x 32																		
	16	19 30 016 1231		1 x 25																		
	16		19 30 016 0232	1 x 32																		
	16	19 30 016 1271	19 30 016 0271	2 x 25																		
	16		19 30 016 0272	2 x 32																		
	10		19 30 016 0273	2 x 40																		
	24	19 30 024 1231		1 x 25																		
	24		19 30 024 0232	1 x 32																		
	24	19 30 024 1271	19 30 024 0272	2 x 25																		
	24		19 30 024 0273	2 x 32																		
	24			2 x 40																		
Protection covers for housings bulkhead and surface mounting																						
	10	09 30 010 5407																				
	10	09 30 010 5425																				
	16	09 30 016 5405																				
	16	09 30 016 5425																				
Thermoplastic/ metal	24	09 30 024 5405																				
	24	09 30 024 5425																				
Hoods cable to cable																						
	10	19 30 010 1730	19 30 010 0736	20																		
	10		19 30 010 0737	25																		
	10			32																		
	16	19 30 016 1731	19 30 016 0736	25																		
	16	19 30 016 1732	19 30 016 0737	32																		
	24	19 30 024 1732	19 30 024 0737	32																		
	24		19 30 024 0738	40																		
Protection covers for hoods cable to cable																						
	10	09 30 010 5427																				
	16	09 30 016 5426																				
	24	09 30 024 5426																				
					<table><tr><th>Size</th><th>b</th><th>c</th></tr><tr><td>10 B</td><td>78.5</td><td>28.5</td></tr><tr><td>16 B</td><td>99</td><td>44</td></tr><tr><td>24 B</td><td>125.5</td><td>44</td></tr></table>	Size	b	c	10 B	78.5	28.5	16 B	99	44	24 B	125.5	44					
Size	b	c																				
10 B	78.5	28.5																				
16 B	99	44																				
24 B	125.5	44																				

with 1 lever on the housing

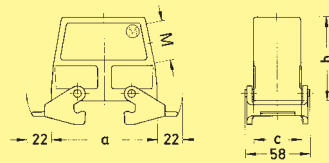
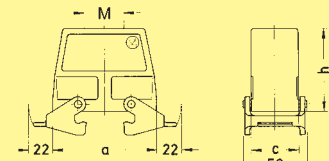
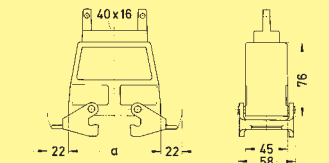
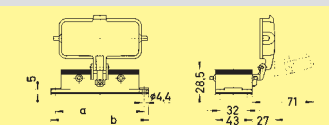
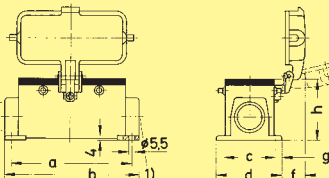
Part No.																						
Identification	Size	Low construction	High construction	M	Drawing	Dimensions in mm																
Hoods side-entry		10	19 30 010 1540	19 30 010 0547	20																	
		10	19 30 010 1541		25																	
		10			32																	
		16	19 30 016 1541	19 30 016 0547 19 30 016 0548	25																	
		16	19 30 016 1542		32																	
		16			40																	
		24	19 30 024 1541	19 30 024 0547 19 30 024 0548	25	<table border="1"><thead><tr><th>Size</th><th>a</th><th>Low construction h</th><th>High construction h</th></tr></thead><tbody><tr><td>10 B</td><td>73</td><td>57</td><td>72</td></tr><tr><td>16 B</td><td>93.5</td><td>62.5</td><td>76</td></tr><tr><td>24 B</td><td>120</td><td>62.5</td><td>76</td></tr></tbody></table>	Size	a	Low construction h	High construction h	10 B	73	57	72	16 B	93.5	62.5	76	24 B	120	62.5	76
		Size	a		Low construction h		High construction h															
		10 B	73		57		72															
	16 B	93.5	62.5	76																		
24 B	120	62.5	76																			
24	19 30 024 1542	32																				
24		40																				
						* 10 B: housing width 43 mm																
Hoods top-entry		10	19 30 010 1440	19 30 010 0447	20																	
		10	19 30 010 1441		25																	
		10			32																	
		16	19 30 016 1441	19 30 016 0447 19 30 016 0448	25																	
		16	19 30 016 1442		32																	
		16			40																	
		24	19 30 024 1442	19 30 024 0447 19 30 024 0448	32	<table border="1"><thead><tr><th>Size</th><th>a</th><th>Low construction h</th><th>High construction h</th></tr></thead><tbody><tr><td>10 B</td><td>73</td><td>45</td><td>72</td></tr><tr><td>16 B</td><td>93.5</td><td>45</td><td>76</td></tr><tr><td>24 B</td><td>120</td><td>55</td><td>76</td></tr></tbody></table>	Size	a	Low construction h	High construction h	10 B	73	45	72	16 B	93.5	45	76	24 B	120	55	76
		Size	a		Low construction h		High construction h															
		10 B	73		45		72															
	16 B	93.5	45	76																		
24 B	120	55	76																			
24		40																				
						* 10 B: housing width 43 mm																

Stock items in bold type

with 1 lever on the housing

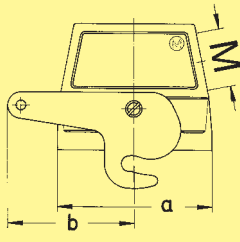
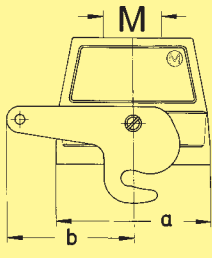
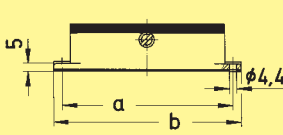
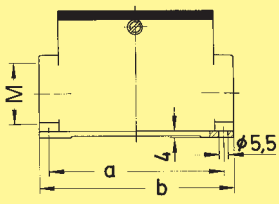
Part No.																										
Identification	Size	Low construction	High construction	M	Drawing	Dimensions in mm																				
Housings bulkhead mounting  	10	09 30 010 0305		—																						
	16	09 30 016 0307		—																						
	24	09 30 024 0307		—																						
		with thermo-plastic cover																								
	10	09 30 010 0303		—																						
	16	09 30 016 0306		—																						
	24	09 30 024 0304		—																						
		with metal cover																								
	10	09 30 010 0318		—																						
	16	09 30 016 0318		—																						
	24	09 30 024 0318		—																						
							<table><tr><th>Size</th><th>a</th><th>b</th><th>Panel cut out</th></tr><tr><td>10 B</td><td>83</td><td>93</td><td>60 x 35</td></tr><tr><td>16 B</td><td>103</td><td>113</td><td>82 x 35</td></tr><tr><td>24 B</td><td>130</td><td>140</td><td>108 x 35</td></tr></table>	Size	a	b	Panel cut out	10 B	83	93	60 x 35	16 B	103	113	82 x 35	24 B	130	140	108 x 35			
Size	a	b	Panel cut out																							
10 B	83	93	60 x 35																							
16 B	103	113	82 x 35																							
24 B	130	140	108 x 35																							
Housings surface mounting  	10	19 30 010 1250		1 x 20																						
	10	19 30 010 1290		2 x 20																						
	10		19 30 010 0291	2 x 25																						
	10		19 30 010 0292	2 x 32																						
	16	19 30 016 1251		1 x 25																						
	16	19 30 016 1291		1 x 32																						
	16	19 30 016 1291		2 x 25																						
	16		19 30 016 0291	2 x 32																						
	16		19 30 016 0292	2 x 32																						
	24	19 30 024 1251		1 x 25																						
	24	19 30 024 1291		2 x 25																						
	24		19 30 024 0292	2 x 32																						
		with thermo-plastic cover	with thermo-plastic cover																							
	10	19 30 010 1255		1 x 20																						
	10	19 30 010 1295		2 x 20																						
	10		19 30 010 0296	2 x 25																						
	10		19 30 010 0297	2 x 32																						
	16	19 30 016 1256		1 x 25																						
	16	19 30 016 1296		2 x 25																						
	16		19 30 016 0297	2 x 32																						
	24	19 30 024 1256		1 x 25																						
	24	19 30 024 1296		2 x 25																						
	24		19 30 024 0297	2 x 32																						
		with metal cover	with metal cover																							
	10	19 30 010 2295		2 x 20																						
	10		19 30 010 7296	2 x 25																						
	16	19 30 016 2296		2 x 25																						
	16		19 30 016 7297	2 x 32																						
	24	19 30 024 2296		2 x 25																						
	24		19 30 024 7297	2 x 32																						
Hood cable to cable 	10	19 30 010 1750		20																						
	10		19 30 010 0756	25																						
	16	19 30 016 1751		25																						
	16	19 30 016 1752	19 30 016 0757	32																						
	24	19 30 024 1752	19 30 024 0757	32																						
						* high construction 16 B, 24 B: without molded adapter and housing width 45 mm <table><tr><th>Size</th><th>a</th><th>b</th><th>h low</th><th>h high</th></tr><tr><td>10 B</td><td>73</td><td>89</td><td>47.5</td><td>74.5</td></tr><tr><td>16 B</td><td>93.5</td><td>110</td><td>47.5</td><td>78.5</td></tr><tr><td>24 B</td><td>120</td><td>137</td><td>57.5</td><td>78.5</td></tr></table>	Size	a	b	h low	h high	10 B	73	89	47.5	74.5	16 B	93.5	110	47.5	78.5	24 B	120	137	57.5	78.5
Size	a	b	h low	h high																						
10 B	73	89	47.5	74.5																						
16 B	93.5	110	47.5	78.5																						
24 B	120	137	57.5	78.5																						

with 2 levers on the housing

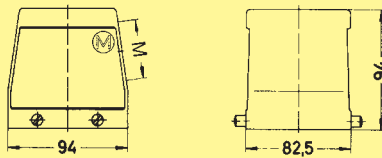
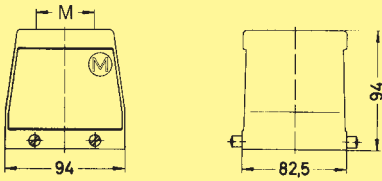
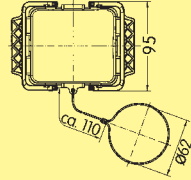
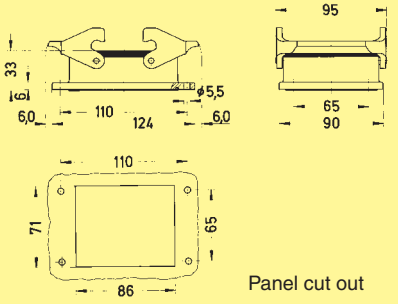
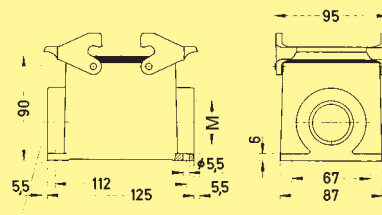
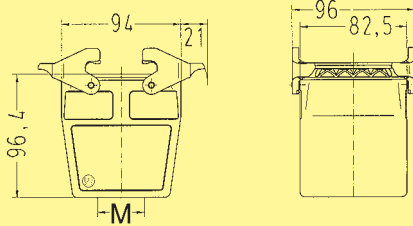
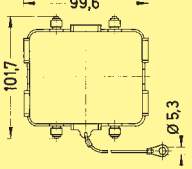
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Identification		Size	Low construction	High construction	M	Drawing	Dimensions in mm																																																												
Hoods	Hoods side-entry	10 10	19 30 010 1530	19 30 010 0537	20 32		<table><tr><th>Size</th><th>a</th><th colspan="2">Low construction</th><th colspan="2">High construction</th></tr><tr><th></th><th></th><th>h</th><th>c</th><th>h</th><th>c</th></tr><tr><td>10</td><td>73</td><td>57</td><td>43</td><td>72</td><td>43</td></tr><tr><td>16</td><td>93.5</td><td>62.5</td><td>45</td><td>76</td><td>45</td></tr><tr><td>24</td><td>120</td><td>62.5</td><td>45</td><td>76</td><td>45</td></tr></table>	Size	a	Low construction		High construction				h	c	h	c	10	73	57	43	72	43	16	93.5	62.5	45	76	45	24	120	62.5	45	76	45																														
	Size	a	Low construction		High construction																																																														
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		24 24 24	19 30 024 1531	19 30 024 0537 19 30 024 0538	25 32 40																																																														
Hoods	Hoods top-entry	10 10	19 30 010 1430	19 30 010 0436	20 25		<table><tr><th>Size</th><th>a</th><th colspan="2">Low construction</th><th colspan="2">High construction</th></tr><tr><th></th><th></th><th>h</th><th>c</th><th>h</th><th>c</th></tr><tr><td>10</td><td>73</td><td>45</td><td>43</td><td>72</td><td>43</td></tr><tr><td>16</td><td>93.5</td><td>45</td><td>45</td><td>76</td><td>45</td></tr><tr><td>24</td><td>120</td><td>55</td><td>45</td><td>76</td><td>45</td></tr></table>	Size	a	Low construction		High construction				h	c	h	c	10	73	45	43	72	43	16	93.5	45	45	76	45	24	120	55	45	76	45																														
	Size	a	Low construction		High construction																																																														
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		24 24	19 30 024 1432	19 30 024 0437 19 30 024 0438	32 40																																																														
	Hoods flat cable entry	16		09 30 016 4431			<table><tr><th>Size</th><th>a</th><th colspan="2">Low construction</th><th colspan="2">High construction</th></tr><tr><th></th><th></th><th>h</th><th>c</th><th>h</th><th>c</th></tr><tr><td>10</td><td>73</td><td>45</td><td>43</td><td>72</td><td>43</td></tr><tr><td>16</td><td>93.5</td><td>45</td><td>45</td><td>76</td><td>45</td></tr><tr><td>24</td><td>120</td><td>55</td><td>45</td><td>76</td><td>45</td></tr></table>	Size	a	Low construction		High construction				h	c	h	c	10	73	45	43	72	43	16	93.5	45	45	76	45	24	120	55	45	76	45																														
Size	a	Low construction		High construction																																																															
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10	73	45	43	72	43																																																														
16	93.5	45	45	76	45																																																														
24	120	55	45	76	45																																																														
							a = see above																																																												
Housings	Housings bulkhead mounting	10 16 24	with thermo-plastic cover 09 30 010 0302 09 30 016 0302 09 30 024 0302				<table><tr><th>Size</th><th>a</th><th>b</th><th>c</th></tr><tr><td>10</td><td>83</td><td>93</td><td>60</td></tr><tr><td>16</td><td>103</td><td>113</td><td>82</td></tr><tr><td>24</td><td>130</td><td>140</td><td>108</td></tr></table>	Size	a	b	c	10	83	93	60	16	103	113	82	24	130	140	108																																												
	Size	a	b	c																																																															
	10	83	93	60																																																															
16	103	113	82																																																																
24	130	140	108																																																																
		10 16 24	with metal cover 09 30 010 0317 09 30 016 0317 09 30 024 0317																																																																
Housings	Housings surface mounting	10 10 10	with thermo-plastic cover 19 30 010 1225 19 30 010 1265	with thermo-plastic cover 19 30 010 0266	1 x 20 2 x 20 2 x 25		<table><tr><th>Size</th><th>Construction</th><th>a</th><th>b</th><th>c</th><th>d</th><th>f</th><th>g</th><th>h</th></tr><tr><td rowspan="2">10</td><td>low</td><td>82</td><td>94</td><td>40</td><td>52</td><td>22</td><td>67</td><td>54</td></tr><tr><td>high</td><td>82</td><td>94</td><td>45</td><td>57</td><td>20</td><td>65</td><td>81</td></tr><tr><td rowspan="2">16</td><td>low</td><td>105</td><td>117</td><td>45</td><td>57</td><td>20</td><td>65</td><td>56</td></tr><tr><td>high</td><td>105</td><td>117</td><td>45</td><td>57</td><td>20</td><td>65</td><td>81</td></tr><tr><td rowspan="4">24</td><td>low</td><td>132</td><td>144</td><td>45</td><td>57</td><td>20</td><td>65</td><td>56</td></tr><tr><td>high</td><td>132</td><td>144</td><td>45</td><td>57</td><td>20</td><td>65</td><td>81</td></tr></table>	Size	Construction	a	b	c	d	f	g	h	10	low	82	94	40	52	22	67	54	high	82	94	45	57	20	65	81	16	low	105	117	45	57	20	65	56	high	105	117	45	57	20	65	81	24	low	132	144	45	57	20	65	56	high	132	144	45	57	20	65	81
	Size	Construction	a	b	c	d	f	g	h																																																										
	10	low	82	94	40	52	22	67	54																																																										
high		82	94	45	57	20	65	81																																																											
16	low	105	117	45	57	20	65	56																																																											
	high	105	117	45	57	20	65	81																																																											
24	low	132	144	45	57	20	65	56																																																											
	high	132	144	45	57	20	65	81																																																											
		16 16 16	19 30 016 1226 19 30 016 1266	19 30 016 0267	1 x 25 2 x 25 2 x 32	¹⁾ Blind way for one cable entry																																																													
		24 24 24	19 30 024 1226 19 30 024 1266	19 30 024 0267	1 x 25 2 x 25 2 x 32																																																														

Stock items in bold type

with central locking lever

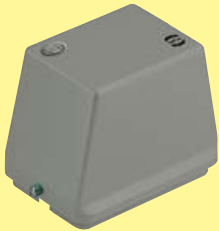
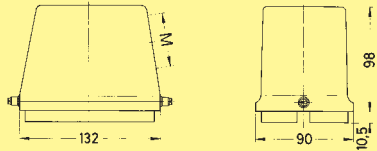
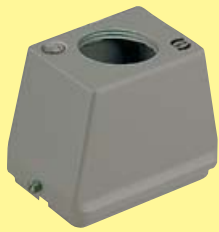
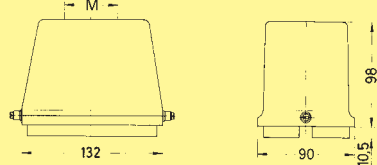
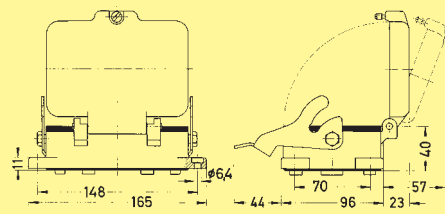
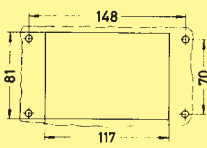
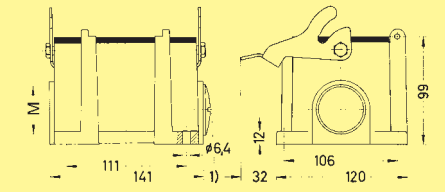
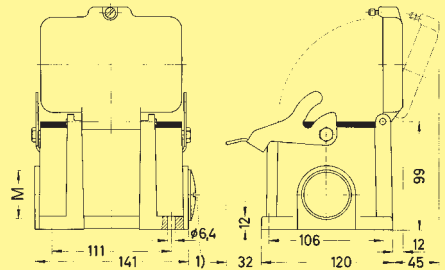
Identification		Size	Part No.	M	Drawing	Dimensions in mm																
Hoods	Hoods side-entry																					
		6	19 30 006 0586	25																		
		10	19 30 010 0586	25																		
		16	19 30 016 0586	25																		
		16	19 30 016 0587	32																		
		24	19 30 024 0586	25																		
		24	19 30 024 0587	32																		
		24	19 30 024 0588	40																		
					<table><tr><th>Size</th><th>a</th><th>b</th></tr><tr><td>10</td><td>73</td><td>70</td></tr><tr><td>16</td><td>93.5</td><td>76</td></tr><tr><td>24</td><td>120</td><td>87</td></tr></table>	Size	a	b	10	73	70	16	93.5	76	24	120	87	* 10 B: housing width 43 mm				
	Size	a	b																			
10	73	70																				
16	93.5	76																				
24	120	87																				
	Hoods top-entry																					
		16	19 30 016 0487	32																		
		24	19 30 024 0487	32																		
					<table><tr><th>Size</th><th>a</th><th>b</th></tr><tr><td>16</td><td>93.5</td><td>76</td></tr><tr><td>24</td><td>120</td><td>87</td></tr></table>	Size	a	b	16	93.5	76	24	120	87								
Size	a	b																				
16	93.5	76																				
24	120	87																				
Housings	Housings bulkhead mounting																					
		10	09 30 010 0381																			
		16	09 30 016 0381																			
		24	09 30 024 0381																			
					<table><tr><th>Size</th><th>a</th><th>b</th><th>Panel cut out</th></tr><tr><td>10</td><td>83</td><td>93</td><td>60 x 35</td></tr><tr><td>16</td><td>103</td><td>113</td><td>82 x 35</td></tr><tr><td>24</td><td>130</td><td>140</td><td>108 x 35</td></tr></table>	Size	a	b	Panel cut out	10	83	93	60 x 35	16	103	113	82 x 35	24	130	140	108 x 35	
	Size	a	b	Panel cut out																		
	10	83	93	60 x 35																		
	16	103	113	82 x 35																		
	24	130	140	108 x 35																		
	Housings surface mounting																					
		16	19 30 016 0282	2 x 32																		
		24	19 30 024 0282	2 x 32																		
					<table><tr><th>Size</th><th>a</th><th>b</th><th>h</th></tr><tr><td>16</td><td>105</td><td>117</td><td>81</td></tr><tr><td>24</td><td>132</td><td>144</td><td>81</td></tr></table>	Size	a	b	h	16	105	117	81	24	132	144	81					
Size	a	b	h																			
16	105	117	81																			
24	132	144	81																			

with 2 levers on the housing for 2 inserts

Identification		Part No.	M	Drawing	Dimensions in mm
Hoods	Hoods side-entry		19 30 032 0527 19 30 032 0528 19 30 032 0529	32 40 50	
	Hoods top-entry		19 30 032 0427 19 30 032 0428 19 30 032 0429	32 40 50	
	Protection cover for hoods		09 30 032 5420	—	
Housings	Housing bulkhead mounting		09 30 032 0301	—	
	Housings surface mounting		19 30 032 0232 19 30 032 0272 19 30 032 0273	1 x 32 2 x 32 2 x 40	
	Hood cable to cable		19 30 032 0738	40	
	Protection covers for housings		09 30 032 5425	—	

