HSE07201

DIN Rail

Made in Germany

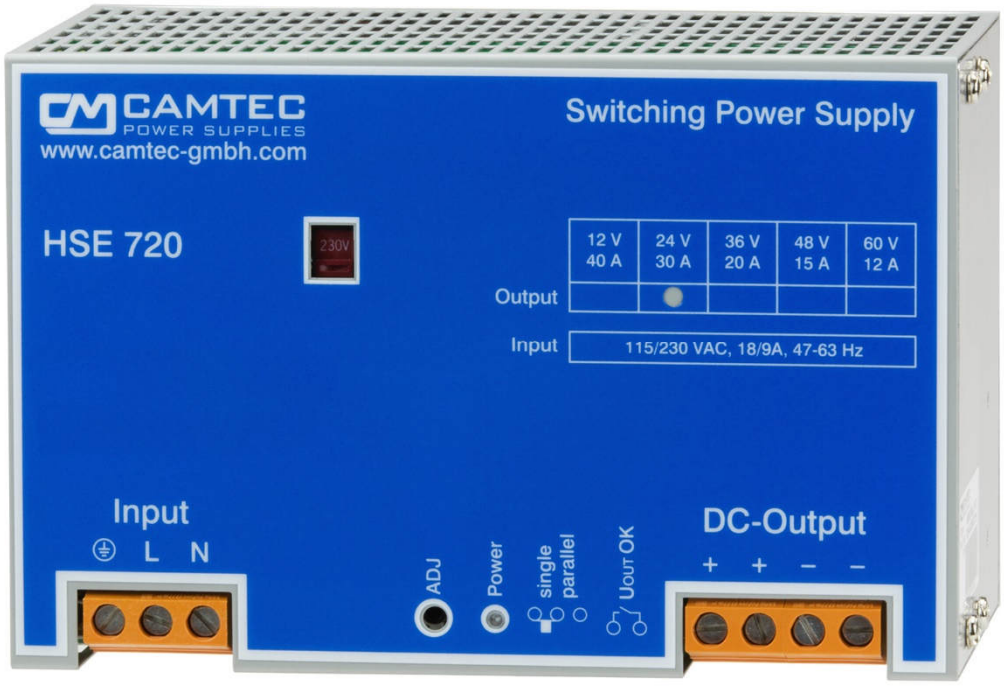
720 Watts Power Supply -20...+70°C
115/230Vac Input Voltage

Short Specification:

- Metal housing
- Up to 91% efficiency
- -20°C...+60°C full output power
- Free air convection
- Galvanic insulated
- Continuous short circuit protected
- Overload & low voltage protected
- Soft start & auto-recovery
- Hold up time >30ms
- Minimum load = 0A
- AC-Input 115/230Vac
- EMI/EMS EN61000-6-2/3, EN55022 class B
- IEC(EN)60950-1
- Series & parallel operation
- DIN Rail 35mm
- Screw terminals AWG20...AWG6
- 24 hours burn in test
- High reliability, shock & vibration resistant

Smart start-up with critical loads:

- **motor drives**
- **capacitive loads**
- **DC-DC-converters**



Output: 12V, 24V, 36V, 48V, 60V

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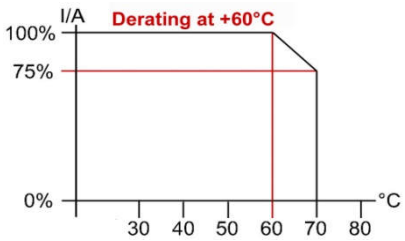
AC Input Range	85...132Vac / 184..264Vac 47...63Hz , 250…375Vdc				
AC Input	115Vac <13.0A 230Vac <6.5A				
Article number	HSE07201.12T	HSE07201.24T	HSE07201.36T	HSE07201.48TS01	HSE07201.60T
With Coating Option (p.3)	HSE07201.12TC	HSE07201.24TC	HSE07201.36TC	HSE07201.48TCS01	HSE07201.60TC
DC Output	12V	24V	36V	48V	60V
DC Continuous Current	40.0A	30.0A	20.0A	15.0A	12.0A
Boost ≤60 Seconds	44.0A	33.0A	22.0A	16.5A	13.2A
Ripple [mVpp] (230Vac/20MHz)	50	50	100	100	120
DC Adjust	11,4-14,4V	22,8-28,8V	34,2-43,2V	45,6-52,8V	57,0-66,0V
Stability Load Switch	± xxx% (0-100%)	± xxx% (0-100%)	± xxx% (0-100%)	± xxx% (0-100%)	± xxx% (0-100%)

