



COMMUNICATIONS, DATA, CONSUMER DIVISION

D-Subminiatures Connectors and accessories

WEB Product Catalogue
(2007 January revision)

D-Sub

FCI: Setting the standard for connectors

With operations in 30 countries, FCI is a leading manufacturer of connectors.

Our 13,500 employees are committed to providing customers with high-quality, innovative products for a wide range of consumer and industrial applications.

**For more information:
www.fciconnect.com**

Introduction

The products are marketed through the international sales organisation of FCI.

FCI D-Sub product lines are present in high technology areas:

- communications,
- data,
- consumer,
- industrial,
- military.

Many styles of termination and performance levels are available and a large choice of accessories completes the range.

Our continuous improvement programme is focused on:

- Manufacturing process control,
- High quality level (ISO 9001 approved),
- Innovation

FCI is an excellent partner for your connection needs.

 **Check preferred and standard solutions !**

D-Sub

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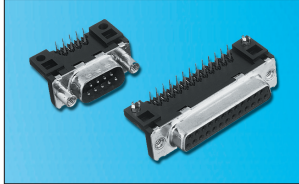




Nota : All dimensions in mm

D-Sub Selector Guide

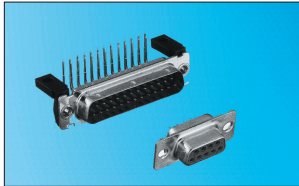
PCB applications

Standard applications

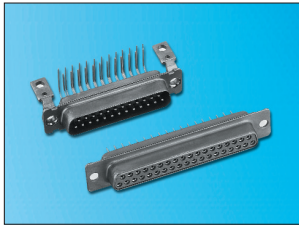
Pages

| | | | |
|--------------------------------|-------------|---|---|
| Signal standard density | Right angle | • Solder : Delta D 8 |  |
| | | • Press-fit : Delta D 14 | |
| | Straight | • Solder : Delta D 10 |  |
| | | • Press-fit : Delta D 12 | |
| | | D series also available, see catalogue 28 | |
| Signal high density | | • Solder 16 |  |
| | | • Press-fit 18 | |
| Power | Right angle | • Solder - Full & mixed power : Delta D 29 |  |
| | | DW series 24 | |
| | | • Press-fit - Full power : DW series 30 | |
| | Straight | • Solder - Full & mixed power : DW series... 24 |  |
| | | • Press-fit - Full power 30 | |

Demanding applications : machined signal contacts

| | | | |
|---------------|--|--|---|
| Signal | | • Right angle solder : DP series |  |
| | | • Wire-wrap : DP series | |
| | | • Straight solder : DP series 38 | |

Severe environment applications

| | | | |
|---------------|-----------------------------------|----------------------------------|---|
| Signal | HE 501 compliant standard | • Right angle : DM series |  |
| | | • Straight : DM series 40 | |
| | HE 508 compliant high temperature | • Right angle : DM series | |
| | | • Straight : DM series 42 | |
| Power | HE 507 compliant | • Right angle : DMW series | |
| | | • Straight : DMW series 44 | |

D-Sub Selector Guide

Cable applications

Standard applications

Pages

| | |
|--------|--------------------------------------|
| Signal | • Solder bucket : D series 32 |
| | • Crimp : 8656 series 34 |
| | • IDC : 8657 series 36 |
| Power | • Solder bucket : DW series 26 |
| | • Crimp : DW series 26 |



Demanding applications : machined signal contacts

| | |
|--------|--------------------------------------|
| Signal | • Solder bucket : DP series 38 |
|--------|--------------------------------------|



Accessories

| | | |
|-------------------|-----------------------|------------|
| Hoods | • Plastic | } 48 |
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D-Sub

Technical characteristics

| PC BOARD TERMINATION | | | | | |
|---|--|---------------------------------------|--------------------------------------|---|--------------------------------------|
| SERIES | | Delta D Solder for PC Board | Delta D Press-fit | Mixed Power DW | D |
| ENVIRONMENTAL CHARACTERISTICS | Operating temperature range | -55°C to 125°C | -55°C to 125°C | -55°C to 125°C | -55°C to 125°C |
| | Salt spray | 24 hours | 24 hours | 24 hours | 24 hours |
| | Damp heat | 21 days | 21 days | 21 days | 21 days |
| | Proof Version | no | no | no | no |
| NORMES AND APPROVALS | UL 94 VO | E 118235 (R) | E 118235 (R) | E 118235 (R) | E 118235 (R) |
| | NFC 93425 | | | compliance with HE 507 | |
| | DIN 41652 | in compliance with | in compliance with | — | in compliance with |
| | Others | LNZ 4404 | | — | |
| MATERIAL | Shell | Steel | Steel | Steel | Steel |
| | Insulator | Thermoplastic | Thermoplastic | Thermoplastic | Thermoplastic |
| | Contacts | Copper alloy | Copper alloy | Copper alloy | Copper alloy |
| STANDARD PLATING | Shell | Tin | Tin | Tin | Tin |
| | Contact | active area termination area | Gold over Nickel Tin over Nickel | Gold over Nickel Tin over Nickel | Gold over Nickel Tin over Nickel |
| ELECTRICAL CHARACTERISTICS | Max current rating per contact | 5 A | 5 A | 7,5 A (signal contact) 40 A (power contact) | 5 A |
| | Dielectric withstanding voltage (DWW) | 1000 V.r.m.s. | 1000 V.r.m.s. | 1000 V.r.m.s. | 1000 V.r.m.s. |
| | Rated voltage V.r.m.s. 50 Hz | 300 V.r.m.s. | 300 V.r.m.s. | 300 V.r.m.s. | 300 V.r.m.s. |
| | Insulation resistance | ≥ 5000 MΩ | ≥ 5000 MΩ | ≥ 5000 MΩ | ≥ 5000 MΩ |
| | Contact resistance | ≤ 10 mΩ * | ≤ 10 mΩ * | ≤ 7,3 mΩ | ≤ 10 mΩ * |
| MECHANICAL AND DIMENSIONAL CHARACTERISTICS | Insertion / Extraction force per contact (N) | 5N Max. / 0.3N min. | 5N Max. / 0.3N min. | 5N Max. / 0.3N min. | 5N Max. / 0.3N min. |
| | Mating / Unmating cycles | 200 min. | 200 min. | 500 min. | 200 min. |
| | Contact diameter on active area | 1 mm | 1 mm | 3,6 mm (power contact) 1 mm (signal contact) | 1 mm |
| | Removable contacts | no | no | yes (cable) | no |
| WIRE | Size | | | AWG 20 Max. (signal contact) other see page 23 | AWG 20 Max. |
| | Max diameter on insulator | | | — | 2.1 mm |
| LAYOUT | Number of contacts | 9, 15, 25, 37, 50* Male and Female | 9, 15, 25, 37, 50 Male and Female | 9, 15, 25, 37, 50* Male and Female | 9, 15, 25, 37, 50 Male and Female |

* Straight version only

D-Sub

| PC BOARD TERMINATION | | | | | |
|--------------------------------------|----------------------------------|---|--------------------------------------|--------------------------------------|--|
| 8656 | 8657 | Compact D High density | DP | DM HE 501 / HE 508 | DMW HE 507 |
| -55°C to 105°C | -55°C to 125°C | -55°C to 125°C | -55°C to 125°C | -55°C to 125°C / -55°C to 155°C | -55°C to 125°C |
| 24 hours | 24 hours | 24 hours | 24 hours | 48 hours | 48 hours |
| 21 days | 21 days | 21 days | 21 days | 56 days | 56 days |
| no | no | no | no | no | no |
| E 118235 (R) | E 118235 (R) | E 118235 (R) | E 118235 (R) | E 118235 (R) | E 118235 (R) |
| in compliance with | in compliance with | | in compliance with | — | — |
| in compliance with | in compliance with | | in compliance with | — | — |
| | | | | LNZ 4404 | |
| Steel | Steel | Steel | Steel | Steel | Steel |
| Thermoplastic | Thermoplastic | Thermoplastic | Thermoplastic | Thermoplastic / Thermoset | Thermoplastic / Thermoset |
| Copper alloy | Copper alloy | Copper alloy | Copper alloy | Copper alloy | Copper alloy |
| Tin | Tin | Tin | Tin | Cadmium Zinc Chrom3 (RoHS) | Cadmium Zinc Chrom3 (RoHS) |
| Gold over Nickel | Gold over Nickel | Gold over Nickel | Gold over Nickel | Gold over Nickel | Gold over Nickel |
| Tin over Nickel | Tin over Nickel | Tin over Nickel | Tin over Nickel | Tin / Gold over Nickel | Tin / Gold over Nickel |
| 5 A | 1.5 A | 2.5 A | 7.5 A | 7.5 A | 7.5 A (signal contact) 40 A (power contact) |
| 1000 V.r.m.s. | 1000 V.r.m.s. | 1000 V.r.m.s. | 1000 V.r.m.s. | 1000 V.r.m.s. | 1000 V.r.m.s. |
| 300 V.r.m.s. | 300 V.r.m.s. | 300 V.r.m.s. | 300 V.r.m.s. | 300 V.r.m.s. | 300 V.r.m.s. |
| ≥ 5000 MΩ | ≥ 5000 MΩ | ≥ 5000 MΩ | ≥ 5000 MΩ | ≥ 5000 MΩ | ≥ 5000 MΩ |
| ≤ 10 mΩ * | ≤ 10 mΩ * | ≤ 25 mΩ | ≤ 7.3 mΩ | ≤ 7.3 mΩ | ≤ 7.3 mΩ |
| 5N Max. / 0.3N min. | 5N Max. / 0.3N min. | 5N Max. / 0.3N min. | 5N Max. / 0.3N min. | 5N Max. / 0.3N min. | 5N Max. / 0.3N min. |
| 200 min. | 200 min. | 200 min. | 200 min. | 500 | 500 |
| 1 mm | 1 mm | 0.76 mm | 1 mm | 1 mm | 1 mm (signal contact) |
| yes | no | no | no | no | yes (coax and power) |
| AWG 20 Max. | AWG 26 to AWG 30 | | AWG 20 Max | AWG 20 | AWG 20 (signal contact) other see page 48 |
| 1.52 mm | Flat cable | | 2.1 mm | 2.1 mm | 2.1 mm |
| 9, 15, 25, 37, 50 Male and Female | 9, 15, 25, 37 Male and Female | Solder : 15, 26, 44, 62 Press-fit : 62, 78 | 9, 15, 25, 37, 50 Male and Female | 9, 15, 25, 37, 50 Male and Female | 9, 15, 25, 37, 50 Male and Female |

DELTA D Right angle solder



UL Recognized File E 118235 (R)

The DELTA D series has been developed to meet the current requirements of industry (industrial electronics, computers, medical equipment, private exchanges...).

Its development integrates today's demand for ever-increasing rationalization (automation, robots for automatic placement...).

It has been designed and industrialized with the help of the most recent technologies: CAD, 100 % automatic assembly, in-process quality control, etc...

The DELTA D series has angled terminations of different lengths, stamped contacts and is available in the most popular arrangements (9, 15, 25, 37 male/female contacts).

It meets European standards and US Std (HE 5, DIN 41652 and MIL-DTL 24308).

Various options can be selected: threaded inserts, female jack screws, harpoons, grounding device...



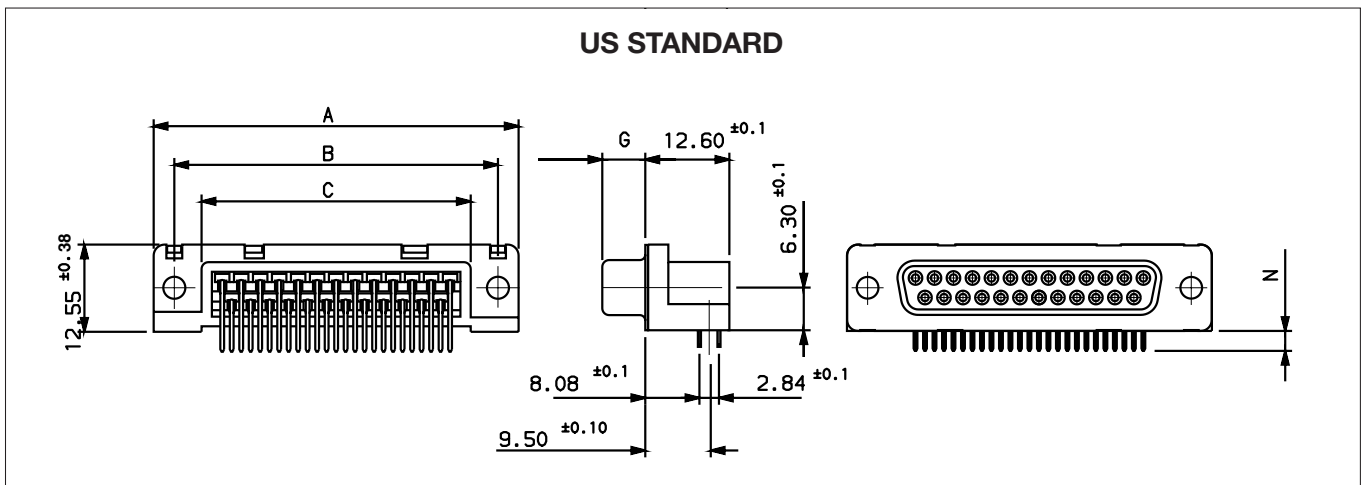
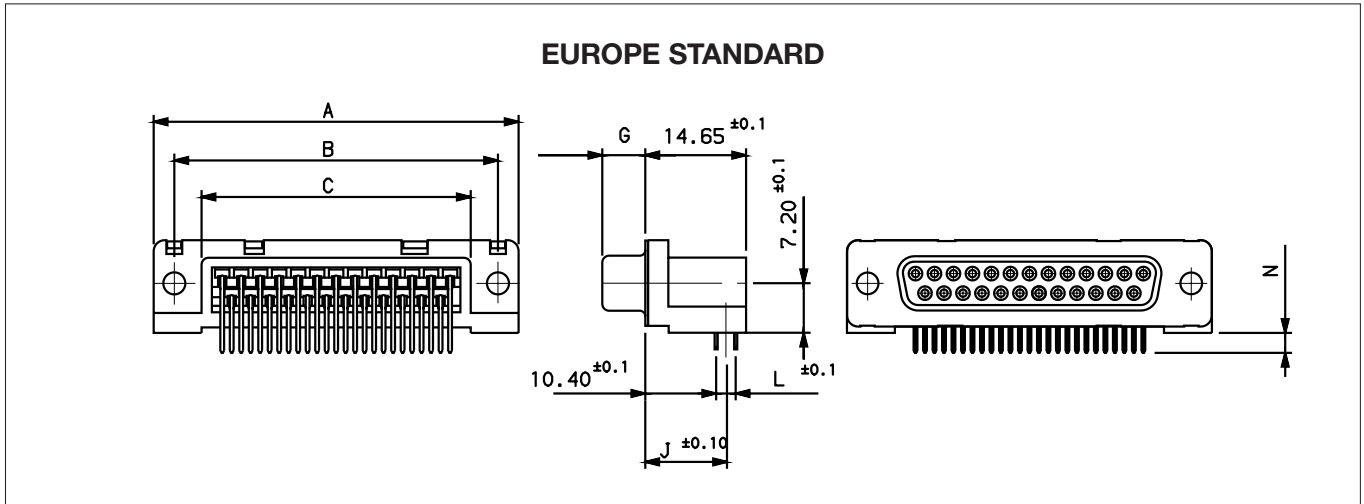
Ordering information

| Series | D | 25 | P | 13 A | 4 | GV | 00LF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---|------------------|-----------------------|---------------|---|----|------|---------|------|------------------|-----------------------|---------------|--------------------|--------------------------------|--------------------------|------|-----------------------|------|---|----------------|---|-------------|---|--------------------------------|---|------|------------------|------|--------------------------------|----------------|------------------------------------|-------------|--|----------------------------|----------------|------|-----|
| Number of contacts | 09, 15, 25, 37 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contacts | P : Pin S : Socket | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Termination | <table border="1"> <thead> <tr> <th>Code</th> <th>Type</th> <th>Foot print/Pitch</th> <th>Length of termination</th> <th>PCB thickness</th> </tr> </thead> <tbody> <tr> <td>☺ 13 A</td> <td>Right angled – Europe standard</td> <td>10.4 / 2.54 mm</td> <td>2.90</td> <td>1.6</td> </tr> <tr> <td>13 B</td> <td>Right angled – Europe standard</td> <td>10.4 / 2.54 mm</td> <td>3.70</td> <td>2.4 and 1.6</td> </tr> <tr> <td>23 A</td> <td>Right angled – Europe standard</td> <td>10.4 / 2.84 mm</td> <td>2.90</td> <td>1.6</td> </tr> <tr> <td>23 B</td> <td>Right angled – Europe standard</td> <td>10.4 / 2.84 mm</td> <td>3.70</td> <td>2.4 and 1.6</td> </tr> <tr> <td>☺ 33 E</td> <td>Right angled – US standard</td> <td>8.08 / 2.84 mm</td> <td>3.18</td> <td>1.6</td> </tr> </tbody> </table> | | | | | | | Code | Type | Foot print/Pitch | Length of termination | PCB thickness | ☺ 13 A | Right angled – Europe standard | 10.4 / 2.54 mm | 2.90 | 1.6 | 13 B | Right angled – Europe standard | 10.4 / 2.54 mm | 3.70 | 2.4 and 1.6 | 23 A | Right angled – Europe standard | 10.4 / 2.84 mm | 2.90 | 1.6 | 23 B | Right angled – Europe standard | 10.4 / 2.84 mm | 3.70 | 2.4 and 1.6 | ☺ 33 E | Right angled – US standard | 8.08 / 2.84 mm | 3.18 | 1.6 |
| Code | Type | Foot print/Pitch | Length of termination | PCB thickness | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ☺ 13 A | Right angled – Europe standard | 10.4 / 2.54 mm | 2.90 | 1.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 B | Right angled – Europe standard | 10.4 / 2.54 mm | 3.70 | 2.4 and 1.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 A | Right angled – Europe standard | 10.4 / 2.84 mm | 2.90 | 1.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 B | Right angled – Europe standard | 10.4 / 2.84 mm | 3.70 | 2.4 and 1.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ☺ 33 E | Right angled – US standard | 8.08 / 2.84 mm | 3.18 | 1.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Plating | 4 : Standard class (≥ 200 mating / unmating) 6 : High performance class (≥ 500 mating / unmating) - LN2 4404 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mounting options (see cover page 61) | <table border="1"> <thead> <tr> <th>Options</th> <th></th> </tr> </thead> <tbody> <tr> <td>PA</td> <td>Standard hole</td> </tr> <tr> <td>PL</td> <td>Threaded insert M3</td> </tr> <tr> <td>PX</td> <td>Threaded insert UNC 4-40</td> </tr> <tr> <td>PV</td> <td>Female screw UNC 4-40</td> </tr> <tr> <td>GI</td> <td>Harpoons + Female screw M3 + elec. continuity</td> </tr> <tr> <td>GL</td> <td>Harpoons + insert M3 + elec. continuity</td> </tr> <tr> <td>☺ GX</td> <td>Harpoons + insert UNC 4-40 + elec. continuity</td> </tr> <tr> <td>☺ GV</td> <td>Harpoons + female screw UNC 4-40 + elec. continuity</td> </tr> <tr> <td>UA</td> <td>Elec. continuity</td> </tr> <tr> <td>UL</td> <td>Insert M3 + elec. continuity</td> </tr> <tr> <td>UX</td> <td>Insert UNC 4-40 + elec. continuity</td> </tr> <tr> <td>UV</td> <td>Female screw UNC 4-40 + elec. continuity</td> </tr> </tbody> </table> | | | | | | | Options | | PA | Standard hole | PL | Threaded insert M3 | PX | Threaded insert UNC 4-40 | PV | Female screw UNC 4-40 | GI | Harpoons + Female screw M3 + elec. continuity | GL | Harpoons + insert M3 + elec. continuity | ☺ GX | Harpoons + insert UNC 4-40 + elec. continuity | ☺ GV | Harpoons + female screw UNC 4-40 + elec. continuity | UA | Elec. continuity | UL | Insert M3 + elec. continuity | UX | Insert UNC 4-40 + elec. continuity | UV | Female screw UNC 4-40 + elec. continuity | | | | |
| Options | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PA | Standard hole | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PL | Threaded insert M3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PX | Threaded insert UNC 4-40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PV | Female screw UNC 4-40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GI | Harpoons + Female screw M3 + elec. continuity | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GL | Harpoons + insert M3 + elec. continuity | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ☺ GX | Harpoons + insert UNC 4-40 + elec. continuity | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ☺ GV | Harpoons + female screw UNC 4-40 + elec. continuity | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| UA | Elec. continuity | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| UL | Insert M3 + elec. continuity | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| UX | Insert UNC 4-40 + elec. continuity | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| UV | Female screw UNC 4-40 + elec. continuity | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Options | 00 : Standard series, non RoHS compatible ☺ 00LF : Standard series, RoHS compatible | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

DELTA D

Right angle solder

Specific dimensions










| | | A ± 0.38 | B ± 0.12 | C ± 0.10 | G $\begin{smallmatrix} +0.25 \\ -0 \end{smallmatrix}$ | J ± 0.10 | | L ± 0.1 | | N ± 0.30 | | |
|----|---|--------------|--------------|--------------|--|--------------|-------|-------------|------|-----------------|--------------|------|
| | | | | | | Termination | | Termination | | Terminal Length | | |
| | | | | | | 13. | 23. | 13. | 23. | 13 A 23 A | 13 B 23 B | 33 E |
| 9 | P | 30.81 | 24.99 | 16.96 | 5.90 $\begin{smallmatrix} +0.15 \\ -0 \end{smallmatrix}$ | 11.67 | 11.82 | 2.54 | 2.84 | 2.90 | 3.70 | 3.18 |
| | S | 30.81 | 24.99 | 16.96 | 6.05 | 11.67 | 11.82 | 2.54 | 2.84 | 2.90 | 3.70 | 3.18 |
| 15 | P | 39.14 | 33.32 | 25.18 | 5.90 $\begin{smallmatrix} +0.15 \\ -0 \end{smallmatrix}$ | 11.67 | 11.82 | 2.54 | 2.84 | 2.90 | 3.70 | 3.18 |
| | S | 39.14 | 33.32 | 25.18 | 6.05 | 11.67 | 11.82 | 2.54 | 2.84 | 2.90 | 3.70 | 3.18 |
| 25 | P | 53.03 | 47.04 | 39.12 | 5.70 | 11.67 | 11.82 | 2.54 | 2.84 | 2.90 | 3.70 | 3.18 |
| | S | 53.03 | 47.04 | 39.12 | 6.05 | 11.67 | 11.82 | 2.54 | 2.84 | 2.90 | 3.70 | 3.18 |
| 37 | P | 69.32 | 63.50 | 55.68 | 5.70 | 11.67 | 11.82 | 2.54 | 2.84 | 2.90 | 3.70 | 3.18 |
| | S | 69.32 | 63.50 | 55.68 | 6.05 | 11.67 | 11.82 | 2.54 | 2.84 | 2.90 | 3.70 | 3.18 |

DELTA D Straight solder

 UL Recognized File E 118235 (R)

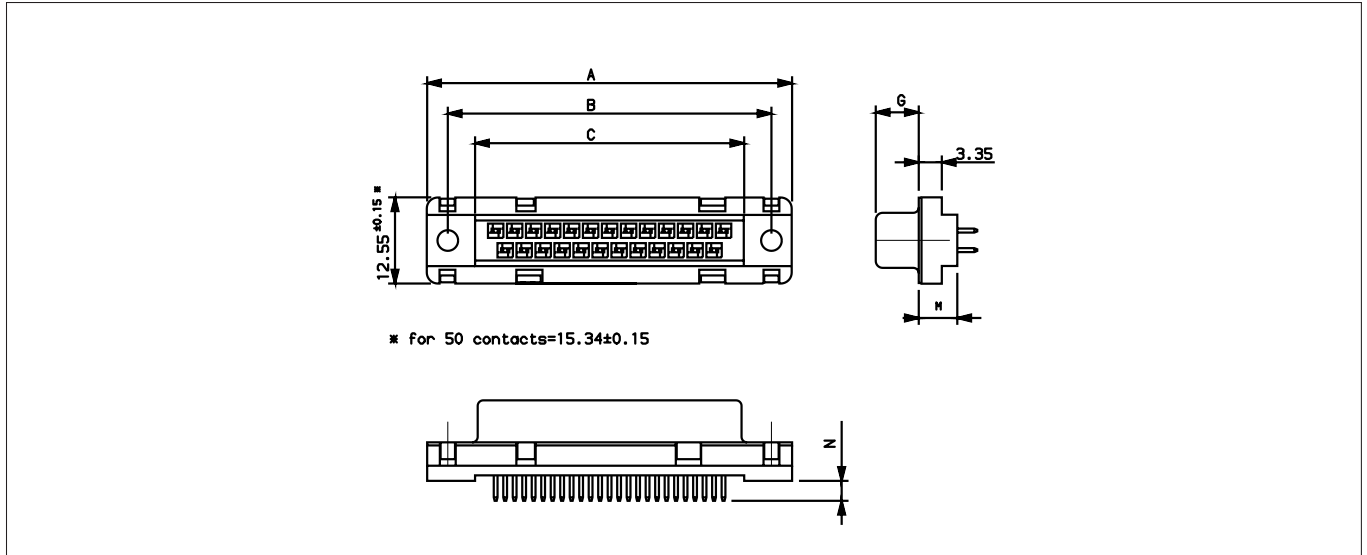


Ordering information

| Series | D | 25 | P | 24 A | 4 | GV | 00LF | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--------------------|-----------------------|---------------|----------|-----------|-------------|---------|------|------------------|-----------------------|---------------|--------------------|--------------------------------|--------------------------|-----------|-----------------------|---|---|--------------------|---|---|---|------------------|-------------|------|-----|-------------|------------------|---------------|------|-----|
| Number of contacts | 09, 15, 25, 37, 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contacts | P : Pin S : Socket | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Terminations | <table border="1"> <thead> <tr> <th>Code</th> <th>Type</th> <th>Foot print/Pitch</th> <th>Length of termination</th> <th>PCB thickness</th> </tr> </thead> <tbody> <tr> <td>14 A</td> <td>Straight version (low profile)</td> <td>5.6 / 2.84 mm</td> <td>2.90</td> <td>1.6</td> </tr> <tr> <td> 24 A</td> <td>Straight version</td> <td>6 / 2.84 mm</td> <td>2.90</td> <td>1.6</td> </tr> <tr> <td>24 B</td> <td>Straight version</td> <td>6 / 2.84 mm</td> <td>3.70</td> <td>2.4</td> </tr> <tr> <td>34 A</td> <td>Straight version</td> <td>6.9 / 2.84 mm</td> <td>2.90</td> <td>1.6</td> </tr> </tbody> </table> | | | | | | | Code | Type | Foot print/Pitch | Length of termination | PCB thickness | 14 A | Straight version (low profile) | 5.6 / 2.84 mm | 2.90 | 1.6 |  24 A | Straight version | 6 / 2.84 mm | 2.90 | 1.6 | 24 B | Straight version | 6 / 2.84 mm | 3.70 | 2.4 | 34 A | Straight version | 6.9 / 2.84 mm | 2.90 | 1.6 |
| Code | Type | Foot print/Pitch | Length of termination | PCB thickness | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 A | Straight version (low profile) | 5.6 / 2.84 mm | 2.90 | 1.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  24 A | Straight version | 6 / 2.84 mm | 2.90 | 1.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 B | Straight version | 6 / 2.84 mm | 3.70 | 2.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 34 A | Straight version | 6.9 / 2.84 mm | 2.90 | 1.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Plating | 4 : Standard class (≥ 200 mating / unmating) 6 : High performance class (≥ 500 mating / unmating) - LNZ 4404 - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mounting options (see cover page 61) | <table border="1"> <thead> <tr> <th>Options</th> <th></th> </tr> </thead> <tbody> <tr> <td>PA</td> <td>Standard hole</td> </tr> <tr> <td>PL</td> <td>Threaded insert M3</td> </tr> <tr> <td>PX</td> <td>Threaded insert UNC 4-40</td> </tr> <tr> <td>PV</td> <td>Female screw UNC 4-40</td> </tr> <tr> <td>GL</td> <td>Harpoons + insert M3 + elec. continuity</td> </tr> <tr> <td>GX</td> <td>Harpoons + insert UNC 4-40 + elec. continuity</td> </tr> <tr> <td> GV</td> <td>Harpoons + Female screw UNC 4-40 + elec. continuity</td> </tr> </tbody> </table> | | | | | | | Options | | PA | Standard hole | PL | Threaded insert M3 | PX | Threaded insert UNC 4-40 | PV | Female screw UNC 4-40 | GL | Harpoons + insert M3 + elec. continuity | GX | Harpoons + insert UNC 4-40 + elec. continuity |  GV | Harpoons + Female screw UNC 4-40 + elec. continuity | | | | | | | | | |
| Options | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PA | Standard hole | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PL | Threaded insert M3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PX | Threaded insert UNC 4-40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PV | Female screw UNC 4-40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GL | Harpoons + insert M3 + elec. continuity | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GX | Harpoons + insert UNC 4-40 + elec. continuity | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  GV | Harpoons + Female screw UNC 4-40 + elec. continuity | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Other options | 00 : Standard series, non RoHS compatible  00LF : Standard series, RoHS compatible | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

DELTA D Straight solder

Specific dimensions



| | | A±0.38 | B±0.12 | C±0.10 | G ^{+0.25} ₀ | M±0.10 | | | N±0.30 | |
|----|---|--------|--------|--------|------------------------------------|-------------|------|------|----------------------|------|
| | | | | | | Termination | | | Terminal Length | |
| | | | | | | 14. | 24. | 34. | 14 A 24 A 34 A | 24 B |
| 9 | P | 30.81 | 24.99 | 16.96 | 5.90 ^{+0.15} ₀ | 5.60 | 6.00 | 6.90 | 2.90 | 3.70 |
| | S | 30.81 | 24.99 | 16.96 | 6.05 | 5.60 | 6.00 | 6.90 | 2.90 | 3.70 |
| 15 | P | 39.14 | 33.32 | 25.18 | 5.90 ^{+0.15} ₀ | 5.60 | 6.00 | 6.90 | 2.90 | 3.70 |
| | S | 39.14 | 33.32 | 25.18 | 6.05 | 5.60 | 6.00 | 6.90 | 2.90 | 3.70 |
| 25 | P | 53.03 | 47.04 | 39.12 | 5.70 | 5.60 | 6.00 | 6.90 | 2.90 | 3.70 |
| | S | 53.03 | 47.04 | 39.12 | 6.05 | 5.60 | 6.00 | 6.90 | 2.90 | 3.70 |
| 37 | P | 69.32 | 63.50 | 55.68 | 5.70 | 5.60 | 6.00 | 6.90 | 2.90 | 3.70 |
| | S | 69.32 | 63.50 | 55.68 | 6.05 | 5.60 | 6.00 | 6.90 | 2.90 | 3.70 |
| 50 | P | 67.10 | 61.11 | 54.11 | 5.70 | 5.60 | 6.00 | 6.90 | 2.90 | 3.70 |
| | S | 67.10 | 61.11 | 54.11 | 6.05 | 5.60 | 6.00 | 6.90 | 2.90 | 3.70 |

DELTA D

Straight press-fit

Press-fit termination



In case of SMT (Surface Mount Technology) manufacturing process this new press-fit Delta D allows to save cost of an additional wave soldering. The "eye of the needle" termination combined with a special flat rock design (easy application by pressure on insulator) make this product line very attractive.