Stock items in bold type

with 1 lever on the housing for 2 inserts

Identification	Part No.	M	Drawing	Dimensions in mm
Hoods	Hoods side-entry			
		19 30 048 0548 19 30 048 0549	40 50	
	Hoods top-entry			
		19 30 048 0448 19 30 048 0449	40 50	
Housings	Housings bulkhead mounting			
		with thermo-plastic cover 09 30 048 0301	—	
		with metal cover 09 30 048 0317	—	Panel cut out 
	Housings surface mounting			
		19 30 048 0292 19 30 048 0293	2 x 32 2 x 40	
	2 side-entries			
		with thermo-plastic cover 19 30 048 0298	2 x 40	

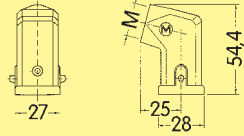
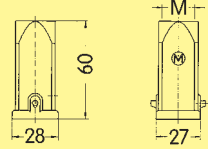
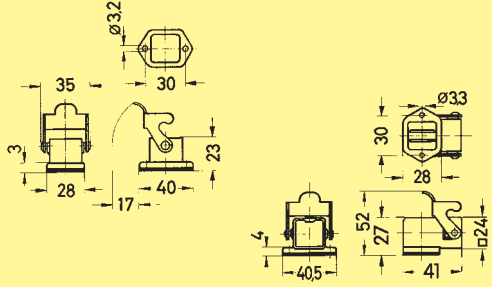
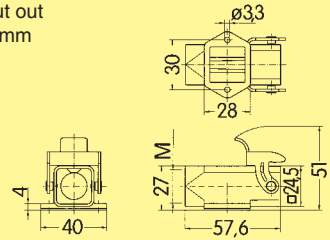
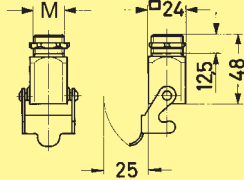
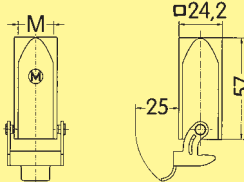
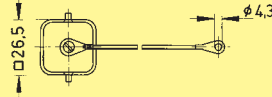
1) Blind grommet

Han Hoods
Housings

31
25

Stock items in bold type

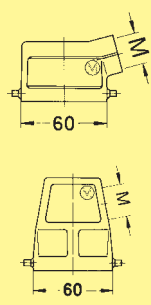
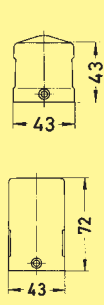
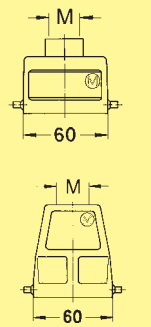
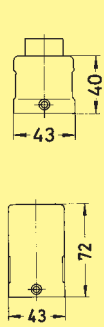
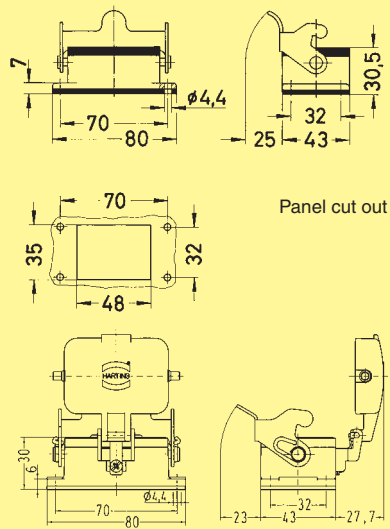
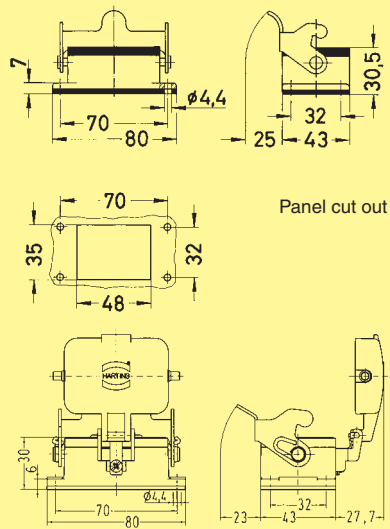
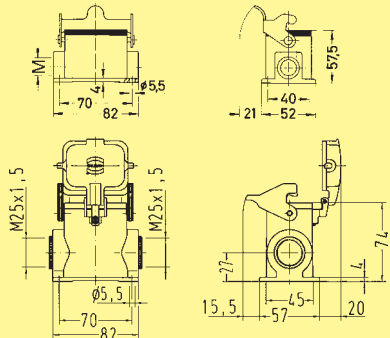
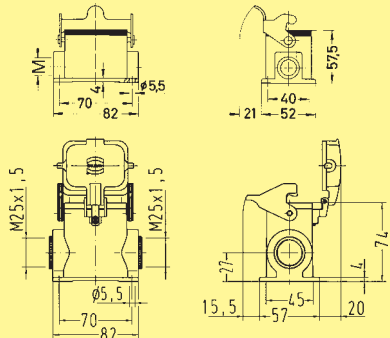
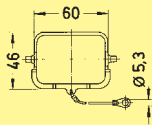
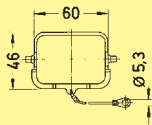
for harsh environmental requirements

Identification		Part No.	M	Drawing	Dimensions in mm
Hoods	Hoods side-entry	 19 37 003 1640	20		
	Hoods top-entry	 19 37 003 1440	20		
	Protection covers for hoods	09 37 003 5402¹⁾ 09 37 003 5401²⁾			
Housings	Housings bulkhead mounting	 09 37 003 0301  09 37 003 0801		Panel cut out 22 x 22 mm 	
	Housing surface mounting 1 side-entry	 19 37 003 1250	20	Panel cut out 22 x 22 mm 	
	Housing screw mounting	 19 37 003 1150	20		
	Hood cable to cable	 19 37 003 1750	20		
	Protection cover for housings	09 37 003 5405²⁾ 09 37 003 5406¹⁾			

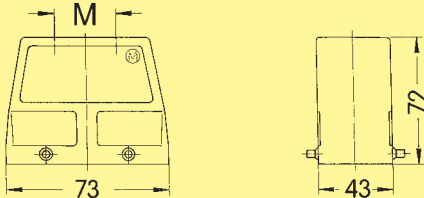
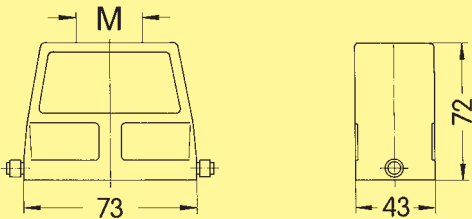
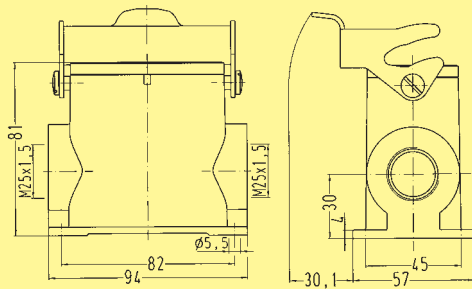
¹⁾ for mounted male insert ²⁾ for mounted female insert

Stock items in bold type

for harsh environmental requirements

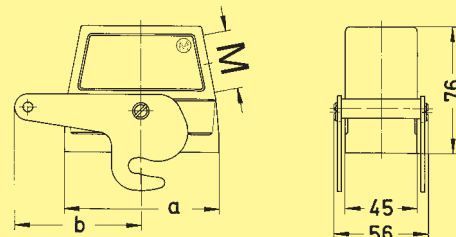
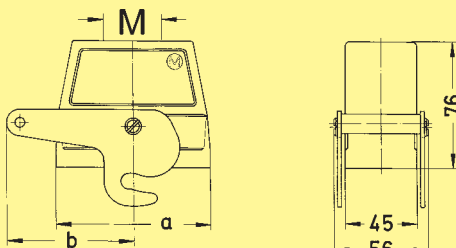
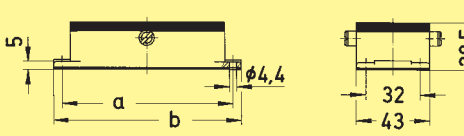
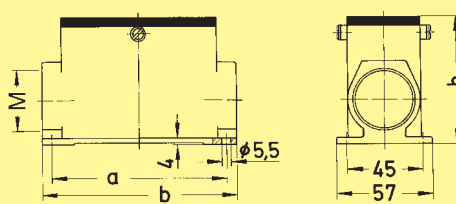
Identification		Part No.			Drawing	Dimensions in mm
		Low construction	High construction	M		
Hoods	Hood side-entry	 19 37 006 1540	 19 37 006 0545 19 37 006 0546	20 25		
	Hoods top-entry	 19 37 006 1440	 19 37 006 0445 19 37 006 0446	20 25		
Housings	Housing bulkhead mounting	 09 37 006 0301 with metal cover 09 37 006 0318		— —		
	Housing surface mounting 2 side-entries	 19 37 006 1290	 with thermo- plastic cover 19 37 006 0296	2 x 20 25		
	Protection cover metal	 09 37 006 5405				



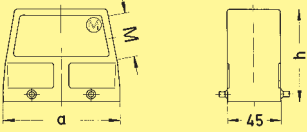
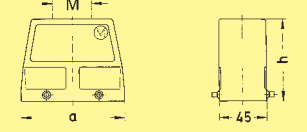
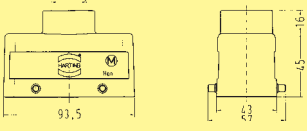
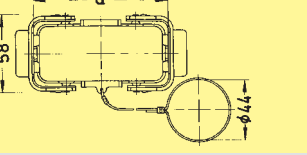
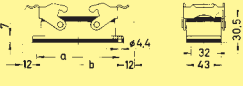
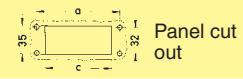
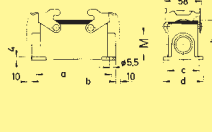
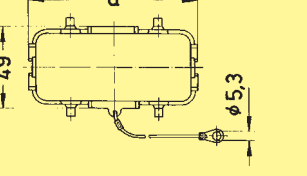
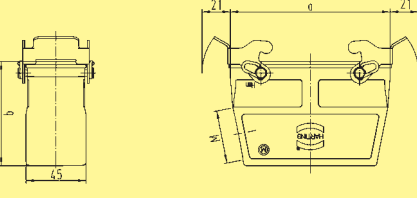
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Hoods for special applications top-entry 	10	19 37 010 0465	2 x 20		
Hoods top-entry  	10	19 37 010 0447	32		
	10	19 37 010 0291	25		

Han Hoods
Housings

with central locking lever

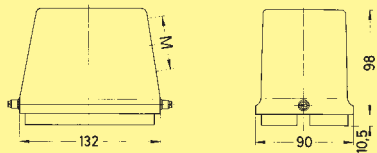
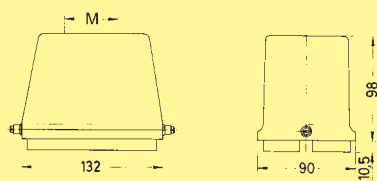
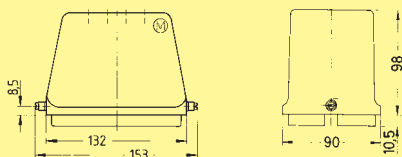
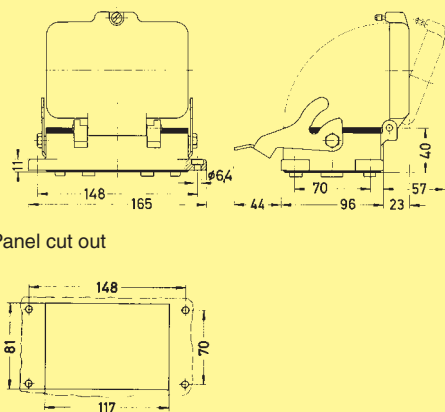
Identification		Size	Part No.	M	Drawing	Dimensions in mm											
Hoods	Hoods side-entry																
		16	19 37 016 0587	32													
		24	19 37 024 0587	32													
					<table border="1"><thead><tr><th>Size</th><th>a</th><th>b</th></tr></thead><tbody><tr><td>16</td><td>93.5</td><td>76</td></tr><tr><td>24</td><td>120</td><td>87</td></tr></tbody></table>	Size	a	b	16	93.5	76	24	120	87			
Size	a	b															
16	93.5	76															
24	120	87															
Hoods	Hoods top-entry																
		16	19 37 016 0487	32													
		24	19 37 024 0487	32													
					<table border="1"><thead><tr><th>Size</th><th>a</th><th>b</th></tr></thead><tbody><tr><td>16</td><td>93.5</td><td>76</td></tr><tr><td>24</td><td>120</td><td>87</td></tr></tbody></table>	Size	a	b	16	93.5	76	24	120	87			
Size	a	b															
16	93.5	76															
24	120	87															
Housings	Housings bulkhead mounting																
		24	09 37 024 0381														
					<table border="1"><thead><tr><th>Size</th><th>a</th><th>b</th><th>Panel cut out</th></tr></thead><tbody><tr><td>24</td><td>130</td><td>140</td><td>108 x 35</td></tr></tbody></table>	Size	a	b	Panel cut out	24	130	140	108 x 35				
	Size	a	b	Panel cut out													
24	130	140	108 x 35														
Housings	Housings surface mounting																
		16	19 37 016 0282	2 x 32													
		24	19 37 024 0282	2 x 32													
					<table border="1"><thead><tr><th>Size</th><th>a</th><th>b</th><th>h</th></tr></thead><tbody><tr><td>16</td><td>105</td><td>117</td><td>81</td></tr><tr><td>24</td><td>132</td><td>144</td><td>81</td></tr></tbody></table>	Size	a	b	h	16	105	117	81	24	132	144	81
Size	a	b	h														
16	105	117	81														
24	132	144	81														

for harsh environmental requirements

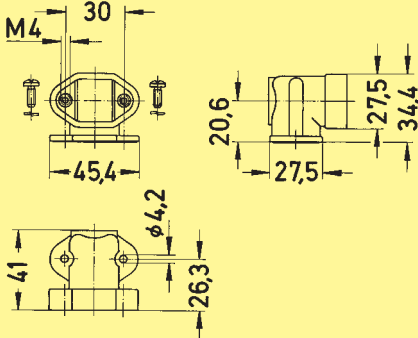
Identification		Size	Part No.		M	Drawing	Dimensions in mm
			low construction	high construction			
Hoods	Hoods side-entry						
		10	19 37 010 1520		20	h a	
		10		19 37 010 0526	25	52 73	
		16	19 37 016 1521		25	62.5 93.5	
		16		19 37 016 0527	32	76 93.5	
		16		19 37 016 0528	40	76 97.5	
		24	19 37 024 1521		25	60 120	
		24		19 37 024 0527	32	76 120	
		24		19 37 024 0528	40	76 120	
Hoods	Hoods top-entry						
		10	19 37 010 1420		20	h a	
		10		19 37 010 0427	32	72 73	
		16	19 37 016 1421		25	45 93.5	
		16		19 37 016 0427	32	76 93.5	
		24	19 37 024 1421		25	55 120	
		24		19 37 024 0427	32	76 120	
		24		19 37 024 0428	40	76 120	
Protection covers metal		10	09 37 010 5403		—	a	
		16	09 37 016 5402		—	79	
		24	09 37 024 5402		—	99.5	
					—	126	
Housings	Housings bulkhead mounting						
		10	09 37 010 0301		—	a b c	
		16	09 37 016 0301		—	83 93 60	
		24	09 37 024 0301		—	103 113 82	
						130 140 108	
	Housings surface mounting						
		10	19 37 010 1270		2 x 20	h a b c d	
		10		19 37 010 0272	2 x 32	54 82 94 40 52	
		16	19 37 016 1231		1 x 25	81 82 94 45 57	
		16		19 37 016 0272	2 x 32	56 105 117 45 57	
		24		19 37 024 0272	2 x 32	81 105 117 45 57	
Protection covers metal		10	09 37 010 5405		—	a	
		16	09 37 016 5405		—	79	
		24	09 37 024 5405		—	99.5	
					—	126	
Hood cable to cable metal		24		19 37 024 0733	40		

Stock items in bold type

with 1 lever on the housing for 2 inserts

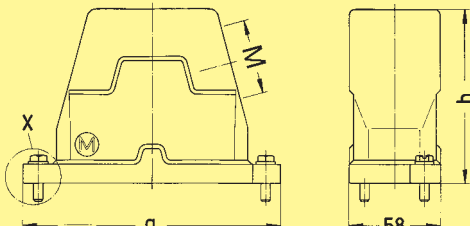
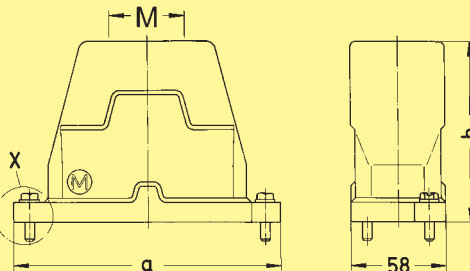
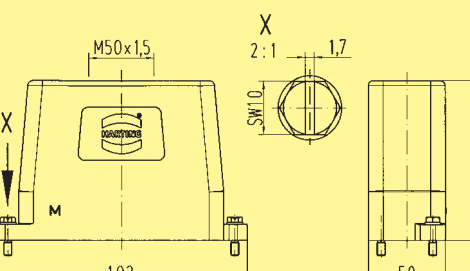
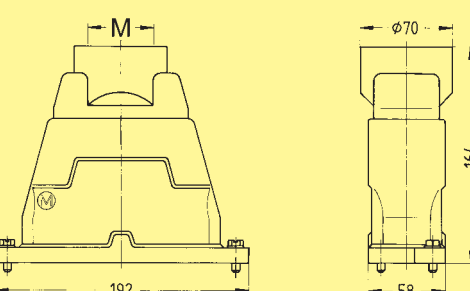
Identification	Part No.	M	Drawing	Dimensions in mm
Hoods	Hoods side-entry			
		19 37 048 0548	40	
	Hoods top-entry			
		19 37 048 0448 19 37 048 0449	40 50	
Housings	Hoods top-entry			
		19 37 048 0401	4 x 25	
	Housings bulkhead mounting			
		with thermo- plastic cover 09 37 048 0301	—	

Han Hoods
Housings

Identification	Size	Part No. Screw locking	M	Drawing	Dimensions in mm
Hood top-entry with sealing screw* 	3 A	19 40 003 0400		19 40 003 0410	20
Housing bulkhead mounting with sealing screw* 	3 A	09 40 003 0301		09 40 003 0311	
Housings bulkhead and surface mounting with sealing screw* 	closed 3 A open 3 A			19 40 003 0950 09 40 003 0950	20 —
Accessories	Size	Part No.	M	Drawing	Dimensions in mm
Adaptor for assembly in angled position 	3 A 3 A	09 40 003 0902 19 40 003 0900	— 20		

* Sealing on the insert has to be removed

Stock items in bold type

Identification		Size	Part No. Screw locking	M	Drawing	Dimensions in mm															
Hoods side-entry 	6		19 40 006 0510	20	 <table><tr><th>Size</th><th>a</th><th>h</th></tr><tr><td>6 B</td><td>133</td><td>101</td></tr><tr><td>10 B</td><td>146</td><td>101</td></tr><tr><td>16 B</td><td>166</td><td>111</td></tr><tr><td>24 B</td><td>193</td><td>111</td></tr></table>	Size	a	h	6 B	133	101	10 B	146	101	16 B	166	111	24 B	193	111	
	Size	a	h																		
	6 B	133	101																		
	10 B	146	101																		
	16 B	166	111																		
	24 B	193	111																		
	6	19 40 006 0501	19 40 006 0511	25																	
	6		19 40 006 0512	32																	
	10	19 40 010 0501	19 40 010 0511	25																	
	10		19 40 010 0512	32																	
	16	19 40 016 0502	19 40 016 0512	32																	
	16		19 40 016 0513	40																	
16		19 40 016 0514	50																		
24		19 40 024 0512	32																		
24	19 40 024 0503	19 40 024 0513	40																		
24		19 40 024 0514	50																		
24		19 40 024 0537	2 x 32																		
Hoods top-entry 	6		19 40 006 0410	20	 <table><tr><th>Size</th><th>a</th><th>h</th></tr><tr><td>6 B</td><td>133</td><td>101</td></tr><tr><td>10 B</td><td>146</td><td>101</td></tr><tr><td>16 B</td><td>166</td><td>111</td></tr><tr><td>24 B</td><td>193</td><td>111</td></tr></table>	Size	a	h	6 B	133	101	10 B	146	101	16 B	166	111	24 B	193	111	
	Size	a	h																		
	6 B	133	101																		
	10 B	146	101																		
	16 B	166	111																		
	24 B	193	111																		
	6	19 40 006 0401	19 40 006 0411	25																	
	6		19 40 006 0412	32																	
	6		19 40 006 0413	40																	
	10	19 40 010 0401	19 40 010 0411	25																	
	10		19 40 010 0412	32																	
	10		19 40 010 0430	2 x 20																	
	16		19 40 016 0411	25																	
	16	19 40 016 0402	19 40 016 0412	32																	
	16		19 40 016 0413	40																	
	16		19 40 016 0414	50																	
	16		19 40 016 0431	2 x 25																	
	24	19 40 024 0402	19 40 024 0412	32																	
	24		19 40 024 0413	40																	
	24		19 40 024 0414	50																	
	24		19 40 024 0432	2 x 32																	
	24		19 40 024 0433	2 x 40																	
	24		19 40 024 0461	3 x 25																	
		24		19 40 024 0419		50															
24			19 40 024 0467	3 x 32																	
Hood top-entry 	24		19 40 024 0420	63																	

Part No.