Tolerance	± 1%
Load regulation	< ± 0.5% 10-100%, 100-10%
Switching Frequency	100KHz typical
Minimum Load	0 A
Efficiency	Up to 91%
Load Protection	1,1x I_{rated} ,auto recovery
Voltage Protection	140% of U_{out} , auto recovery
Short Circuit Protection	Continuous
Temperature Control	Yes
Hold Up Time	> 30ms 230Vac
Inrush Current	< 81A (230Vac)
Suggested MCB	C16A
Softstart	100ms typical
Cooling	Natural convection
Ambient Temperature	- 20°C…+70°C
Storage Temperature	- 40°C…+85°C
EMI	EN55022 class B
EMS	EN61000-6-2,3
Safety	EN60950-1, EN60204-1
Safety class 1(A)	VDE0805, VDE0100
Air & Surface Leakage Paths	> 8mm
Input/Output	AC-Input/DC-Output : 3KV (4,2KV with 48V-Version), Input/GND 2KV, Output/GND 500Vdc
Power Good Relay (opener)	<48Vdc/500mA (galv. insulated)
MTBF IEC61709	499.092h (40°C)
MTTF IEC60050	127.116h (40°C/230Vac/75%)
Humidity Operation	95% non condensing @ 25°C
Klimatic Class	3K3
Pollution Degree	II A
Operation Altitude	3000m above sea level
ROHS	2011/65/EG confirmed
REACH	EG No. 1907/2006 confirmed
Dimensions (HxWxD)	130x200x118,5mm
Weight	3000g
Screw Connectors (AC & DC)	AWG20...AWG6



Terminal Connects:

SK1	1 = GND / PE 2 = L 3 = N	
SK2	1 = DC + 2 = DC + 3 = DC - 4 = DC - B = power good B = power good	A Select operation mode between single/series-mode and parallel-mode.

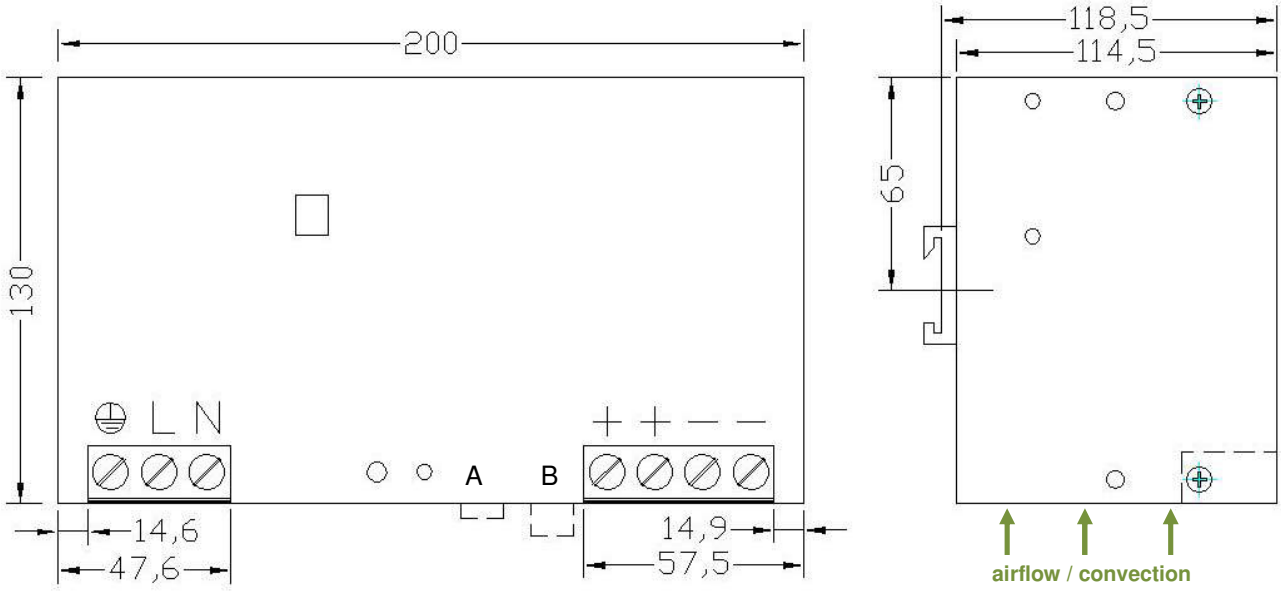
Screw terminal order codes:
(each package = 10 pcs) for power good relay