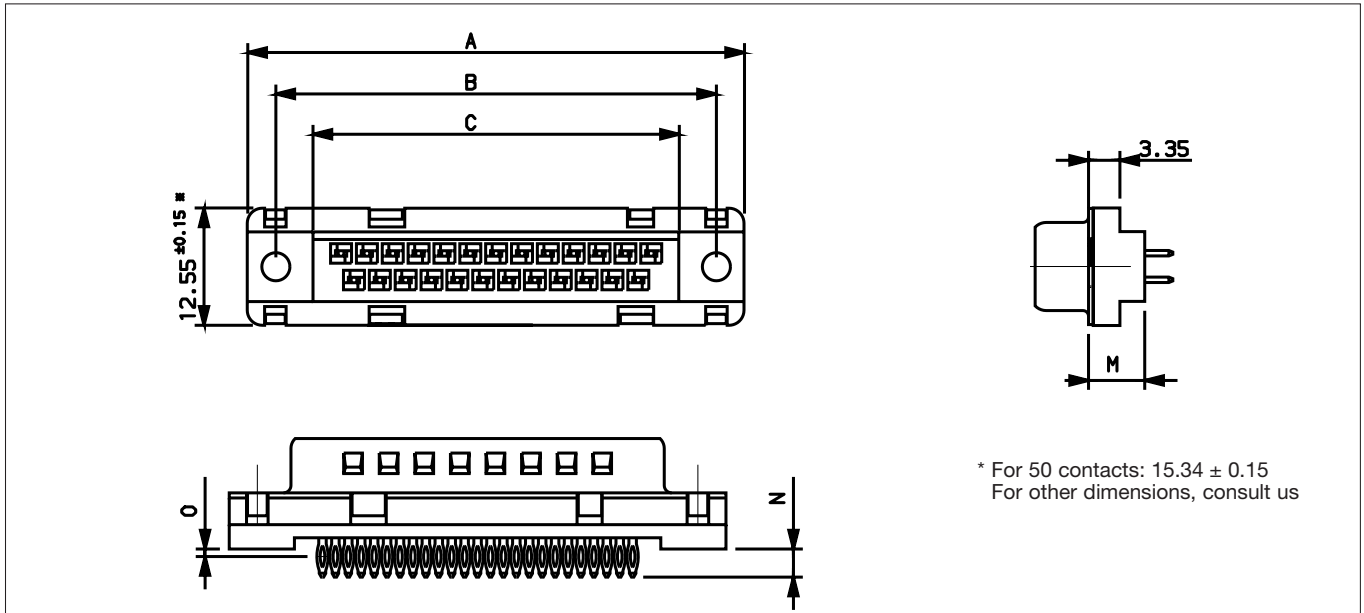
Ordering information

| Series | D | 25 | P | 91 C | 4 | PA | 00LF | | | | | | | | | | | | | | | | |
|--------------------------------------|---|----|---|------|---|----|------|---------|--|----|---------------|----|--------------------|------|--------------------------|------|-----------------------|----|---|----|---|----|---|
| Number of contacts | 09, 15, 25, 37, 50 | | | | | | | | | | | | | | | | | | | | | | |
| Contacts | P : Pin S : Socket | | | | | | | | | | | | | | | | | | | | | | |
| Termination type | ☺ 91 C : Press-fit for all 3 PCB thickness : (1.6 mm ; 2.4 mm ; 3.2 mm and more) - Europe standard 90 C : Press-fit for all 3 PCB thickness : (1.6 mm ; 2.4 mm ; 3.2 mm and more) - Low profile | | | | | | | | | | | | | | | | | | | | | | |
| Plating | 4 : Standard class (≥ 200 mating / unmating) 6 : High performance class (≥ 500 mating / unmating) | | | | | | | | | | | | | | | | | | | | | | |
| Mounting options (see cover page 61) | <table border="1"> <thead> <tr> <th>Options</th> <th></th> </tr> </thead> <tbody> <tr> <td>PA</td> <td>Standard hole</td> </tr> <tr> <td>PL</td> <td>Threaded insert M3</td> </tr> <tr> <td>☺ PX</td> <td>Threaded insert UNC 4-40</td> </tr> <tr> <td>☺ PV</td> <td>Female screw UNC 4-40</td> </tr> <tr> <td>GL</td> <td>Harpoons + insert M3 + elec. continuity</td> </tr> <tr> <td>GX</td> <td>Harpoons + insert UNC 4-40 + elec. continuity</td> </tr> <tr> <td>GV</td> <td>Harpoons + Female screw UNC 4-40 + elec. continuity</td> </tr> </tbody> </table> | | | | | | | Options | | PA | Standard hole | PL | Threaded insert M3 | ☺ PX | Threaded insert UNC 4-40 | ☺ PV | Female screw UNC 4-40 | GL | Harpoons + insert M3 + elec. continuity | GX | Harpoons + insert UNC 4-40 + elec. continuity | GV | Harpoons + Female screw UNC 4-40 + elec. continuity |
| Options | | | | | | | | | | | | | | | | | | | | | | | |
| PA | Standard hole | | | | | | | | | | | | | | | | | | | | | | |
| PL | Threaded insert M3 | | | | | | | | | | | | | | | | | | | | | | |
| ☺ PX | Threaded insert UNC 4-40 | | | | | | | | | | | | | | | | | | | | | | |
| ☺ PV | Female screw UNC 4-40 | | | | | | | | | | | | | | | | | | | | | | |
| GL | Harpoons + insert M3 + elec. continuity | | | | | | | | | | | | | | | | | | | | | | |
| GX | Harpoons + insert UNC 4-40 + elec. continuity | | | | | | | | | | | | | | | | | | | | | | |
| GV | Harpoons + Female screw UNC 4-40 + elec. continuity | | | | | | | | | | | | | | | | | | | | | | |
| Other options | 00 : Standard series, non RoHS compatible ☺ 00LF : Standard series, RoHS compatible | | | | | | | | | | | | | | | | | | | | | | |

DELTA D

Straight press-fit

Specific dimensions



* For 50 contacts: 15.34 ± 0.15
For other dimensions, consult us

| Size | A ± 0.38 | B ± 0.12 | C ± 0.10 |
|------|--------------|--------------|--------------|
| 09 | 30.81 | 24.99 | 16.96 |
| 15 | 39.14 | 33.32 | 25.18 |
| 25 | 53.03 | 47.04 | 39.12 |
| 37 | 69.32 | 63.50 | 55.68 |
| 50 | 66.93 | 61.11 | 53.11 |

| Termination type | M ± 0.1 | N ± 0.3 | O ± 0.2 |
|------------------|-------------|-------------|-------------|
| 90 C | 5.60 | 3.40 | 1.20 |
| 91 C | 6.00 | 3.00 | 0.80 |

Press-fit features

Application by pressure on insulator • D-Sub insertion kit : 8646 3064 01
Eye of the needle design.

• Metallized hole dimensions

| | | Press-fit contacts | Press-fit harpoons |
|---------------------------------------|----------------------------|----------------------------|---|
| P.C.B. hole definition (note 1 and 2) | non RoHS | Drill diameter | $\varnothing 1.15$ ref (note 3) |
| | | Drilled hole | $\varnothing 1.18 - 1.2$ |
| | | Copper plating | 25 μm min (recommended 50 μm max) |
| | RoHS | Tin-lead plating | 15 μm max (recommended 5 μm min) |
| | | Finish hole (after reflow) | $\varnothing 0.94 - 1.09$ |
| | | Tin plating | 0.8 to 1.2 μm |
| | Finish hole (after reflow) | $\varnothing 1.00 - 1.09$ | |

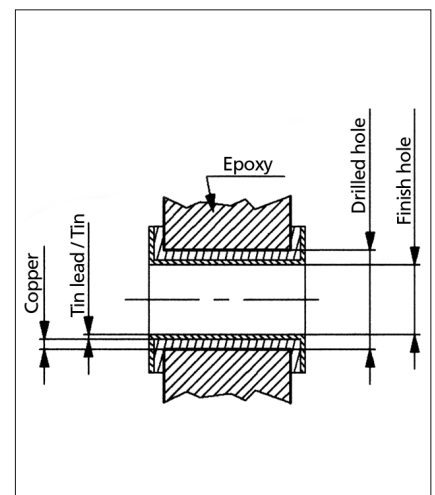
Note 1 : These dimensions must be respected to ensure press-fit pin performance

Note 2 : According to IEC-352-S specification

Note 3 : Vital requirement for press-fit pin performance

• Press-fit performance

| | Press-fit contacts | Press-fit harpoons |
|------------------|--------------------|--------------------|
| Insertion force | ≤ 100 N | ≤ 120 N |
| Extraction force | ≥ 30 N | ≥ 30 N |













DELTA D

Right angle press-fit

 UL Recognized File E 118235 (R)



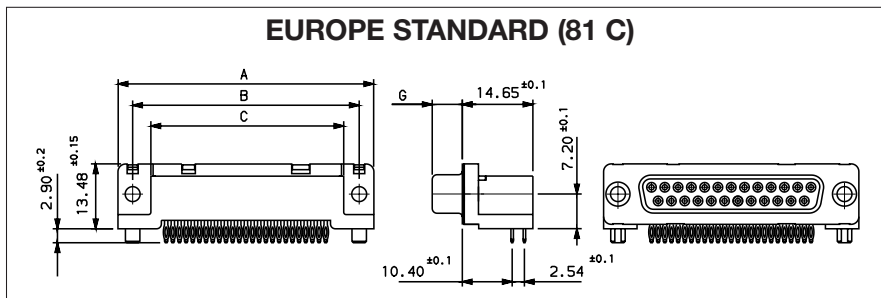
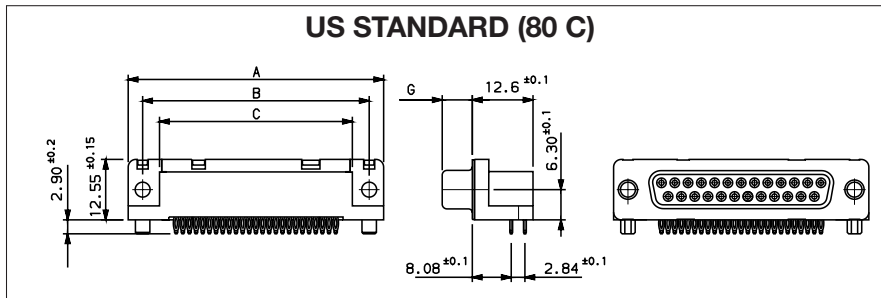
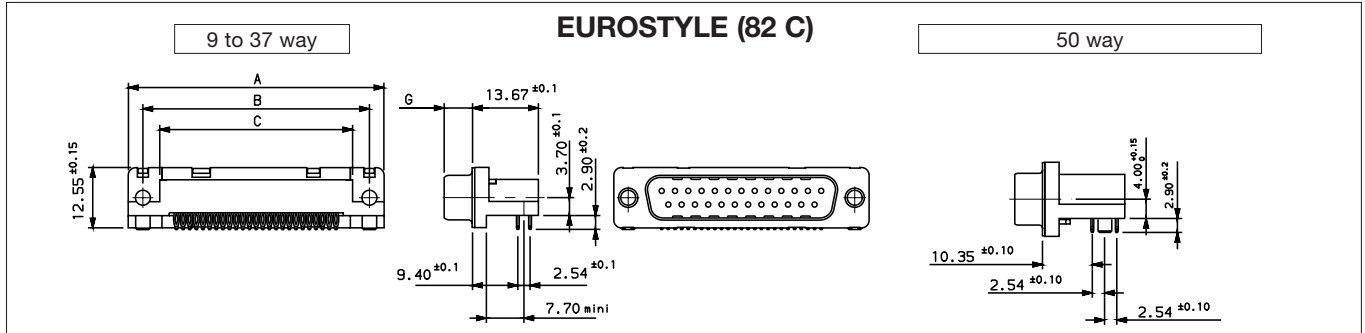
Ordering information

| Series | D | 25 | P | 82 C | 4 | PA | 00LF | | | | | | | | | | | | | | | | |
|---|---|---|-------------------------------------|-------------|----------|-----------|-------------|---------|------|--------------------|---------------|---|--------------------|---|-------------------------------------|-------------|-----------------------|-------------|----------------------|---|----------------------------|---|----------------------------------|
| Number of contacts | 09, 15, 25, 37, 50 (only for Eurostyle version) | | | | | | | | | | | | | | | | | | | | | | |
| Contacts | P : Pin S : Socket | | | | | | | | | | | | | | | | | | | | | | |
| Termination type | <table border="1"> <thead> <tr> <th>Code</th> <th>Type</th> <th colspan="2">Foot print / Pitch</th> </tr> </thead> <tbody> <tr> <td> 82 C</td> <td>Eurostyle</td> <td>9.4 / 2.54 10.3 / 2.54</td> <td>9 to 37 way 50 way</td> </tr> <tr> <td>80 C</td> <td>US standard</td> <td>8.08 / 2.84</td> <td>9 to 37 way</td> </tr> <tr> <td>81 C</td> <td>Europe standard*</td> <td>10.4 / 2.54</td> <td>9 to 37 way</td> </tr> </tbody> </table> | | | | | | | Code | Type | Foot print / Pitch | |  82 C | Eurostyle | 9.4 / 2.54 10.3 / 2.54 | 9 to 37 way 50 way | 80 C | US standard | 8.08 / 2.84 | 9 to 37 way | 81 C | Europe standard* | 10.4 / 2.54 | 9 to 37 way |
| Code | Type | Foot print / Pitch | | | | | | | | | | | | | | | | | | | | | |
|  82 C | Eurostyle | 9.4 / 2.54 10.3 / 2.54 | 9 to 37 way 50 way | | | | | | | | | | | | | | | | | | | | |
| 80 C | US standard | 8.08 / 2.84 | 9 to 37 way | | | | | | | | | | | | | | | | | | | | |
| 81 C | Europe standard* | 10.4 / 2.54 | 9 to 37 way | | | | | | | | | | | | | | | | | | | | |
| Plating | 4 : Standard class (≥ 200 mating / unmating) 6 : High performance class (≥ 500 mating / unmating) | | | | | | | | | | | | | | | | | | | | | | |
| Mounting options (see cover page 61) | <table border="1"> <thead> <tr> <th>Options</th> <th></th> </tr> </thead> <tbody> <tr> <td>PA</td> <td>Standard hole</td> </tr> <tr> <td>PL</td> <td>Threaded insert M3</td> </tr> <tr> <td>PX</td> <td>Threaded insert UNC 4-40</td> </tr> <tr> <td>PV</td> <td>Female screw UNC 4-40</td> </tr> <tr> <td>GL</td> <td>Harpoons + insert M3</td> </tr> <tr> <td> GX</td> <td>Harpoons + insert UNC 4-40</td> </tr> <tr> <td> GV</td> <td>Harpoons + Female screw UNC 4-40</td> </tr> </tbody> </table> | | | | | | | Options | | PA | Standard hole | PL | Threaded insert M3 | PX | Threaded insert UNC 4-40 | PV | Female screw UNC 4-40 | GL | Harpoons + insert M3 |  GX | Harpoons + insert UNC 4-40 |  GV | Harpoons + Female screw UNC 4-40 |
| Options | | | | | | | | | | | | | | | | | | | | | | | |
| PA | Standard hole | | | | | | | | | | | | | | | | | | | | | | |
| PL | Threaded insert M3 | | | | | | | | | | | | | | | | | | | | | | |
| PX | Threaded insert UNC 4-40 | | | | | | | | | | | | | | | | | | | | | | |
| PV | Female screw UNC 4-40 | | | | | | | | | | | | | | | | | | | | | | |
| GL | Harpoons + insert M3 | | | | | | | | | | | | | | | | | | | | | | |
|  GX | Harpoons + insert UNC 4-40 | | | | | | | | | | | | | | | | | | | | | | |
|  GV | Harpoons + Female screw UNC 4-40 | | | | | | | | | | | | | | | | | | | | | | |
| Other options | 00 : Standard, non RoHS compatible  00LF : Standard, RoHS compatible | | | | | | | | | | | | | | | | | | | | | | |

DELTA D

Right angle press-fit

Specific dimensions



| | A±0.38 | B±0.12 | C±0.10 | G ^{+0.25} ₀ | |
|-----|--------|--------|--------|---------------------------------|-----------------------|
| 9 | P | 30.81 | 24.99 | 18.00 | 5.90 ^{+0.15} |
| | S | 30.81 | 24.99 | 18.00 | 6.05 |
| 15 | P | 39.14 | 33.32 | 26.32 | 5.90 ^{+0.15} |
| | S | 39.14 | 33.32 | 26.32 | 6.05 |
| 25 | P | 53.03 | 47.04 | 40.04 | 5.70 |
| | S | 53.03 | 47.04 | 40.04 | 6.05 |
| 37 | P | 69.32 | 63.50 | 55.50 | 5.70 |
| | S | 69.32 | 63.50 | 55.50 | 6.05 |
| 50* | P | 67.10 | 61.11 | 54.10 | 5.70 |
| | S | 67.10 | 61.11 | 54.10 | 6.05 |

* Only for Eurostyle version.

Press-fit features

Application by pressure on insulator • D-Sub insertion kit : 8646 3064 01
Eye of the needle design.

• Metallized hole dimensions

| P.C.B. hole definition (note 1 and 2) | | Press-fit contacts | | Press-fit harpoons | |
|---------------------------------------|--|----------------------------|-----------------------------------|-----------------------------------|---------------------|
| | | | Drill diameter | Ø 1.15 ref (note 3) | Ø 3.22 ref (note 3) |
| non RoHS | | Drilled hole | Ø 1.18 - 1.2 | Ø 3.19 - 3.25 | |
| | | Copper plating | 25 µm min (recommended 50 µm max) | 25 µm min (recommended 50 µm max) | |
| | | Tin-lead plating | 15 µm max (recommended 5 µm min) | 15 µm max (recommended 5 µm min) | |
| | | Finish hole (after reflow) | Ø 0.94 - 1.09 | Ø 3.02 - 3.20 | |
| RoHS | | Tin plating | 0.8 to 1.2 µm | 0.8 to 1.2 µm | |
| | | Finish hole (after reflow) | Ø 1.00 - 1.09 | Ø 3.08 - 3.20 | |

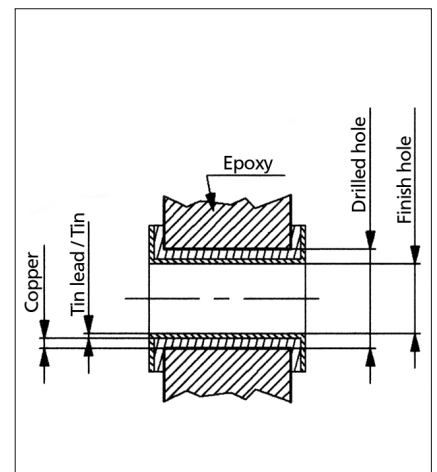
Note 1 : These dimensions must be respected to ensure press-fit pin performance

Note 2 : According to IEC-352-S specification

Note 3 : Vital requirement for press-fit pin performance

• Press-fit performance

| | Press-fit contacts | Press-fit harpoons |
|------------------|--------------------|--------------------|
| Insertion force | ≤ 100 N | ≤ 120 N |
| Extraction force | ≥ 30 N | ≥ 30 N |



COMPACT D

High density solder



COMPACT D Series has been developed to answer the increasing need for higher density packaging.



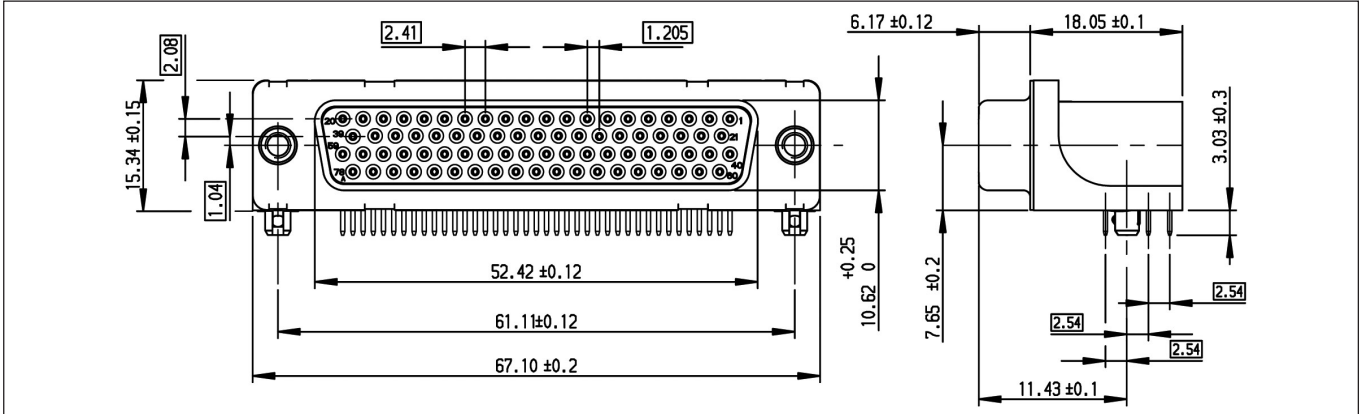
Ordering information

| Series | ICD | 14 | S | 13 E | 6 | GX | 00LF |
|---|-----|----|---|------|---|----|------|
| Number of contacts 14, 15, 26, 44, 62, 78 | | | | | | | |
| Contacts S : Female | | | | | | | |
| Termination ☺ 13E : Angled spills US Standard, 3.18 mm ☺ 13A : Angled spills US Standard, 2,90 mm (78 ways not available) ☺ 13B : Angled spills US Standard, 3.70 mm (78 ways not available) | | | | | | | |
| Plating 4 : Standard class (≥ 200 mating / unmating) 6 : High performance class (≥ 500 mating / unmating) | | | | | | | |
| Mounting options (see cover page 61) PA : Standard holes PL : Threaded insert (M3) PX : Threaded insert (UNC 4-40) PV : Female screw (UNC 4-40) ☺ GL : Harpoons + insert M3 + elec. continuity ☺ GX : Harpoons + insert UNC 4-40 + elec. continuity ☺ GV : Harpoons + female (UNC 4-40) + elec. continuity UL : Insert M3 + elec. continuity UX : Insert UNC 4-40 + elec. continuity UV : Female screw UNC 4-40 + elec. continuity | | | | | | | |
| Options 00 : Standard series, non RoHS compatible ☺ 00LF : Standard series, RoHS compatible | | | | | | | |

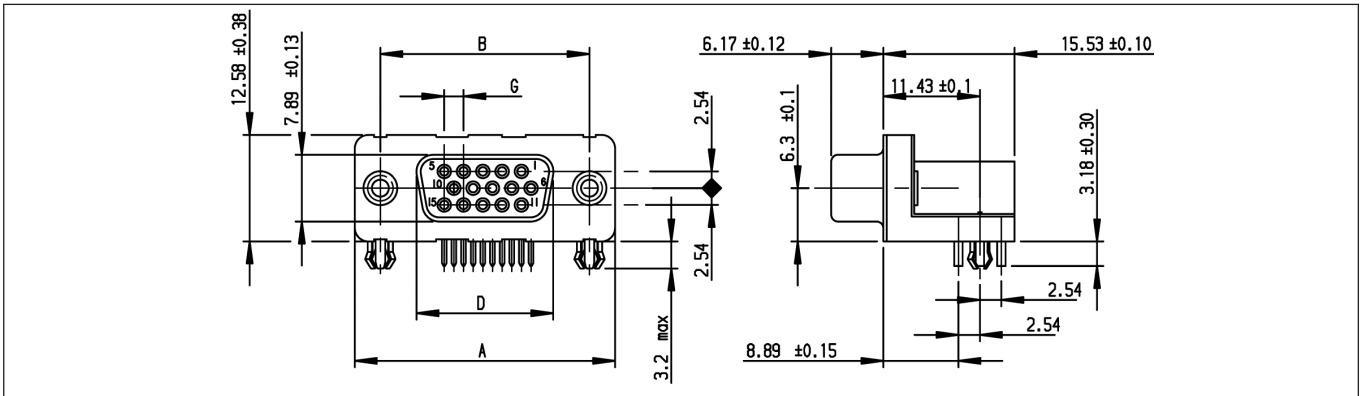
COMPACT D

High density solder

Compact D 4 rows (78 pos)