Identification

Size

Toggle locking

Screw locking

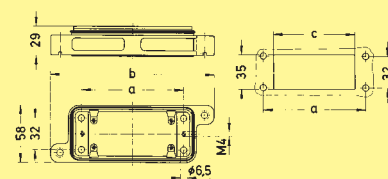
M

Drawing

Dimensions in mm

Housings
bulkhead mounting

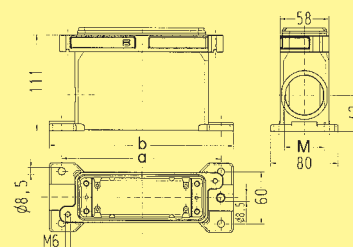

6	09 40 006 0301	09 40 006 0311
10	09 40 010 0301	09 40 010 0311
16	09 40 016 0301	09 40 016 0311
24	09 40 024 0301	09 40 024 0311



Size	a	b	c
6 B	70	133	48
10 B	83	146	60
16 B	103	166	82
24 B	130	193	108

Housings
surface mounting


6		19 40 006 1260	1 x 20
6		19 40 006 1261	1 x 25
6		19 40 006 1262	1 x 32
10		19 40 010 1260	1 x 20
10		19 40 010 1262	1 x 32
16		09 40 016 1201	—
16		19 40 016 1262	1 x 32
16		19 40 016 1263	1 x 40
16		19 40 016 1273	2 x 40
24		19 40 024 1263	1 x 40
24		19 40 024 1273	2 x 40

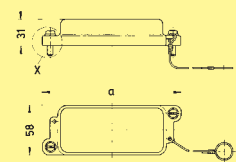


Size	a	b
6 B	127	156
10 B	140	169
16 B	160	189
24 B	187	216

Protection covers



6	09 40 006 5401	09 40 006 5411
10	09 40 010 5401	09 40 010 5411
16	09 40 016 5401	09 40 016 5411
24	09 40 024 5401	09 40 024 5411

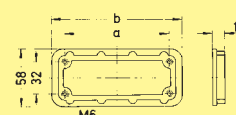


Size	a
6 B	133
10 B	146
16 B	166
24 B	193

Mounting frames

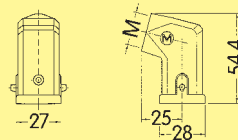
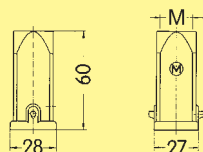
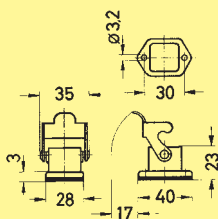
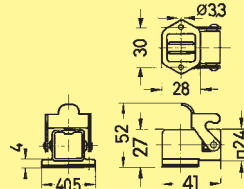
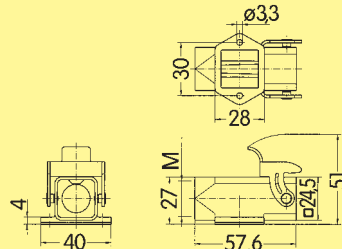
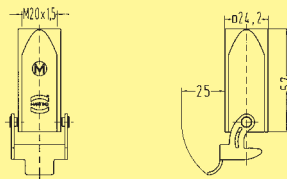


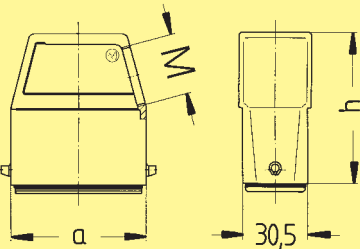
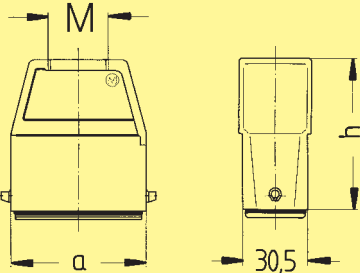
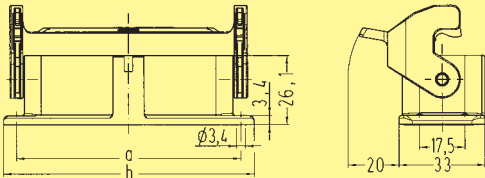
6		09 40 000 9901
10		09 40 000 9902
16		09 40 000 9903
24		09 40 000 9904



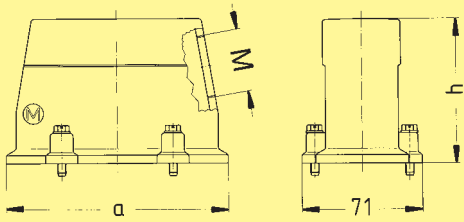
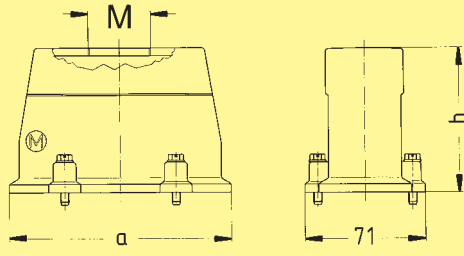
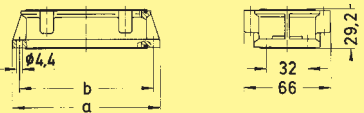
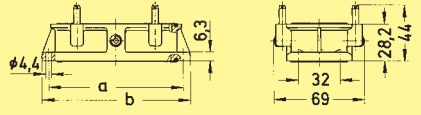
Size	a	b
6 B	70	96
10 B	83	109
16 B	103	129
24 B	130	156

Stock items in bold type

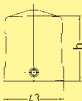
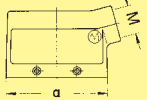
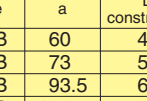
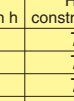
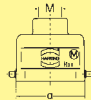
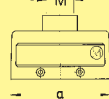
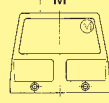
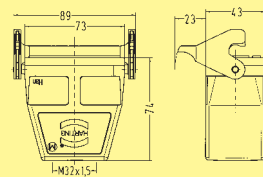
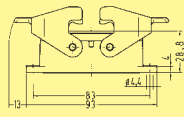
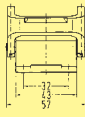
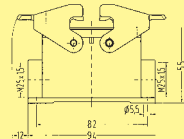
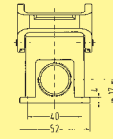
Identification		Part No.	M	Drawing	Dimensions in mm
Hoods	Hood side-entry	19 62 003 1640	20		
	Hood top-entry	19 62 003 1440	20		
Housings	Housings bulkhead mounting	09 62 003 0301			
		09 62 003 0801			
	Housing surface mounting 1 side-entry	19 62 003 1250	20		
	Hood cable to cable 1 side-entry	19 62 003 1750	20		

Identification		Size	Part No.	Pg	Drawing	Dimensions in mm												
Hoods	Hoods side-entry	10 A	19 62 015 0546	25		<table><tr><th>Size</th><th>a</th><th>h</th></tr><tr><td>10 A</td><td>64</td><td>70</td></tr><tr><td>16 A</td><td>80</td><td>70</td></tr></table>	Size	a	h	10 A	64	70	16 A	80	70			
	Size	a	h															
	10 A	64	70															
	16 A	80	70															
	16 A	19 62 025 0546	25															
	Hoods top-entry	10 A	19 62 015 0446	25		<table><tr><th>Size</th><th>a</th><th>h</th></tr><tr><td>10 A</td><td>64</td><td>70</td></tr><tr><td>16 A</td><td>80</td><td>70</td></tr></table>	Size	a	h	10 A	64	70	16 A	80	70			
Size	a	h																
10 A	64	70																
16 A	80	70																
	16 A	19 62 025 0446	25															
Housings	Housings bulkhead mounting	10 A	09 62 015 0301			<table><tr><th>Size</th><th>a</th><th>b</th><th>Panel cut out</th></tr><tr><td>10 A</td><td>81</td><td>70</td><td>24 x 57</td></tr><tr><td>16 A</td><td>96</td><td>86</td><td>24 x 73</td></tr></table>	Size	a	b	Panel cut out	10 A	81	70	24 x 57	16 A	96	86	24 x 73
	Size	a	b	Panel cut out														
	10 A	81	70	24 x 57														
	16 A	96	86	24 x 73														
	16 A	09 62 025 0301																

Stock items in bold type

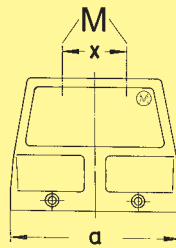
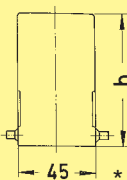
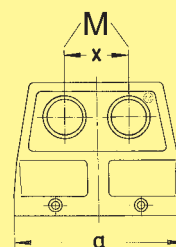
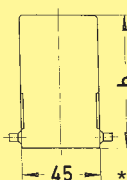
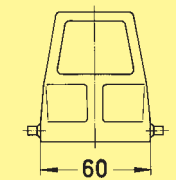
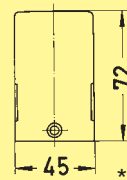
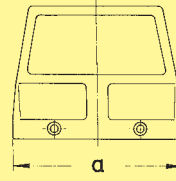
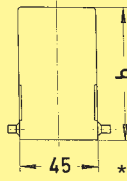
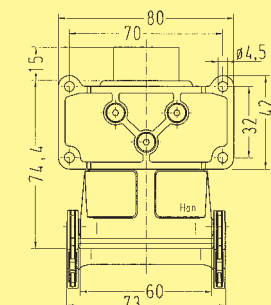
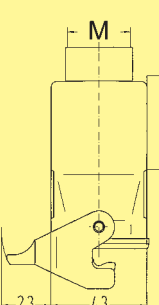
Identification		Size	Part No.	M	Drawing	Dimensions in mm																				
Hoods	Hoods side-entry																									
		6	19 62 006 0541	25																						
		10	19 62 010 0542	32																						
		16	19 62 040 0542	32																						
		24	19 62 064 0543	40																						
					<table border="1"><thead><tr><th>Size</th><th>a</th><th>b</th><th>h</th></tr></thead><tbody><tr><td>6</td><td>72</td><td>—</td><td>75</td></tr><tr><td>10</td><td>85</td><td>76</td><td>75</td></tr><tr><td>16</td><td>106</td><td>86</td><td>75</td></tr><tr><td>24</td><td>132</td><td>100</td><td>85</td></tr></tbody></table>	Size	a	b	h	6	72	—	75	10	85	76	75	16	106	86	75	24	132	100	85	
	Size	a	b	h																						
	6	72	—	75																						
	10	85	76	75																						
	16	106	86	75																						
24	132	100	85																							
Hoods top-entry																										
	6	19 62 006 0441	25																							
	6	19 62 006 0442	32																							
	10	19 62 010 0442	32																							
	16	19 62 040 0442	32																							
	24	19 62 064 0443	40																							
				<table border="1"><thead><tr><th>Size</th><th>a</th><th>h</th></tr></thead><tbody><tr><td>6</td><td>72</td><td>75</td></tr><tr><td>10</td><td>85</td><td>75</td></tr><tr><td>16</td><td>106</td><td>75</td></tr><tr><td>24</td><td>132</td><td>85</td></tr></tbody></table>	Size	a	h	6	72	75	10	85	75	16	106	75	24	132	85							
Size	a	h																								
6	72	75																								
10	85	75																								
16	106	75																								
24	132	85																								
Housings	Housings bulkhead mounting																									
		6	09 62 006 0301																							
		10	09 62 010 0301																							
		16	09 62 040 0301																							
		24	09 62 064 0301																							
					<table border="1"><thead><tr><th>Size</th><th>a</th><th>b</th><th>Panel cut out</th></tr></thead><tbody><tr><td>6</td><td>80</td><td>70</td><td>48 x 35</td></tr><tr><td>10</td><td>93</td><td>83</td><td>60 x 35</td></tr><tr><td>16</td><td>113</td><td>103</td><td>82 x 35</td></tr><tr><td>24</td><td>140</td><td>130</td><td>108 x 35</td></tr></tbody></table>	Size	a	b	Panel cut out	6	80	70	48 x 35	10	93	83	60 x 35	16	113	103	82 x 35	24	140	130	108 x 35	
	Size	a	b	Panel cut out																						
	6	80	70	48 x 35																						
	10	93	83	60 x 35																						
	16	113	103	82 x 35																						
24	140	130	108 x 35																							
																										

with 2 levers on the housing

Part No.																									
Identification	Size	Low construction	High construction	M	Drawing	Dimensions in mm																			
Hoods side-entry with single lever with double lever	6	19 62 806 1540		20	 																				
	6			25																					
	6			32																					
	10		19 62 810 0547	32	 																				
	10	19 62 810 1520		20	 																				
	10			25																					
	10			32																					
	16	19 62 816 1521		25	 																				
	16			32																					
	24	19 62 824 1521		25	<table><tr><th>Size</th><th>a</th><th>Low construction h</th><th>High construction h</th></tr><tr><td>6 B</td><td>60</td><td>43</td><td>72</td></tr><tr><td>10 B</td><td>73</td><td>57</td><td>72</td></tr><tr><td>16 B</td><td>93.5</td><td>62.5</td><td>76</td></tr><tr><td>24 B</td><td>120</td><td>62.5</td><td>76</td></tr></table>	Size	a	Low construction h	High construction h	6 B	60	43	72	10 B	73	57	72	16 B	93.5	62.5	76	24 B	120	62.5	76
Size	a		Low construction h	High construction h																					
6 B	60		43	72																					
10 B	73	57	72																						
16 B	93.5	62.5	76																						
24 B	120	62.5	76																						
24		19 62 824 0527	32																						
24		19 62 824 0528	40																						
Hoods top-entry with single lever with double lever	6	19 62 806 1440		20	 																				
	6			25																					
	6			32																					
	10		19 62 810 0446	25	 																				
	10		32																						
	10																								
	10	19 62 810 1420		20	 																				
	10		19 62 810 1421	25																					
	10			25																					
	10		19 62 810 0426	25																					
10		19 62 810 0427	32																						
16	19 62 816 1421		25	<table><tr><th>Size</th><th>a</th><th>Low construction h</th><th>High construction h</th></tr><tr><td>6 B</td><td>60</td><td>40</td><td>72</td></tr><tr><td>10 B</td><td>73</td><td>45</td><td>72</td></tr><tr><td>16 B</td><td>93.5</td><td>55</td><td>76</td></tr><tr><td>24 B</td><td>120</td><td>55</td><td>76</td></tr></table>	Size	a	Low construction h	High construction h	6 B	60	40	72	10 B	73	45	72	16 B	93.5	55	76	24 B	120	55	76	
Size		a	Low construction h		High construction h																				
6 B	60	40	72																						
10 B	73	45	72																						
16 B	93.5	55	76																						
24 B	120	55	76																						
16		19 62 816 0427	32																						
24	19 62 824 1422	19 62 824 0427	32																						
Hoods cable to cable	10		19 62 810 0757	32																					
Housings bulkhead mounting with 2 locking levers and 1 adapter frame	06	09 62 806 0301		—	 																				
	10	09 62 810 0301		—																					
	16	09 62 816 0301		—																					
	24	09 62 824 0301		—																					
Size 6 B with 1 locking lever only																									
Housings surface mounting	6	19 62 806 1290		2 x 20	 																				
	10	19 62 810 1271		2 x 25																					
	10		19 62 810 0272	2 x 32																					
	16			2 x 25																					
	16	19 62 816 1271		2 x 40																					
	24	19 62 824 1271		2 x 25																					
	24		19 62 824 0273	2 x 40																					

Stock items in bold type

for special applications

Identification	Size	Part No.	Pg	Drawing	Dimensions in mm																				
Hoods top-entry 	10 16 24	19 30 010 0465 19 30 016 0466 19 30 024 0467	2 x 20 2 x 25 2 x 32	  * 10 B: housing width 43 mm <table><tr><th>Size</th><th>a</th><th>h</th><th>x</th><th>M</th></tr><tr><td>10</td><td>73</td><td>72</td><td>20</td><td>2 x 20</td></tr><tr><td>16</td><td>93.5</td><td>76</td><td>36</td><td>2 x 32</td></tr><tr><td>24</td><td>120</td><td>76</td><td>52</td><td>2 x 25</td></tr></table>	Size	a	h	x	M	10	73	72	20	2 x 20	16	93.5	76	36	2 x 32	24	120	76	52	2 x 25	
Size	a	h	x	M																					
10	73	72	20	2 x 20																					
16	93.5	76	36	2 x 32																					
24	120	76	52	2 x 25																					
Hoods side-entry 	16 24	19 30 016 0666 19 30 024 0666	2 x 25 2 x 25	  * 10 B: housing width 43 mm <table><tr><th>Size</th><th>a</th><th>x</th><th>M</th></tr><tr><td>16</td><td>93.5</td><td>36</td><td>2 x 25</td></tr><tr><td>24</td><td>120</td><td>56</td><td>2 x 25</td></tr></table>	Size	a	x	M	16	93.5	36	2 x 25	24	120	56	2 x 25									
Size	a	x	M																						
16	93.5	36	2 x 25																						
24	120	56	2 x 25																						
Hoods without entry for customized drillings  double lever single lever	6 10 16 24 10 16 24	09 30 006 0801 09 30 010 0801 09 30 016 0801 09 30 024 0801 09 30 010 0803 09 30 016 0803 09 30 024 0803	— — — — — — —	    * 10 B: housing width 43 mm <table><tr><th>Size</th><th>a</th><th>h</th></tr><tr><td>10</td><td>73</td><td>72</td></tr><tr><td>16</td><td>93.5</td><td>76</td></tr><tr><td>24</td><td>120</td><td>76</td></tr></table>	Size	a	h	10	73	72	16	93.5	76	24	120	76									
Size	a	h																							
10	73	72																							
16	93.5	76																							
24	120	76																							
Flange housing 	6	19 30 006 0716	1 x 25	 																					

Accessories

Page

D-Sub adaptor	40.02
Han® Split Hood	40.04
Cable clamps for metric cable entries	40.06
Cable clamps for PG cable entries	40.08
Further Accessories	40.11
Coding for Hoods/Housings and inserts	40.12
PE-Multiple ground connection	40.13
Cable clamp fitting	40.14
Docking frame	40.15
Grip frame	40.16
Ground terminal	40.18
Screws	40.19
Locking levers	40.20
Gaskets, seals	40.21