Art.No.: 3520037 (2 pins)

Conception:
The HSE power supply series realizes very high power efficiency in a space-saving housing. This design enables Green Power applications and allows free air convection. Latest generation electrical devices relate to the high reliability of all Camtec products. The Camtec philosophy is, to employ 125°C low ESR ultra long life capacitors where expedient to achieve a superior lifetime of our products. The used screw terminals allow easy to wire and smooth service.

Parallel and Serial Operation:
Camtec power supplies of the same model and the same output voltage can be either used parallel or in serial. The assembling of external parts is usually not recommended. Make sure that the output voltage of each connected unit is ±1% equal. We recommend connecting the DC-outputs to a neutral point or a power bar. Follow the safety norms of dangerous dc-voltages. Most of the HSE power supplies allow selecting a parallel operation mode with a switcher B (not HSE01201 & HSE03201). The parallel operation select tilts the C/V-chart a little bit. In result the switching is softer. The power sharing between the units is more accurate. The HSE models can be used floating until 300Vdc (not HSE01201 & HSE03201)

UI-Chart, overload and temperature control characteristic
The HSE models base on a typical resonance forward converter. The devices provide an ideal vertically C/V-chart with no fold back. Thus the converter is ideal for complex loads and DC-drives. Consciously we resigned an excessive power boost that mostly occurs in less exact working control circuits. The advantage is, that the power supply delivers its energy always controlled and constant to the load. Even with a faulty operation of the power supply the loads never expose to high risk.
The **temperature control** follows the C/V-chart. The power will be reduced over the voltage and the current remains constant (CC-mode). If the power supply really overheats the output voltage will be shot down. When the temperature recovers the unit automatically recovers and restarts into normal operation. As a standard the **power good relay** allows to control the power supply.



Coating Option
We offer the HSEUIreg-series with optional coating. It is to be used in e.g. dusty, dirty, high humidity, or in awaiting quick temperature changes. Short circuit and corrosion at print board lines and at solder points can be prevented. The coat itself is a transparent acrylic resin. It is procured with a robotics varnishing machine. Peters SL 1306 N-FLZ (transparent) IEC60216-1 2001, IPC-CC-830B, UL listed as permanent coating FileNo.: E80315 , UL94V-0

Safety Instructions: Please read all warnings and advices carefully before installing or operating the power supply. Retain this operation manual always ready to hand.The device must be installed by specialist staff only.

Installation:

1.) The device is designed for systems fulfilling the safety norms of dangerous voltages/energy and fire prevention
2.) Installation is restricted to specialists only, make sure that the AC wire system is free of voltage
3.) Opening the unit, making any modifications to it, dismounting any screws from it, operating the HPW out of specification and/or using it in appropriate area will unevitably result in loosing manufactureres guarantee; we decline taking any responsibility for risk of demages caused to someones health or to any installed system.
4.) Attention: The power supply has an internal input fuse. It is necessary to wire an automatic circuit braker (MCB) to the line. We suggest to use a 16A-type with C-characteristic. It is not allowed to operate the power supply without protective earth wire. It essential to install a line switch before the device.

Warnings:
Disregard these warnings can cause fire, electic shock, serious accident and death.

1. **Never operate the device without Protective Earth Conductor**
2. **Before connecting the unit to the AC wire system make all wires free of voltage and assure accidently switch on**
3. **Allow neat and professionel cabeling**
4. **Never open nor try to repair the power supply by yourself. Inside are dangerous voltages that can cause electric shock hazard.**
5. **Avoid metal pieces or other conductive material to fall into the device**
6. **Do not operate the unit under damp or wet conditions**
7. **It is verboten to operate the unit under Ex conditions or in Ex-Area**

All parameters base on 15 minutes run-in @ full load / 25°C / 230Vac 50/60Hz, as otherwise stated.