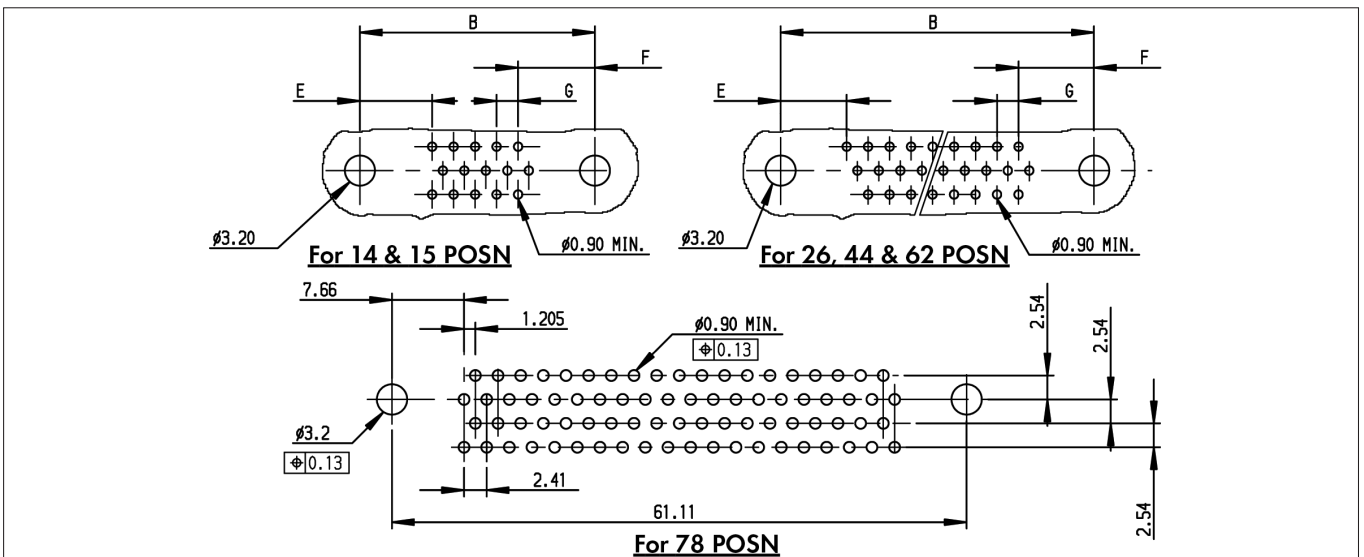


Compact D 3 rows (14/15/26/44/62 pos)



| Size | Dimensions | | | | | | |
|---------|------------|----------|----------|----------|------|------|-------|
| | A ± 0.38 | B ± 0.12 | C ± 0.10 | D ± 0.25 | E | F | G |
| 14 / 15 | 30,81 | 24,99 | 16,96 | 16,21 | 7,68 | 8,19 | 2,285 |
| 26 | 39,14 | 33,32 | 25,18 | 24,54 | 7,02 | 8,01 | 2,285 |
| 44 | 53,03 | 47,04 | 39,12 | 38,25 | 7,01 | 8,02 | 2,285 |
| 62 | 69,32 | 63,50 | 55,68 | 54,71 | 7,03 | 8,21 | 2,41 |

PCB drilling dimensions



COMPACT D

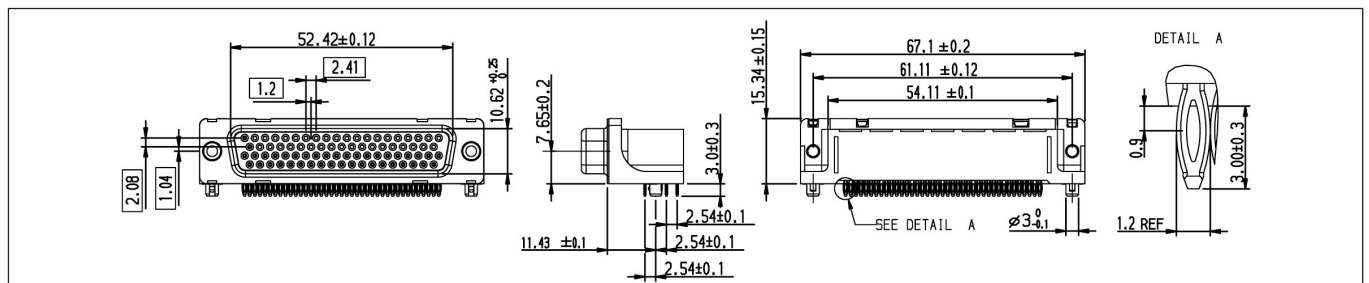
High density press-fit

 UL Recognized File E 118235 (R)

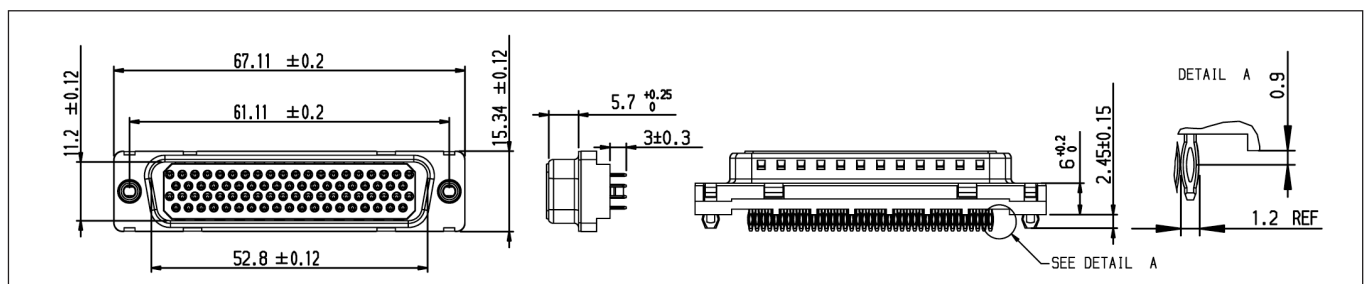


Part number

| | | | | |
|-------------------------|--|-----------------|----------|----------------|
| Series | : 78 way right angle female press-fit | CD78S80C | 6 | GL 00LF |
| Plating | 4 : Standard class (> 200 mating/unmating) 6 : High performance class (> 500 mating/unmating) | | | |
| Mounting options | | | | |
| GL | : Harpoons + insert M3 + elec. continuity | | | |
| GX | : Harpoons + insert UNC 4-40 + elec. continuity | | | |
| GV | : Harpoons + female screw UNC 4-40 + elec. continuity | | | |
| Option | | | | |
| 00 | : non RoHS compatible | | | |
| 00LF | : RoHS compatible EU directive 2002/95/EC | | | |



| | | | | |
|-------------------------|--|-----------------|----------|----------------|
| Series | : 78 way straight male press-fit | CD78P91C | 6 | GL 00LF |
| Plating | 4 : Standard class (> 200 mating/unmating) 6 : High performance class (> 500 mating/unmating) | | | |
| Mounting options | | | | |
| GL | : Harpoons + insert M3 + elec. continuity | | | |
| GX | : Harpoons + insert UNC 4-40 + elec. continuity | | | |
| GV | : Harpoons + female screw UNC 4-40 + elec. continuity | | | |
| Option | | | | |
| 00 | : non RoHS compatible | | | |
| 00LF | : RoHS compatible EU directive 2002/95/EC | | | |

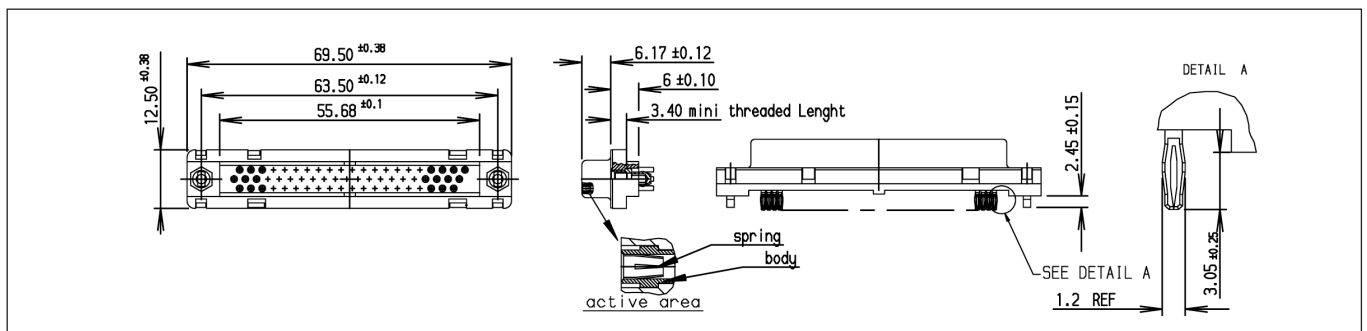


COMPACT D

High density press-fit

Part number

| | | | | |
|-------------------------|---|-----------------|----------|----------------|
| Series | : 62 way straight female press-fit | CD62S91C | 6 | GL 00LF |
| Plating | | | | |
| 4 | : Standard class (> 200 mating/unmating) | | | |
| 6 | : High performance class (> 500 mating/unmating) | | | |
| Mounting options | | | | |
| GL | : Harpoons + insert M3 + elec. continuity | | | |
| GX | : Harpoons + insert UNC 4-40 + elec. continuity | | | |
| GV | : Harpoons + female screw UNC 4-40 + elec. continuity | | | |
| Option | | | | |
| 00 | : non RoHS compatible | | | |
| 00LF | : RoHS compatible EU directive 2002/95/EC | | | |



Press-fit features

Application by pressure on insulator
Eye of the needle design.

• Metallized hole dimensions

| METALLIZED HOLE DIMENSION | | HOLE PRESS-FIT CONTACT SnPb | HOLE PRESS-FIT CONTACT Sn | HOLE PRESS-FIT HARPOON SnPb | HOLE PRESS FIT HARPOON Sn | HOLE PRESS FIT CONTACT Copper OSP | HOLE PRESS-FIT HARPOON Copper OSP |
|---|----------------------|--------------------------------|------------------------------|--------------------------------|------------------------------|--------------------------------------|--------------------------------------|
| P.C.B. HOLE DEFINITION (NOTE 1 and 2) | DRILL DIAMETER | ∅ 1.15 REF (NOTE -3) | ∅ 1.15 REF (NOTE -3) | ∅3.22 REF (note-3) | ∅3.22 REF (note 3) | ∅1.15 REF (note 3) | ∅3.22 REF (note-3) |
| | DRILLED HOLE | ∅ 1.12 -1.18 | ∅ 1.12 -1.18 | ∅3.19-3.25 | ∅3.19-3.25 | ∅1.12-1.18 | ∅3.19-3.25 |
| | COPPER PLATING | 25µ mini-50µ maxi | 25µ mini- 50µ maxi | 25µ mini-50µ maxi | 25µ mini-50µ maxi | 25µ mini-50µ maxi | 25µ mini-50µ maxi |
| | TIN LEAD PLATING | 5µ mini - 15µ maxi | | 5µ mini-15µ maxi | | | |
| | PUR TIN PLATED | | 0.8 mini to 1.2µ maxi | | 0.8µ mini-1.2µ maxi | | |
| | OSP PLATING (copper) | | | | | 0.20µ mini-0.5µ maxi | 0.20µ mini-0.5µ maxi |
| FINISH HOLE (note 4) | ∅ 0.94-1.09 | ∅1.00-1.09 | ∅3.02-3.20 | ∅3.08-3.20 | ∅1.01-1.09 | ∅3.09-3.20 | |


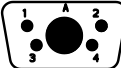
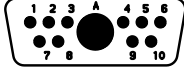
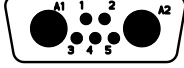
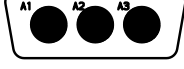

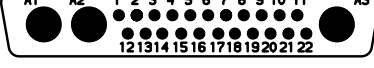
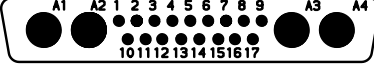
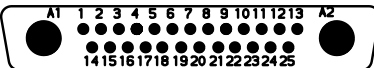

• Press-fit performance

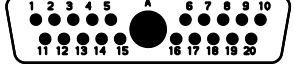
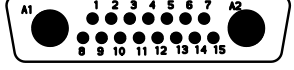
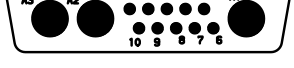



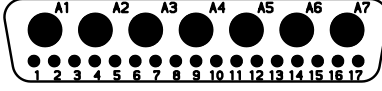

| | PRESS-FIT CONTACTS | PRESS-FIT HARPOONS |
|--------------------------|--------------------|--------------------|
| INSERTION FORCE | < 100N | < 120N |
| SnPb/Sn EXTRACTION FORCE | > 30N | > 30N |
| Copper EXTRACTION FORCE | > 20N | > 20N |

Mixed power DW series

Layouts

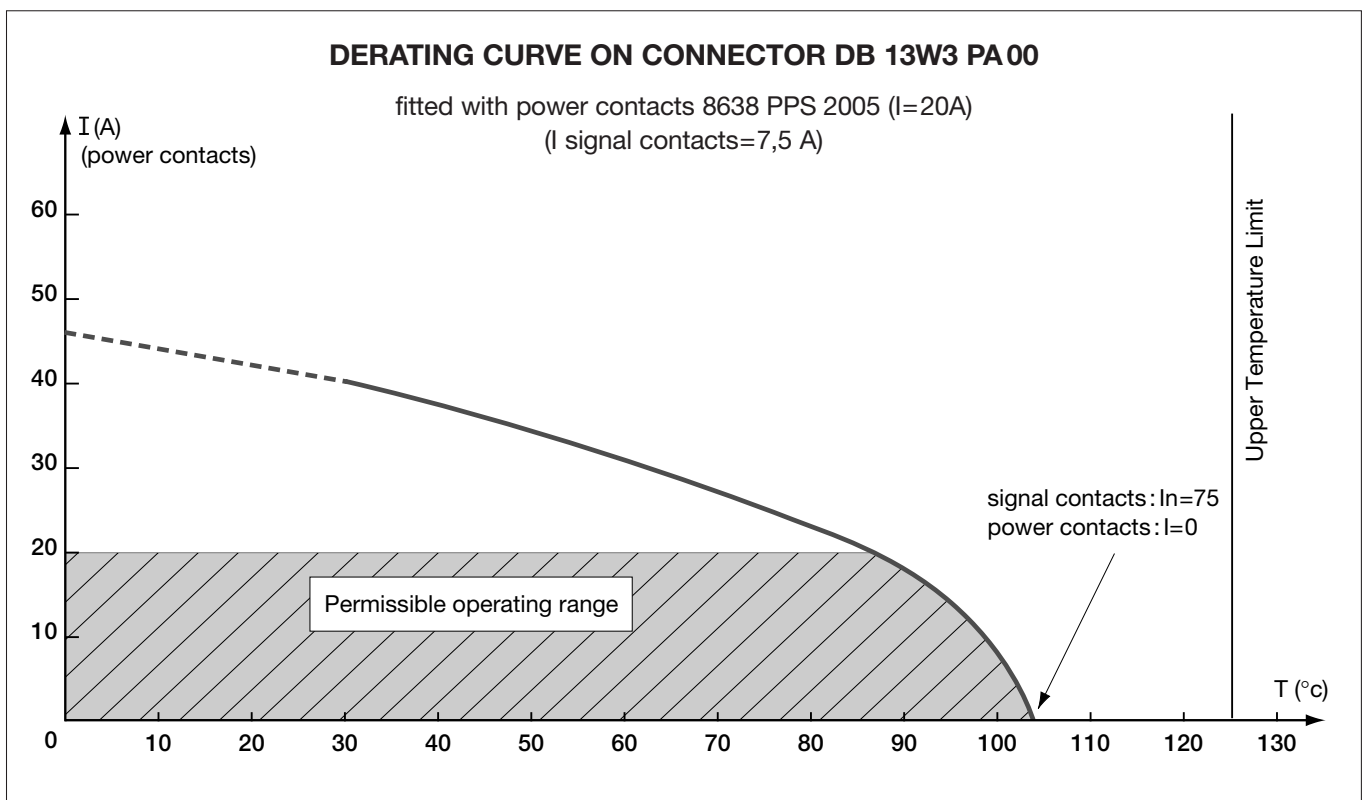
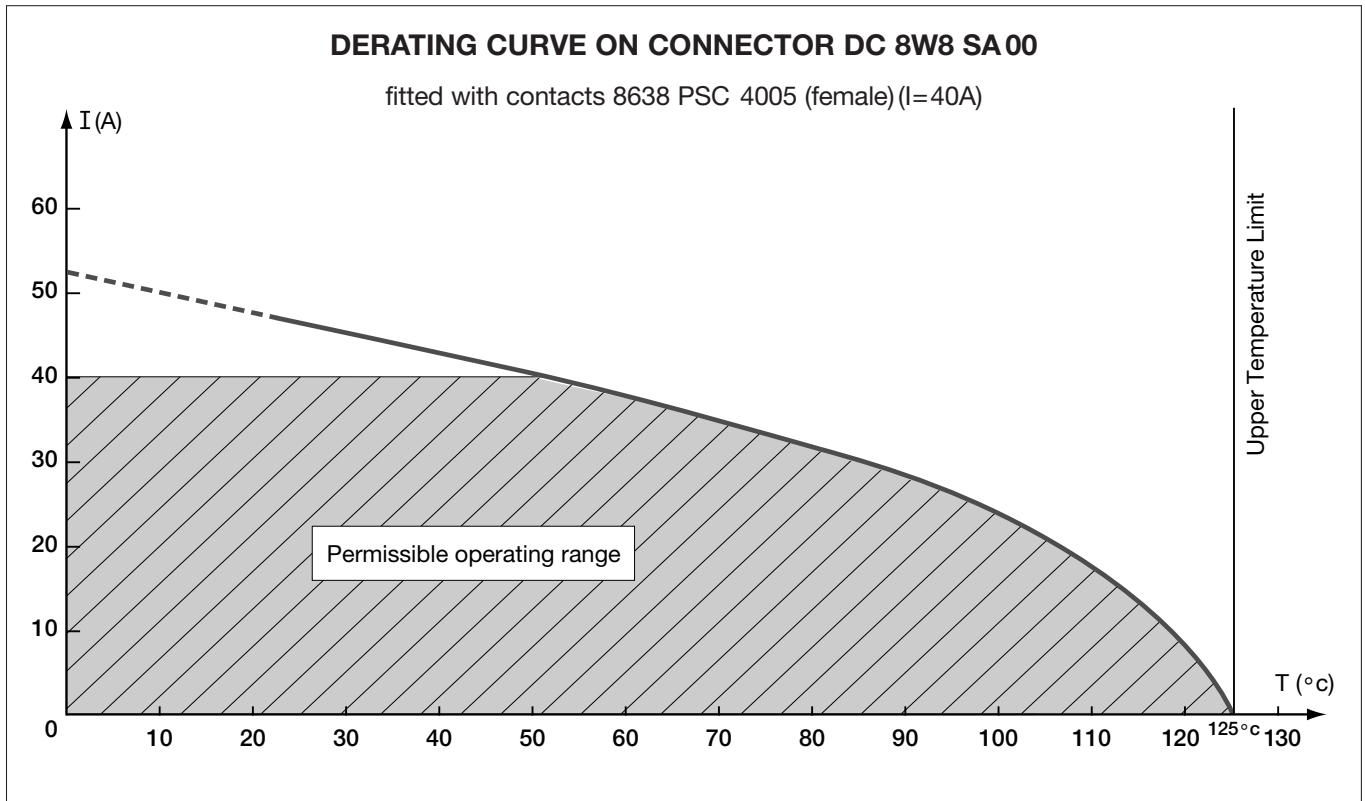
Male insulator front view

| Shell size | Layout |
|------------|---|
| E | 2V2  |
| | 5W1  |
| A | 11W1  |
| | 7W2  |
| | 3W3  |
| | 3V3  |
| C | 25W3  |
| | 21WA4  |
| | 27W2  |
| | 8W8  |

| Shell size | Layout |
|------------|--|
| B | 21W1  |
| | 17W2  |
| | 13W3  |
| | 9W4  |
| | 5W5  |
| D | 47W1  |
| | 24W7  |
| | 36W4  |

Mixed power DW series

Derating curve



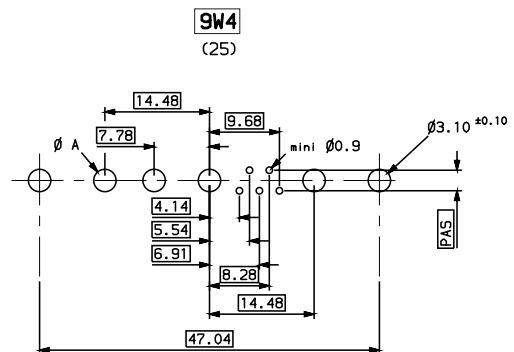
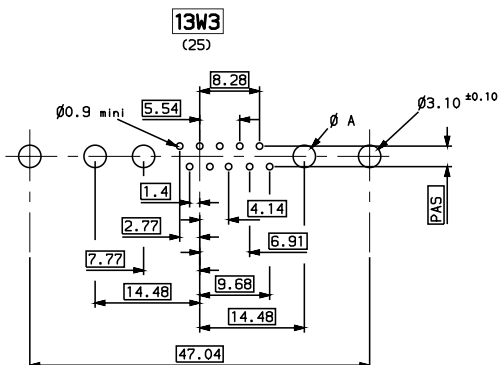
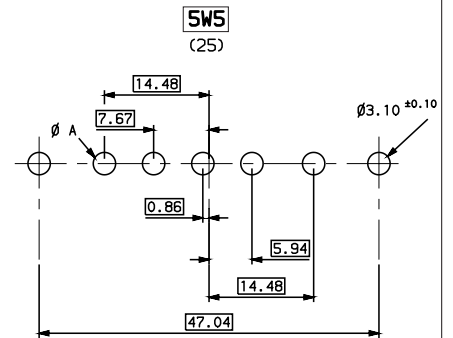
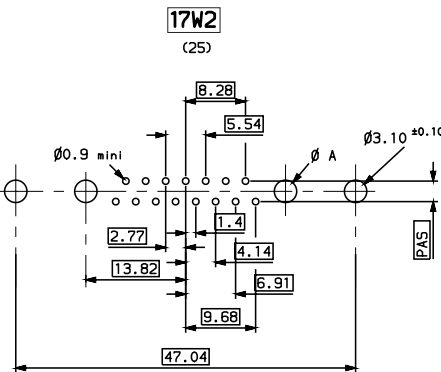
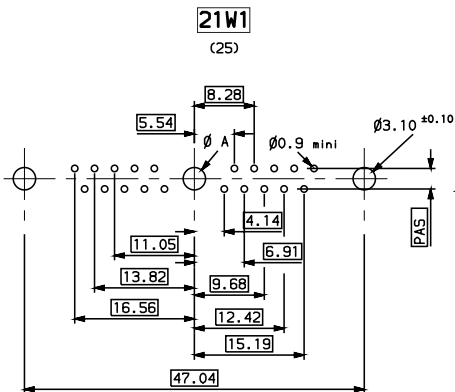
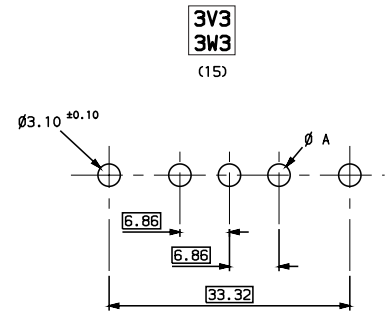
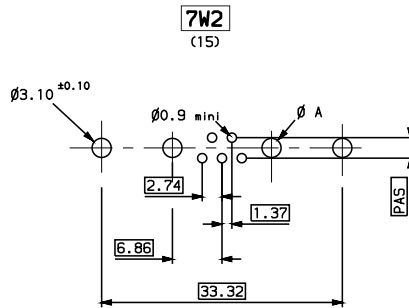
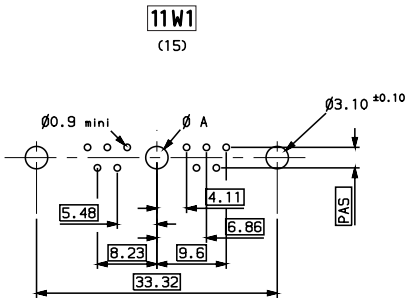
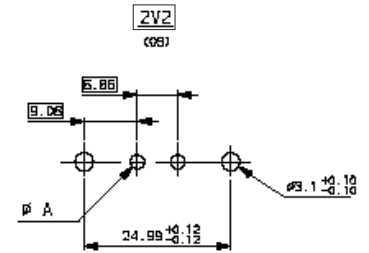
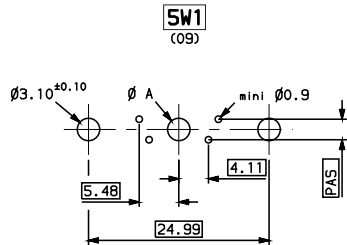
Mixed power DW series

Dimensions

PC board drilling

Solder termination

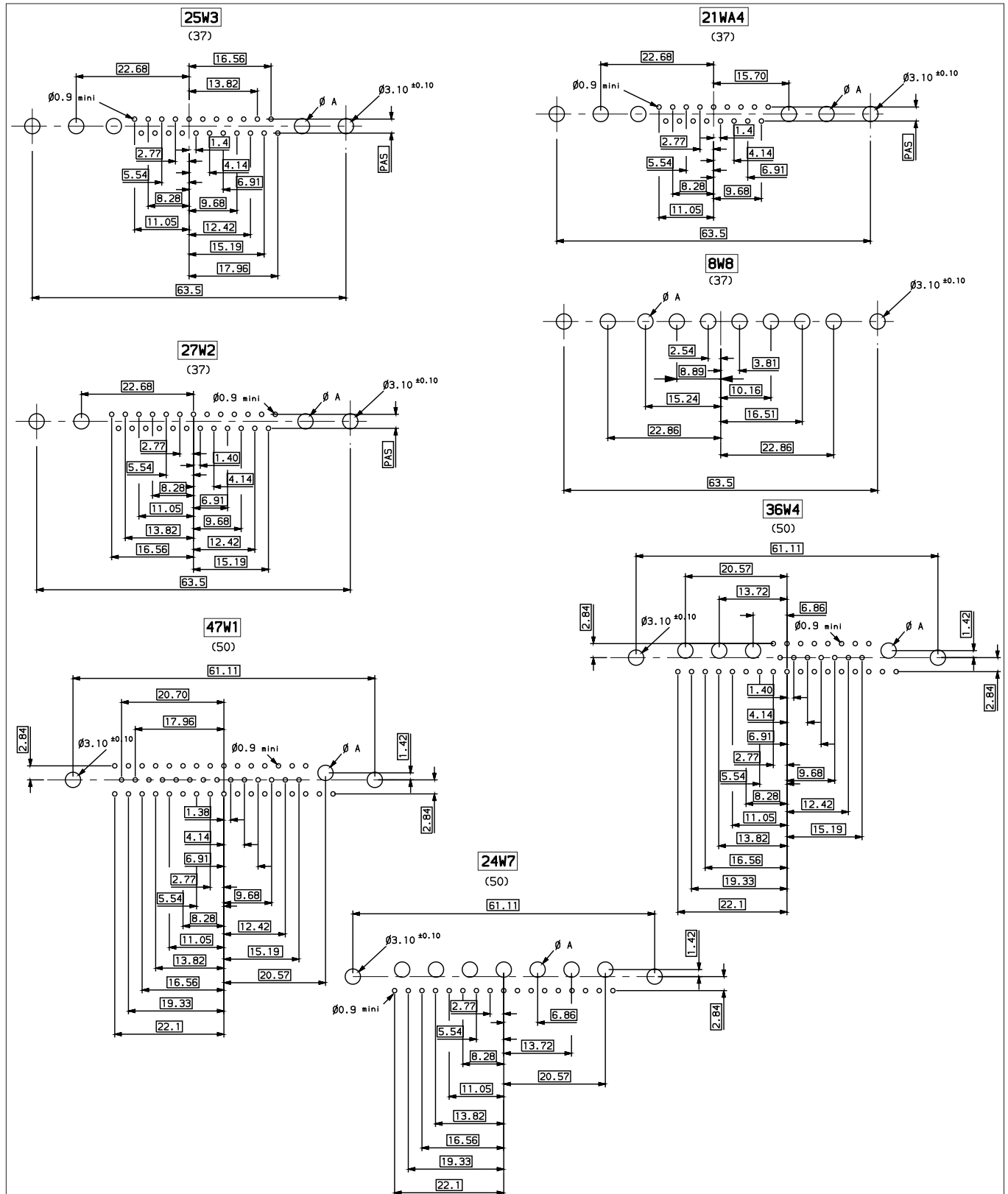
| Version | Step | 30 A | 40 A |
|---------|------|-------------------|-------------------|
| | | Ø A | |
| 3 | 2.84 | Ø 2.40 \pm 0.10 | Ø 3.10 \pm 0.10 |
| 7 | 2.84 | Ø 2.40 \pm 0.10 | |
| 5 | 2.54 | Ø 2.40 \pm 0.10 | Ø 3.10 \pm 0.10 |