D-Sub



Number of contacts

9–50



D-Sub adaptor for Han A® hood/housing

Identification	D-Sub size	Han A housing size	Part No.	Drawing	Dimensions in mm									
Plastic adaptor for 1 x D-Sub ¹⁾	9	10 A	09 20 000 9932											
	15	10 A	09 20 000 9928											
	25	10 A	09 20 000 9929	<table><tr><th>Size</th><th>D-Sub</th><th>c</th></tr><tr><td>10 A</td><td>15</td><td>33.3</td></tr><tr><td>10 A</td><td>25</td><td>47</td></tr></table>		Size	D-Sub	c	10 A	15	33.3	10 A	25	47
	Size	D-Sub	c											
10 A	15	33.3												
10 A	25	47												
Delivery comprises: 1 adaptor 4 fixing screws for adaptor 2 fixing screws for D-Sub connector	50	16 A	09 20 000 9931											
	Metal adaptor for 1 x D-Sub ¹⁾	25	10 A	09 20 000 9925										
37		16 A	09 20 000 9925											
Delivery comprises: 2 adaptor 2 fixing screws for adaptor 2 fixing screws for D-Sub connector														

Delivery comprises:
2 adaptor
2 fixing screws for adaptor
2 fixing screws for D-Sub connector

¹⁾ only for Standard D-Sub, not for HD D-Sub

Stock items in bold type

Number of contacts

9–50



D-Sub adaptor for Han® B hood/housing

Identification	D-Sub size	Han B housing size	Part No.	Drawing	Dimensions in mm																													
Plastic adaptor for 1 x D-Sub ¹⁾	9	6 B	09 30 000 9965	Mounting in housing Character "A" visible																														
	15	6 B	09 30 000 9966																															
	25	10 B	09 30 000 9967																															
	37	16 B	09 30 000 9968	Mounting in hood Character "T" visible																														
	50	16 B	09 30 000 9969	<table><tr><th>Size</th><th>D-Sub</th><th>a</th><th>b</th><th>c</th></tr><tr><td>6 B</td><td>9</td><td>44</td><td>51.5</td><td>25</td></tr><tr><td>6 B</td><td>15</td><td>44</td><td>51.5</td><td>33.3</td></tr><tr><td>10 B</td><td>25</td><td>57</td><td>64.5</td><td>47</td></tr><tr><td>16 B</td><td>37</td><td>77.5</td><td>85</td><td>63.5</td></tr><tr><td>16 B</td><td>50</td><td>77.5</td><td>85</td><td>61.1</td></tr></table>	Size	D-Sub	a	b	c	6 B	9	44	51.5	25	6 B	15	44	51.5	33.3	10 B	25	57	64.5	47	16 B	37	77.5	85	63.5	16 B	50	77.5	85	61.1
Size	D-Sub	a	b	c																														
6 B	9	44	51.5	25																														
6 B	15	44	51.5	33.3																														
10 B	25	57	64.5	47																														
16 B	37	77.5	85	63.5																														
16 B	50	77.5	85	61.1																														
Delivery comprises: 1 adaptor 4 fixing screws for adaptor 2 fixing screws for D-Sub connector																																		
Plastic adaptor for 2 x D-Sub ¹⁾	2 x 9	6 B	09 30 000 9970	Mounting in housing Character "A" visible																														
	2 x 15	6 B	09 30 000 9971																															
	2 x 25	10 B	09 30 000 9972																															
	2 x 37	16 B	09 30 000 9973	Mounting in hood Character "T" visible																														
	2 x 50	16 B	09 30 000 9974	<table><tr><th>Size</th><th>D-Sub</th><th>a</th><th>b</th><th>c</th></tr><tr><td>6 B</td><td>9</td><td>44</td><td>51.5</td><td>25</td></tr><tr><td>6 B</td><td>15</td><td>44</td><td>51.5</td><td>33.3</td></tr><tr><td>10 B</td><td>25</td><td>57</td><td>64.5</td><td>47</td></tr><tr><td>16 B</td><td>37</td><td>77.5</td><td>85</td><td>63.5</td></tr><tr><td>16 B</td><td>50</td><td>77.5</td><td>85</td><td>61.1</td></tr></table>	Size	D-Sub	a	b	c	6 B	9	44	51.5	25	6 B	15	44	51.5	33.3	10 B	25	57	64.5	47	16 B	37	77.5	85	63.5	16 B	50	77.5	85	61.1
Size	D-Sub	a	b	c																														
6 B	9	44	51.5	25																														
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Delivery comprises: 1 adaptor 4 fixing screws for adaptor 4 fixing screws for D-Sub connector																																		

¹⁾ only for Standard D-Sub, not for HD D-Sub



Features

- ❑ Compatible with Han® B housings, bulkhead mounting, with 2 levers, standard panel cut out
- ❑ Allows the entry of pre-assembled cables into a switch cabinet
- ❑ IP 54 due to continuous contoured sealing
- ❑ Easy handling
- ❑ No special tools required for assembly
- ❑ Standard screw driver (5 x 1 mm) necessary to open split hood
- ❑ Up to 4 cable entries (3 – 16 mm diameter)
- ❑ High cable density
- ❑ From 10 mm Ø upwards cable tie is available for better strain relief
- ❑ Use of identification strips is possible
- ❑ Little wiring work and high degree of flexibility
- ❑ Manufacturer's guarantee of pre-assembled cables remains valid

Technical characteristics

Split hood

Material	Polycarbonate
Flammability acc. to UL 94	V 0
Limiting temperatures	– 40 °C / + 125 °C
Cable entries	3, 4
Degree of protection in locked position with correct grommet	IP 54 ¹⁾
Max. cable diameter	3 – 16 mm
Locking cycles of bulkhead mounted housings	≥ 50
Locking cycles of split hood halves	≥ 10

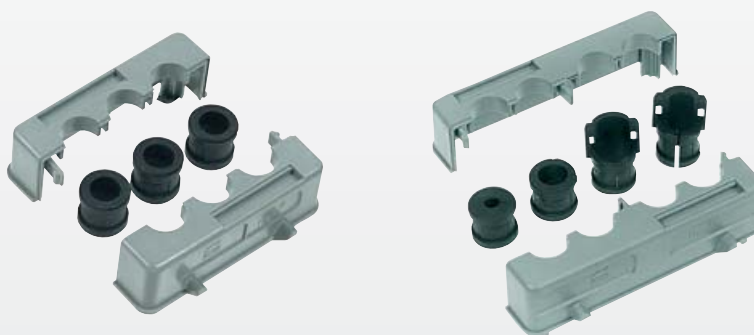
Cable entry glands

Material	Thermoplastic rubber, UL listed
Limiting temperatures	– 40 °C / + 125 °C
Colour	black

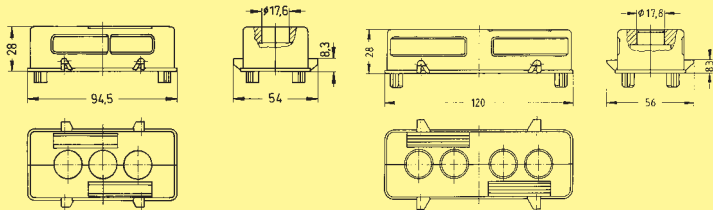
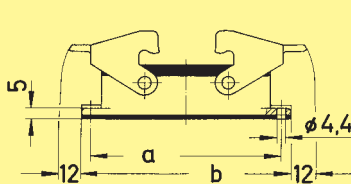
¹⁾ when mounted vertically in the longitudinal direction

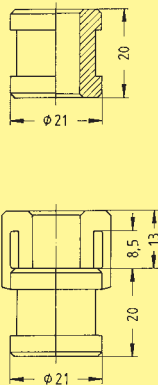
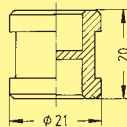
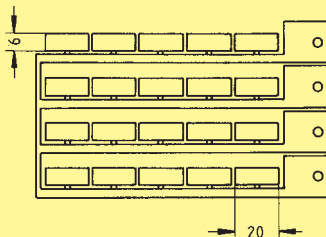
Pack contents

2 split hood halves

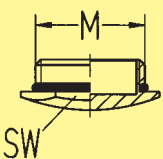
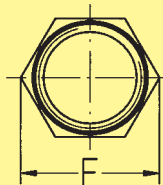
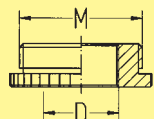
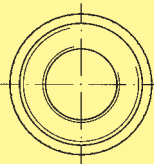
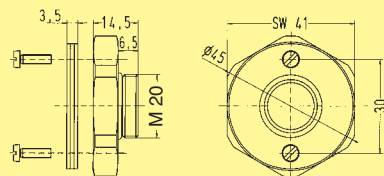
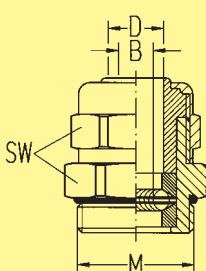
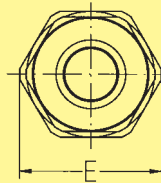


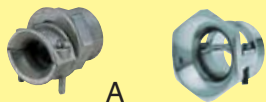
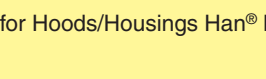
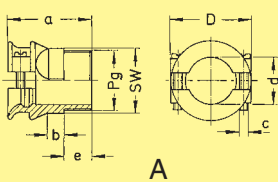
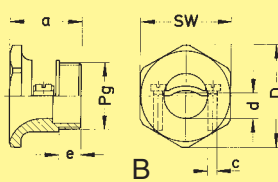
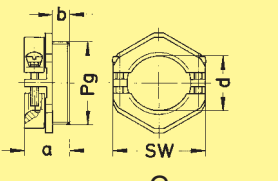
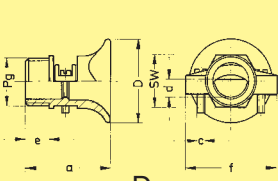
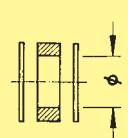
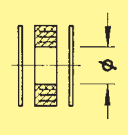
with up to 4 cable entries

Identification	Size	Part No.	Drawing	Dimensions in mm												
Split hood for 3 cable entries for 4 cable entries	16 B 24 B	09 30 016 0408 09 30 024 0408														
Housings bulkhead mounting 	16 24	09 30 016 0301 09 30 024 0301	 <table border="1"><thead><tr><th>Size</th><th>a</th><th>b</th><th>Panel cut out</th></tr></thead><tbody><tr><td>16 B</td><td>103</td><td>113</td><td>82 x 35</td></tr><tr><td>24 B</td><td>130</td><td>140</td><td>108 x 35</td></tr></tbody></table>	Size	a	b	Panel cut out	16 B	103	113	82 x 35	24 B	130	140	108 x 35	
Size	a	b	Panel cut out													
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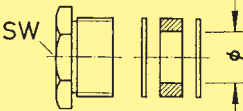
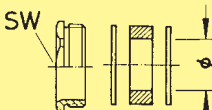
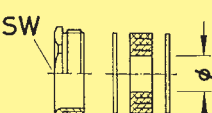
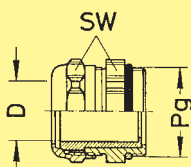
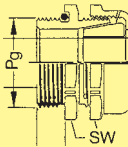
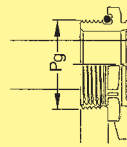
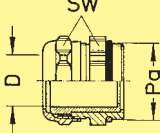
Identification	Suitable cable Ø	Part No.	Drawing	Dimensions in mm
Cable entry gland order separately from Ø 10 mm upwards additional strain relief can be provided by cable ties (max. width 8 mm) for ASI cable	3- 4 4- 5 5- 6 6- 7 7- 8 8- 9 9-10 10-11 11-12 12-13 13-14 14-15 15-16 —	09 00 000 5351 09 00 000 5352 09 00 000 5353 09 00 000 5354 09 00 000 5355 09 00 000 5356 09 00 000 5357 09 00 000 5358 09 00 000 5359 09 00 000 5360 09 00 000 5361 09 00 000 5362 09 00 000 5363 09 00 000 5364		
Blind grommet	—	09 00 000 5350		
Identification strips order separately 9 mm wide 20 mm long 20 pieces in one block	—	09 33 000 9982		

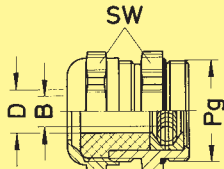
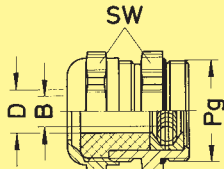
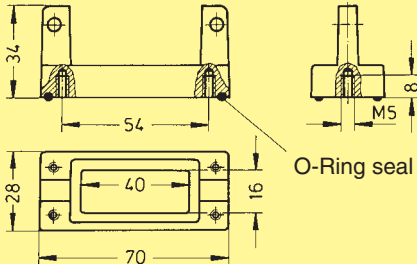
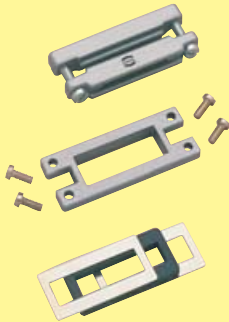
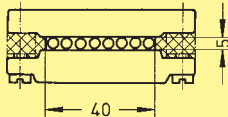
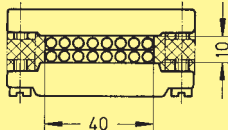
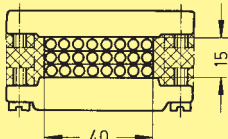
Identification	Part No.	Drawing					Dimensions in mm
Cable gland for metric cable entries		thread M	cable diameter D	SW	E	Nm	
Metal 	19 00 000 5080	20	5 - 9 mm	22	24.4	10	
	19 00 000 5082	20	6 - 12 mm	22	24.4	10	
	19 00 000 5084	20	10 - 14 mm	24	26.5	10	
	19 00 000 5090	25	9 - 16 mm	30	33.5	15	
	19 00 000 5092	25	13 - 18 mm	30	33.5	15	
	19 00 000 5094	32	13 - 20 mm	40	44	15	
	19 00 000 5096	32	18 - 25 mm	40	44	15	
	19 00 000 5097	40	20 - 26 mm	50	55	20	
	19 00 000 5098	40	22 - 32 mm	50	55	20	
Thermoplastic, white 	19 00 000 5180	20	5 - 9 mm	24	26.4		
	19 00 000 5182	20	6 - 12 mm	24	26.4		
	19 00 000 5184	20	10 - 14 mm	27	29.8		
	19 00 000 5190	25	9 - 16 mm	33	36.5		
	19 00 000 5192	25	13 - 18 mm	33	36.5		
	19 00 000 5194	32	13 - 20 mm	42	46.8		
	19 00 000 5196	32	18 - 25 mm	42	46.8		
	19 00 000 5197	40	20 - 26 mm	53	58.8		
	19 00 000 5198	40	22 - 32 mm	53	58.8		
Cable gland for metric cable entries		thread M	cable diameter D	SW	E	Nm	
Metal 	19 00 000 5050	20	5 - 14 mm	24	26.5	10	
	19 00 000 5051	25	11 - 20 mm	30	33.0	15	
	19 00 000 5052	32	15 - 25 mm	36	39.5	15	
	19 00 000 5053	40	20 - 32 mm	45	48.0	20	
	19 00 000 5054	50	31 - 42 mm	57	61.0	30	
Thermoplastic, grey 	19 00 000 5150	20	5 - 14 mm	24	26.7	8	
	19 00 000 5151	25	11 - 20 mm	30	33.0	10	
	19 00 000 5152	32	15 - 25 mm	36	39.5	12	
	19 00 000 5153	40	20 - 32 mm	45	48.0	14	
Thermoplastic, black 	19 00 000 5155	20	5 - 14 mm	24	26.7	8	
	19 00 000 5156	25	11 - 20 mm	30	33.0	10	
	19 00 000 5157	32	15 - 25 mm	36	39.5	12	
	19 00 000 5158	40	20 - 32 mm	45	48.0	14	