Mixed power DW series

Dimensions

PC board drilling



Mixed power DW series solder

 UL Recognized File E 118235 (R)

Straight and right angle PC board versions



Ordering information

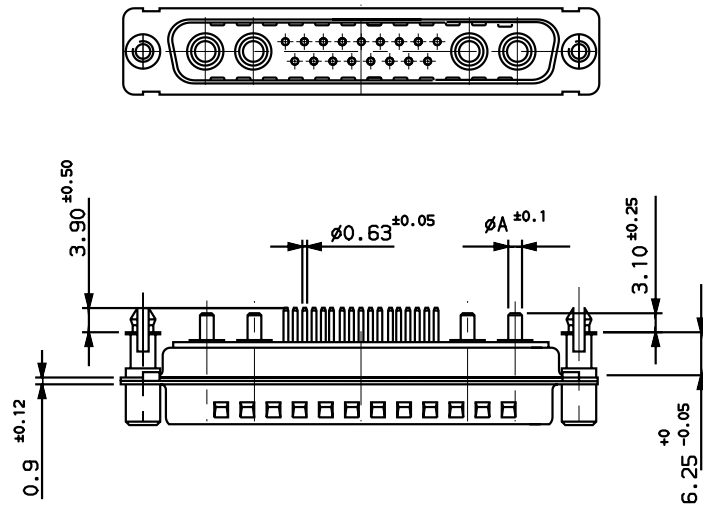
| Series | D | B | L | 13 | W | 3 | P | 3 | 00 | G | 30LF |
|--|---|----------|----------|----------|--|--|---|---|----|---|------|
| Shell size (tin plated) E, A, B, C, D (only straight version) | | | | | | | | | | | |
| Options 1 (see page 61) | | | | | | | | | | | |
| | Blank | L | O | I | V | Blank : without accessory L : Threaded insert M3 O : Threaded insert UNC 4-40 I : Female screw M3 V : Female screw UNC 4-40 | | | | | |
| Straight version | | X | X | X | X | | | | | | |
| Right angled | X | X | X | X | X | | | | | | |
| X : Available | | | | | | | | | | | |
| Layout of contacts (see page 20) (for right angled versions, 47W1, 24W7, 36W4 non available) | | | | | | | | | | | |
| Contacts | | | | | | | | | | | |
| P | : Pin | | | | | | | | | | |
| S | : Socket | | | | | | | | | | |
| Termination type | | | | | | | | | | | |
| 3 | : Straight version | | | | | | | | | | |
| 5 | : Right angled / Europe standard | | | | | | | | | | |
| 7 | : Right angled / US standard (5W1, 9W4 non available) | | | | | | | | | | |
| Plating | | | | | | | | | | | |
| 00 | : 200 Mating / unmating | | | | | | | | | | |
| 43 | : 500 Mating / unmating | | | | | | | | | | |
| Options 2 (see page 62) PCB accessories | | | | | | | | | | | |
| | A | H | G | M | A : without accessory on PCB H : Locking device used for PCB thickness 2.4 mm G : Locking device used for PCB thickness 1.6 mm M : Metal brackets | | | | | | |
| Straight version | X | X | X | | | | | | | | |
| Right angled | X | X | X | X | | | | | | | |
| X : Available | | | | | | | | | | | |
| Power contacts | | | | | | | | | | | |
| 30LF | : Fitted with power contacts 30 A, RoHS compatible | | | | | | | | | | |
| 40LF | : Fitted with power contacts 40 A, RoHS compatible | | | | | | | | | | |
| 00LF | : Without power contacts, RoHS compatible | | | | | | | | | | |

Mixed power DW series solder

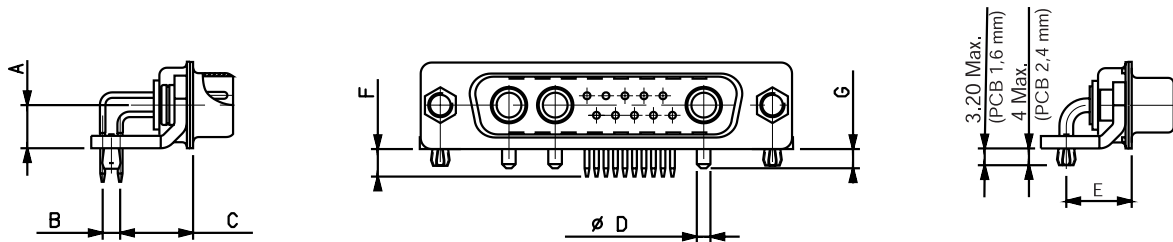
Specific dimensions

Straight version

| | | |
|-----|------|------|
| I | 30 A | 40 A |
| Ø A | 2 | 2.8 |



Angled version



| | Termination type | Amp. | A \pm 0.10 | B \pm 0.20 | C \pm 0.20 | D \pm 0.10 | E \pm 0.20 | F \pm 0.50 | G \pm 0.30 |
|--------|------------------|------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Europe | 5... | 30 A | 7.20 | 2.54 | 10.30 | 2.00 | 11.65 | 4.00 | 3.60 |
| | | 40 A | 7.20 | 2.54 | 10.30 | 2.80 | 11.65 | 4.00 | 3.60 |
| U.S | 7... | 30 A | 6.30 | 2.84 | 8.08 | 2.00 | 9.50 | 3.90 | 3.60 |

Mixed power DW series Cable connectors

 UL Recognized File E 118235 (R)



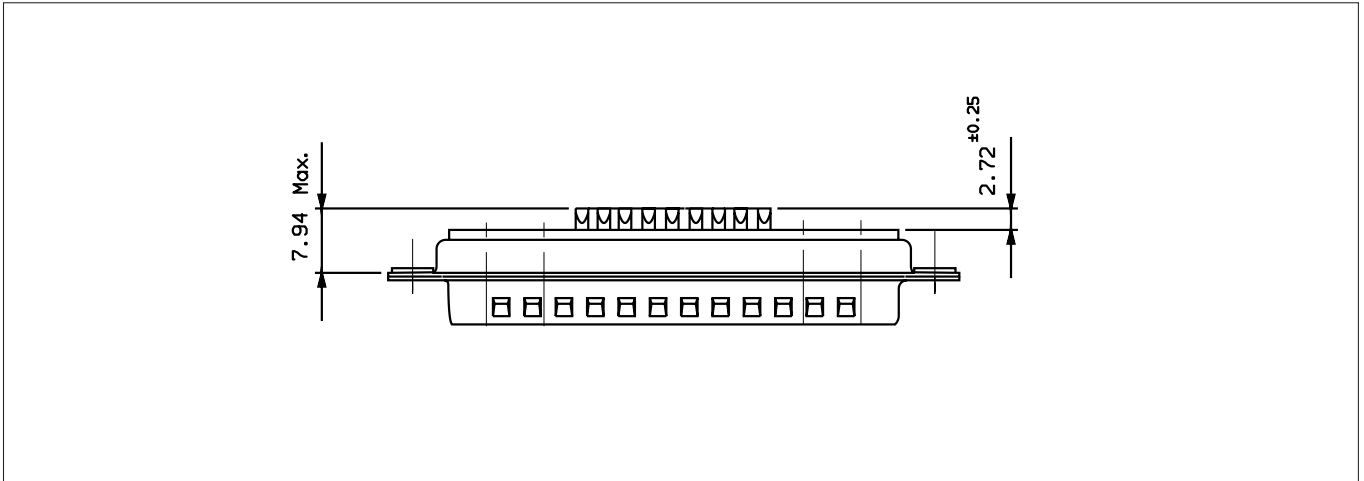
Ordering information (power contacts have to be ordered separately – see next page)

| Series | D | B | L | 13 | W | 3 | P | 4 | 00 | A | 00LF |
|---|---|----------|----------|----------|----------|----------|---|---|----|---|------|
| Shell size (tin plated) E, A, B, C, D | | | | | | | | | | | |
| Mounting option 1 (see page 61) connector accessories | | | | | | | | | | | |
| | Blank | L | O | I | V | F | ☺ Blank : without accessory ☺ L : Threaded insert M3 ☺ O : Threaded insert UNC 4-40 ☺ I : Female screw M3 ☺ V : Female screw UNC 4-40 ☺ F : Float mounting | | | | |
| Solder buckets | X | X | X | X | X | X | | | | | |
| Wire wrap | X | X | X | X | X | X | | | | | |
| X : Available | | | | | | | | | | | |
| Layout of contacts (see page 16) | | | | | | | | | | | |
| Contacts | | | | | | | | | | | |
| P | : Pin | | | | | | | | | | |
| S | : Socket | | | | | | | | | | |
| Termination type | | | | | | | | | | | |
| 0 | : Solder bucket (blank for plating 00) | | | | | | | | | | |
| 4 | : Wire wrap (3 levels) | | | | | | | | | | |
| Plating | | | | | | | | | | | |
| 00 | : 200 mating / unmating (blank for solder bucket termination) | | | | | | | | | | |
| 43 | : 500 mating / unmating | | | | | | | | | | |
| A | : without accessory on PCB | | | | | | | | | | |
| Power contacts | | | | | | | | | | | |
| 00LF | : RoHS compatible | | | | | | | | | | |

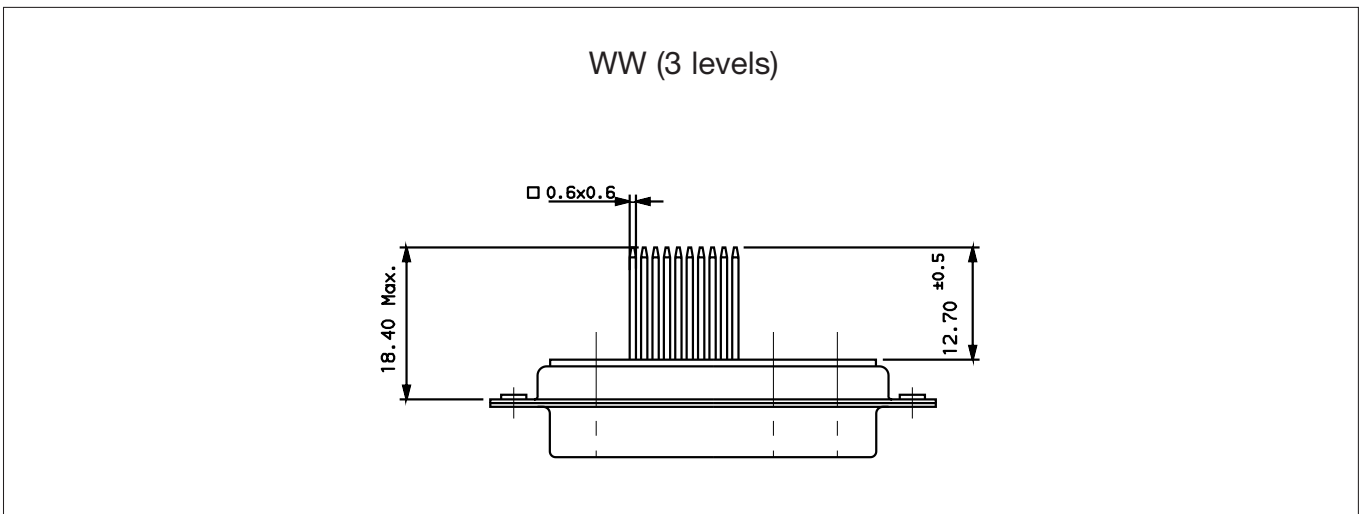
Mixed power DW series Cable connectors

Specific dimensions

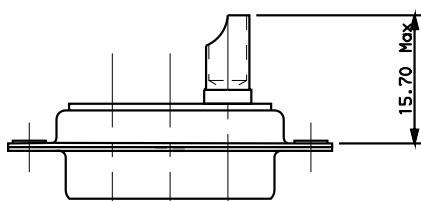
Solder bucket



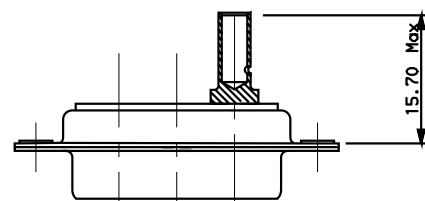
Wire wrap



Solder version

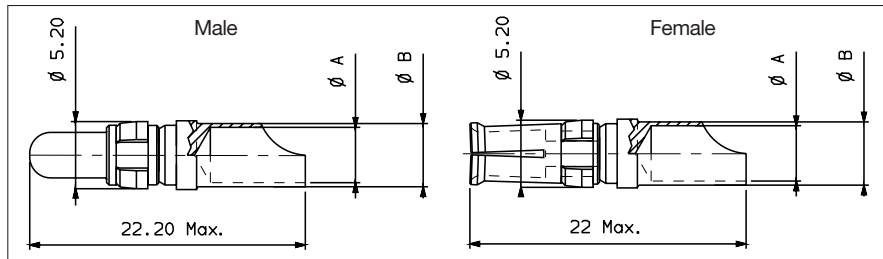


Crimp version



DW series Power solder and crimp

Power contacts Solder contacts



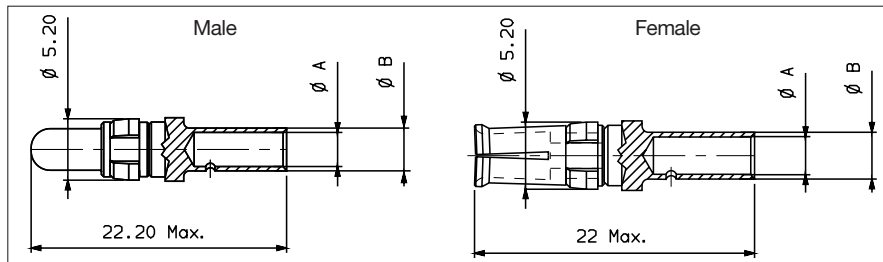
| Type | Max. current rating | Clip colour | RoHS* Part number ≥ 200 mating/unmating | RoHS* Part number ≥ 500 mating/unmating | Wire | | Strip length mm _{+0.5, 0} | Ø A ₀ ^{+0.1} | Ø B ^{±0.05} |
|--------|---------------------|-------------|--|--|------|----------------------------|---------------------------------------|----------------------------------|----------------------|
| | | | | | Size | section mm ² | | | |
| Male | 10A | Black | 8638PPS1005LF | 8638PPS1006LF | 16 | 1.3 | 7 | 1.7 | 2.6 |
| Male | 15A | White | 8638PPS1505LF | 8638PPS1506LF | 14 | 1.9 | 7 | 2.1 | 3 |
| Male | 20A | Red | 8638PPS2005LF | 8638PPS2006LF | 12 | 3.2 | 7 | 2.8 | 3.65 |
| Male | 40A | Blue | 8638PPS4005LF | 8638PPS4006LF | 8 | 9 | 7 | 4.4 | 5 |
| Female | 10A | Black | 8638PSS1005LF | 8638PSS1006LF | 16 | 1.3 | 7 | 1.7 | 2.6 |
| Female | 15A | White | 8638PSS1505LF | 8638PSS1506LF | 14 | 1.9 | 7 | 2.1 | 3 |
| Female | 20A | Red | 8638PSS2005LF | 8638PSS2006LF | 12 | 3.2 | 7 | 2.8 | 3.65 |
| Female | 40A | Blue | 8638PSS4005LF | 8638PSS4006LF | 8 | 9 | 7 | 4.4 | 5 |

- Clip material: plastic withstanding 125°C

- Termination plating: matt tin

* RoHS compatible EU directive 2002/95/EC

Crimp contacts



| Type | Max. current rating | Clip colour | RoHS* Part number ≥ 200 mating/unmating | RoHS* Part number ≥ 500 mating/unmating | Wire | | Strip length mm _{+0.5, 0} | Ø A ₀ ^{+0.1} | Ø B ^{±0.05} |
|--------|---------------------|-------------|--|--|----------|----------------------------|---------------------------------------|----------------------------------|----------------------|
| | | | | | Size | section mm ² | | | |
| Male | 10A | Black | 8638PPC1005LF | 8638PPC1006LF | 16 to 18 | 0.9 to 1.3 | 7 | 1.8 | 2.55 |
| Male | 20A | Red | 8638PPC2005LF | 8638PPC2006LF | 12 to 14 | 2 to 3 | 7 | 2.8 | 3.7 |
| Male | 30A | White | 8638PPC3005LF | 8638PPC3006LF | 9 | 6 | 7 | 3.75 | 4.65 |
| Male | 40A | Blue | 8638PPC4005LF | 8638PPC4006LF | 8 to 10 | 5 to 8 | 7 | 4.8 | 5.5 |
| Female | 10A | Black | 8638PSC1005LF | 8638PSC1006LF | 16 to 18 | 0.9 to 1.3 | 7 | 1.8 | 2.55 |
| Female | 20A | Red | 8638PSC2005LF | 8638PSC2006LF | 12 to 14 | 2 to 3 | 7 | 2.8 | 3.7 |
| Female | 30A | White | 8638PSC3005LF | 8638PSC3006LF | 9 | 6 | 7 | 3.75 | 4.65 |
| Female | 40A | Blue | 8638PSC4005LF | 8638PSC4006LF | 8 to 10 | 5 to 8 | 7 | 4.8 | 5.4 |

- Clip material: plastic withstanding 125°C

- Termination plating: matt tin

* RoHS compatible EU directive 2002/95/EC

DELTA D




Full power right angle

 UL Recognized File E 118235 (R)

This monobloc insulator design with stamped and formed signal contacts combines performance and cost effectiveness.

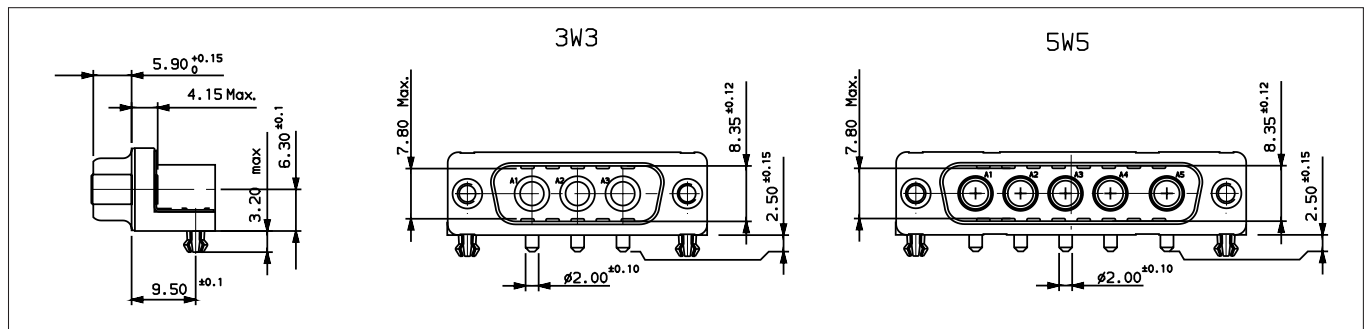


Part number

| | | | | | | | | | |
|--|---|------------|-----------------------|---------------|---|------|---|----|------|
| Series | D | 3 | W | 3 | P | 36 A | 6 | GX | 08LF |
| Layout | | 5 | W | 5 | | | | | |
| Contact | | | | | | | | | |
| P | : Male | | | | | | | | |
| Termination type | | | | | | | | | |
| Code | Type | Foot print | Length of termination | PCB thickness | | | | | |
| 36 A | Right angle, US standard, solder | 8.08 mm | 2.50 | 1.6 | | | | | |
| Plating | | | | | | | | | |
| 6 | : High performances class (500 ≤ mating / unmating) | | | | | | | | |
| Mounting options (see page 59) | | | | | | | | | |
| Options | Description | | | | | | | | |
| GL | Harpoon + insert M3 + elec. continuity | | | | | | | | |
|  GX | Harpoon + insert UNC 4-40 + elec. continuity | | | | | | | | |
|  GV | Harpoon + Female screw UNC 4-40 + elec. continuity | | | | | | | | |
| Power contacts | | | | | | | | | |
| 08 | : Fitted with power contacts 30 A, non RoHS compatible | | | | | | | | |
|  08LF | : Fitted with power contacts 30 A, RoHS compatible | | | | | | | | |

For other technical characteristics, see page 6 - For other dimensions and layouts, see page 18.

Specific dimensions

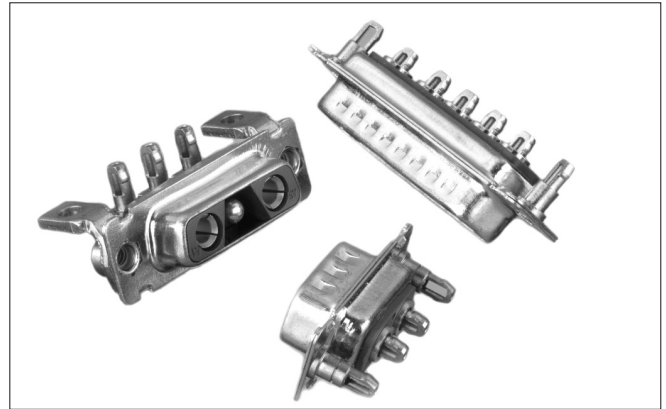


 Preferred option


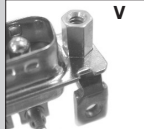
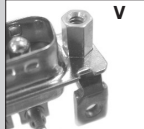
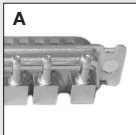
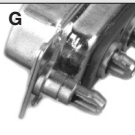
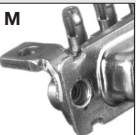


DW series

Full power right angle and straight press-fit

 UL Recognized File E 118235 (R)



Part number

| | | | | | | | | | | | | | | | |
|---|--|----------|----------|----------|--|----------|----------|----------|----------|----------|----------|------------|----------|----------|-------------|
| Series | | | | | D | E | L | 2 | V | 2 | P | 93C | 5 | G | 40LF |
| Shell size (tin plated) E, A, B, C | | | | | | | | 3 | V | 3 | | | | | |
| | | | | | | | | 5 | W | 3 | | | | | |
| | | | | | | | | 8 | W | 5 | | | | | |
| | | | | | | | | | W | 8 | | | | | |
| Front accessory | | | | | Blank : Without accessory L : Threaded insert M3 O : Threaded insert UNC 4-40 V : Female screw UNC 4-40 | | | | | | | | | | |
| | Blank | L | O | V | | | | | | | | | | | |
| Straight version | | X | X | X | | | | | | | | | | | |
| Right angled | X | X | X | X | | | | | | | | | | | |
| X : available | | | | |    | | | | | | | | | | |
| Layout | | | | | | | | | | | | | | | |
| Contacts | | | | | | | | | | | | | | | |
| P | : Pin | | | | | | | | | | | | | | |
| S | : Socket | | | | | | | | | | | | | | |
| Termination type | | | | | | | | | | | | | | | |
| 93 C | : Straight version | | | | | | | | | | | | | | |
| 81 C | : Right angle / European standard | | | | | | | | | | | | | | |
| 80 C | : Right angle / US standard | | | | | | | | | | | | | | |
| Plating | | | | | | | | | | | | | | | |
| 5 | : 200 mating / unmating | | | | | | | | | | | | | | |
| 6 | : 500 mating / unmating | | | | | | | | | | | | | | |
| PCB accessory | | | | | A : without accessory G : Harpoon used for PCB thickness from 1.6 mm M : Metal brackets without harpoon | | | | | | | | | | |
| | M | G | A | | | | | | | | | | | | |
| Straight version | | X | | | | | | | | | | | | | |
| Right angled | X | | X | | | | | | | | | | | | |
| | | | | |    | | | | | | | | | | |
| Power contacts | | | | | | | | | | | | | | | |
|  40 | : Fitted with power contacts 40 A, non RoHS compatible | | | | | | | | | | | | | | |
|  40LF | : Fitted with power contacts 40 A, RoHS compatible | | | | | | | | | | | | | | |

For other technical characteristics, see page 6.

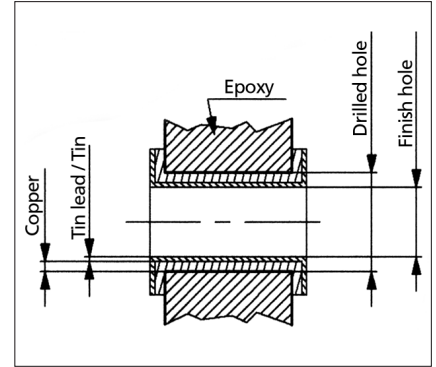
DW series

Full power right angle and straight press-fit

Specific dimensions

• Metallized hole dimensions

| | | | Press-fit contacts | Press-fit harpoons | Other accessories |
|---------------------------------------|----------|----------------------------|---|---|-----------------------------|
| P.C.B. hole definition (note 1 and 2) | | Drill diameter | $\varnothing 3.22 \pm 0.03$ | $\varnothing 3.22 \pm 0.03$ | $\varnothing 3.22 \pm 0.03$ |
| | | Drilled hole | $\varnothing 3.19 - 3.25$ | $\varnothing 3.19 - 3.25$ | |
| | | Copper plating | 25 μm min (recommended 50 μm max) | 25 μm min (recommended 50 μm min) | |
| | non RoHS | Tin lead plating | 15 μm max (recommended 5 μm min) | 15 μm max (recommended 5 μm min) | |
| | | Finish hole (after reflow) | $\varnothing 3.02 - 3.20$ | $\varnothing 3.02 - 3.20$ | |
| | RoHS | Tin plating | 0.8 to 1.2 μm | 0.8 to 1.2 μm | |
| Finish hole (after reflow) | | $\varnothing 3.08 - 3.20$ | $\varnothing 3.08 - 3.20$ | | |



Note 1 : These dimensions must be respected to ensure press-fit pin performance

Note 2 : According to IEC-352-S specification

Note 3 : Vital requirement for press-fit pin performance

• Press-fit performance

| | Press-fit contacts | Press-fit harpoons |
|------------------|---------------------------------------|---------------------------------------|
| Insertion force | ≤ 200 N (average insertion 160N) | ≤ 200 N (average insertion 160N) |
| Extraction force | ≥ 30 N | ≥ 30 N |

D series



D series is the standard D-Sub full metal shell version with stamped contacts. This design is basically proposed in solder bucket, straight and angled version without accessories.