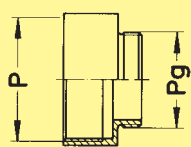
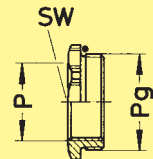
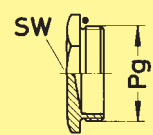
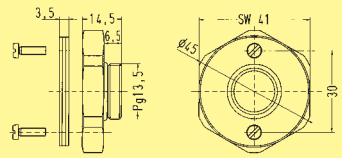
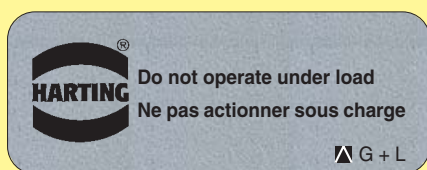
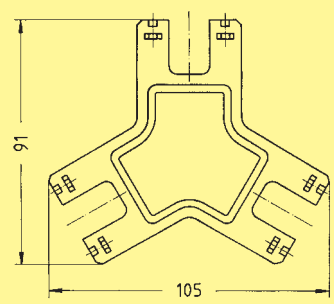
Identification	Part No.	Drawing		Dimensions in mm																																																																																				
Blanking piece for metric cable entries Metal 	19 00 000 5070 19 00 000 5071 19 00 000 5072 19 00 000 5073	<table><tr><th>thread M</th><th>SW</th><th>E</th></tr><tr><td>20</td><td>20</td><td>25.4</td></tr><tr><td>25</td><td>22</td><td>32.3</td></tr><tr><td>32</td><td>24</td><td>40.4</td></tr><tr><td>40</td><td>30</td><td>50.8</td></tr></table>	thread M	SW	E	20	20	25.4	25	22	32.3	32	24	40.4	40	30	50.8	 																																																																						
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40	30	50.8																																																																																						
Reducers for metric cable entries Metal 	19 00 000 5067 19 00 000 5068	<table><tr><th colspan="2">thread</th></tr><tr><th>D</th><th>M</th></tr><tr><td>20</td><td>32</td></tr><tr><td>25</td><td>32</td></tr></table>	thread		D	M	20	32	25	32	 																																																																													
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Adapter Han® 3 A for motor connection 	19 20 000 9962	<table><tr><th>thread M</th></tr><tr><td>20</td></tr></table>	thread M	20																																																																																				
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EMC clamp for metric cable entries (IP 68) 	19 62 000 5080 19 62 000 5081 19 62 000 5082 19 62 000 5084 19 62 000 5090 19 62 000 5092 19 62 000 5094 19 62 000 5096 19 62 000 5097 19 62 000 5098	<table><tr><th>thread M</th><th colspan="2">cable-Ø D</th><th colspan="2">shield-Ø B</th><th>SW</th><th>E</th></tr><tr><th></th><th>min.</th><th>max.</th><th>min.</th><th>max.</th><th></th><th></th></tr><tr><td>20</td><td>6.5</td><td>9.5</td><td>3.5</td><td>8.5</td><td>22</td><td>24.4</td></tr><tr><td>20</td><td>4.0</td><td>6.5</td><td>2.5</td><td>6.5</td><td>22</td><td>24.4</td></tr><tr><td>20</td><td>7</td><td>10.5</td><td>6.5</td><td>10.5</td><td>22</td><td>24.4</td></tr><tr><td>20</td><td>9</td><td>13</td><td>6.5</td><td>10.5</td><td>22</td><td>24.4</td></tr><tr><td>25</td><td>6.5</td><td>9.5</td><td>3</td><td>8</td><td>28</td><td>31.2</td></tr><tr><td>25</td><td>9</td><td>13</td><td>4.8</td><td>8</td><td>28</td><td>31.2</td></tr><tr><td>32</td><td>11.5</td><td>15.5</td><td>8</td><td>13.5</td><td>35</td><td>38.5</td></tr><tr><td>32</td><td>14</td><td>18</td><td>9</td><td>14.5</td><td>35</td><td>38.5</td></tr><tr><td>40</td><td>17</td><td>20.5</td><td>15</td><td>20</td><td>43</td><td>47.3</td></tr><tr><td>40</td><td>20</td><td>25</td><td>15</td><td>20</td><td>43</td><td>47.3</td></tr></table>	thread M	cable-Ø D		shield-Ø B		SW	E		min.	max.	min.	max.			20	6.5	9.5	3.5	8.5	22	24.4	20	4.0	6.5	2.5	6.5	22	24.4	20	7	10.5	6.5	10.5	22	24.4	20	9	13	6.5	10.5	22	24.4	25	6.5	9.5	3	8	28	31.2	25	9	13	4.8	8	28	31.2	32	11.5	15.5	8	13.5	35	38.5	32	14	18	9	14.5	35	38.5	40	17	20.5	15	20	43	47.3	40	20	25	15	20	43	47.3	 	
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Identification	Part No.	Pg	Drawing	Dimensions in mm																																																																																																																																																																
Special cable clamp metal, with bell-mouth cable fitting and strain relief for Standard Hoods/Housings  Style A Style B Style B Style A Style A for Hoods/Housings Han® M  Style B Style B Style B	09 00 000 5101 09 00 000 5102 09 00 000 5103 09 00 000 5104 09 00 000 5106 09 37 000 5101 09 37 000 5104 09 37 000 5106	11 13.5 16 21 29 11 21 29	   																																																																																																																																																																	
Special cable clamp brass, with strain relief  Style C Style C	09 00 000 5196 09 00 000 5197	36 42	<table><tr><th>Style</th><th>PG</th><th>SW</th><th>a</th><th>c</th><th colspan="2">d</th><th>D</th><th>e</th><th>f</th></tr><tr><td>A</td><td>11</td><td>19</td><td>26.6</td><td>M3</td><td>6</td><td>11</td><td>23</td><td>9</td><td>—</td></tr><tr><td>A</td><td>13.5</td><td>22</td><td>31</td><td>M3</td><td>9</td><td>14</td><td>28</td><td>10</td><td>—</td></tr><tr><td>A</td><td>16</td><td>24</td><td>33</td><td>M4</td><td>10</td><td>16</td><td>30</td><td>9.5</td><td>—</td></tr><tr><td>A</td><td>21</td><td>30</td><td>39.5</td><td>M4</td><td>13.5</td><td>21</td><td>37</td><td>12</td><td>—</td></tr><tr><td>A</td><td>29</td><td>41</td><td>49</td><td>M5</td><td>19</td><td>29</td><td>50</td><td>13</td><td>—</td></tr><tr><td>B</td><td>13.5</td><td>28</td><td>22</td><td>M3</td><td>9</td><td>14</td><td>31.5</td><td>6.5</td><td>—</td></tr><tr><td>B</td><td>16</td><td>30</td><td>23</td><td>M3</td><td>10</td><td>16</td><td>33.5</td><td>6.5</td><td>—</td></tr><tr><td>C</td><td>36</td><td>52</td><td>25.3</td><td>—</td><td>25</td><td>37</td><td>—</td><td>9.5</td><td>—</td></tr><tr><td>C</td><td>42</td><td>59</td><td>26.3</td><td>—</td><td>31</td><td>43</td><td>—</td><td>10</td><td>—</td></tr><tr><td>D</td><td>11</td><td>19</td><td>35</td><td>M3</td><td>6</td><td>11</td><td>33</td><td>9</td><td>35</td></tr><tr><td>D</td><td>13.5</td><td>22</td><td>36.5</td><td>M3</td><td>7.5</td><td>14</td><td>36</td><td>10</td><td>39</td></tr><tr><td>D</td><td>16</td><td>24</td><td>40</td><td>M4</td><td>10</td><td>16</td><td>38</td><td>10</td><td>45</td></tr><tr><td>D</td><td>21</td><td>30</td><td>47.5</td><td>M4</td><td>12.5</td><td>21</td><td>46</td><td>12</td><td>51</td></tr><tr><td>D</td><td>29</td><td>41</td><td>55.5</td><td>M5</td><td>17</td><td>29</td><td>60</td><td>13</td><td>64</td></tr><tr><td>D</td><td>36</td><td>50</td><td>62</td><td>M5</td><td>20.5</td><td>36</td><td>76</td><td>13</td><td>72</td></tr></table>	Style	PG	SW	a	c	d		D	e	f	A	11	19	26.6	M3	6	11	23	9	—	A	13.5	22	31	M3	9	14	28	10	—	A	16	24	33	M4	10	16	30	9.5	—	A	21	30	39.5	M4	13.5	21	37	12	—	A	29	41	49	M5	19	29	50	13	—	B	13.5	28	22	M3	9	14	31.5	6.5	—	B	16	30	23	M3	10	16	33.5	6.5	—	C	36	52	25.3	—	25	37	—	9.5	—	C	42	59	26.3	—	31	43	—	10	—	D	11	19	35	M3	6	11	33	9	35	D	13.5	22	36.5	M3	7.5	14	36	10	39	D	16	24	40	M4	10	16	38	10	45	D	21	30	47.5	M4	12.5	21	46	12	51	D	29	41	55.5	M5	17	29	60	13	64	D	36	50	62	M5	20.5	36	76	13	72	
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Normal seal 	09 00 000 5020 09 00 000 5021 09 00 000 5022 09 00 000 5023 09 00 000 5024 09 00 000 5025	11 13.5 16 21 29 36	<table><tr><th colspan="2">cable ø</th></tr><tr><th>min.</th><th>max.</th></tr><tr><td>10</td><td>12</td></tr><tr><td>12</td><td>14</td></tr><tr><td>14</td><td>16</td></tr><tr><td>19</td><td>21</td></tr><tr><td>28</td><td>30</td></tr><tr><td>35</td><td>37</td></tr></table>	cable ø		min.	max.	10	12	12	14	14	16	19	21	28	30	35	37																																																																																																																																																	
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Stock items in bold type

Identification	Part No.	Pg	Drawing	Dimensions in mm																																																																																								
Cable seal thermoplastic (IP 65) with normal seal	grey 09 00 000 5164 black 09 00 000 5185	11 11	<table><tr><th>SW</th><th colspan="2">cable ø</th></tr><tr><td></td><th>min.</th><th>max.</th></tr><tr><td>19</td><td>10</td><td>12</td></tr><tr><td>19</td><td>10</td><td>12</td></tr></table>	SW	cable ø			min.	max.	19	10	12	19	10	12																																																																													
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Cable seal metal (IP 65) with normal seal	09 00 000 5113 09 00 000 5114 09 00 000 5115 09 00 000 5116 09 00 000 5117 09 00 000 5146 09 00 000 5119	11 13.5 16 21 29 36 42	<table><tr><th>SW</th><th colspan="2">cable ø</th></tr><tr><td></td><th>min.</th><th>max.</th></tr><tr><td>18</td><td>10</td><td>12</td></tr><tr><td>20</td><td>12</td><td>14</td></tr><tr><td>22</td><td>14</td><td>16</td></tr><tr><td>28</td><td>19</td><td>21</td></tr><tr><td>37</td><td>28</td><td>30</td></tr><tr><td>47</td><td>35</td><td>37</td></tr><tr><td>54</td><td>41</td><td>43</td></tr></table>	SW	cable ø			min.	max.	18	10	12	20	12	14	22	14	16	28	19	21	37	28	30	47	35	37	54	41	43																																																														
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Cable seal metal (IP 65) with multiple seal	09 00 000 5013 09 00 000 5014 09 00 000 5015 09 00 000 5016 09 00 000 5017 09 00 000 5018 09 00 000 5019	11 13.5 16 21 29 36 42	<table><tr><th>SW</th><th colspan="2">cable ø</th></tr><tr><td></td><th>min.</th><th>max.</th></tr><tr><td>18</td><td>6.5</td><td>12</td></tr><tr><td>20</td><td>6.5</td><td>13.5</td></tr><tr><td>22</td><td>6.5</td><td>16</td></tr><tr><td>28</td><td>9</td><td>20</td></tr><tr><td>37</td><td>17</td><td>28</td></tr><tr><td>47</td><td>23</td><td>34</td></tr><tr><td>54</td><td>29</td><td>40</td></tr></table>	SW	cable ø			min.	max.	18	6.5	12	20	6.5	13.5	22	6.5	16	28	9	20	37	17	28	47	23	34	54	29	40																																																														
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Universal cable gland PG for PG cable entry	09 00 000 5080 09 00 000 5081 09 00 000 5082 09 00 000 5083 09 00 000 5084 09 00 000 5085 09 00 000 5086 09 00 000 5087 09 00 000 5088 09 00 000 5089 09 00 000 5090 09 00 000 5091 09 00 000 5092 09 00 000 5093 09 00 000 5094 09 00 000 5095 09 00 000 5096 09 00 000 5097 09 00 000 5098 09 00 000 5099	11 11 11 13.5 13.5 13.5 16 16 16 16 21 21 21 21 29 29 29 29 36 36	<table><tr><th>Colour</th><th>SW</th><th colspan="2">cable ø D</th></tr><tr><td></td><td></td><th>min.</th><th>max.</th></tr><tr><td>grey</td><td></td><td>5</td><td>8</td></tr><tr><td>black</td><td>20</td><td>6.5</td><td>9.5</td></tr><tr><td>green</td><td></td><td>7</td><td>10.5</td></tr><tr><td>black</td><td></td><td>6.5</td><td>9.5</td></tr><tr><td>green</td><td>22</td><td>7</td><td>10.5</td></tr><tr><td>red</td><td></td><td>9</td><td>13</td></tr><tr><td>black</td><td></td><td>6</td><td>9.5</td></tr><tr><td>green</td><td>24</td><td>7</td><td>10.5</td></tr><tr><td>red</td><td></td><td>9</td><td>13</td></tr><tr><td>white</td><td></td><td>11.5</td><td>15.5</td></tr><tr><td>green</td><td></td><td>7</td><td>10.5</td></tr><tr><td>red</td><td>30</td><td>9</td><td>13</td></tr><tr><td>white</td><td></td><td>11.5</td><td>15.5</td></tr><tr><td>blue</td><td></td><td>14</td><td>18</td></tr><tr><td>blue</td><td></td><td>14</td><td>18</td></tr><tr><td>brown</td><td>40</td><td>17</td><td>21</td></tr><tr><td>orange</td><td></td><td>20</td><td>25</td></tr><tr><td>light yellow</td><td></td><td>24</td><td>28</td></tr><tr><td>light blue</td><td>50</td><td>29</td><td>34</td></tr><tr><td>pink</td><td></td><td>32</td><td>36</td></tr></table>	Colour	SW	cable ø D				min.	max.	grey		5	8	black	20	6.5	9.5	green		7	10.5	black		6.5	9.5	green	22	7	10.5	red		9	13	black		6	9.5	green	24	7	10.5	red		9	13	white		11.5	15.5	green		7	10.5	red	30	9	13	white		11.5	15.5	blue		14	18	blue		14	18	brown	40	17	21	orange		20	25	light yellow		24	28	light blue	50	29	34	pink		32	36	
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Cable gland Metal Thermoplastic Thermoplastic	  	09 00 000 5183 09 00 000 5182 09 00 000 5153	11 11 21	<table><tr><th>SW</th><th colspan="2">cable ø D</th></tr><tr><td></td><th>min.</th><th>max.</th></tr><tr><td>21</td><td>7</td><td>12</td></tr><tr><td>24</td><td>7</td><td>12</td></tr><tr><td>33</td><td>13</td><td>18</td></tr></table>   	SW	cable ø D			min.	max.	21	7	12	24	7	12	33	13	18																																																																									
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Identification	Part No.	Pg	Drawing	Dimensions in mm																																																																											
EMC clamp (IP 68) 	09 62 000 5023	11	<table><tr><th>SW</th><th colspan="2">Shield Ø B</th><th colspan="2">cable Ø D</th></tr><tr><th></th><th>min.</th><th>max.</th><th>min.</th><th>max.</th></tr><tr><td>20</td><td>2.5</td><td>6.5</td><td>4</td><td>6.5</td></tr><tr><td>20</td><td>3.5</td><td>8.5</td><td>6.5</td><td>8.5</td></tr><tr><td>22</td><td>6.5</td><td>10.5</td><td>8</td><td>10.5</td></tr><tr><td>22</td><td>2.5</td><td>6.5</td><td>6.5</td><td>9.5</td></tr><tr><td>22</td><td>6.5</td><td>10.5</td><td>9</td><td>13</td></tr><tr><td>24</td><td>3.5</td><td>8</td><td>6.5</td><td>9.5</td></tr><tr><td>24</td><td>4.5</td><td>8</td><td>9</td><td>13</td></tr><tr><td>30</td><td>9.5</td><td>13.5</td><td>11.5</td><td>15.5</td></tr><tr><td>30</td><td>10.5</td><td>14.5</td><td>14</td><td>18</td></tr><tr><td>40</td><td>15</td><td>20</td><td>17</td><td>20.5</td></tr><tr><td>40</td><td>15</td><td>20</td><td>20</td><td>25</td></tr><tr><td>50</td><td>18</td><td>25.5</td><td>24</td><td>28</td></tr><tr><td>50</td><td>24</td><td>31</td><td>27</td><td>32</td></tr></table> 	SW	Shield Ø B		cable Ø D			min.	max.	min.	max.	20	2.5	6.5	4	6.5	20	3.5	8.5	6.5	8.5	22	6.5	10.5	8	10.5	22	2.5	6.5	6.5	9.5	22	6.5	10.5	9	13	24	3.5	8	6.5	9.5	24	4.5	8	9	13	30	9.5	13.5	11.5	15.5	30	10.5	14.5	14	18	40	15	20	17	20.5	40	15	20	20	25	50	18	25.5	24	28	50	24	31	27	32	
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09 62 000 5012	36																																																																														
Bracket for flat cable for separate mounting 	09 00 000 5325																																																																														
Set of seals with strain relief clamp 	for 1 flat cable 09 00 000 5315	—																																																																													
	for 2 flat cables 09 00 000 5316	—																																																																													
	for 3 flat cables 09 00 000 5317	—																																																																													

Identification	Part No.	Pg	Drawing	Dimensions in mm																				
Increases metal 	09 00 000 5050	11	<table><tr><td>P</td></tr><tr><td>13.5</td></tr><tr><td>16</td></tr><tr><td>21</td></tr><tr><td>29</td></tr><tr><td>36</td></tr><tr><td>42</td></tr><tr><td>48</td></tr></table> 	P	13.5	16	21	29	36	42	48													
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09 00 000 5051	13.5																							
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09 00 000 5054	29																							
09 00 000 5055	36																							
09 00 000 5056	42																							
Reducers metal 	09 00 000 5060	11	<table><tr><td>P</td><td>SW</td></tr><tr><td>7</td><td>20</td></tr><tr><td>9</td><td>20</td></tr><tr><td>9</td><td>22</td></tr><tr><td>11</td><td>22</td></tr><tr><td>13.5</td><td>24</td></tr><tr><td>13.5</td><td>30</td></tr><tr><td>16</td><td>30</td></tr><tr><td>16</td><td>40</td></tr><tr><td>21</td><td>40</td></tr></table> 	P	SW	7	20	9	20	9	22	11	22	13.5	24	13.5	30	16	30	16	40	21	40	
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09 00 000 5066	21																							
09 00 000 5067	29																							
09 00 000 5068	29																							
Blanking piece metal 	09 00 000 5070	11	<table><tr><td>SW</td></tr><tr><td>20</td></tr><tr><td>22</td></tr><tr><td>24</td></tr><tr><td>30</td></tr><tr><td>40</td></tr><tr><td>50</td></tr></table> 	SW	20	22	24	30	40	50														
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09 00 000 5072	16																							
09 00 000 5073	21																							
09 00 000 5074	29																							
09 00 000 5075	36																							
Adapter Han® 3 A for motor connection 	09 20 000 9962	13.5																						
Label according to CSA-approval 	09 30 000 9958		When supplying connectors for use at more than 30 V subject to CSA-approval we recommend that the label is fixed in close proximity to the installed connectors. Dimensions: 56 x 18 mm Part No. comprises 50 labels per sheet																					
Assembly plates for custom test adapters Mounting example: 	09 38 000 9901			Delivery comprises – 2 assembly plates – 12 nuts for insertion																				

Identification

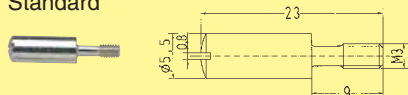
Part No.

Drawing

Dimensions in mm

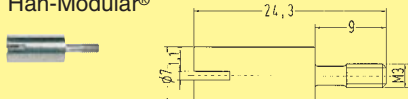
Coding system with code pins

Standard



09 30 000 9901¹⁾

Han-Modular®

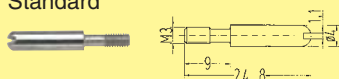


09 14 000 9901¹⁾

Coding system with guide pins and bushes

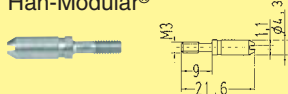
Guide pin

Standard



09 33 000 9908¹⁾

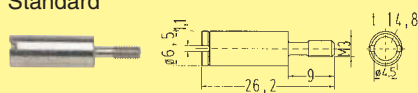
Han-Modular®



09 14 000 9908¹⁾

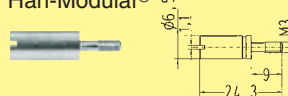
Bush

Standard



09 33 000 9909¹⁾

Han-Modular®



09 14 000 9909¹⁾

¹⁾ Order 4 pieces for one connector

Coding Pin

for Han E®, Han® EE
Han® Q 5/0, Han® Q 8/0



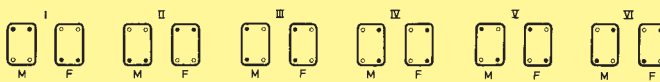
09 33 000 9954

Coding system
with loss of contact
for Han D®, Han DD®

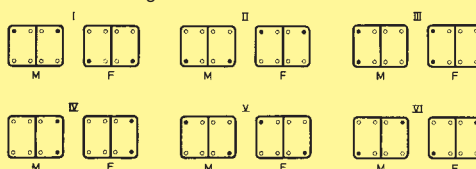


09 33 000 9915

for hoods/housings with one insert/one frame



for hoods/housings with two inserts/two frames



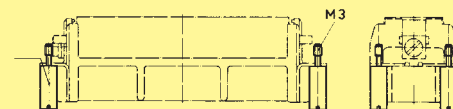
● Code pins

○ Normal mounting screw

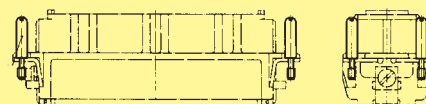
M – Male connector
F – Female connector

This system is used to guard against angled coupling and decoupling of the connector. The maximum permitted angle according to DIN EN 175301-801 is $\pm 5^\circ$ (longitudinally).

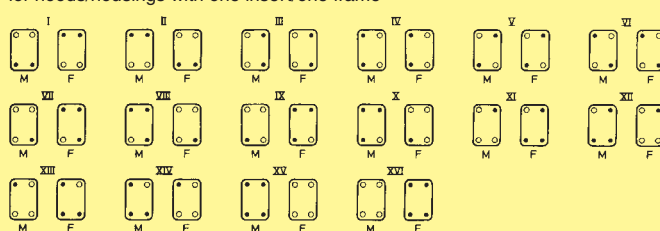
09 33 000 9909



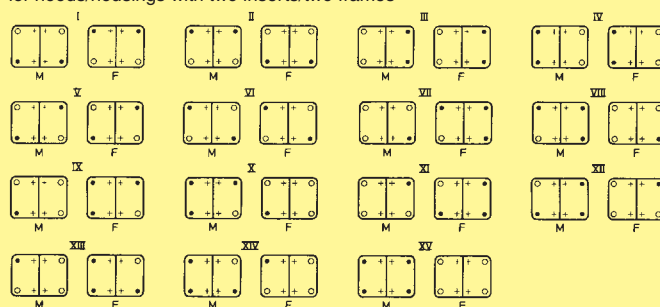
09 33 000 9908



for hoods/housings with one insert/one frame



for hoods/housings with two inserts/two frames



● Guide pin

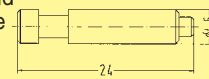
○ Bush

+ Normal mounting screw

M – Male connector
F – Female connector

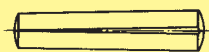
Use of the coding pin prevents incorrect mating to other connectors of the same type.

The male pin should be omitted from the opposing cavity in the male insert.



Use of the coding pin prevents incorrect mating to other connectors of the same type.

The male pin should be omitted from the opposing cavity in the male insert.



Stock items in bold type

3 x

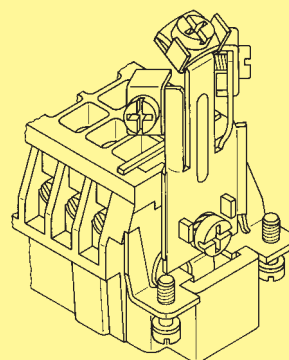


Multiple ground connection

Identification	Part No.	Drawing	Dimensions in mm
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PE-Multiple ground connection

09 33 000 9992



Features

- ☐ 3 PE-terminations
- ☐ Screws with ± head
- ☐ Self lifting washer
- ☐ Suitable for use with all inserts of the Han® 6 B to 24 B size (except Han® ESS-inserts)
- ☐ Suitable in hood high construction

Technical characteristics

Termination points	3
Termination wire gauge	0.5–2.5 mm ² AWG 20-14
Material	copper alloy
Surface	Ni
Contact resistance	≤ 3 m Ω

Application

The PE-multiple ground connection may be used to terminate three PE-wires on one connector.