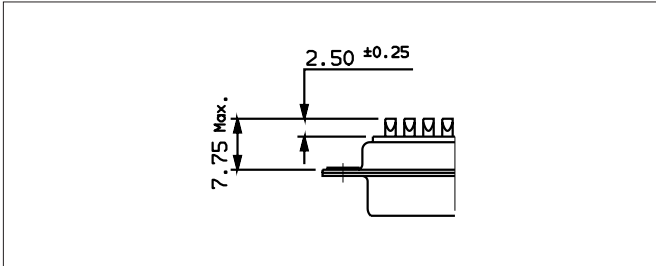
Ordering information

| | | | | | | | | | | |
|--|-------------------------|-------------------------|-----------------------|--------------------------------|----------|-----------|----------|----------|----------|-----------|
| Series | D | B | 25 | P | 5 | 64 | C | T | X | LF |
| Shell size E, A, B, C, D | | | | | | | | | | |
| Number of contacts 09, 15, 25, 37, 50 | | | | | | | | | | |
| Contacts P : Pin S : Socket | | | | | | | | | | |
| Termination type 0 : Solder bucket 3 : Straight 5 : Angled | | | | | | | | | | |
| | | | } Stamped contacts | | | | | | | |
| Plating 64 : ≥ 200 mating / unmating 65 : ≥ 500 mating / unmating | | | | | | | | | | |
| Options 2 (see page 62) | | | | | | | | | | |
| | Termination type | Straight version | Angled version | Solder buckets | | | | | | |
| Index | | | | | | | | | | |
| Blank | | Without accessory | Not possible | Without accessory | | | | | | |
| C | | Not possible | Without bracket | Not possible | | | | | | |
| H* | | Not possible | Not possible | Shielding termination fingers* | | | | | | |
| * not available on 50 way | | | | | | | | | | |
| Shell plating T : Standard tin plating | | | | | | | | | | |
| Dimples X : Standard for male connector only | | | | | | | | | | |
| Blank : non RoHS compatible LF : RoHS compatible | | | | | | | | | | |

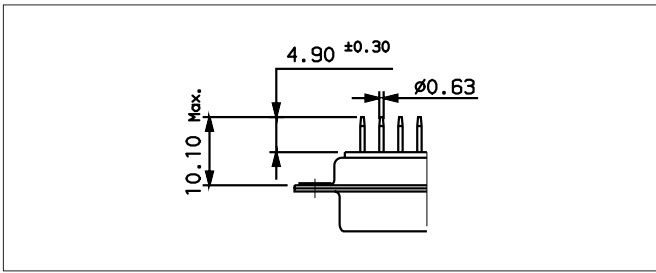
D series

Specific dimensions

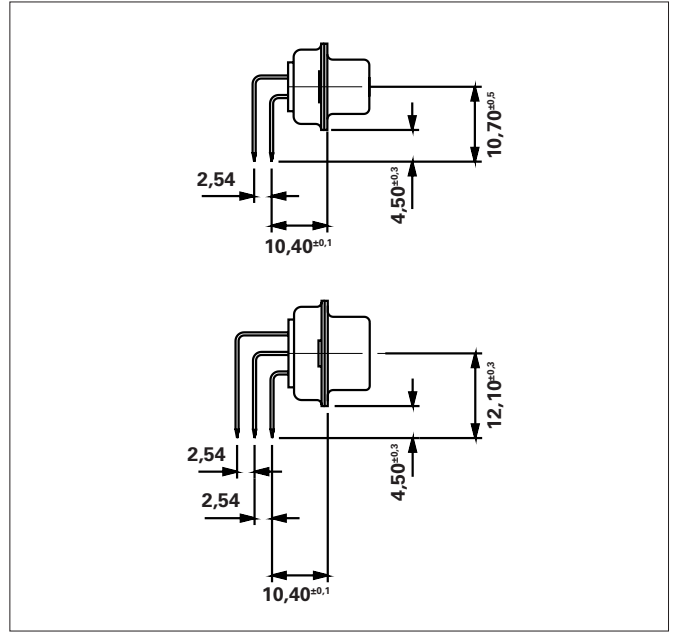
Solder buckets



Straight spills



Angled spills



8656 series



8656 series is a D connector with removable crimp contacts for AWG 20/24 or 24/28 wires. It is used for commercial cabling like computer equipment, cash registers... It accepts our standard accessories (hoods, locking devices) and is available with a complete range of crimping tools from hand tools to high volume production equipment.



Ordering information

Connector part numbers

| | | | | | | | | |
|---|-------------|----------|-----------|----------|----------|----------|----------|-----------|
| Series | 8656 | 0 | 25 | P | L | T | X | LF |
| Options 1 (see page 61) | | | | | | | | |
| Blank : Standard mounting hole (Ø = 3.10) | | | | | | | | |
| O : Clinch nuts UNC 4-40 | | | | | | | | |
| Number of contacts | | | | | | | | |
| 9, 15, 25, 37, 50 | | | | | | | | |
| Contacts | | | | | | | | |
| P : Pin | | | | | | | | |
| S : Socket | | | | | | | | |
| L : Supplied without contacts (obligatory) | | | | | | | | |
| Shell plating | | | | | | | | |
| T : Standard tin plating | | | | | | | | |
| Dimples | | | | | | | | |
| X : Standard on male shell only | | | | | | | | |
| Blank : non RoHS compatible | | | | | | | | |
| LF : RoHS compatible | | | | | | | | |

Contact part numbers

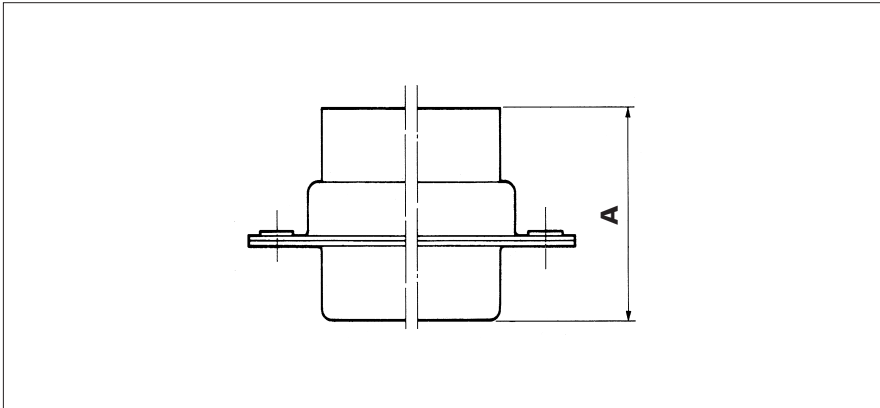
| Contact type \ Packaging type | ☺ | | ☺ | |
|-------------------------------|---------------------|----------------------|-----------------------|-------------------------|
| | Box of 500 contacts | Reel of 400 contacts | Reel of 5000 contacts | Reel of 10 000 contacts |
| AWG 24/28 male | 8656 350 06 ▲ | 8656 3003 06 ▲ | 8656 4510 06 ▲ | 8656 4540 06 ▲ |
| AWG 24/28 female | 8656 351 06 ▲ | 8656 3004 06 ▲ | 8656 6510 06 ▲ | 8656 6540 06 ▲ |
| AWG 20/24 male | 8656 352 06 ▲ | 8656 3005 06 ▲ | 8656 4520 06 ▲ | 8656 4530 06 ▲ |
| AWG 20/24 female | 8656 353 06 ▲ | 8656 3006 06 ▲ | 8656 6520 06 ▲ | 8656 6530 06 ▲ |

▲ **Contact plating:** 4: ≥ 200 mating / unmating, non RoHS compatible
5: ≥ 500 mating / unmating, non RoHS compatible

☺ 4LF: ≥ 200 mating / unmating, RoHS compatible
☺ 5LF: ≥ 500 mating / unmating, RoHS compatible

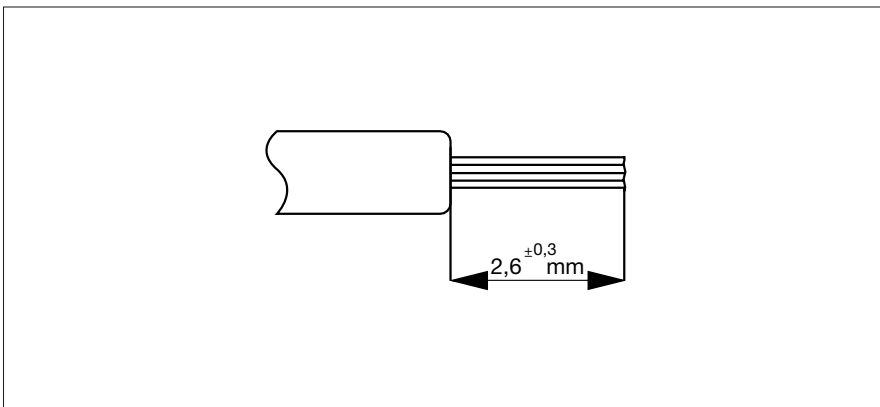
8656 series

Specific dimensions



| | 09 | 15 | 25 | 37 | 50 |
|-------------------|-------|-------|-------|-------|-------|
| Pin | 17.19 | 17.19 | 17.35 | 17.35 | 17.35 |
| A ^{Max.} | 17.19 | 17.19 | 17.35 | 17.35 | 17.35 |
| Socket | 17.44 | 17.44 | 17.44 | 17.44 | 17.44 |

Cable preparation



8657 series

Insulation displacement connection for flat cable, multistrand (AWG 26/28) or single strand (AWG 28/30)



These connectors are suitable for input/output applications and interconnecting electronic equipment.



Ordering information

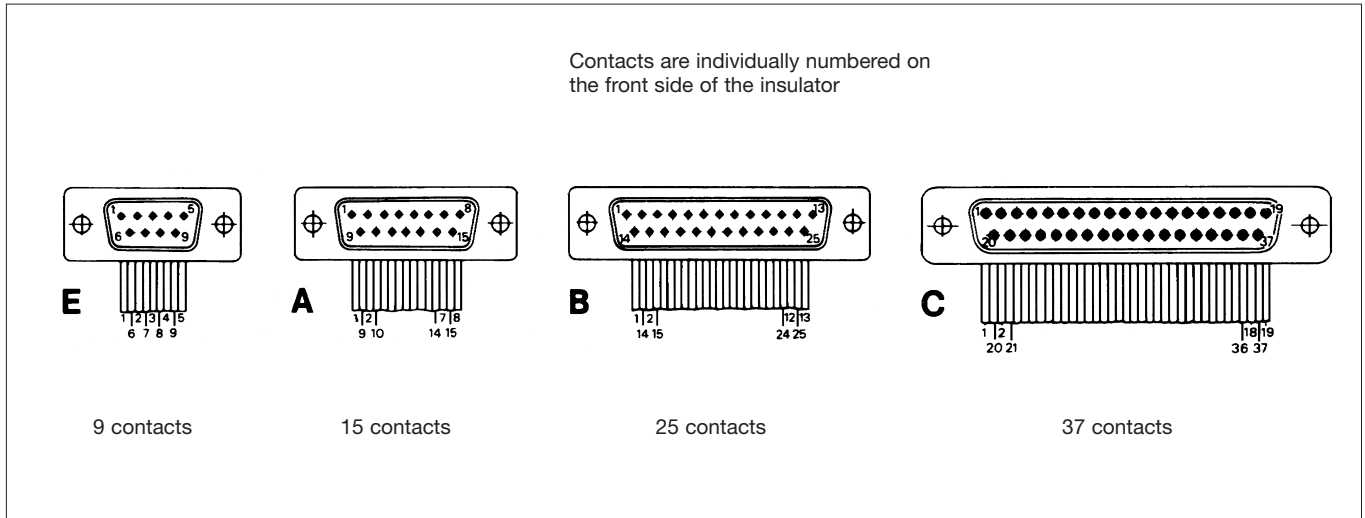
| | | | | | | | | |
|-------------------------------------|-----------------------------------|----|---|---|----|---|---|----|
| Series | 8657 | 25 | P | 0 | 65 | T | X | LF |
| Number of contacts 9, 15, 25, 37 | | | | | | | | |
| Contacts P : Pin S : Socket | } Stamped and rolled contacts | | | | | | | |
| Standard version | | | | | | | | |
| Plating 65 | : 500 mating / unmating | | | | | | | |
| Shell plating T | : Standard tin plating | | | | | | | |
| Dimples X | : Standard on male connector only | | | | | | | |
| ☺ LF | : RoHS compatible | | | | | | | |

Technical characteristics - see page 7

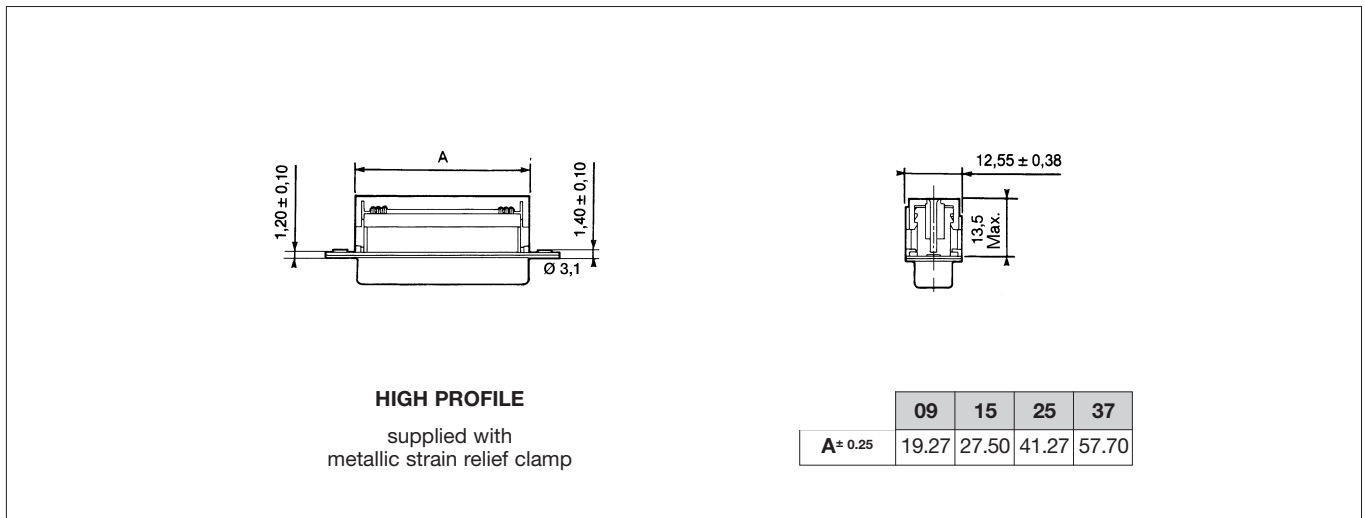
8657 series

Layouts

Male insulator front view



Specific dimensions



DP series



DP series is designed for high performance applications, particularly in the field of telecommunications: data transmission, private automatic branch switching, telecom (LNZ listed). It features machined contacts and is available with solder bucket, straight spills, angled spills, and wire wrap terminations.



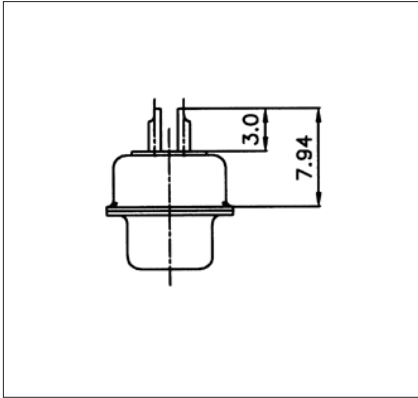
Ordering information

| | | | | | | | | | | | | |
|---|--|---------------------------------|--|-------------------------------|-------------------|----------|----------|-----------|----------|----------|----------|-----------|
| Series | D | B | P | V | 25 | P | 3 | 64 | C | T | X | LF |
| Shell size E, A, B, C, D | | | | | | | | | | | | |
| P | : Characterisation of DP series | | | | | | | | | | | |
| Front accessories | | | | | | | | | | | | |
| Blank | : Standard mounting holes (Ø = 3.10) | | | | | | | | | | | |
| L | : Clinch nuts M3 | | | | | | | | | | | |
| V | : Female screw locks UNC 4-40 | | | | | | | | | | | |
| S | : Spacers (straight spills only) | | | | | | | | | | | |
| Number of contacts 09, 15, 25, 37, 50 | | | | | | | | | | | | |
| Contacts | | | | | | | | | | | | |
| P | : Pin | | | | | | | | | | | |
| S | : Socket | | | | | | | | | | | |
| Termination | | | | | | | | | | | | |
| 0 | : Solder buckets (blank for plating 00) | | | | | | | | | | | |
| 3 | : Straight spills | | | | | | | | | | | |
| 5 | : Angled spills- 2.54 mm between rows | | | | | | | | | | | |
| 8 | : Angled spills- 2.84 mm between rows | | | | | | | | | | | |
| 4 | : Wire wrap (3 levels) | | | | | | | | | | | |
| 6 | : Wire wrap (2 levels) | | | | | | | | | | | |
| Plating | | | | | | | | | | | | |
| 64 | : ≥ 200 mating / unmating | | | | | | | | | | | |
| 65 | : ≥ 500 mating / unmating, blank for solder bucket termination | | | | | | | | | | | |
| PCB accessories | | | | | | | | | | | | |
| Index | Termination type | Straight spills | Angled spills | Solder buckets | Wire wrap | | | | | | | |
| Blank | | Without accessory | Two plastic brackets* Without bracket | Without accessory | Without accessory | | | | | | | |
| C | | | Two metal brackets | | | | | | | | | |
| M | | Harpoons | Harpoons | | | | | | | | | |
| G | | (Compulsary with option L or V) | (9 to 37 ways only) | | | | | | | | | |
| H | | | | Shielding termination fingers | | | | | | | | |
| * Except 50 pos. with monobloc plastic brackets | | | | | | | | | | | | |
| Shell plating | | | | | | | | | | | | |
| T | : Standard tin plated | | | | | | | | | | | |
| Dimples | | | | | | | | | | | | |
| X | : Standard on male connectors only | | | | | | | | | | | |
| Blank | : Standard series, non RoHS compatible | | | | | | | | | | | |
| LF | : Standard series, RoHS compatible | | | | | | | | | | | |

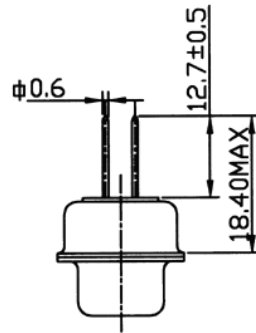
DP series

Specific dimensions

Solder buckets

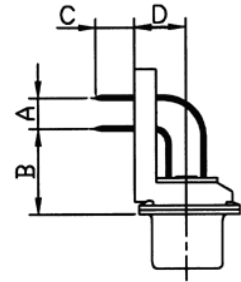


Wire wrap

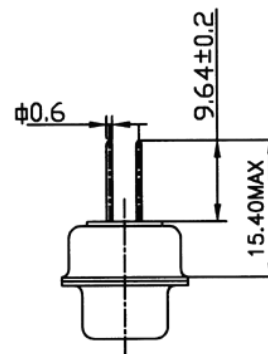
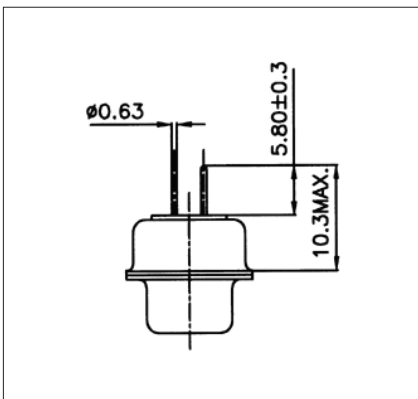


3 Levels

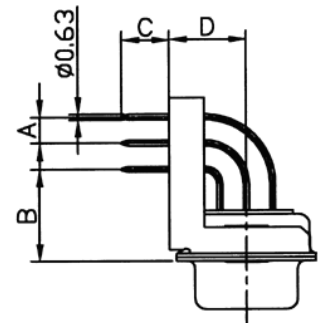
Angled spills



Straight spills



2 Levels
Diagonal 0.79-0.87



| Termination | | 5 | 8 |
|-------------|------------------|-----------|-------|
| | | Dimension | |
| A | | 2.54 | 2.84 |
| B ± 0.1 | | 10.30 | 10.30 |
| C ± 0.5 | | 4.00 | 4.00 |
| D ± 0.1 | 9 to 37 contacts | 7.20 | 7.20 |
| | 50 contacts | 8.60 | 8.60 |

DM series HE 501


UL Rating Product File E 118235 (R)

For aerospace, military 125° class-European standard in compliance with NFC 93425 / HE 501.

Shell plating: Cadmium



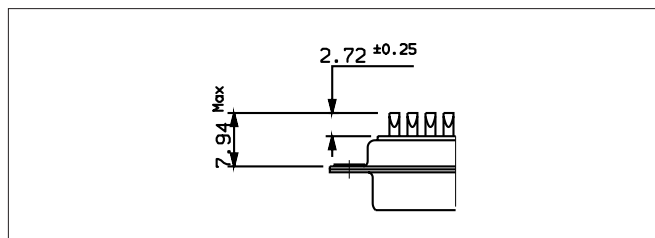
Ordering information

| Series | D | B | M | L | 25 | P | 5 | 00 | M | LF | | | | | | | | | | | | | |
|--|----------|------------------|--------------------|--------------------|-----------------|----------|------------------|----------------|----------|------------------|----------------|--|----------------|----------------|--|--|--|--|--|--|--|--|--|
| Shell size E, A, B, C, D | | | | | | | | | | | | | | | | | | | | | | | |
| M: Characterisation of Military series | | | | | | | | | | | | | | | | | | | | | | | |
| Options 1 (see cover page 59) Blank : Standard mounting holes (Ø = 3.10) L : Clinch nuts M3 F : Float mounting | | | | | | | | | | | | | | | | | | | | | | | |
| Number of contacts 09, 15, 25, 37, 50 | | | | | | | | | | | | | | | | | | | | | | | |
| Contacts P : Pin S : Socket | | | | | | | | | | | | | | | | | | | | | | | |
| Termination Blank : Solder buckets 3 : Straight solder spills 5 : Angled solder spills 4 : Wire wrap (3 levels) | | | | | | | | | | | | | | | | | | | | | | | |
| Plating 00 : Standard = Gold / Nickel - Blank for solder bucket termination Others : please, consult us | | | | | | | | | | | | | | | | | | | | | | | |
| Options 2 (see cover page 62) | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Option</th> <th>Version</th> <th>Angled spills</th> <th>Other terminations</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Blank C M</td> <td></td> <td>Plastic brackets</td> <td>Not applicable</td> </tr> <tr> <td></td> <td>Without brackets</td> <td>Not applicable</td> </tr> <tr> <td></td> <td>Metal brackets</td> <td>Not applicable</td> </tr> </tbody> </table> | Option | Version | Angled spills | Other terminations | Blank C M | | Plastic brackets | Not applicable | | Without brackets | Not applicable | | Metal brackets | Not applicable | | | | | | | | | |
| Option | Version | Angled spills | Other terminations | | | | | | | | | | | | | | | | | | | | |
| Blank C M | | Plastic brackets | Not applicable | | | | | | | | | | | | | | | | | | | | |
| | | Without brackets | Not applicable | | | | | | | | | | | | | | | | | | | | |
| | | Metal brackets | Not applicable | | | | | | | | | | | | | | | | | | | | |
| Blank : non RoHS compatible  LF : RoHS compatible | | | | | | | | | | | | | | | | | | | | | | | |

DM series HE 501

Specific dimensions

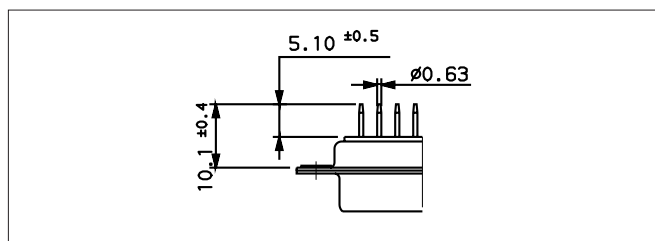
Solder buckets



Cross reference list for the main HE 501 and FCI

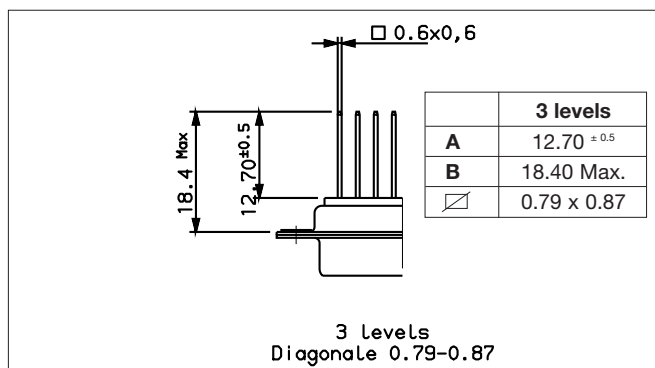
| Connector type | | HE 501 | FCI | |
|----------------|----------------|--------|---------------|-----------|
| Solder buckets | Standard | M | HE 501 N..AP3 | D.M..PLF |
| | | F | HE 501 N..AS3 | D.M..SLF |
| | Float mounting | M | HE 501 F..AP3 | D.MF..PLF |
| | | F | HE 501 F..AS3 | D.MF..SLF |

Straight spills



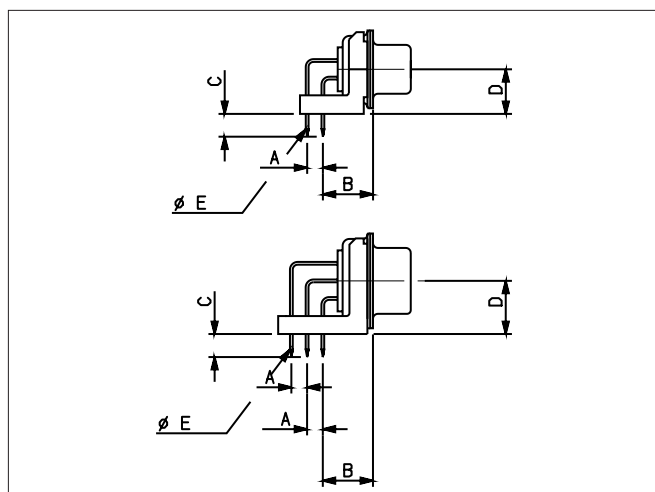
| Connector type | | HE 501 | FCI | |
|-----------------|----------------|--------|-----------------|---------------|
| Straight spills | Standard | M | HE 501 N..YP4.3 | D.M..P 300LF |
| | | F | HE 501 N..YS4.3 | D.M..S 300LF |
| | Float mounting | M | HE 501 F..YP4.3 | D.MF..P 300LF |
| | | F | HE 501 F..YS4.3 | D.MF..S 300LF |

Wire wrap



| Connector type | | HE 501 | FCI | |
|-----------------------|----------------|--------|-----------------|---------------|
| Wire wrap 3 levels | Standard | M | HE 501 N..KP3.3 | D.M..P 400LF |
| | | F | HE 501 N..KS3.3 | D.M..S 400LF |
| | Float mounting | M | HE 501 F..KP3.3 | D.MF..P 400LF |
| | | F | HE 501 F..KS3.3 | D.MF..S 400LF |

Angled spills



| Connector type | | HE 501 | FCI | |
|----------------------|----------------|--------|-----------------|---------------|
| Angled spills 500 | Standard | M | HE 501 P..VP6.3 | D.M..P 500LF |
| | | F | HE 501 P..VS6.3 | D.M..S 500LF |
| | Metal brackets | M | HE 501 M..VP6.3 | D.M..P 500MLF |
| | | F | HE 501 M..VS6.3 | D.M..S 500MLF |

| Dimension | Termination | 5 |
|-----------|------------------|-------|
| A | | 2.54 |
| B ±0.1 | | 10.30 |
| C ±0.5 | | 4.00 |
| D ±0.1 | 9 to 37 contacts | 7.20 |
| | 50 contacts | 8.60 |
| Ø E | | 0.63 |

DM series HE 508


 **UL Rating Product File E 118235 (R)**

For particularly severe applications, especially high temperatures class + 155°C in compliance with NFC 93425 / HE 508.

Shell plating: Cadmium



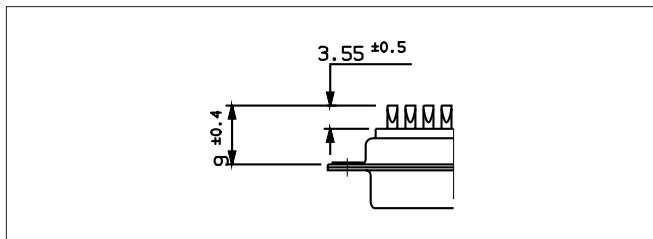
Ordering information

| Series | D | B | M | 25 | P | 5 | 00 | M | N | LF | | | | | | | | | | | | | | | | |
|---|----------|----------------------------|--------------------|--------------------|--------------|----------|------------------|----------------|----------|-----------|------------------|----------------|----------|--|----------------------------|----------------|--|--|--|--|--|--|--|--|--|--|
| Shell size E, A, B, C, D | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M: Characterisation of Military series | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Options 1 (see cover page 61) Blank : Standard mounting holes (Ø = 3.10) F : Float mounting | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Number of contacts 09, 15, 25, 37, 50 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contacts P: Pin S: Socket | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Termination Blank : Solder buckets 3 : Straight solder spills 5 : Angled solder spills 4 : Wire wrap (3 levels) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Plating 00 : Standard = Gold / Nickel (blank for solder buckets termination) Others : please, consult us | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Options 2 (see cover page 62) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Option</th> <th>Version</th> <th>Angled spills</th> <th>Other terminations</th> </tr> </thead> <tbody> <tr> <td>Blank</td> <td></td> <td>Plastic brackets</td> <td>Not applicable</td> </tr> <tr> <td>C</td> <td></td> <td>Without brackets</td> <td>Not applicable</td> </tr> <tr> <td>M</td> <td></td> <td>Metal brackets (male only)</td> <td>Not applicable</td> </tr> </tbody> </table> | Option | Version | Angled spills | Other terminations | Blank | | Plastic brackets | Not applicable | C | | Without brackets | Not applicable | M | | Metal brackets (male only) | Not applicable | | | | | | | | | | |
| Option | Version | Angled spills | Other terminations | | | | | | | | | | | | | | | | | | | | | | | |
| Blank | | Plastic brackets | Not applicable | | | | | | | | | | | | | | | | | | | | | | | |
| C | | Without brackets | Not applicable | | | | | | | | | | | | | | | | | | | | | | | |
| M | | Metal brackets (male only) | Not applicable | | | | | | | | | | | | | | | | | | | | | | | |
| N: Obligatory for HE 508 | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  Blank : non RoHS compatible LF : RoHS compatible | | | | | | | | | | | | | | | | | | | | | | | | | | |

DM series HE 508

Specific dimensions

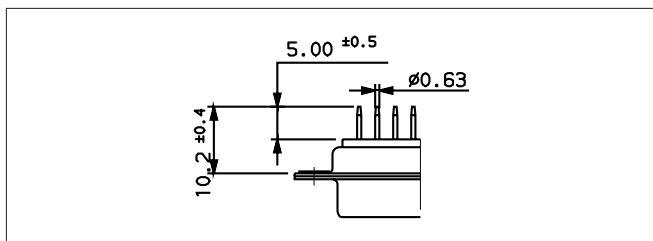
Solder buckets



Cross reference list for the main HE 508 and FCI

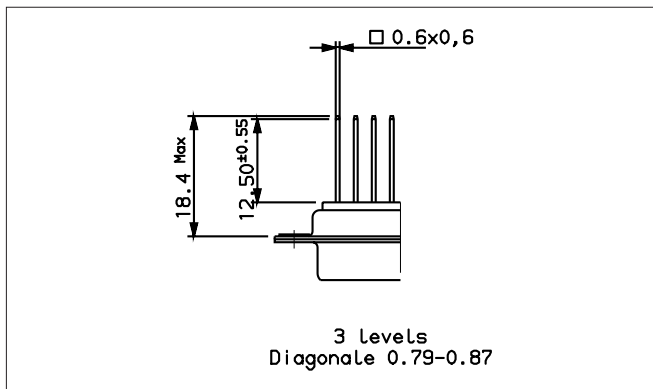
| Connector type | | | HE 508 | FCI |
|----------------|----------------|---|--------------|------------|
| Solder buckets | Standard | M | HE 508 N..AP | D.M..PNLF |
| | | F | HE 508 N..AS | D.M..SNLF |
| | Float mounting | M | HE 508 F..AP | D.MF..PNLF |
| | | F | HE 508 F..AS | D.MF..SNLF |

Straight spills



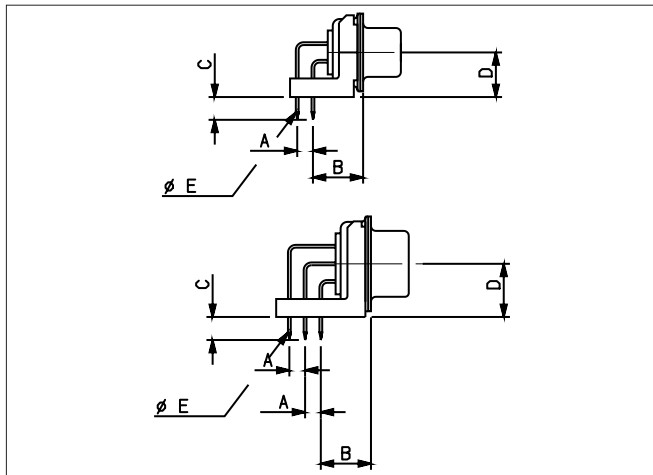
| Connector type | | | HE 508 | FCI |
|-----------------|----------------|---|---------------|----------------|
| Straight spills | Standard | M | HE 508 N..YP4 | D.M..P 300NLF |
| | | F | HE 508 N..YS4 | D.M..S 300NLF |
| | Float mounting | M | HE 508 F..YP4 | D.MF..P 300NLF |
| | | F | HE 508 F..YS4 | D.MF..S 300NLF |

Wire wrap



| Connector type | | | HE 508 | FCI |
|-----------------------|----------------|---|---------------|----------------|
| Wire wrap 3 levels | Standard | M | HE 508 N..KP3 | D.M..P 400NLF |
| | | F | HE 508 N..KS3 | D.M..S 400NLF |
| | Float mounting | M | HE 508 F..KP3 | D.MF..P 400NLF |
| | | F | HE 508 F..KS3 | D.MF..S 400NLF |

Angled spills



| Connector type | | | HE 508 | FCI |
|----------------------|----------------|---|---------------|----------------|
| Angled spills 500 | Standard | M | HE 508 P..VP6 | D.M..P 500NLF |
| | | F | HE 508 P..VS6 | D.M..S 500NLF |
| | Metal brackets | M | HE 508 M..VP6 | D.M..P 500MNLF |
| | | F | HE 508 M..VS6 | D.M..S 500MNLF |

| Dimension | Termination | 5 |
|-----------|------------------|-------|
| A | | 2.54 |
| B ±0.1 | | 10.30 |
| C ±0.5 | | 4.00 |
| D ±0.1 | 9 to 37 contacts | 7.20 |
| | 50 contacts | 8.60 |
| Ø E | | 0.63 |

DMW series HE 507



UL Rating Product File E 118235

Connectors drawn from DM series. Composed of mixed arrangements of standard signal and size 8 cavities housing, coax, power, high voltage and optical removable contacts (see page ??).

Shell plating: Cadmium



Ordering information

| | | | | | | | | | | |
|-------------------------------|---|------------------|--------------------|------|---|---|----|---|---|----|
| Series | D | B | M | 13W3 | P | 5 | 00 | M | N | LF |
| Shell size | E, A, B, C, D | | | | | | | | | |
| M: | Characterisation of military series | | | | | | | | | |
| Options 1 (see cover page 61) | | | | | | | | | | |
| Blank | : Standard mounting holes (Ø = 3.10) | | | | | | | | | |
| F | : Float mounting | | | | | | | | | |
| Layout of contacts | see page 45 | | | | | | | | | |
| Contacts | | | | | | | | | | |
| P | : Pin | | | | | | | | | |
| S | : Socket | | | | | | | | | |
| Terminaison | | | | | | | | | | |
| Blank | : Solder buckets | | | | | | | | | |
| 3 | : Straight solder spills | | | | | | | | | |
| 5 | : Angled solder spills | | | | | | | | | |
| 4 | : Wire wrap (3 levels) | | | | | | | | | |
| Plating | | | | | | | | | | |
| 00 | : Standard = Gold / Nickel on active areas - Tin lead on termination (blank for solder buckets termination) | | | | | | | | | |
| Options 2 (see cover page 62) | | | | | | | | | | |
| Option | Version | Angled spills | Other terminations | | | | | | | |
| Blank | | Plastic brackets | Without accessory | | | | | | | |
| C | | Without brackets | Not applicable | | | | | | | |
| M | | Metal brackets | Not applicable | | | | | | | |
| N: | Compulsary in compliance with HE 507 | | | | | | | | | |
| Blank | : non RoHS compatible | | | | | | | | | |
| LF | : RoHS compatible | | | | | | | | | |

DMW series HE 507

Layouts

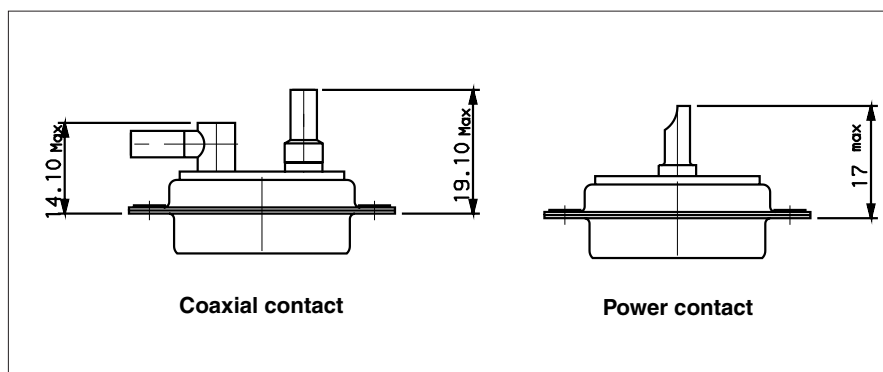
Male insulator front view

| Shell size | | Layout |
|------------|------|--------|
| E | 5W1 | |
| | 11W1 | |
| A | 7W2 | |
| | 3W3 | |
| | 3V3 | |
| B | 21W1 | |
| | 17W2 | |
| | 13W3 | |
| | 9W4 | |
| | 5W5 | |

| Shell size | | Layout |
|------------|-------|--------|
| C | 25W3 | |
| | 21WA4 | |
| | 27W2 | |
| | 8W8 | |
| D | 47W1 | |
| | 24W7 | |
| | 36W4 | |

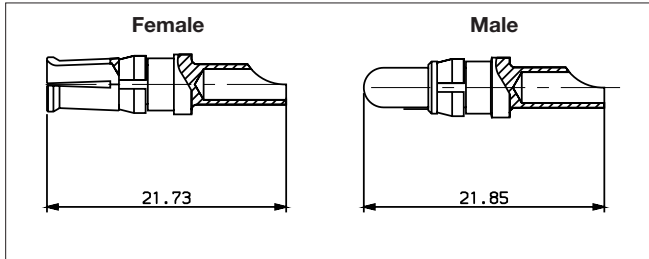
- Standard contacts
- Coaxial and power contacts

Specific dimension for standard terminations, see DM series, page 43



DMW series HE 507

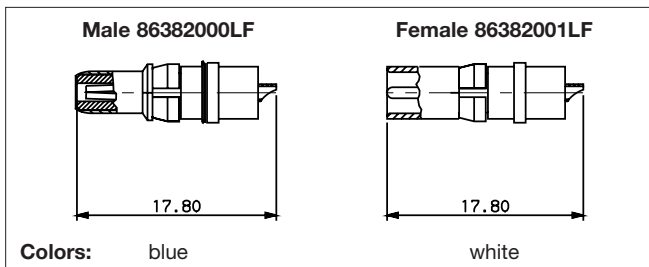
Power contacts



| Wire Size | Max. current | Part numbers | |
|-----------|--------------|--------------|-------------|
| | | Male | Female |
| AWG8 | 40A | 86303098NLF | 86303099NLF |
| AWG12 | 20A | 86303056NLF | 86303057NLF |
| AWG14 | 15A | 86303060NLF | 86303061NLF |
| AWG16 | 10A | 86303064NLF | 86303065NLF |

Plating: 500 mating/unmating

High voltage contacts



These removable contacts are suitable for the contact cavities of the DMW series and DW series.

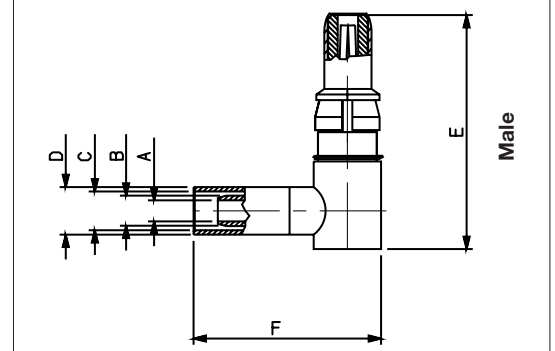
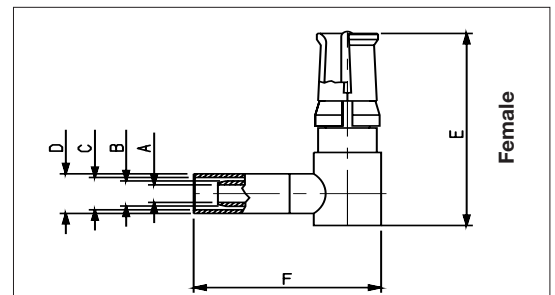
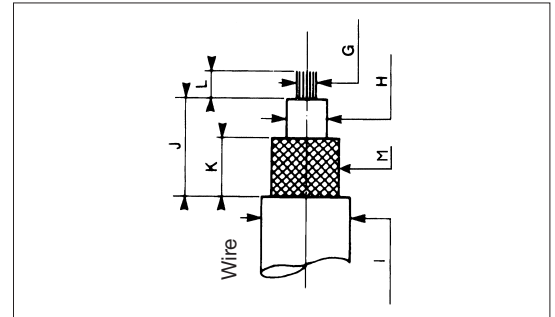
The coaxial contacts are in compliance with:
 - NFC 93569
 - KMX4 specification

Electrical characteristics:

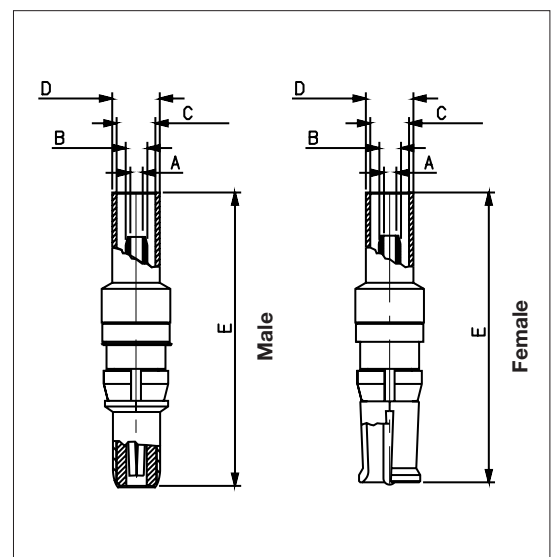
Dielectric with standing voltage : 2800 V.r.m.s
 Break down voltage : 3200 V.r.m.s
 Insulation resistance : 10^9 M Ω
 Contact resistance : ≤ 5 m Ω
 Max current rating : 5A
 Material : TEFLON

Mechanical characteristics:

Mating force per set of contact : 3N
 Mating endurance : 200
 Temperature : -55° C to + 125° C



Angled



Coaxial contacts
Straight

DMW series HE 507

Standard coaxial contacts

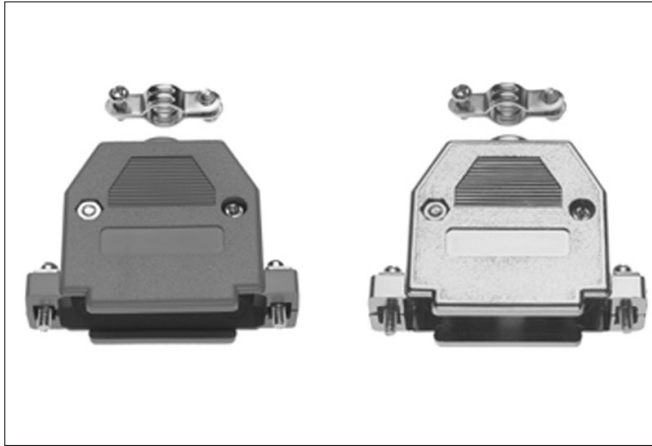
| Contact type | Part numbers | | | | Contacts dimension | | | | | | Cable | | Wire | | | | | | | | |
|--------------|-----------------|-----------------|----------------|----------------|--------------------|--------------------|-------------------|--------------------|-------------------|-------------------|----------|-----------|-------------|---|---|---|---|---|---|----------|---|
| | Soldered screen | NFC 93569 KMX4 | Crimped screen | NFC 93569 KMX4 | A ^{+0.30} | B ^{+0.15} | C ^{+0.2} | D ^{+0.15} | E ^{+0.4} | F ^{+0.4} | MILC 17E | NFC 93550 | Impe- dance | G | H | I | J | K | L | M (Max.) | |
| Straight | male | DM537405000NCLF | KMX4M11D02 | KMX4M12D02 | DM53740NCLF | — | DM53740NCLF | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | male | DM537405008NCLF | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Angled | female | DM537425000NCLF | KMX4F11D02 | KMX4F12D02 | DM53742NCLF | — | DM53742NCLF | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | female | DM537425006NCLF | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Straight | male | DM537415000NCLF | KMX4M11C02 | KMX4M12C02 | DM53741NCLF | — | DM53741NCLF | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | female | DM537435000NCLF | KMX4F11C02 | KMX4F12C02 | DM53743NCLF | — | DM53743NCLF | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Angled | male | DM537405001NCLF | KMX4M11D01 | KMX4M12D01 | DM537401NCLF | — | DM537401NCLF | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | female | DM537425001NCLF | KMX4F11D01 | KMX4F12D01 | DM537421NCLF | — | DM537421NCLF | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Angled | male | DM537415001NCLF | KMX4M11C01 | KMX4M12C01 | DM537411NCLF | — | DM537411NCLF | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | female | DM537435001NCLF | KMX4F11C01 | KMX4F12C01 | DM537433NCLF | — | DM537433NCLF | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

Specific coaxial contacts

| Contact type | Part numbers | | | | Contacts dimension | | | | | | Cable | | Wire | | | | | | | | |
|--------------|-----------------|-----------------|----------------|----------------|--------------------|--------------------|-------------------|--------------------|-------------------|-------------------|----------|-----------|-------------|---|---|---|---|---|---|----------|---|
| | Soldered screen | NFC 93569 KMX4 | Crimped screen | NFC 93569 KMX4 | A ^{+0.30} | B ^{+0.15} | C ^{+0.2} | D ^{+0.15} | E ^{+0.4} | F ^{+0.4} | MILC 17E | NFC 93550 | Impe- dance | G | H | I | J | K | L | M (Max.) | |
| Straight | male | DM537405002NCLF | — | DM53740-3NCLF | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | female | DM537425002NCLF | — | DM53742-3NCLF | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Straight | male | DM537405005NCLF | — | DM53740-5NCLF | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | female | DM537425004NCLF | — | DM53742-5NCLF | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Angled | female | DM537435004NCLF | — | DM53743-6NCLF | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | female | DM537435004NCLF | — | DM53743-6NCLF | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

D-Sub Accessories

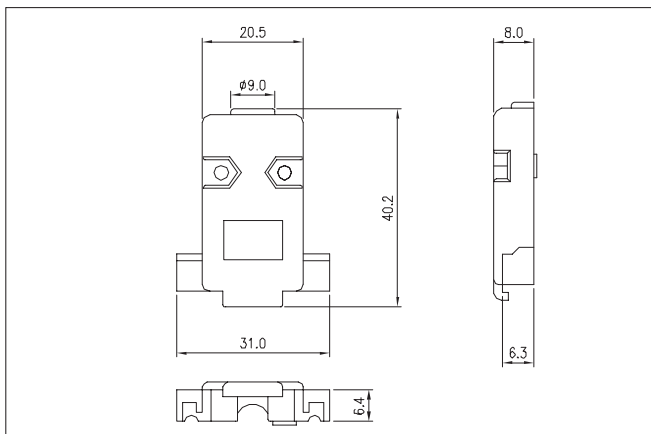
1 • Straight exit plastic and metalised hood with integrated locking



Material : self extinguishing UL 94V0 thermoplastic
 Colour : black / metalised
 Temperature range : -55°C +105°C
 Locking screws : UNC 4-40 thread

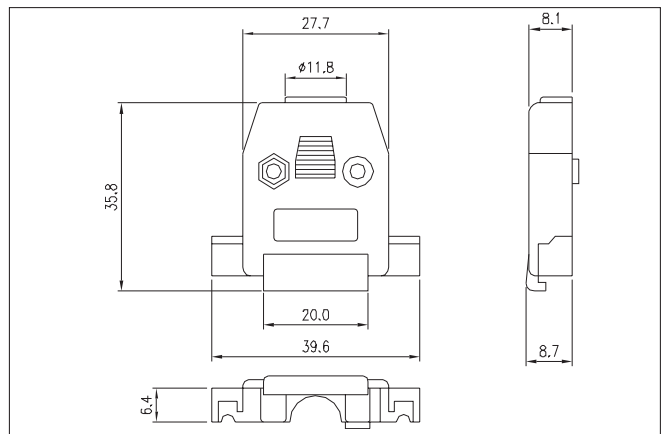
Shell size E (9 way)

- Plastic hood : part number : 10039449-00001LF
- Metalised hood : part number : 10039449-00002LF



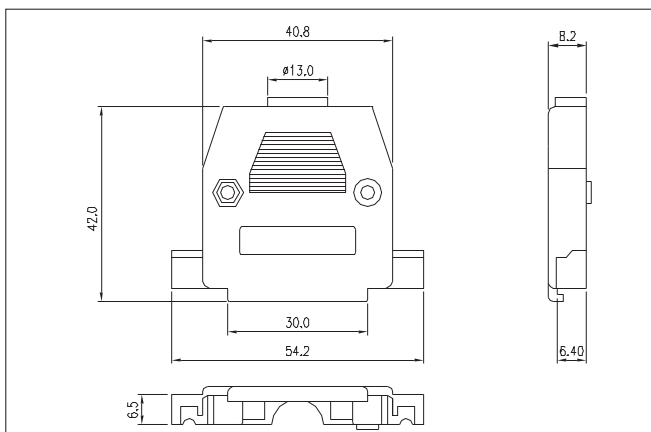
Shell size A (15 way)

- Plastic hood : part number : 10039450-00001LF
- Metalised hood : part number : 10039450-00002LF



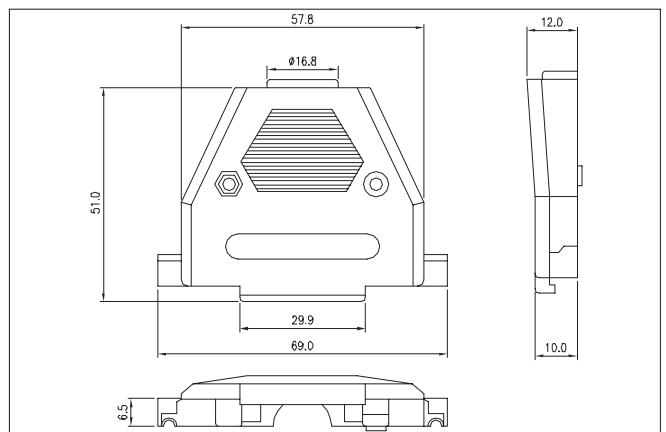
Shell size B (25 way)

- Plastic hood : part number : 10039451-00001LF
- Metalised hood : part number : 10039451-00002LF



Shell size C (37 way)

- Plastic hood : part number : 10039452-00001LF
- Metalised hood : part number : 10039452-00002LF

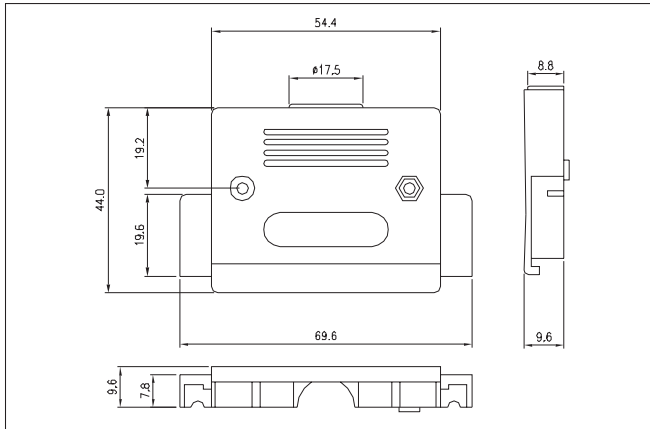


D-Sub Accessories

Straight exit plastic and metalised hood with integrated locking

Shell size D (50 way)

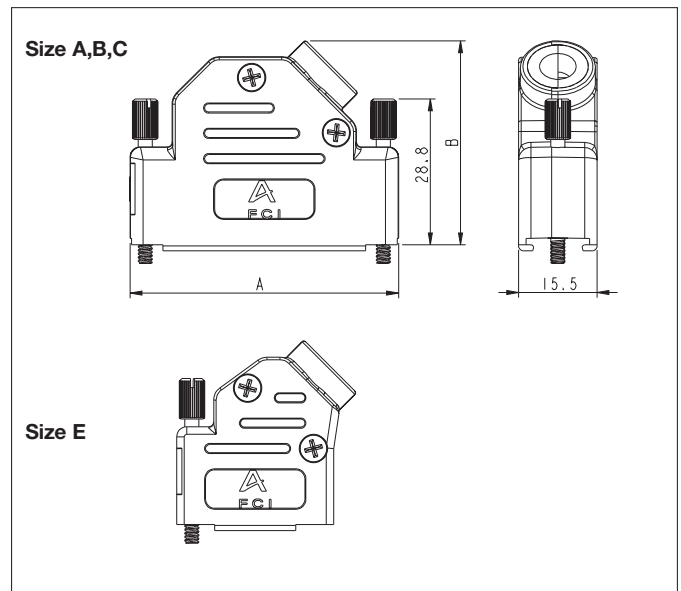
- Plastic hood : part number : 10039453-00001LF
- Metalised hood : part number : 10039453-00002LF



2 • Angle exit plastic hood for cable EMI/RFI



| Shell size | Part number | A | B | Cable diameter |
|------------|----------------|------|------|----------------|
| E (9) | 8655PHRA0901LF | 31.0 | 36.2 | 4 to 13 mm |
| A (15) | 8655PHRA1501LF | 39.5 | 40.2 | |
| B (25) | 8655PHRA2501LF | 53.0 | 40.2 | |
| C (37) | 8655PHRA3701LF | 69.5 | 40.2 | |

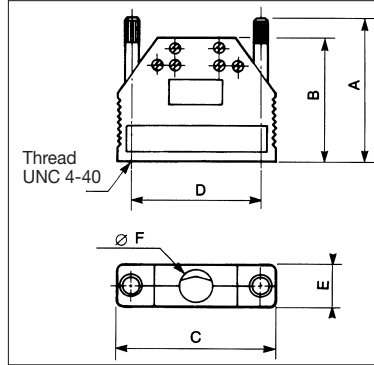
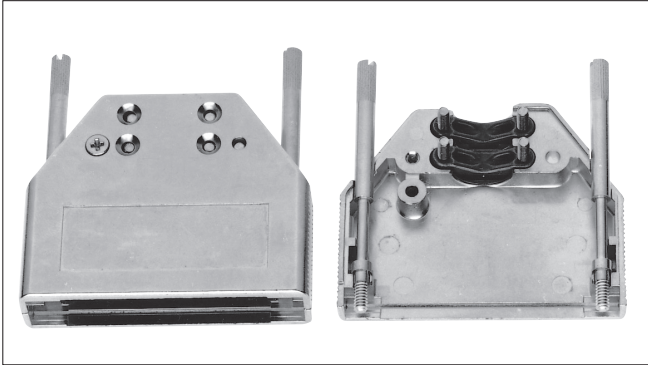


- Material : polycarbonat UL 94V0
- Cable strain relief : steel fibre reinforced polycarbonat UL 94V0
- Colour : black
- Temperature range : -40°C +120°C
- Environment : >40 dB between 30 MHz and 1 GHz
- Packaging : bulk, in box of 100 pieces
- Locking screws : UNC 4-40 thread