Each PE-wire can be terminated and removed separately.

(acc. VDE 0113 DIN EN 60204 Pt. 14.1.1).

Pack contents

Delivery comprises

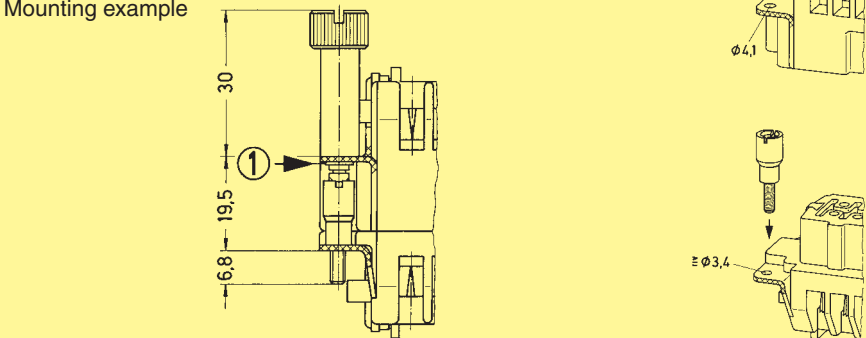
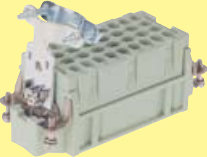
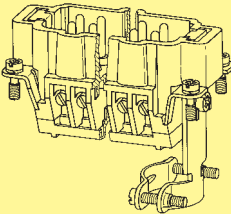
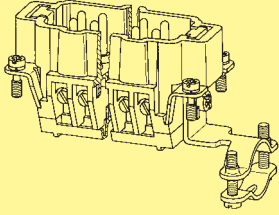
- Multiple ground connection
- Fixing screw M4 with washer

Accessories

40
13

Stock items in bold type

Security accessories

Identification	Part No.	Drawing	Dimensions in mm
Screw pin¹⁾  ¹⁾ order 2 pieces for one connector	09 33 000 9910	When using inserts without hoods or housings and requiring a locking facility this system is suitable for all rectangular connectors of the Han® B series. For each connector we recommend two screw pins and two bushes as shown which are fitted diagonally to the inserts instead of the ordinary fixing screws. Holes for fixing to be drilled as shown. Mounting example 	
Bush¹⁾  ¹⁾ order 2 pieces for one connector	09 33 000 9912		
Straight cable clamp fitting 	09 00 000 5340		
Angled cable clamp fitting 	09 00 000 5339		Clamping range of strain relief clamp: 9 - 19 mm

Features

When using inserts without hoods or housings and requiring a strain relief this system is suitable for all rectangular connectors of series Han DD®, Han® 40-64 D, Han E® / Han® ES, Han® HsB, Han Hv E® / Han® Hv ES, Han® EE, Han® K 8/24. Fitted at the opposite end to the PE-termination.

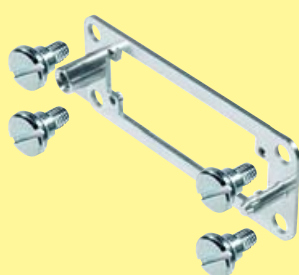
Pack contents

- Delivery comprises
- Cable clamp fitting with 2 screws M3
 - Fixing screw M4 with washer



Identification

Han®
Docking frame



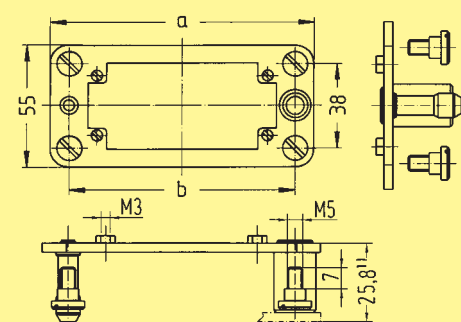
Size

6 B	09 30 006 1701
10 B	09 30 010 1701
16 B	09 30 016 1701
24 B	09 30 024 1701

Part No.

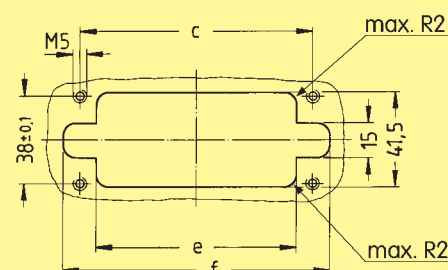
Drawing

Dimensions in mm



1) Distances for electrical and FOC contacts max. 27 mm,
for pneumatic contacts max. 26.5 mm

Assembly cut out



Size	a	b	c	e	f
6 B	86	69	69	54.5	84
10 B	99	82	82	67.5	97
16 B	119.5	102.5	102.5	88	117.5
24 B	146	129	129	114.5	144

Features

- ❑ Suitable for all inserts of the series Han® B, Han E®, Han® ES, Han DD®, Han-Com® and Han-Modular®
- ❑ Ideal for applications in the field of transportation, as well as in the printing industry
- ❑ Due to the floating system of the docking frame the PE connection of the mounting base has to be installed separately
- ❑ Inserts are protected against mechanical damage

Technical characteristics

Material	
- Docking frame	Stainless Steel
- Fixing screws	Steel, zinc plated
Pull-in-range	
- x-axis	± 1.5 mm
- y-axis	± 1.5 mm
Mechanical working life	
- Mating cycles	≥ 500

Pack contents

- Delivery comprises
- 1 frame
 - 4 cheese head shoulder screws to fix the docking frame

Accessories

Stock items in bold type

Identification	Size	Part No.	Drawing	Dimensions in mm
Ground terminal for Han E®, Han® EE and Han DD® in housings and hoods, high construction, and Han-Snap®	6 B	09 00 000 5206		
	10 B	09 00 000 5207		
	16 B	09 00 000 5208		
	24 B	09 00 000 5210		
	24 B	09 00 000 5280		

Technical characteristics

Material: steel, zinc plated

Pack contents

Ground terminal frame with M 4 screws
for fixing at insert

Identification	Part No.	Drawing	Dimensions in mm
Clamp for ground terminal	09 00 000 5341	cable Ø 5 mm 	
	09 00 000 5342	10 mm 	

Accessories

40
17

Stock items in bold type

Identification	Size	Part No.	Drawing	Dimensions in mm
Ground terminal for Han-Modular® in housings bulkhead mounting	6 B	09 00 000 5256		
	10 B	09 00 000 5257		
	16 B	09 00 000 5258		
	24 B	09 00 000 5211		
PE terminal for Han-Modular® in housings and hoods, high construction	24 B	09 00 000 5209		

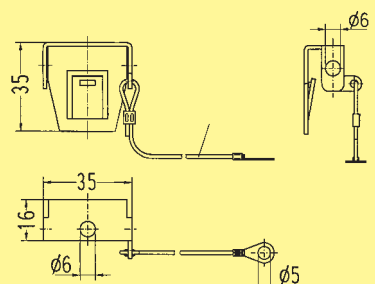
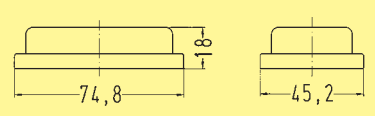
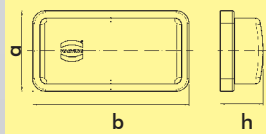
Technical characteristics

Material: steel, zinc plated

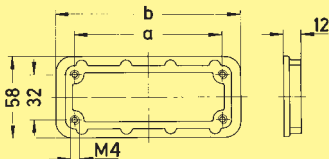
Identification	Part No.	Drawing	Dimensions in mm
Accessories Clamps for ground terminals	09 00 000 5341	cable Ø	
		5 mm	
	09 00 000 5342	10 mm	

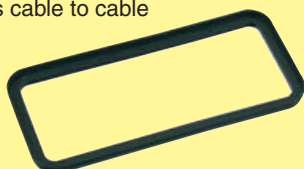
Stock items in bold type

Identification		Size	Part No.	Drawing	Dimensions in mm
PE-screw for Han A®, Han® 15, 25 D		M 3.5	09 20 000 9919		
for Han E® etc.		M 4	09 33 000 9925		
for Han-Com®, Han® HsB		M 5	09 33 000 9926		
Insert fixing screw		M 3	09 16 000 9903		
Contact screw for Staf®, Han® 3 A, 4 A		M 3	09 30 000 9997		
Han® 3 A Insert fixing screw		M 3	09 20 000 9995		
Han® 3 A Insert fixing screw		M 3 IP 65	09 20 000 9918		
Han-Compact® Insert fixing screw		BZ 2.9 x 9.5	09 12 000 9921		
Han® HPR Locking screw		M 6	09 40 000 9932		
Han® HPR Toggle locking screw		—	09 40 000 9931		

Identification	Size	Part No.	Drawing	Dimensions in mm																								
Locking levers																												
	3 A	09 00 000 5241	grey black																									
	3 A	09 00 000 5242																										
Han Easy-Lock® single levers	10 A	09 00 000 5224																										
	16 A	09 00 000 5225																										
	6 B	09 00 000 5222																										
	10 B	09 00 000 5228																										
	16 B	09 00 000 5229																										
	24 B	09 00 000 5230																										
Han Easy-Lock® double levers	10/16/ 24 B	09 00 000 5221																										
	32 A	09 00 000 5223																										
	32 B	09 00 000 5231																										
Locking element with cord for Han Easy-Lock® double levers and Han® 10, 16, 24 B housings bulkhead mounting	10/16/ 24 B	09 30 000 9986																										
Bearing pedestal for Han® 10 A, 16 A, 32 A 6 B, 10 B, 16 B, 24 B		09 30 000 9964																										
																												
Thermoplastic cover for bearing pedestal	10 A 16 A 6 B 10 B 16 B 24 B	09 20 010 5410 09 20 016 5410 09 30 006 5410 09 30 010 5410 09 30 016 5410 09 30 024 5410																										
																												
Dust protection cover for Han® B housings	10 16 24	09 30 010 5406 09 30 016 5406 09 30 024 5406																										
																												
Dust protection cover for Han® HPR housings	3 A 6 B 10 B 16 B 24 B	09 40 003 5406 09 40 006 5406 09 40 010 5406 09 40 016 5406 09 40 024 5406		<table><tr><th>Size</th><th>a</th><th>b</th><th>h</th></tr><tr><td>3A</td><td>27.8</td><td>45.7</td><td>12.5</td></tr><tr><td>6B</td><td>55</td><td>93.2</td><td>29</td></tr><tr><td>10B</td><td>55</td><td>106.2</td><td>29</td></tr><tr><td>16B</td><td>55</td><td>126.2</td><td>29</td></tr><tr><td>24B</td><td>55</td><td>153.2</td><td>29</td></tr></table>	Size	a	b	h	3A	27.8	45.7	12.5	6B	55	93.2	29	10B	55	106.2	29	16B	55	126.2	29	24B	55	153.2	29
Size	a	b	h																									
3A	27.8	45.7	12.5																									
6B	55	93.2	29																									
10B	55	106.2	29																									
16B	55	126.2	29																									
24B	55	153.2	29																									
																												
Metal cover for bearing pedestal	6 B 10 B 16 B 24 B	09 30 006 5403 09 30 010 5404 09 30 016 5404 09 30 024 5404																										
																												

Stock items in bold type

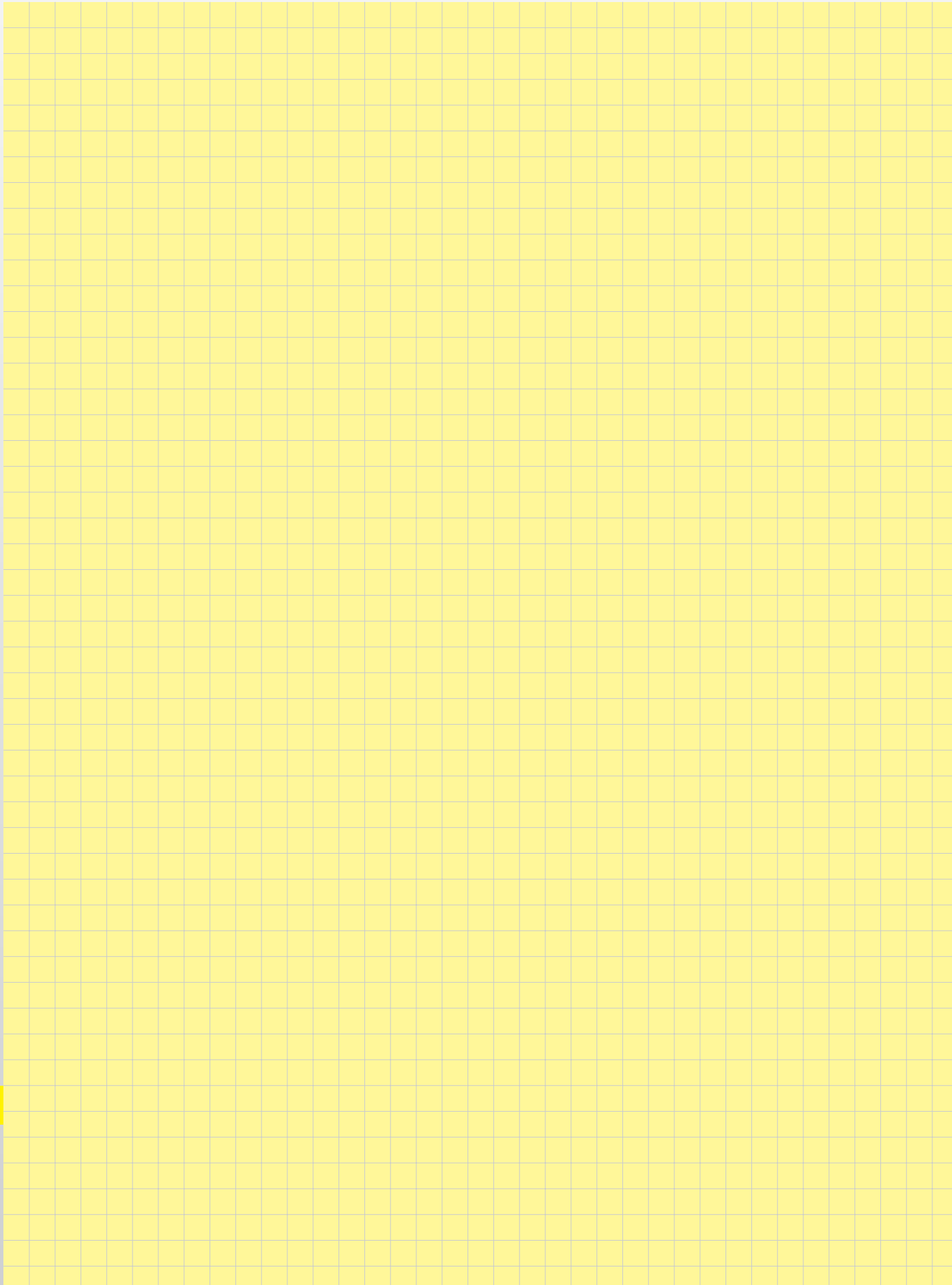
Identification	Size	Part No.	Drawing	Dimensions in mm															
Mounting frames for standard housings																			
	6 B	09 40 000 9921																	
	10 B	09 40 000 9922																	
	16 B	09 40 000 9923																	
	24 B	09 40 000 9924																	
			<table><tr><th>Size</th><th>a</th><th>b</th></tr><tr><td>6 B</td><td>70</td><td>96</td></tr><tr><td>10 B</td><td>83</td><td>109</td></tr><tr><td>16 B</td><td>103</td><td>129</td></tr><tr><td>24 B</td><td>130</td><td>156</td></tr></table>	Size	a	b	6 B	70	96	10 B	83	109	16 B	103	129	24 B	130	156	
Size	a	b																	
6 B	70	96																	
10 B	83	109																	
16 B	103	129																	
24 B	130	156																	

Identification	Size	Material NBR	Part No. Material FPM	
L-seal for Hoods cable to cable				
	10 B	09 30 000 9935		
	16 B	09 30 000 9934		
	24 B	09 30 000 9933		

Gasket	Modular Compact	09 14 000 9940		
	3 A	09 20 000 9991	09 37 000 9912	
	10 A	09 20 000 9992		
	16 A	09 20 000 9993		
	32 A	09 20 000 9994		
	6 B	09 30 000 9801		
	10 B	09 30 000 9802		
	16 B	09 30 000 9803	09 37 000 9948	
	24 B	09 30 000 9804	09 37 000 9949	

Profile seal	3 A	09 70 000 9991	09 21 000 9906	
	10 A	09 20 000 9996		
	16 A	09 20 000 9997		
	6 B	09 30 000 9941		
	10 B	09 30 000 9942		
	16 B	09 30 000 9943		
	24 B	09 30 000 9944		

Han® HPR O-ring-sealing	3 HPR	09 40 000 9910		
	6 HPR	09 40 000 9911		
	10 HPR	09 40 000 9912		
	16 HPR	09 40 000 9913		
	24 HPR	09 40 000 9914		



HARAX®

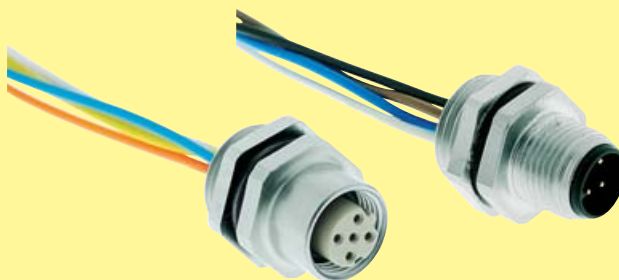
Page

Technical characteristics <i>HARAX</i> ® circular connectors	50.10
<i>HARAX</i> ® circular connectors	50.11
Technical characteristics <i>HARAX</i> ® Pg 9 panel feed-through	50.13
Technical characteristics <i>HARAX</i> ® Pg 13.5 / M20 panel feed-through	50.14
<i>HARAX</i> ® Pg 9 and Pg 13.5 / M20 panel feed-through	50.15
Accessories	50.17

Adaptor M12-RJ45
DIN EN 50 173, cat. 5



M12 panel feed-through



Technical details

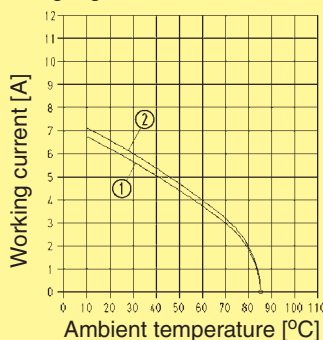
Specifications	IEC 60 352-4 IEC 60 947-5-2					
Approval						
Construction type	HARAX® M8-S/M12-S	HARAX® M12 angled	HARAX® M12-L	HARAX® M12-L screened version, a-coded	HARAX® M12-L screened version Ethernet	HARAX® M12-L screened version Profibus
Working voltage	32 V	32 V	50 V	32 V	32 V	32 V
Working current (see current carrying capacity)	4 A	4 A	6 A	4 A	4 A	4 A
Conductor cross section	0.14 - 0.34 mm ² AWG 26 - 22	0.25 - 0.5 mm ² AWG 24/7 - 22	0.34 - 0.75 mm ² AWG 22 - 18	0.25 - 0.34 mm ² AWG 24 - 22	0.25 - 0.34 mm ² AWG 24 - 22	0.25 - 0.34 mm ² AWG 24 - 22
Diameter of individual strands	≥ 0.1 mm	≥ 0.1 mm	≥ 0.1 mm	≥ 0.1 mm	≥ 0.1 mm	≥ 0.1 mm
Conductor insulation material	PVC / PP / TPE	PVC	PVC	PVC	PVC	PVC
Conductor diameter	M8-S/ M12-S: 1.0 - 1.6 mm	1.2 - 1.6 mm	1.6 - 2.0 mm	1.6 - 2.0 mm	1.2 - 1.6 mm	2 - 2.6 mm
Cable diameter	M8-S: 3.2 - 5.4 mm M12-S: 4.0 - 5.1 mm	4 - 5.1 mm	5.5 - 8 mm	7 - 8.8 mm	5.5 - 7.2 mm	7 - 8.8 mm
Limiting temperatures	- 25 °C / + 85 °C	- 25 °C / + 85 °C	- 25 °C / + 85 °C	- 25 °C / + 85 °C	- 25 °C / + 85 °C	- 25 °C / + 85 °C
Temperature during connection	- 5 °C ... + 50 °C	- 5 °C ... + 50 °C	- 5 °C ... + 50 °C	- 5 °C ... + 50 °C	- 5 °C ... + 50 °C	- 5 °C ... + 50 °C
Degree of protection	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67
Termination cycles with the same cross section	10	10	10	10	10	10

Current carrying capacity The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.

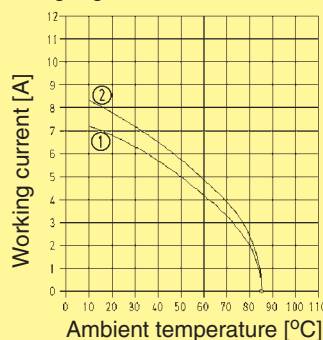
M8-S, 4 poles M12-S, 4 poles

1 = wire gauge 0.25 mm²
2 = wire gauge 0.34 mm²



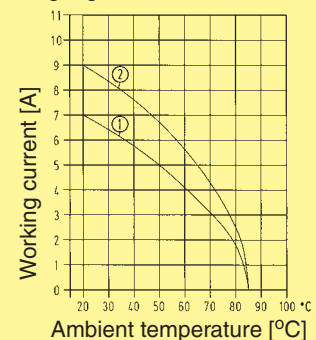
M12, 4 poles, angled

1 = wire gauge 0.25 mm²
2 = wire gauge 0.5 mm²



M12-L, 4 poles M12-L, shielded

1 = wire gauge 0.34 mm²
2 = wire gauge 0.75 mm²



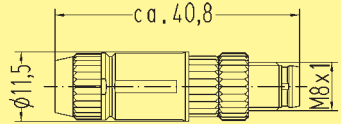
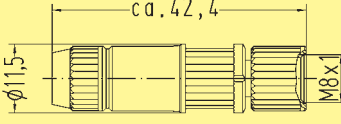
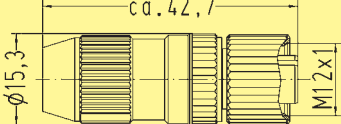
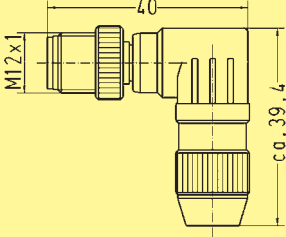
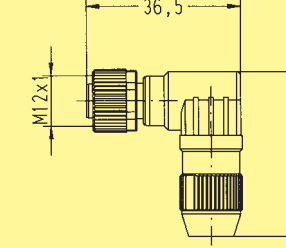
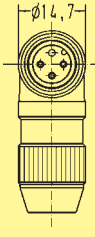
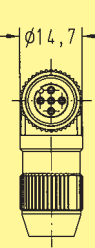
Assembly manual HARAX®

1. strip cable 15mm, 20mm
 2. assemble HARAX® elements
 3. cut off cable ends
 4. screw the connector
- ① Nut
② Strain relief
③ Insert
- Screw the nut onto the insert until a stop is noticeable.
- Note! For reconnection cut off the used cable ends and repeat steps 1 to 4.

Assembly manual HARAX® shielded

1. strip cable 15mm, 20mm
 2. assemble HARAX® elements
 3. twist screening braid and push it into the sealing slot
 4. screw the connector
- ① Nut
② Strain relief
③ Insert
- Note! For reconnection cut off the used cable ends and repeat steps 1 to 4.



Identification	Part No.		Drawing	Dimensions in mm
	Male	Female		
HARAX® M8-S straight version, 3 poles straight version, 4 poles  straight version, 3 poles straight version, 4 poles 	21 02 151 1305 21 02 151 1405		  View mating side: 3 poles, male version  View mating side: 4 poles, male version 	
HARAX® M12-S straight version, 4 poles  	21 03 111 1405		  View mating side: 4 poles, male version 	
HARAX® M12 90° angled version, 3 poles 90° angled version, 4 poles  90° angled version, 3 poles 90° angled version, 4 poles 	21 01 130 5081 21 01 140 5081		  View mating side:  	

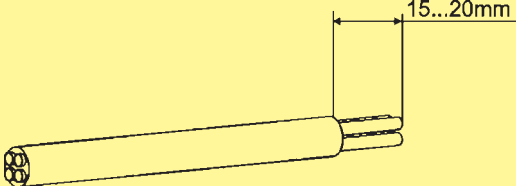
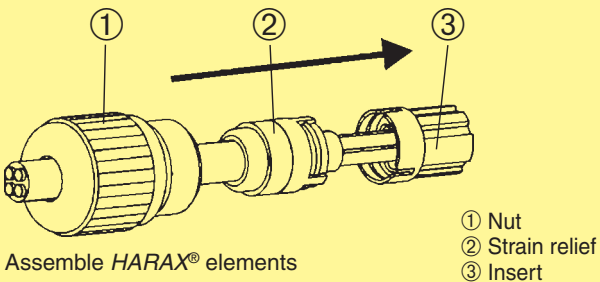
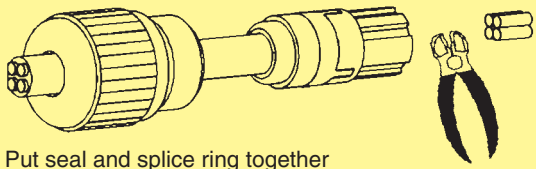
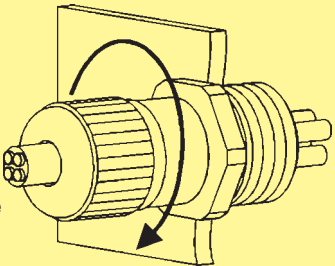
Features

- ❑ The faston blade was chosen acc. to DIN 46 330 - A 2.8
- ❑ Each type is delivered with a termination element consisting of a nut, a seal and a splice ring
- ❑ Splice ring with Pg 9
- ❑ For assembly in openings without threads a Pg 9 locknut is available
- ❑ Diameter of the mounting cutout:
d = 15.5 mm

Technical characteristics

Working voltage	32 V
Working current (see current carrying capacity)	4 A
Wire gauge	0.25 - 0.5 mm ² 24/7 AWG - 22 AWG
Diameter of individual strands	≥ 0.1 mm
Conductor insulation material	PVC
Conductor diameter	1.2 - 1.6 mm
Cable diameter	4.0 - 5.1 mm
Working temperature	- 25 °C ... + 85 °C
Temperature during connection	- 5 °C ... + 50 °C
Degree of protection	IP 67
Number of terminations with same cable cross section	10

Assembly manual

1. 
Strip cable jacket
2. 
Assemble HARAX® elements
① Nut
② Strain relief
③ Insert
3. 
Put seal and splice ring together
Cut off cable ends
4. 
Twist the nut onto the insert until a stop is noticeable

Current carrying capacity

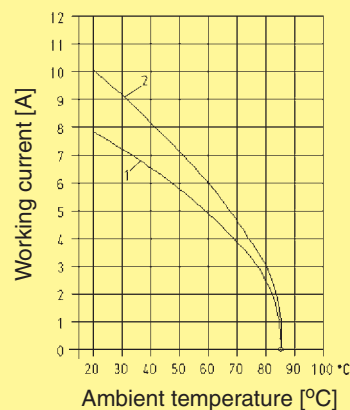
The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.

Pg 9, 3 contacts

1 = wire gauge
3 x 0.25 mm²

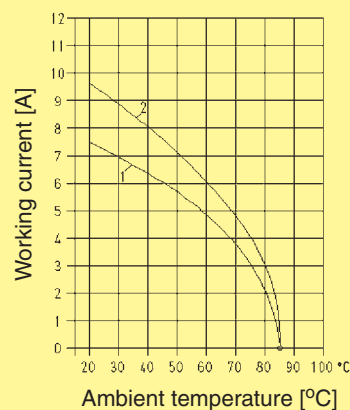
2 = wire gauge
3 x 0.5 mm²



Pg 9, 4 contacts

1 = wire gauge
4 x 0.25 mm²

2 = wire gauge
4 x 0.5 mm²



Technical characteristics

Specifications	IEC 60352-4 DIN 61984	
Approvals	VDE	
Construction type	Pg 13.5 3 contacts	Pg 13.5 / M20 4 contacts
Working voltage	250 V 4 kV 3 with faston terminals with insulation cap	230/400 V 4 kV 3
acc. to UL/CSA	600 V	600 V
Working current (see current carrying capacity)	16 A	16 A
Testing voltage	4 kV (1.2/50)	4 kV (1.2/50)
Conductor cross section	0.75 - 1.5 mm ²	0.75 - 1.5 mm ²
Diameter of individual strands	≥ 0.2 mm	≥ 0.2 mm
Outer cable diameter	6.0 - 9.0 mm	6.0 - 9.0 mm
Termination cycles with the same cross section	10	10
Limiting temperature	- 25 / + 85 °C	- 25 / + 85 °C
Temperature during connection	- 5 ... + 50 °C	- 5 ... + 50 °C
Degree of protection	IP 67	IP 67
Insulation material	PVC	PVC
Max. tightening torque	8 Nm	8 Nm

Current carrying capacity

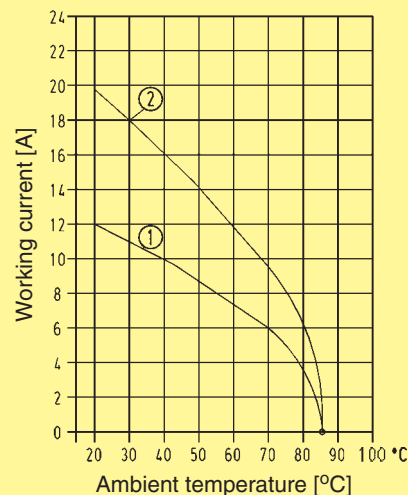
The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60512-3.

Pg 13.5 3 contacts

1 = wire gauge
0.75 mm²

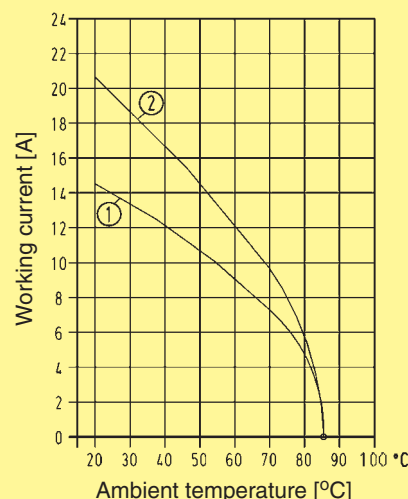
2 = wire gauge
1.5 mm²



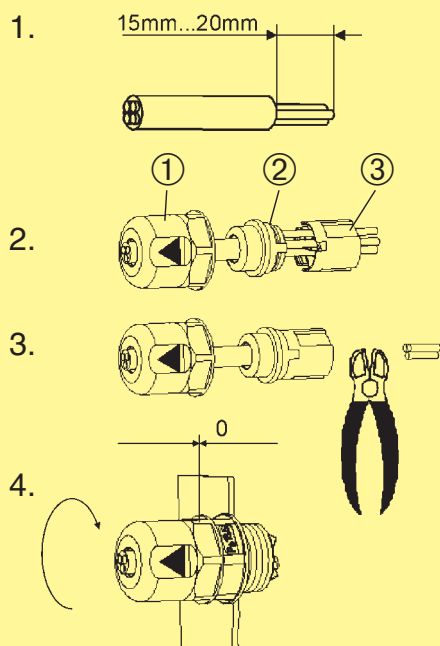
Pg 13.5 / M20 4 contacts

1 = wire gauge
0.75 mm²

2 = wire gauge
1.5 mm²



Assembly manual



Connection and disconnection of the cable must only be performed by suitably qualified persons when supply is isolated.

- ① Nut
- ② Strain relief
- ③ Insert

HARAX® Pg 13.5 – 3 contacts – is supplied with either faston blades or solder terminals.

HARAX® Pg 13.5 / M20 – 4 contacts – is supplied only with solder termination.

The nut must be tightened completely down so that the notches engage on the contact carrier.

The opening of the gland always requires a wrench.

Note: For reconnection cut off the used cable ends and repeat steps 1 to 4.



Identification	Part number	Drawing	Dimensions in mm
HARAX® Pg 9 panel feed-through 3 contacts, with pre-assembled 0.5 m / 0.5 mm ² pigtail cable	21 01 130 4241		View: Termination side
HARAX® Pg 9 panel feed-through 4 contacts, with pre-assembled 0.5 m / 0.5 mm ² pigtail cable	21 01 140 4341		View: Termination side
HARAX® Pg 9 panel feed-through 3 contacts with faston blades	21 01 130 4011	Faston blade termination acc. to DIN 46 330-A 2,8 	View: Termination side
M12 panel feed-through female, d-coded, 50 cm conductors	21 03 371 2403		
M12 panel feed-through male, a-coded, 50 cm conductors	21 03 311 1402		

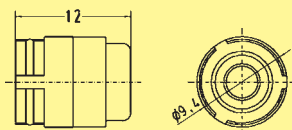
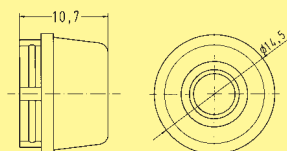
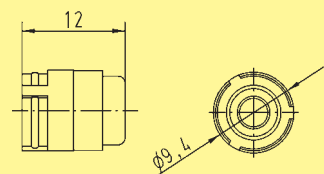
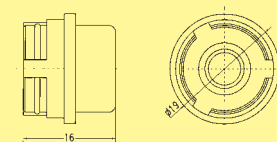
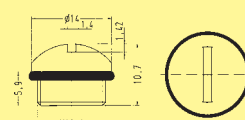
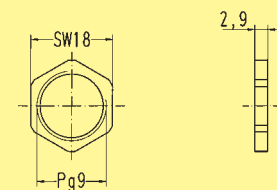
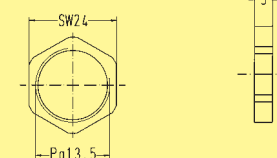
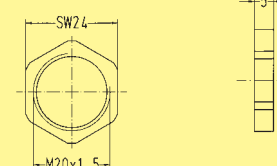
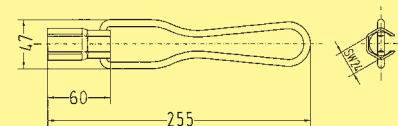


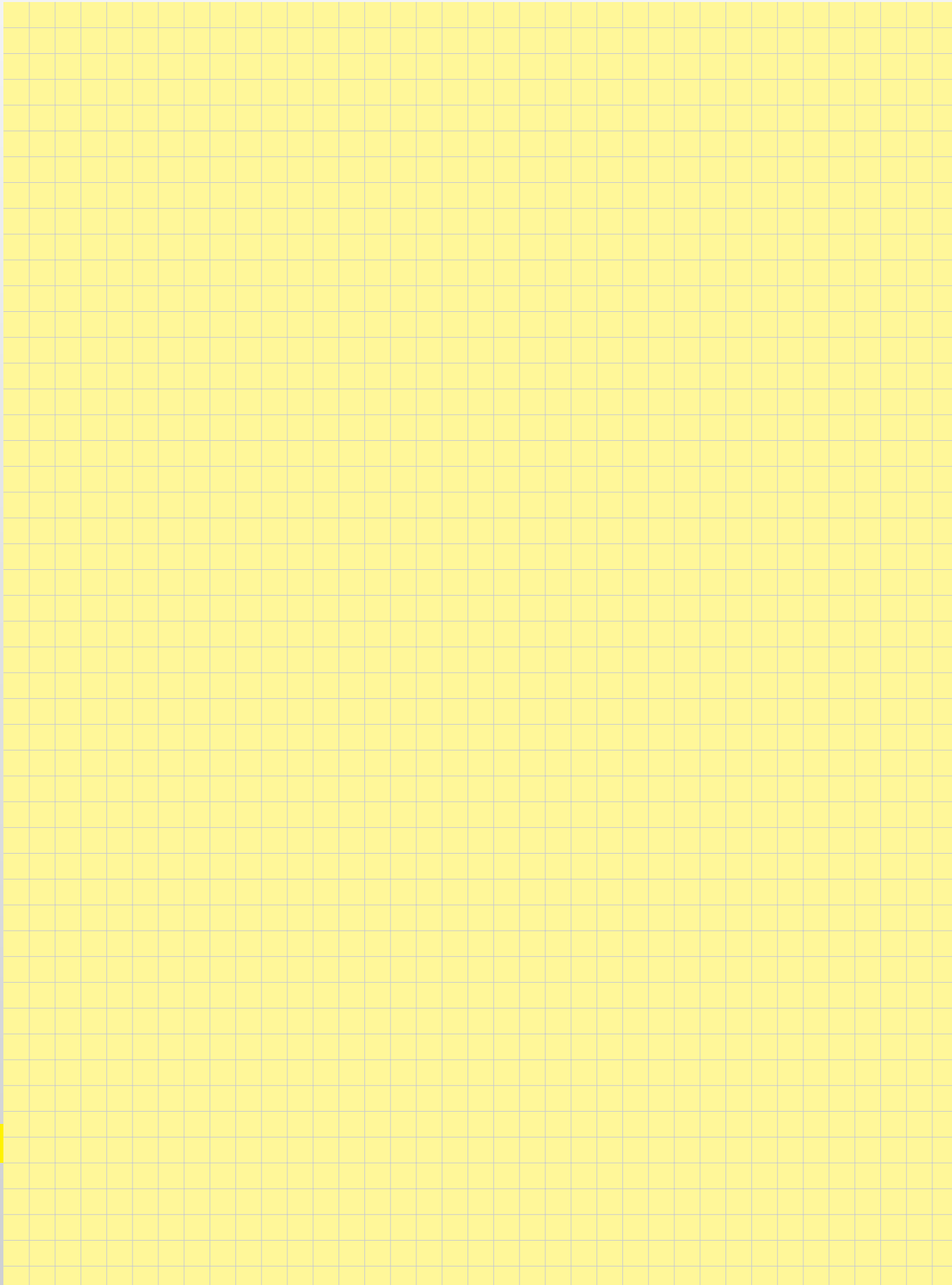
Rapid termination technology HARAX®

Identification	Part number	Drawing	Dimensions in mm
HARAX® Pg 13,5 / 3 contacts with faston blades	21 01 130 1013		View: Mating side
HARAX® Pg 13,5 / 3 contacts with solder termination	21 01 130 1023		
HARAX® Pg 13,5 / 3 contacts with pre-assembled pigtail cable, l = 500 mm	21 01 130 1223		
HARAX® Pg 13,5 / 2 + PE with faston blades	21 01 130 3013		View: Mating side
HARAX® Pg 13,5 / 2 + PE with solder termination	21 01 130 3023		
HARAX® Pg 13,5 / 2 + PE with pre-assembled pigtail cable, l = 500 mm	21 01 130 3233		
HARAX® Pg 13,5 / 4 contacts with solder termination	21 01 140 1023		View: Mating side
HARAX® Pg 13,5 / 3 + PE with solder termination	21 01 140 3023		
HARAX® Pg 13,5 / 4 contacts with pre-assembled strand, l = 500 mm	21 01 140 1323		
HARAX® Pg 13,5 / 3 + PE with pre-assembled strand, l = 500 mm	21 01 140 3333		
HARAX® M20 / 4 contacts with solder termination	21 01 141 1023		View: Mating side
HARAX® M20 / 3 + PE with solder termination	21 01 141 3023		
HARAX® M20 / 4 contacts with pre-assembled strand, l = 500 mm	21 01 141 1323		
HARAX® M20 / 3 + PE with pre-assembled strand, l = 500 mm	21 01 141 3333		

Other length on request

Stock items in bold type

Identification		Part No.	Drawing	Dimensions in mm
Seal M12		21 01 010 2001		
Seal M12-L		21 01 010 2003		
Seal M8				
for 2.5 - 3.5 mm cable Ø		21 01 010 2008		
for 3.2 - 4.4 mm cable Ø		21 01 010 2004		
for 4.2 - 5.4 mm cable Ø		21 01 010 2005		
Seal Pg 13.5 / M20		21 01 010 2002		
Cap M12		21 01 000 0003		
Lock nut Pg 9		21 01 000 0008		
Lock nut Pg 13.5		21 01 000 0007		
Lock nut M20		21 01 000 0009		
Socket wrench		21 01 000 0001		



Tools

Page

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Tools for contacts Han® C	99.04
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Crimping machine TK	99.08
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Crimping machine TC-C01



Identification	Part No.	Drawing	Dimensions in mm
HARTING crimping tool with locator for Han D®, Han E®, Han® C	09 99 000 0110	Wire gauge 0.14 - 1.5 mm ²	
HARTING-Service crimping tool with locator for Han D®, Han E®	09 99 000 0021	Wire gauge 0.14 - 1.5 mm ²	
BUCHANAN-crimping tool Locator Crimping tool depth adjustment gauge	09 99 000 0001 09 99 000 0311 09 99 000 0203¹⁾ 09 99 000 0125 09 99 000 0007 09 99 000 0008	Wire gauge 0.14 - 2.5 mm ² 0.14 + 0.25 mm ² ø 1.00 0.37 mm ² ø 1.30 0.5-1 + 2.5 mm ² ø 1.55 1.5 mm ² ø 1.80	 ↑  order separately
HARTING-pneumatic crimping tool Locator Crimping tool depth adjustment gauge Table fixing and foot switch for pneumatic crimping tool	09 99 000 0314 09 99 000 0311 09 99 000 0125 09 99 000 0007 09 99 000 0008 09 99 000 0309	Wire gauge 0.37 mm ² ø 1.30 0.5-1 + 2.5 mm ² ø 1.55 1.5 mm ² ø 1.80	 ↑  order separately 
Insertion tool for crimp contacts	09 99 000 0059	 For crimp contacts with wires of less than 0.75 mm ² it is recommended that an insertion tool is used. Contacts should be inserted from the wiring side and pushed down until a positive locking is achieved.	
Removal tool for crimp contacts Removal tool Replacement-tip for removal tool Removal tool	09 99 000 0012 09 99 000 0004 09 99 000 0052	  	. . 0012 . . 0004 . . 0052
		A removal tool is necessary if contacts are to be replaced in the insert. It is inserted from the mating face and pushed over the contact until a stop is noticeable. Additional pressure unlocks the contact and pushes it out of the wiring side. In case of the removal tool (. . 0052) the unlocking process is achieved by pressure on the central rod.	