All dimensions in mm

D-Sub Accessories

3 • Straight exit metal hood with two metal clamps for cable EMI / RFI



Material:
zamack

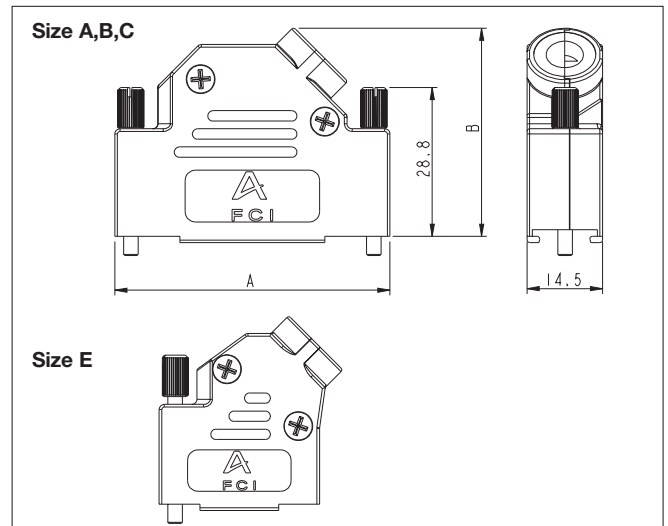
Plating:
nickel

Environment:
frequencies at 100 Mz > 40 dB

Corrosion resistance:
50 hours exposure to salt spray

| Shell size | Part numbers in bulk | Packaging | Part numbers (in individual set) | Packaging | A \pm 0.1 | B \pm 0.3 | C \pm 0.1 | D \pm 0.1 | E \pm 0.2 | F max. |
|------------|----------------------|-----------|----------------------------------|-----------|-------------|-------------|-------------|-------------|-------------|--------|
| E | 8655MH0901LF | 80 | 8655MH0911LF | 50 | 55.00 | 45.00 | 34.40 | 24.99 | 14.70 | 7.85 |
| A | 8655MH1501LF | 80 | 8655MH1511LF | 50 | 55.00 | 45.00 | 42.70 | 33.32 | 14.70 | 11.80 |
| B | 8655MH2501LF | 60 | 8655MH2511LF | 50 | 55.00 | 45.00 | 56.70 | 47.04 | 14.70 | 11.80 |
| C | 8655MH3701LF | 40 | 8655MH3711LF | 50 | 55.00 | 45.00 | 72.95 | 63.50 | 14.70 | 11.80 |
| D | 8655MH5001LF | 40 | 8655MH5011LF | 50 | 55.00 | 45.00 | 70.60 | 61.11 | 17.30 | 14.10 |

4 • Angle exit metal hood for cable EMI / RFI



| Shell size | Part number | A | B | Cable diameter |
|------------|----------------|------|------|----------------|
| E (9) | 8655MHRA0901LF | 31.0 | 36.2 | 4 to 13 mm |
| A (15) | 8655MHRA1501LF | 39.5 | 40.2 | |
| B (25) | 8655MHRA2501LF | 53.2 | 40.2 | |
| C (37) | 8655MHRA3701LF | 69.7 | 40.2 | |

Material : zamack, nickel plated

Cable strain relief : steel fibre reinforced polycarbonat UL 94V0 for EMI/RFI screening

Temperature range : -40°C +120°C

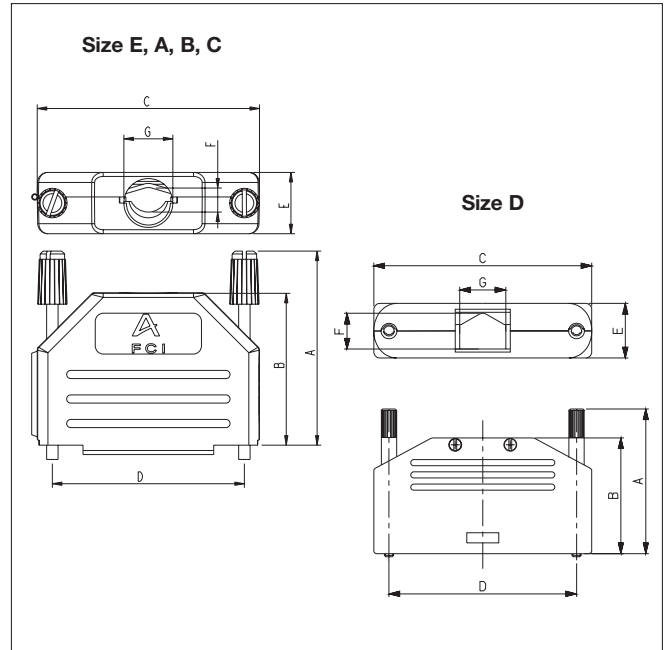
Environment : >40 dB between 30 MHz and 1 GHz

Packaging : bulk, in box of 100 pieces

Locking screws : UNC 4-40 thread

D-Sub Accessories

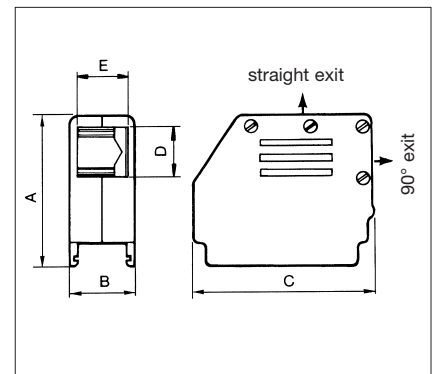
5 • “Snap together” plastic hood



| Shell size | Part number | A | B | C | D | E | with clamp | | without clamp | | |
|------------|-------------|------|------|------|-------|----|------------|-------|---------------|----|-----|
| | | | | | | | F min | G max | F | G | |
| E(9) | 86303637BLF | 47.3 | 31.3 | 32.4 | 24.99 | 15 | 1 | 5.5 | 8.5 | 7 | 8.5 |
| A(15) | 86303638BLF | 47.3 | 30.8 | 40.7 | 33.32 | 15 | 4 | 7 | 12 | 11 | 12 |
| B(25) | 86303639BLF | 47.3 | 37.3 | 54.4 | 47.04 | 15 | 4 | 7 | 12 | 11 | 12 |
| C(37) | 86303640BLF | 47.3 | 36 | 70.9 | 63.5 | 15 | 4 | 7 | 12 | 11 | 12 |
| D(50) | 86303641BLF | 47.3 | 37.8 | 71.2 | 61.11 | 15 | 4.4 | 11.5 | 15.5 | 14 | 18 |

Material (size E,A,B,C) : nylon (UL 94V2)
 Material (size D) : thermoplastic (UL 94V2)
 Colour : black
 Temperature range : -40°C +95°C
 Packaging : individual sets
 Locking screws : UNC 4-40 thread

6 • Universal plastic hood with metal clamp for strain relief



| Shell size | Part numbers black hood | Part numbers metalised hood | A | B | C | with clamp | | without clamp | | |
|------------|-------------------------|-----------------------------|-------|-------|-------|------------|------|---------------|----|-------|
| | | | | | | D | E | | D | E |
| | | | | | | | min. | max. | | |
| E | 863093C09ALF | 863093C09MLF | 29.75 | 15.50 | 24.25 | 6 | 1.90 | 10.10 | 8 | 11.50 |
| A | 863093C15ALF | 863093C15MLF | 29.75 | 15.50 | 32.50 | 6 | 1.90 | 10.10 | 8 | 11.50 |
| B | 863093C25ALF | 863093C25MLF | 46.50 | 15.50 | 46.00 | 13.50 | 2.60 | 10.10 | 16 | 11.50 |
| C | 863093C37ALF | 863093C37MLF | 46.50 | 15.50 | 60.50 | 13.50 | 2.60 | 10.10 | 16 | 11.50 |
| D | 863093C50ALF | 863093C50MLF | 48.50 | 18.00 | 56.50 | 15.50 | 4.40 | 12.60 | 18 | 14.00 |

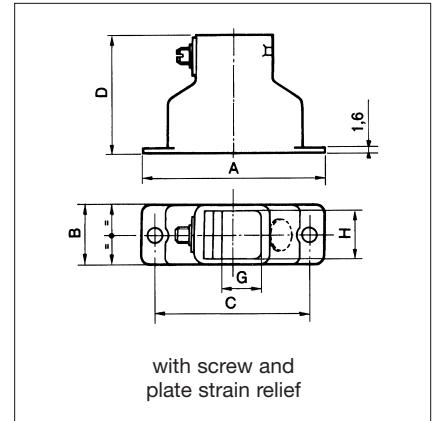
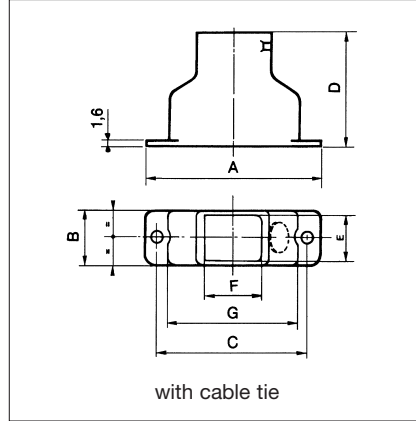
Material (black hood): self extinguishing UL 94V0 thermoplastic
 Material (metalised): thermoplastic
 Temperature range: -55°C +125°C
 Packaging: individual sets

All dimensions in mm

D-Sub Accessories

Monobloc plastic hoods for potting

7 • Straight exit



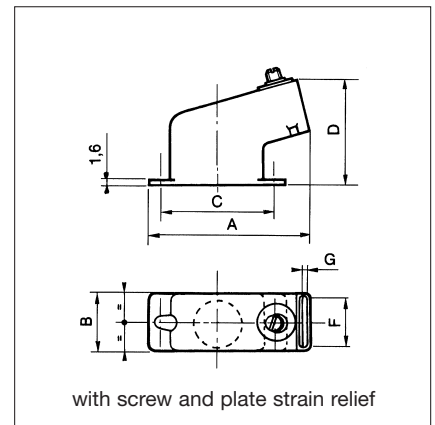
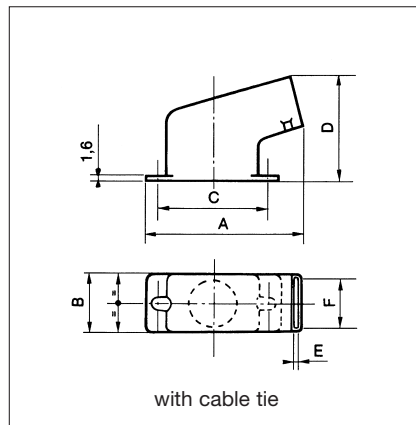
| Shell size | Part numbers | | A | B | C | D | E | F | G min. | G Max. | H |
|------------|---------------------|---------------------------|-------|-------|-------|-------|-------|-------|--------|--------|-------|
| | Hood with cable tie | Hood with screw and plate | | | | | | | | | |
| E | 863086BLF | 86303920ALF | 30.60 | 12.50 | 25.00 | 29.00 | 9.90 | 9.90 | 2.70 | 7.10 | 10.50 |
| A | 863021BLF | 86303921ALF | 38.90 | 12.50 | 33.32 | 29.00 | 9.90 | 11.90 | 4.50 | 9.10 | 10.50 |
| B | 863022BLF | 86303922ALF | 52.80 | 12.50 | 47.05 | 35.00 | 9.90 | 16.40 | 9.20 | 13.60 | 10.50 |
| C | 863023BLF | 86303923ALF | 69.10 | 12.50 | 63.50 | 41.00 | 9.90 | 23.40 | 9.20 | 20.60 | 10.50 |
| D | 863024BLF | 86303924ALF | 66.70 | 15.30 | 61.10 | 41.00 | 12.70 | 23.40 | 9.20 | 20.60 | 13.30 |

Material: self extinguishing UL rated 94 V0 thermoplastic

Temperature range:
-55°C to +105°C

Colour: black

8 • Right angle exit



| Shell size | Part numbers | | A | B | C | D | E | F | G min. | G Max. |
|------------|---------------------|---------------------------|-------|-------|-------|-------|-------|-------|--------|--------|
| | Hood with cable tie | Hood with screw and plate | | | | | | | | |
| E | 86305002BLF | 86303925ALF | 30.60 | 12.50 | 25.00 | 26.20 | 10.50 | 10.50 | 2.70 | 7.10 |
| A | 863026BLF | 86303926ALF | 38.90 | 12.50 | 33.32 | 28.60 | 12.50 | 10.50 | 4.50 | 9.10 |
| B | 863027BLF | 86303927ALF | 52.80 | 12.50 | 47.05 | 36.40 | 17.00 | 10.50 | 9.20 | 13.60 |
| C | 863028BLF | 86303928ALF | 69.10 | 12.50 | 63.50 | 42.60 | 24.00 | 10.50 | 9.20 | 20.60 |
| D | 863029BLF | 86303929ALF | 66.70 | 15.30 | 61.10 | 41.60 | 24.00 | 13.30 | 9.20 | 20.60 |

Material: self extinguishing UL rated 94 V0 thermoplastic

Temperature range:
-55°C to +105°C

Colour: black

D-Sub Accessories

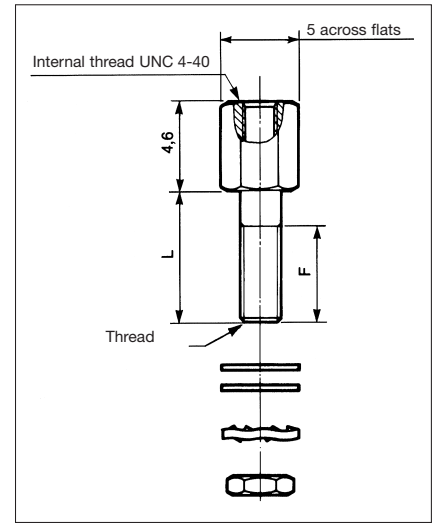
Locking devices

9 • Female screw locks

| Part numbers | Thread | L Max. | F | Material |
|--------------|----------|--------|-------|----------|
| 863001TLF | M3 | 8.30 | 6.90 | Brass |
| 86552153TLF | M3 | 8.30 | 6.90 | Steel |
| 863001017TLF | M3 | 6.30 | 5.00 | Brass |
| 863001061TLF | M3 | 13.00 | 12.00 | Brass |
| 863001060TLF | UNC 4.40 | 8.30 | 6.90 | Brass |

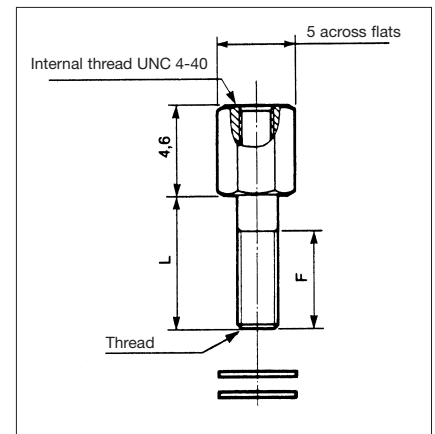
Plating:
bright tin

Corrosion resistance:
50 hours exposure to salt spray



10 • Specific female screw locks for Delta D series

| Part numbers | Thread | L Max. | F | Material |
|--------------|----------|--------|-----|----------|
| 863001018TLF | M3 | 4.5 | 3.7 | Steel |
| 863001019TLF | UNC 4.40 | 4.5 | 3.7 | Steel |



Torque force

| Material | Torque Max. (Nm) |
|----------|------------------|
| Brass | 0,5 |
| Steel | 0,7 |

11 • Male screw locks

| Shell size | Connector type | For use with connector without hood or with hood 6 | | For use with connector with hoods 12 | | For use with connector with hood 7 | |
|------------|----------------|--|--------------|--------------------------------------|--------------|------------------------------------|--|
| | | Part numbers | Part numbers | Part numbers | Part numbers | | |
| E | Male | 863005ATLF | 863004ATLF | 863009ATLF | | | |
| | Female | | | | | | |
| A | Male | 863005ATLF | 863004ATLF | 863009ATLF | | | |
| | Female | | | | | | |
| B | Male | 863008ATLF | 863004ATLF | 863009ATLF | | | |
| | Female | | | | | | |
| C | Male | 863008ATLF | 863004ATLF | 863009ATLF | | | |
| | Female | 863005ATLF | | | | | |
| D | Male | 863015ATLF | 863002ATLF | 863025ATLF | | | |
| | Female | 863003ATLF | | | | | |

Material: steel

Plating: bright tin

Corrosion resistance:
50 hours exposure to salt spray

To obtain military plating (zinc chrom3) exclude «T» in the part number (ex: 863005ALF)

Thread: UNC 4-40



D-Sub Accessories

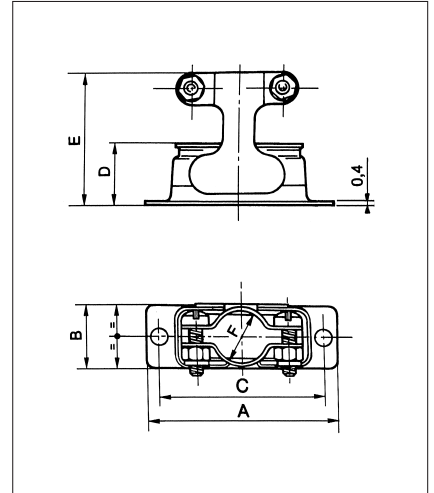
Hood with cable clamps

12 • Metal hood with circular clamp and straight exit

Material: Steel

Plating: Zinc chrom3

Corrosion resistance:
50 hours exposure to salt spray



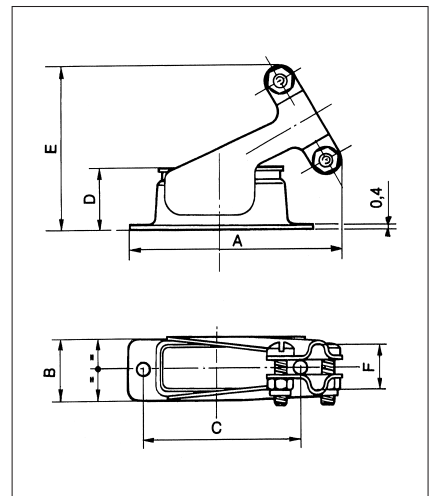
| Shell size | Part numbers | A | B | C | D | E | F |
|------------|--------------|-------|-------|-------|-------|-------|-------|
| E | 863010LF | 30.55 | 12.70 | 24.99 | 12.30 | 26.40 | 8.00 |
| A | 863011LF | 38.89 | 12.70 | 33.32 | 12.30 | 26.40 | 10.00 |
| B | 863012LF | 52.78 | 12.70 | 47.04 | 12.30 | 27.20 | 15.00 |
| C | 863013LF | 69.06 | 12.70 | 63.50 | 12.30 | 27.20 | 18.00 |
| D | 863014LF | 66.67 | 15.40 | 61.17 | 12.30 | 27.20 | 20.60 |

13 • Metal hood with circular clamp and 30° exit

Material: Steel

Plating: Zinc chrom3

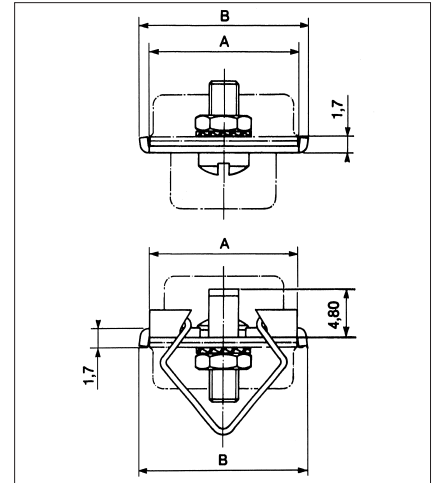
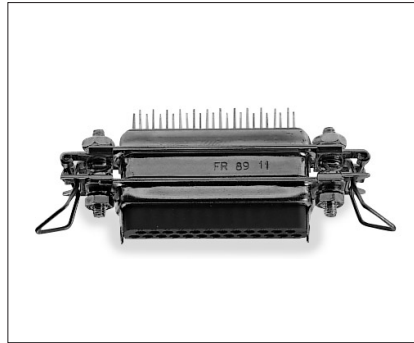
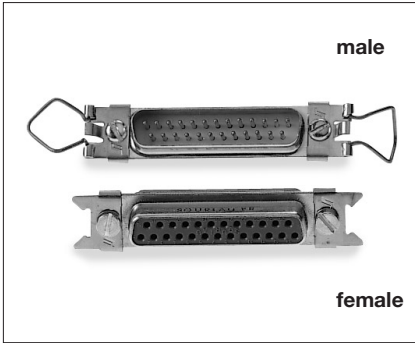
Corrosion resistance:
50 hours exposure to salt spray



| Shell size | Part numbers | A | B | C | D | E | F |
|------------|--------------|-------|-------|-------|-------|-------|-------|
| E | 863016LF | 39.00 | 12.70 | 24.99 | 12.30 | 30.60 | 8.00 |
| A | 863017LF | 43.10 | 12.70 | 32.32 | 12.30 | 32.50 | 10.00 |
| B | 863018LF | 55.40 | 12.70 | 47.04 | 12.30 | 34.50 | 15.05 |
| C | 863019LF | 75.30 | 12.70 | 63.50 | 12.30 | 37.50 | 18.00 |
| D | 863020LF | 72.80 | 15.40 | 61.11 | 12.30 | 37.60 | 20.60 |

D-Sub Accessories

14 • Lever locks



Material: steel

Plating: passivated

| Shell size | A | B | M3 thread | | UNC 4-40 thread | |
|-------------------|-------|-------|------------|------------|-----------------|------------|
| | | | Female | Male | Female | Male |
| E, A, B, C | 12.50 | 14.30 | 86303425LF | 86552096LF | 86303425060LF | 86552098LF |
| D | 15.30 | 17.10 | 86303426LF | 86552097LF | 86303426060LF | 86552099LF |

15 • Specific lever locks for straight Delta D series with harpoons

| Shell size | M3 thread | | UNC 4-40 thread | |
|-------------------|------------|--------------|-----------------|--------------|
| | Female | Male | Female | Male |
| E, A, B, C | 86303425LF | 865520961ALF | 86303425060LF | 865520981ALF |
| D | 86303426LF | 865520971ALF | 86303426060LF | 865520991ALF |

D-Sub Accessories

16 • Metal caps

| Shell size | For use with connectors | Part numbers | Packaging |
|------------|-------------------------|---------------|-----------|
| E | Male | 86553148ATLF | 30 |
| | Female | 86553113ATLF | 30 |
| | | 86553138ATLF* | 30 |
| A | Male | 86553149ATLF | 25 |
| | Female | 86553114ATLF | 25 |
| | | 86553139ATLF* | 25 |
| B | Male | 86553150ATLF | 20 |
| | Female | 86553115ATLF | 20 |
| | | 86553140ATLF* | 20 |
| C | Male | 86553151ATLF | 15 |
| | Female | 86553116ATLF | 15 |
| | | 86553141ATLF* | 15 |
| D | Male | 86553152ATLF | 10 |
| | Female | 86553117ATLF | 10 |
| | | 86553142ATLF* | 10 |



Material: steel

Plating: bright tin

To obtain military plating (zinc chrom3) exclude "T" in part number (ex : 86553148ALF).

* Sealed caps IP 65

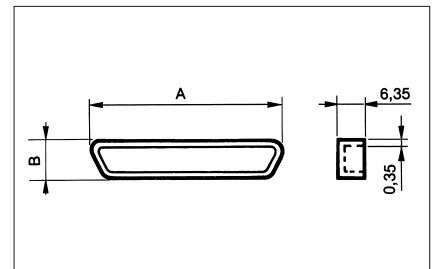
17 • Attaching cord for metal caps

86553156LF (length = 100 mm)

Packaging: individual



18 • Plastic dust cap



| Shell size | For male connector | A | B | For female connector | A | B |
|------------|--------------------|-------|-------|----------------------|-------|-------|
| E | 70518CLF | 19.17 | 10.30 | 70523CLF | 17.77 | 9.00 |
| A | 70519CLF | 27.50 | 10.30 | 70524CLF | 26.10 | 9.00 |
| B | 70520CLF | 41.67 | 10.70 | 70525CLF | 39.82 | 9.00 |
| C | 70521CLF | 58.13 | 10.70 | 70526CLF | 56.28 | 9.00 |
| D | 70522CLF | 55.49 | 13.40 | 70527CLF | 53.89 | 11.85 |

Material: thermoplastic

Color: red

D-Sub Accessories

Brackets

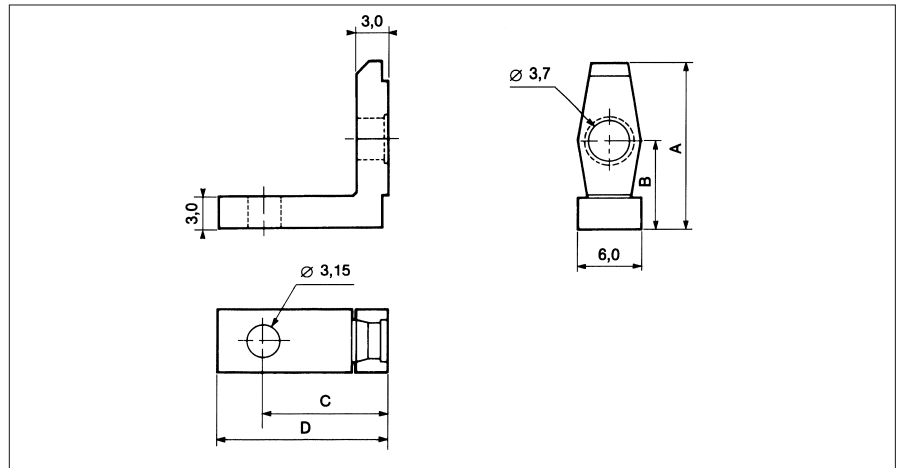
Plastic mounting brackets are normally supplied with angled spill D-Sub connectors series D, DP, DM and DMW.

However, both plastic and metal brackets can be ordered separately, using the part numbers listed below. These brackets are supplied with a screw and a nut. Order two assemblies for each connector.