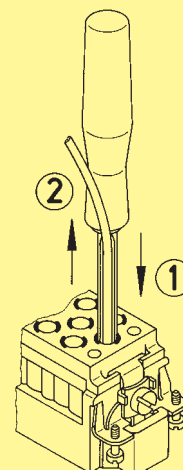
¹⁾ For wire gauge 0.14 and 0.25 mm² use only male contact 09 15 000 6107 or female contact 09 15 000 6207.

Identification	Part No.	Drawing	Dimensions in mm
HARTING crimping tool with locator for Han D®, Han E®, Han® C	09 99 000 0110	Wire gauge 0.5 - 4 mm ² 	
HARTING-Service crimping tool with locator	09 99 000 0021	Wire gauge 0.5 - 2.5 mm ² 	
BUCHANAN- crimping tool Locator Crimping tool depth adjustment gauge	09 99 000 0001 09 99 000 0310 09 99 000 0203 09 99 000 0125 09 99 000 0007 09 99 000 0008 09 99 000 0006	Wire gauge 0.14 - 4 mm ²  Wire gauge 0,14 - 0,25 mm ² ø 1,00 0,37 mm ² ø 1,30 0,5 - 1 mm ² ø 1,55 1,5 - 2,5 mm ² ø 1,80 4 mm ² ø 2,00 ↑  order separately	
HARTING- pneumatic crimping tool Locator Crimping tool depth adjustment gauge Table fixing and foot switch for pneumatic crimping tool	09 99 000 0314 09 99 000 0310 09 99 000 0203 09 99 000 0125 09 99 000 0007 09 99 000 0008 09 99 000 0006 09 99 000 0309	Wire gauge 0.14 - 0.25 mm ² ø 1.00 0.37 mm ² ø 1.30 0.5 - 1 mm ² ø 1.55 1.5 - 2.5 mm ² ø 1.80 4 mm ² ø 2.00  ↑  order separately 	
Insertion tool for crimp contacts	09 99 000 0059	 For crimp contacts wires of less than 0.75 mm ² it is recommended that an insertion tool is used. Contacts should be inserted from the wiring side and pushed down until a positive locking is achieved.	
Removal tool for Han® ES inserts	09 99 000 0367		
Crimp contact removal for Han® EE, Han® Q 5/0, Han® Q 8/0 Han E® and Han A®	09 99 000 0319	 A removal tool is necessary if contacts are to be replaced in the insert. The tool is inserted from the wiring side until a stop is noticeable. The wire with the crimp contact can then be pulled out from the same side of the insert.	

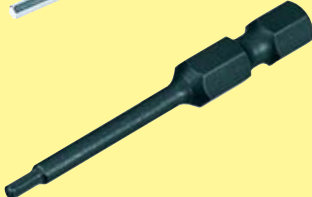
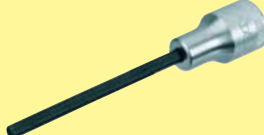
Identification	Part No.	Drawing	Dimensions in mm
HARTING crimping tool with locator for Han D®, Han E®, Han® C	09 99 000 0110	Wire gauge 1.5 - 4 mm ²	
BUCHANAN- crimping tool	09 99 000 0001	Wire gauge 1.5 - 4 mm ²	
Locator	09 99 000 0308		
Crimping tool depth adjustment gauge	09 99 000 0008 09 99 000 0006	Wire gauge 1.5 + 2.5 mm ² ø 1.80 4 mm ² ø 2.00	order separately
HARTING- crimping tool	09 99 000 0303	Wire gauge 4 - 6 mm ²	
Locator as spare part	09 99 000 0304	Locator is supplied with the tool	
HARTING- pneumatic crimping tool	09 99 000 0307		
Crimping tool depth adjustment gauge	09 99 000 0008 09 99 000 0006 09 99 000 0009	Wire gauge 1.5 + 2.5 mm ² ø 1.80 4 mm ² ø 2.00 6 mm ² ø 2.40	order separately
Locator	09 99 000 0308		
Table fixing and foot switch for pneumatic crimping tool	09 99 000 0309		
Removal tool for crimp contacts	09 99 000 0305		
Removal tool			

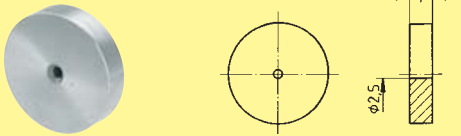
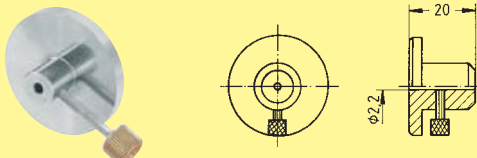
A removal tool is necessary to remove the contacts.
 For each „C“ contact cavity, the location of the internal locking levers are marked on the wiring side with two black arcs. The sides of the tool must be first properly aligned so that the edges of the tool engage both levers simultaneously and then inserted until a stop is noticeable ①.
 Once it has been inserted, the tool **must not** be turned. The wire together with the tool can then be pulled out from the wiring side of the insert ②.

lever marking



Stock items in bold type

Identification	Part No.	Drawing	Dimensions in mm
HARTING- crimping tool for coaxial contacts	09 99 000 0194	 Use the middle crimping position	
Removal tool for contacts in the multi-contact-module	09 99 000 0328		
Removal tool for locking sleeve of the HV module	09 99 000 0327		
Removal tool for Quintax contacts	09 99 000 0323		
Stripping tool	09 99 000 0159	 For wires 0.08 up to 10 mm ²	
Hexagonal screw driver for Axial screw			
with grip	40 A contacts (SW 2)	09 99 000 0313	
	100 A contacts (SW 4)	09 99 000 0363	
	200 + 350 contacts (SW 5)	09 99 000 0364	
	650 A contacts (SW 8)	09 99 000 0365	
Bit 1/4"	40 A contacts (SW 2)	09 99 000 0369	
Adapter 3/8"	100 A contacts (SW 4)	09 99 000 0370	
	200 + 350 A contacts (SW 5)	09 99 000 0371	
	650 A contacts (SW 8)	09 99 000 0372	

Identification	Part No.	Drawing	Dimensions in mm
Polishing tool			
DIN 41 626	20 99 000 1092		
POF ²⁾ cable Ø 2.2	20 99 000 1093		
Fibre stripper 1 mm POF ²⁾	20 99 000 1041 20 99 000 1045 20 99 000 1046	0.3 mm 1 mm 0.18/0.3 mm	
Crimping tool for 1 mm POF contacts – Han D®, Han E® – DIN 41 626 – Ferrule – F-SMA, -ST	20 99 000 1035		
HARTING Crimping tool for FO connector (glass fibre) SW 4.3 mm 3.8 mm 4.95 mm	20 99 000 1031		
HARTING Crimping tool for FO connector (plastic fibre) SW 6.95, 4.95 and 3.0 mm	20 99 000 1033		for crimping the strain relief to the connector ... 1031 FO cable for glass fibre ... 1033 POF ²⁾ and SERCOS cable Ø 6.0 and 3.6
Exposy adhesive glass fibre	20 80 001 9902		2 ml EPO-TEK 360 with hardener (10:1), 4 g foil pack
Polishing paper for POF ²⁾ -grain size 1000 for GI 9 µ-grain size for GI 1 µ-grain size	20 80 001 9911 20 80 001 9912 20 80 001 9913		Delivery range: Each part number ordered comprises 2 pieces

²⁾ POF = Polymer optical fibre

Summary Han® Crimping tools



Identification		mm²	AWG	Part No.																		
Crimp contacts				Crimping tool								Crimping machine		Crimping tool depth adjustment gauge					Contact removal tool			
Series				09 99 000 0001	09 99 000 0110	09 99 000 0021	09 99 000 0303	09 99 000 0194	20 99 000 1035	20 99 000 1033	20 99 000 1031	09 99 000 0246	09 99 000 0307	09 99 000 0314	09 98 000 6000	09 99 000 0006	09 99 000 0007	09 99 000 0008	09 99 000 0009	09 99 000 0125	09 99 000 0203	
Han® C	Power contacts Han® C 09 32 	1.5	16	x	x								x	x				x				09 99 000 0305
		2.5	14	x	x								x	x				x				
		4.0	12	x	x		x						x	x		x						
		6.0	10				x						x						x			
Han D®	Signal contacts Han D® 09 15 	0.14	26	x ²⁾	x	x						x		x ²⁾							x ²⁾	09 99 000 0012 09 99 000 0052
		0.25	24	x ²⁾	x	x						x		x ²⁾	x ²⁾						x ²⁾	
		0.37	22	x	x	x						x		x	x					x		
		0.5	20	x	x	x						x		x	x			x				
		0.75	18	x	x	x						x		x	x			x				
		1.0	18	x	x	x						x		x	x			x				
		1.5	16	x	x	x						x		x	x				x			
		2.5	14	x										x	x			x				
	FOC contacts 1 mm POF	—	—						x													
Han E®	Power contacts Han E® 09 33 	0.14	26	x										x							x	09 99 000 0319
		0.25	24	x										x							x	
		0.37	22	x										x						x		
		0.5	20	x	x	x						x		x	x			x				
		0.75	18	x	x	x						x		x	x			x				
		1.0	18	x	x	x						x		x	x			x				
		1.5	16	x	x	x						x		x	x				x			
		2.5	14	x	x	x						x		x	x				x			
		3.0	12	x	x									x	x	x						
		4.0	12	x	x									x	x	x						
	FOC contacts 1 mm POF	—	—						x													
Multi module	Coaxial contacts	—	—					x														09 99 000 0328
	FOC contacts 1 mm POF	—	—						x ¹⁾	x ¹⁾												
	FOC contacts GI-fibre	—	—								x											

Identification		Part No.																				
Locator Han® C	09 99 000 0308	x											x	x								
	09 99 000 0304				x																	
Han D®	09 99 000 0311	x												x								
	09 99 000 0022				x																	
Han E®	09 99 000 0310	x												x								
	09 99 000 0022				x																	

¹⁾ both tools are necessary

²⁾ for wire gauges 0.14 and 0.25 mm² use only male contact 09 15 000 6107 or female contact 09 15 000 6207

Tools

99
07

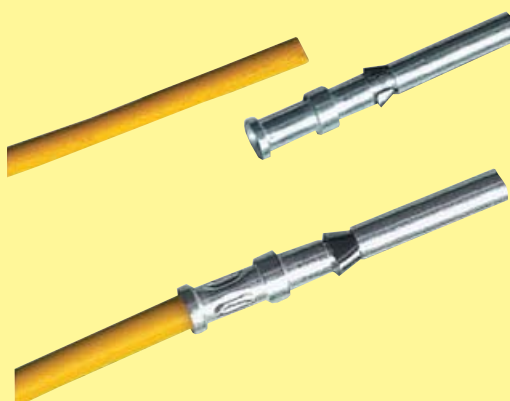


Features

- ☐ Fast stripping and crimping in one operating step
- ☐ Basic unit of compact construction
- ☐ Simple handling due to ergonomic design
- ☐ For individual, turned male and female contacts
(Specially for the HARTING series Han® D, Han® E)
- ☐ Selective processing of male and female contacts
(Wire gauge from 0.34 mm² up to 4.0 mm², AWG 22 to AWG 12)
- ☐ Contact magazine with automatic level control
- ☐ Produces consistent high quality gas tight crimp connections
- ☐ Infinitely variable setting parameters
 - stripping depth
 - stripping length
 - crimping depth
 - output of crimp contacts
- ☐ Automatic magazine emptying
- ☐ Height-adjustable feet
- ☐ Low noise level
- ☐ For non-oiled compressed air
- ☐ Air servicing unit with water separator and pressure reducer
- ☐ Very fast installation time
- ☐ Low maintenance costs

Technical characteristics

Dimensions:	
Height	400 mm
Width	555 mm
Depth	440 mm
Total weight:	approx. 60 kg
Localized noise level:	< 70 dB (A)
Drive:	electro-pneumatic
Electrical connection:	230 V, 50 Hz
Power rating:	0.75 kW
Pneumatic pressure:	6 bar
Compressed air requirement:	3 dm ³ / work cycle
Control system:	PLC
Working cycle trigger:	Sensor
Working cycle of the machine:	2 second (stripping and crimping)
Crimping type:	four-notch crimping
Contact feed:	vibratory bowl feed
Operations counters:	resetable and fixed counters



Identification

Part No.

Crimping machine TK

(without changer unit)

09 98 000 6000

with changer units for Han D®
Han E®
Other

09 98 000 6001
09 98 000 6002
on request



Pack contents

- ☐ Crimping machine TK
 - with a fitted changer unit
 - with 2.0 m connection cable and shock-proof plug
 - with 2.0 m pneumatic hose with plug-in nipple N9
- ☐ Plug gauge for setting the crimping depth
- ☐ Centering bush for positioning the plug gauges
- ☐ Draw for insulation remains
- ☐ Drawer for holding the contacts when the magazine is emptied
- ☐ Tool set for setting
- ☐ 1 set of stripping tool blades
- ☐ Operating instructions
- ☐ Declaration of conformity

Options

Changer unit
with plug gauges



Rounded blade
and infeed funnel





Features

- ☐ Basic unit of compact construction for pre-stripped wires (stranded wire)
- ☐ Simple handling due to ergonomic design
- ☐ For individual, male and female turned contacts
- ☐ Selective processing of male and female contacts (wire gauge from 0.14 mm² up to 6.0 mm², AWG 26 to AWG 10)
- ☐ Automatic contact feed
- ☐ Produces consistent high quality gas tight crimp connections
- ☐ Non slip, anti-vibration and height-adjustable feet
- ☐ Low noise level
- ☐ Easily transportable with carrying handle
- ☐ Pluggable electric and pneumatic connections
- ☐ Operations counters for planned maintenance
- ☐ Very fast installation time
- ☐ Tool-free setting of crimping depth
- ☐ Low maintenance costs
- ☐ Low ongoing maintenance charges
- ☐ Easy replacement of wearing components

Technical characteristics

Dimensions:	
Height	345 mm
Width	230 mm
Depth	400 mm
Total weight:	24 kg
Local noise level:	62 dB (A)
Electrical connection:	230 V, 50 Hz
Power rating:	0.20 kW
Pneumatic pressure:	6 bar
Control system:	PLC
Working cycle trigger:	foot-operated switch
Working cycle of the machine:	1 second
Crimping type:	four-point crimping
Contact feed:	vibratory bowl feed
Operations counters:	resetable and fixed counters



Identification

Part No.

Crimping machine TC-C01

for Han D®
Han E®
Han® C
Other

09 98 000 9001
09 98 000 9002
09 98 000 9003
on request



Pack contents

- ☐ Crimping machine TC-C01
 - with 2.5 m connection cable and shock-proof plug
 - with 2.5 m pneumatic hose, quick-release coupling and plug-in nipple N6
- ☐ Foot-operated switch
- ☐ Carrying handle
- ☐ Operating instructions
- ☐ Declaration of conformity

Options

Pneumatic maintenance unit

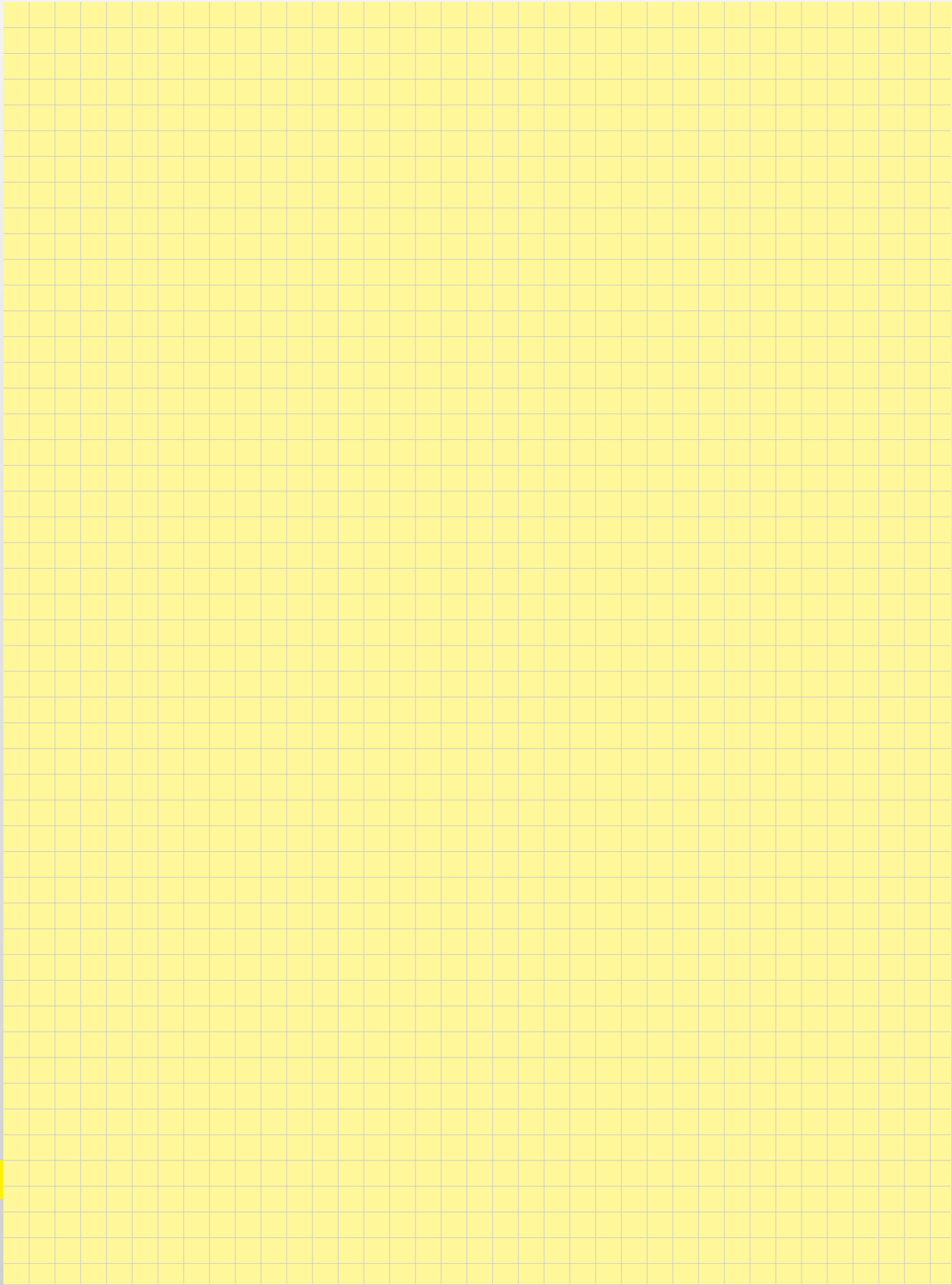


Wire feed



Working light





Identification	Company	Country	Page
Wind turbine	ENERCON Electric GmbH	Germany	01.21
MultiTec-Machining Center	Waldrich Coburg	Germany	01.22
2D and 3D laser cutting machines for industrial applications	PRIMA INDUSTRIE SpA	Italy	02.44
Automatic milking chambers	PROLION	Netherlands	05.25
Welding robots in automotive production	ABB Robotics AB	Sweden	06.03
„Wafer scanner“ TWINSKAN	ASML, Lithography	Netherlands	07.16
Han® Q 5/0 PCB adapter	ASML, Lithography	Netherlands	07.16
Decentralized motor control	Siemens AG	Germany	09.20
Cigarette packing machine C 800	G. D. S. p. A.	Italy	11.05
Worm gear motor used as servodrive	Flender-Himmelwerk GmbH	Germany	12.10
Regional Express Railcars	Siemens AG Bombardier Transportation	Germany	14.13