19 • Plastic brackets

| Shell size | Part numbers | A | B | C | D |
|------------|--------------|-------|------|-------|-------|
| E, A, B, C | 86303714LF | 13.20 | 7.20 | 10.74 | 13.90 |
| D | 86303715LF | 16.00 | 8.60 | 12.09 | 16.50 |

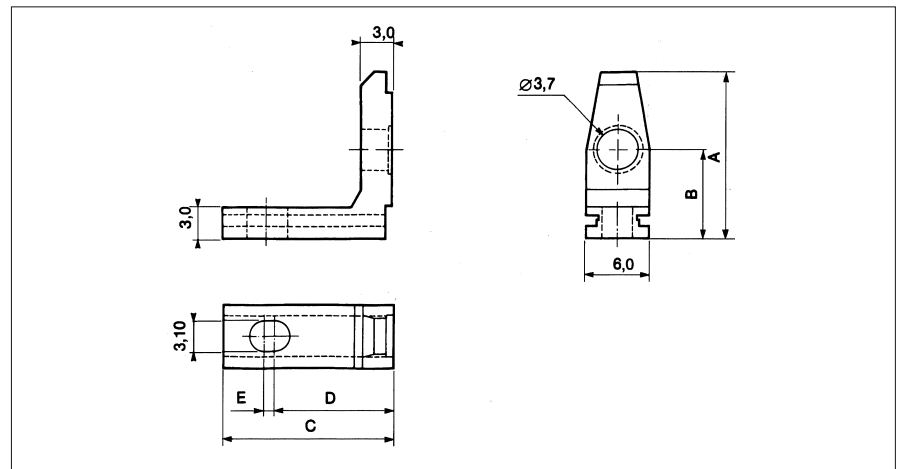
Material: UL rated 94V0 thermoplastic



20 • Plastic brackets with oblong mounting hole to PCB

| Shell size | Part numbers | A | B | C | D | E |
|------------|--------------|-------|------|-------|-------|-----|
| E, A, B, C | 86303612LF | 13.20 | 7.40 | 13.60 | 10.50 | 0.8 |
| D | 86303613LF | 16.15 | 8.80 | 16.50 | 11.60 | 1.0 |

Material: UL 94V0 rated thermoplastic

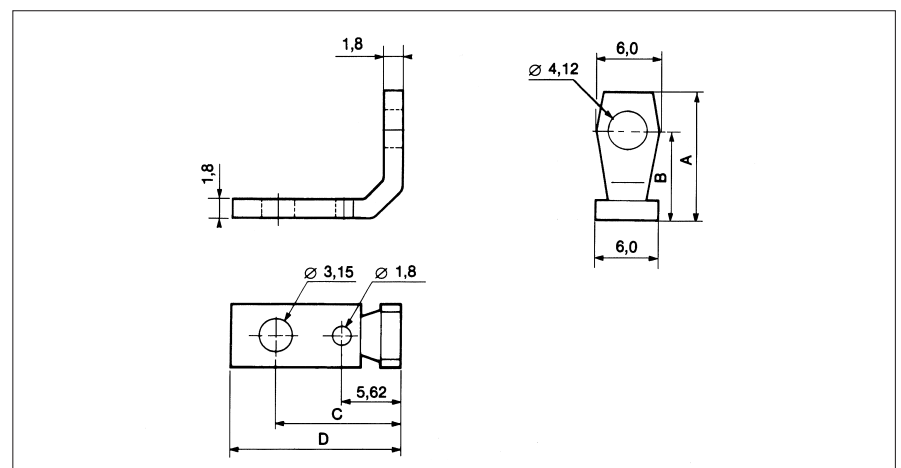


21 • Metal brackets

| Shell size | Part numbers | A | B | C | D |
|------------|--------------|-------|------|-------|-------|
| E, A, B, C | 86552008LF | 10.55 | 7.20 | 10.74 | 13.90 |
| D | 86552009LF | 12.55 | 8.60 | 12.09 | 16.50 |

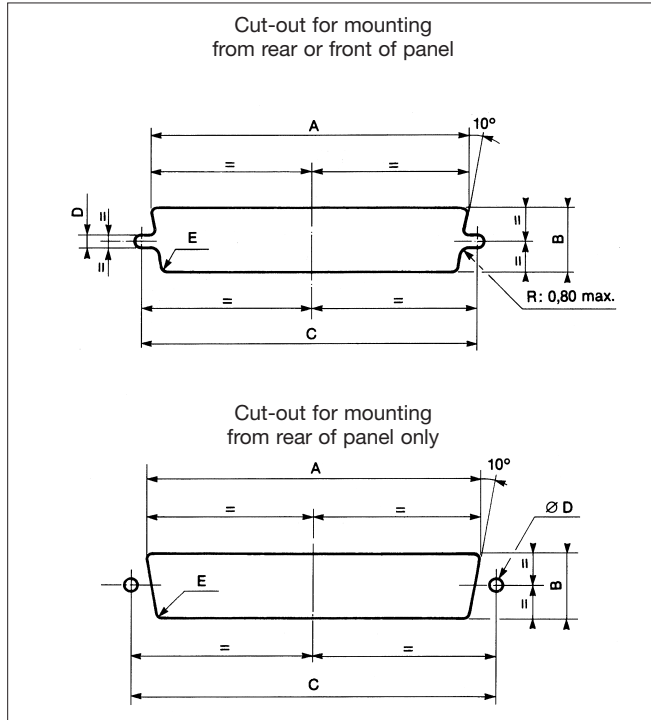
Material: steel

Plating: zinc chrom3



D-Sub Technical Characteristics

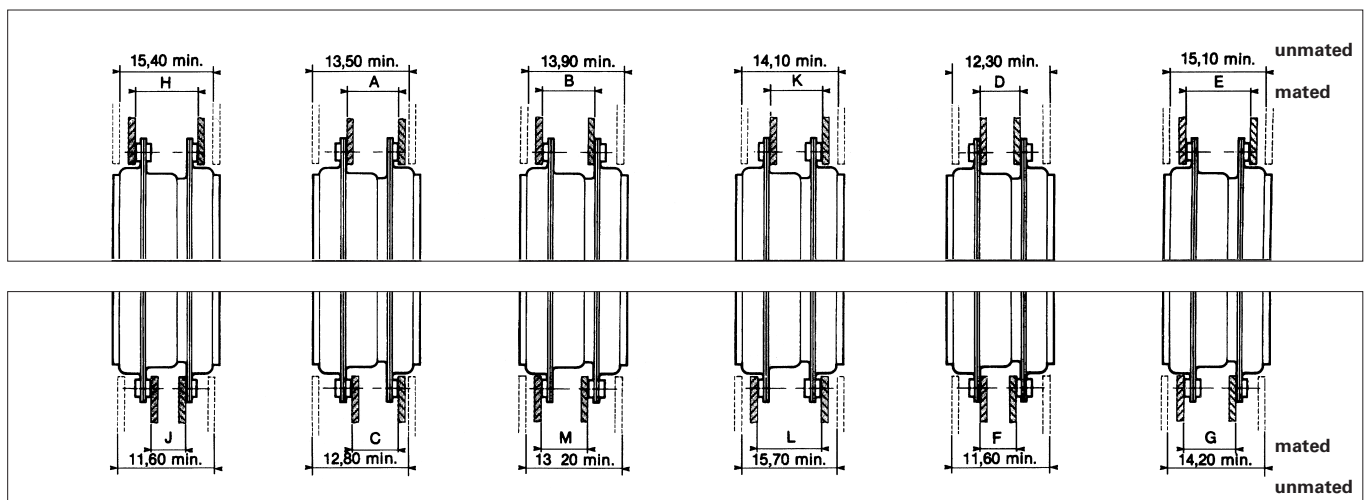
Panel cut-out



| Shell size | Type of mounting | Mounting position | A ^{±0.2} | B ^{±0.2} | C ^{±0.2} | D ^{±0.01} | E ^{±0.1} |
|------------|------------------|-------------------|-------------------|-------------------|-------------------|--------------------|-------------------|
| E | rigid | front | 22.20 | 13.00 | 25.00 | 3.00 | 2.10 |
| | | rear | 20.50 | 11.40 | 25.00 | 3.00 | 3.30 |
| | float | front | 23.00 | 13.80 | 25.00 | 2.20 | 2.10 |
| | | rear | 21.30 | 12.20 | 25.00 | 2.20 | 3.30 |
| A | rigid | front | 30.50 | 13.00 | 33.30 | 3.00 | 2.10 |
| | | rear | 28.80 | 11.40 | 33.30 | 3.00 | 3.30 |
| | float | front | 31.30 | 13.80 | 33.30 | 2.20 | 2.10 |
| | | rear | 29.60 | 12.20 | 33.30 | 2.20 | 3.30 |
| B | rigid | front | 44.30 | 13.00 | 47.00 | 3.00 | 2.10 |
| | | rear | 42.50 | 11.40 | 47.00 | 3.00 | 3.30 |
| | float | front | 45.10 | 13.80 | 47.00 | 2.20 | 2.10 |
| | | rear | 43.30 | 12.20 | 47.00 | 2.20 | 3.30 |
| C | rigid | front | 60.70 | 13.00 | 63.50 | 3.00 | 2.10 |
| | | rear | 59.10 | 11.40 | 63.50 | 3.00 | 3.30 |
| | float | front | 61.50 | 13.80 | 63.50 | 2.20 | 2.10 |
| | | rear | 59.80 | 12.20 | 63.50 | 2.20 | 3.30 |
| D | rigid | front | 58.30 | 15.80 | 61.50 | 3.00 | 2.10 |
| | | rear | 56.30 | 14.10 | 61.50 | 3.00 | 3.30 |
| | float | front | 59.20 | 16.60 | 61.50 | 2.20 | 2.10 |
| | | rear | 57.20 | 14.90 | 61.50 | 2.20 | 3.30 |

Panel mounting

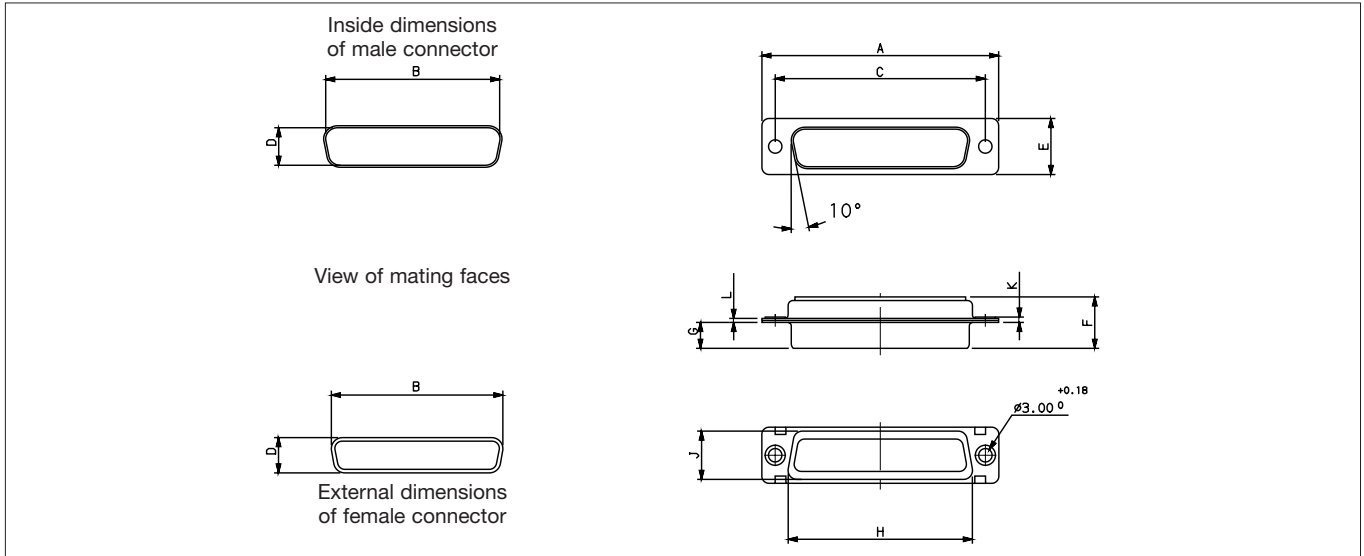
It is recommended that only **one of a pair** of connectors should be float mounted. Rigid mounted connectors require 2 screws Ø 3mm, float mounting connectors require 2 screws Ø 2 mm.



| Shell size | A ^{+0.6} ₋₀ | B ^{+0.6} ₋₀ | C ^{+0.6} ₋₀ | D ^{+0.6} ₋₀ | E ^{+0.6} ₋₀ | F ^{+0.6} ₋₀ | G ^{+0.6} ₋₀ | H ^{+0.6} ₋₀ | J ^{+0.6} ₋₀ | K ^{+0.6} ₋₀ | L ^{+0.6} ₋₀ | M ^{+0.6} ₋₀ |
|------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| E | 7.65 | 7.65 | 6.85 | 6.45 | 8.85 | 5.65 | 8.25 | 9.45 | 5.65 | 8.25 | 9.45 | 6.85 |
| A | 7.65 | 7.65 | 6.85 | 6.45 | 8.85 | 5.65 | 8.25 | 9.45 | 5.65 | 8.25 | 9.45 | 6.85 |
| B | 7.55 | 7.55 | 6.75 | 6.35 | 8.85 | 5.55 | 8.15 | 9.35 | 5.55 | 8.15 | 9.35 | 6.75 |
| C | 7.55 | 7.95 | 6.75 | 6.35 | 9.15 | 5.55 | 8.35 | 9.55 | 5.55 | 8.15 | 9.75 | 7.15 |
| D | 7.55 | 7.95 | 6.75 | 6.35 | 9.15 | 5.55 | 8.35 | 9.55 | 5.55 | 8.15 | 9.75 | 7.15 |

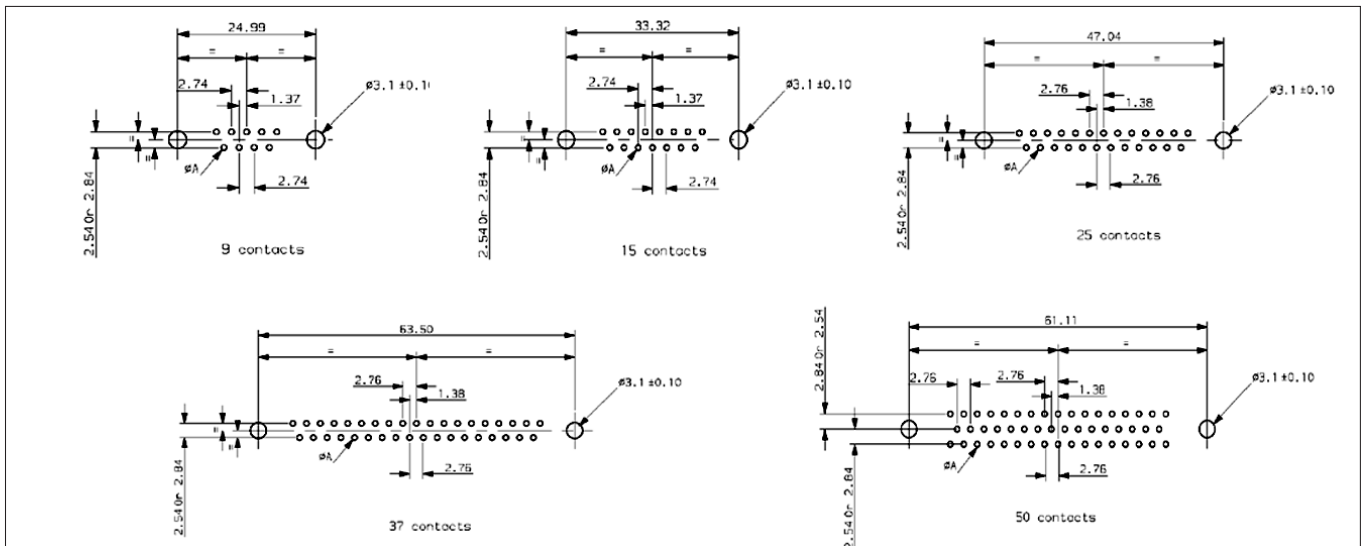
D-Sub Technical Characteristics

Shell dimensions



| | | A ± 0.38 | B ± 0.13 | C ± 0.13 | D ± 0.13 | E ± 0.38 | F Max. | G $\begin{smallmatrix} +0.25 \\ -0 \end{smallmatrix}$ | H ± 0.25 | J ± 0.25 | K Max. | L ± 0.12 |
|---|---|--------------|--------------|--------------|--------------|--------------|--------|---|--------------|--------------|--------|--------------|
| E | P | 30.81 | 16.91 | 24.99 | 8.35 | 12.55 | 10.99 | 5.85 | 19.27 | 10.71 | 1.50 | 0.90 |
| | S | 30.81 | 16.33 | 24.99 | 7.89 | 12.55 | 11.21 | 6.05 | 19.27 | 10.71 | 1.50 | 0.90 |
| A | P | 39.14 | 25.24 | 33.32 | 8.35 | 12.55 | 10.99 | 5.85 | 27.50 | 10.71 | 1.50 | 0.90 |
| | S | 39.14 | 24.66 | 33.32 | 7.89 | 12.55 | 11.21 | 6.05 | 27.50 | 10.71 | 1.50 | 0.90 |
| B | P | 53.03 | 38.96 | 47.04 | 8.35 | 12.55 | 11.07 | 5.75 | 41.27 | 10.71 | 1.50 | 0.90 |
| | S | 53.03 | 38.37 | 47.04 | 7.89 | 12.55 | 11.21 | 6.05 | 41.27 | 10.71 | 1.50 | 0.90 |
| C | P | 69.32 | 55.42 | 63.50 | 8.35 | 12.55 | 11.09 | 5.75 | 57.70 | 10.71 | 1.50 | 1.00 |
| | S | 69.32 | 54.83 | 63.50 | 7.89 | 12.55 | 11.21 | 6.05 | 57.70 | 10.71 | 1.50 | 0.90 |
| D | P | 66.93 | 52.80 | 61.11 | 11.20 | 15.37 | 11.09 | 5.75 | 55.32 | 13.56 | 1.70 | 1.00 |
| | S | 66.93 | 52.42 | 61.11 | 10.74 | 15.37 | 11.21 | 6.05 | 55.32 | 13.56 | 1.50 | 0.90 |

PC card drilling dimensions (mm) Note: $\varnothing A = 0.8$ min. for D, DP
(for solder versions) Note: $\varnothing A = 0.9$ min. for Delta D, Compact D, HE501, HE507, HE508 and DP US footprint



Note: pitch between row = 2.84 for straight spalls

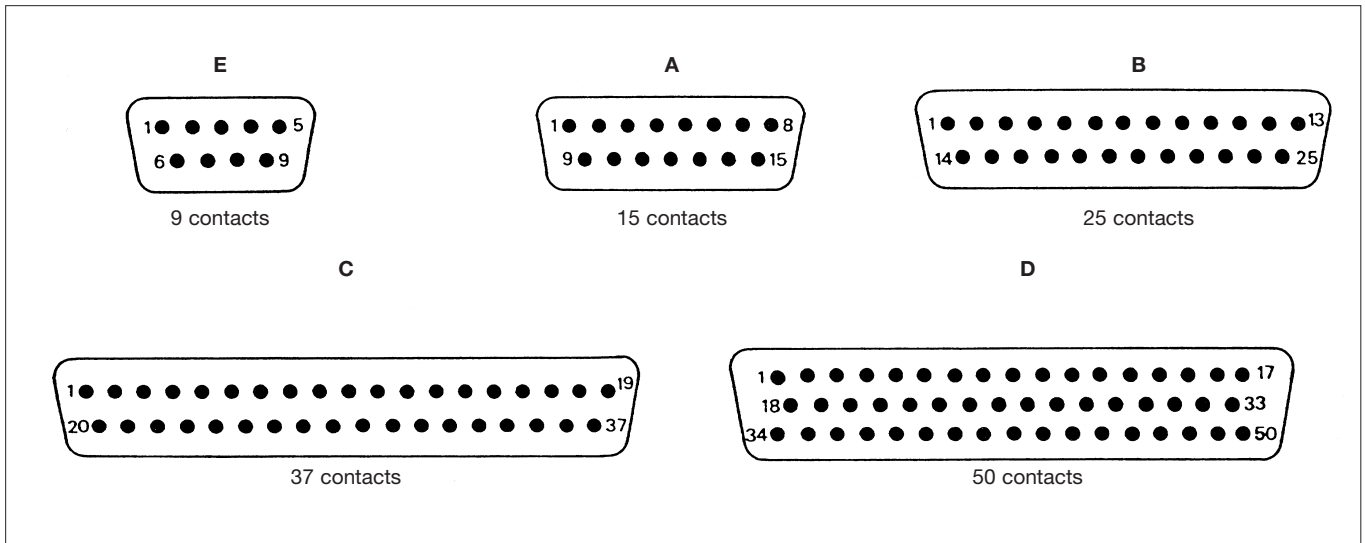
D-Sub Technical Characteristics

Layouts

Male insulator front view

Contacts are individually numbered on both sides of the insulator.

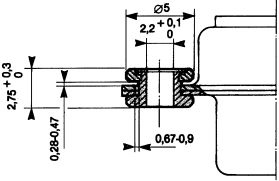

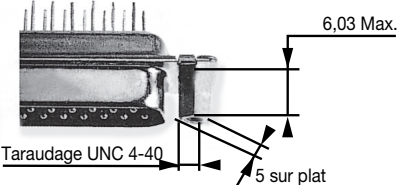
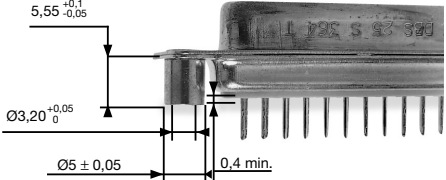
Standard connectors





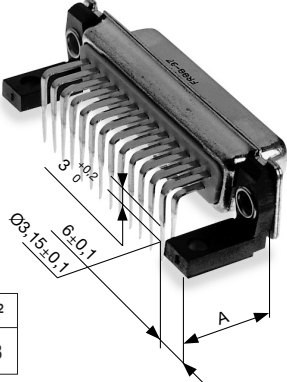
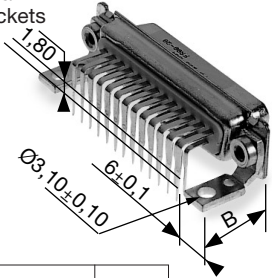

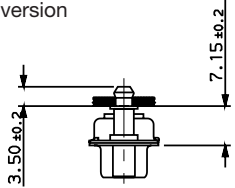
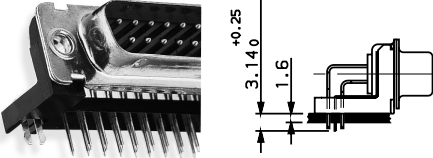
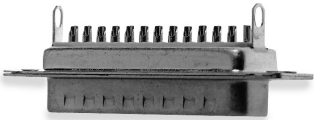
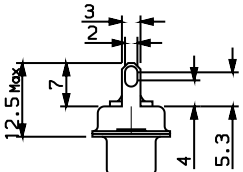
D-Sub Technical Characteristics

Mounting options for D, DP, DW, DM, DMW, 8656, 8657 series (dimensions in mm)

Options 1

| | |
|---|--|
| <p>F Float mounting (only military series)</p>  | <p>L Clinch nut M3 O Clinch nut UNC 4-40</p>  |
| <p>V Female screw lock UNC 4-40</p>  | <p>S Spacers riveted to shell</p>  |

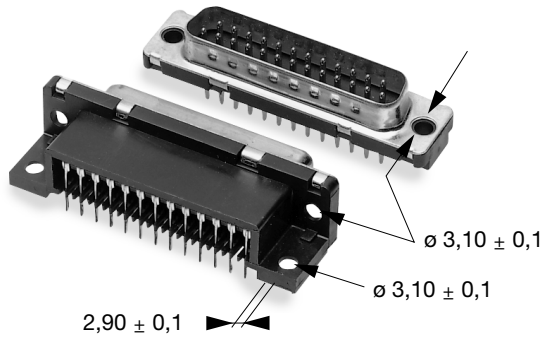
Options 2

| <p>C Without bracket</p>  | <p>Blank For DM and DMW series connectors are delivered with monobloc plastic bracket P For DW series</p>  <table border="1" data-bbox="502 1227 742 1485"> <thead> <tr> <th>Termination</th> <th>C ± 0.2</th> </tr> </thead> <tbody> <tr> <td>5 9 to 37 contacts</td> <td>15.30</td> </tr> <tr> <td>50 contacts</td> <td>17.90</td> </tr> <tr> <td>9 (US standart)</td> <td>13.20</td> </tr> <tr> <td>50 contacts</td> <td>15.70</td> </tr> </tbody> </table> <p>Bracket thickness = 3 ± 0.1</p> | Termination | C ± 0.2 | 5 9 to 37 contacts | 15.30 | 50 contacts | 17.90 | 9 (US standart) | 13.20 | 50 contacts | 15.70 | <p>Blank For DP series connectors are delivered with 2 separate plastic brackets (except for layout 50 with monobloc bracket)</p>  <table border="1" data-bbox="991 1406 1150 1485"> <thead> <tr> <th>Layout</th> <th>A ± 0.2</th> </tr> </thead> <tbody> <tr> <td>9 to 37 contacts</td> <td>14.8</td> </tr> </tbody> </table> | Layout | A ± 0.2 | 9 to 37 contacts | 14.8 |
|---|---|-------------|------------------|-----------------------|-----------------------------|-------------|-----------------|-----------------|-------------|-------------|--|--|--------|---------|------------------|------|
| Termination | C ± 0.2 | | | | | | | | | | | | | | | |
| 5 9 to 37 contacts | 15.30 | | | | | | | | | | | | | | | |
| 50 contacts | 17.90 | | | | | | | | | | | | | | | |
| 9 (US standart) | 13.20 | | | | | | | | | | | | | | | |
| 50 contacts | 15.70 | | | | | | | | | | | | | | | |
| Layout | A ± 0.2 | | | | | | | | | | | | | | | |
| 9 to 37 contacts | 14.8 | | | | | | | | | | | | | | | |
| <p>M Metal brackets</p>  <table border="1" data-bbox="129 1630 363 1888"> <thead> <tr> <th>Termination</th> <th>B ± 0.2</th> </tr> </thead> <tbody> <tr> <td>9 to 37 contacts</td> <td>14.80</td> </tr> <tr> <td>5, 8, 14, 18 50 contacts</td> <td>17.40</td> </tr> <tr> <td>9 (US standart)</td> <td>13.19</td> </tr> <tr> <td>50 contacts</td> <td>15.99</td> </tr> </tbody> </table> | Termination | B ± 0.2 | 9 to 37 contacts | 14.80 | 5, 8, 14, 18 50 contacts | 17.40 | 9 (US standart) | 13.19 | 50 contacts | 15.99 | <p>U Monobloc plastic bracket with metal plate for electrical continuity (dim. same as above)</p>  | <p>G Harpoon with electrical continuity For DM and DP series available in angled version only For PCB thickness of 1.6 Metallized hole ø 3.1 ± 0.12</p> <p>straight version</p>  <p>angled version</p>  <p>except 50 way</p> | | | | |
| Termination | B ± 0.2 | | | | | | | | | | | | | | | |
| 9 to 37 contacts | 14.80 | | | | | | | | | | | | | | | |
| 5, 8, 14, 18 50 contacts | 17.40 | | | | | | | | | | | | | | | |
| 9 (US standart) | 13.19 | | | | | | | | | | | | | | | |
| 50 contacts | 15.99 | | | | | | | | | | | | | | | |
| <p>H Shielding fingers for solder D series (not available on 50 way)</p>  |  | | | | | | | | | | | | | | | |

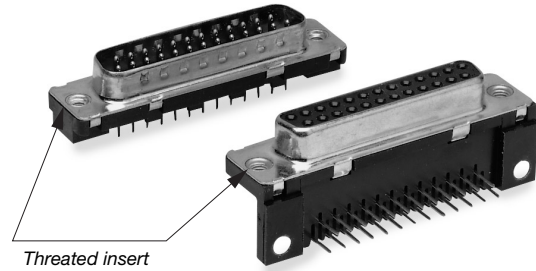
D-Sub Technical Characteristics

Mounting options for DELTA D and COMPACT D series

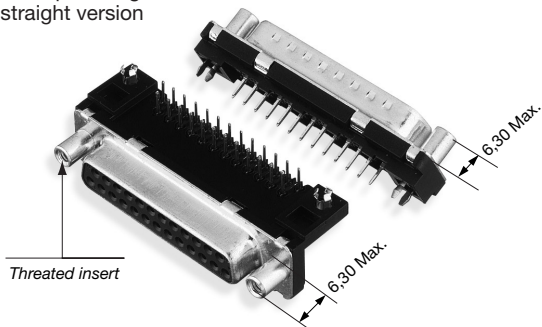
PA Standard hole without hardware



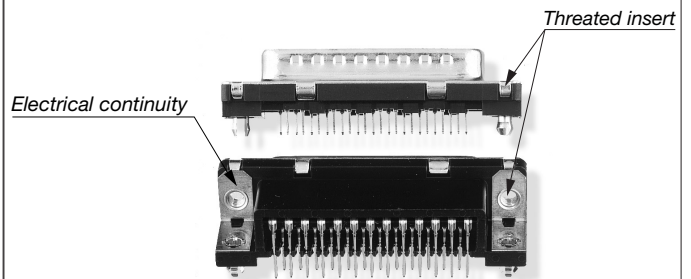
PL With threaded insert M3
PX With threaded insert UNC 4-40
PV With female screw UNC 4-40 (not represented)



GV Harpoons + female screw UNC 4-40 + electrical continuity through metal strip for angled version and monobloc hardware for straight version
GI Harpoons + female screw M3 + electrical continuity through metal strip for angled version and monobloc hardware for straight version

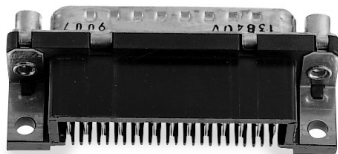


GL Thread M3
GX Thread UNC 4-40
 Harpoons + insert+ electrical continuity through metal strip for angled version and monobloc hardware for straight version

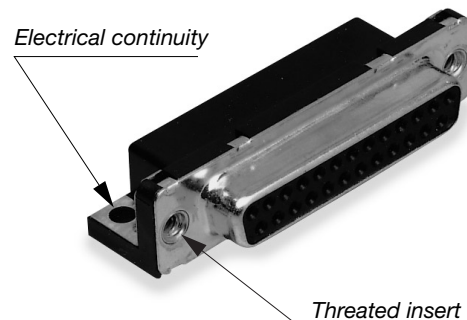


PCB thickness: 1,6 mm/Metallized toles $\varnothing 3,1^{+0,1}$

UV Female screw UNC 4-40 + electrical continuity through metal strip



UL Insert M3 + electrical continuity through metal strip
UX Insert UNC 4-40 + electrical continuity through metal strip
UA Electrical continuity through metal strip



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