

HSE04801

DIN RailMade in Germany

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

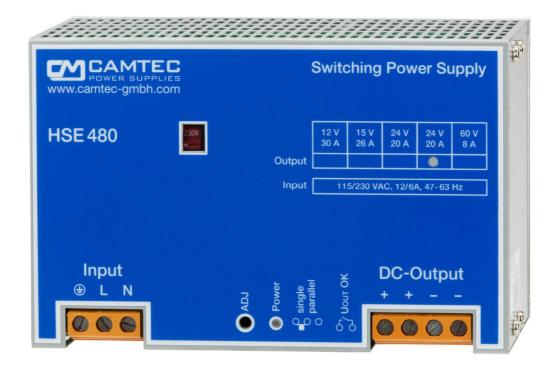
Short Specification:

- 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 >50ms

- 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, 15V, 24V, 36V, 48V





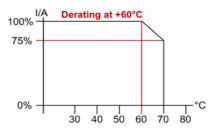


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AC Input Range	85132Vac / 184264Vac 4763Hz , 250375Vdc				
AC Input	115Vac <8.8A 230Vac <4.3A				
Article number	HSE04801.12T	HSE04801.15T	HSE04801.24T	HSE04801.36T	HSE04801.48T
With Coating Option (p.3)	HSE04801.12TC	HSE04801.15TC	HSE04801.24TC	HSE04801.36TC	HSE04801.48TC
DC Output	12V	15V	24V	36V	48V
DC Continuous Current	30.0A	26.0A	20.0A	13.3A	10.0A
Boost ≤60 Seconds	33.0A	28.6A	22.0A	14.6A	11.0A
Ripple [mVpp] (230Vac/20MHz)	40	50	50	100	100
DC Adjust	11,4-14,4V	14,2-18V	22,8-28,8V	34,2-43,2V	45,6-52,8V
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 Uout, auto recovery		
Short Circuit Protection	Continuous		
Temperature Control	Yes		
Hold Up Time	> 50ms 230Vac		
Inrush Current	< 40A (230Vac)		
Suggested MCB	B16A		
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 Isolation	AC-Input/DC-Output : 3KV,		
	Input/GND 2KV, Output/GND 500Vdc		
Power Good Relay (opener)	<48Vdc/500mA (galv. Insulated		
	60Vdc)		
MTBF EN61709	499.101h		
MTTF IEC60050	127.124h (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 (I.W. B)	EG No. 1907/2006 confirmed		
Dimensions (HxWxD)	130x200x118,5mm		
Weight	2800g		
Screw Connectors (AC & DC)	AWG20AWG6		



Terminal Connects:

1 = GND / PE 2 = L 3 = N

1 = DC + A

Art.No.: 3520037 (2 pins)

B = power good B = power good

Screw terminal order

codes:

(each package = 10 pcs) for power good relay

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 $\pm 1\%$ 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)

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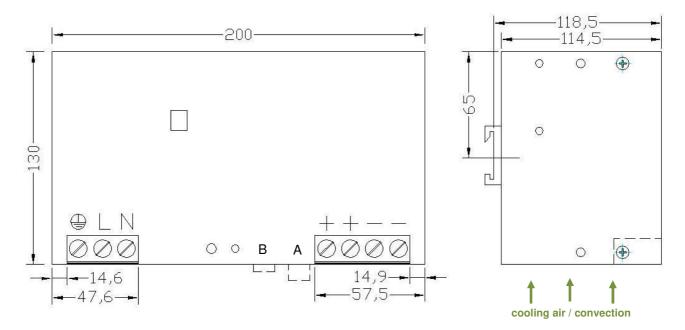
(Subject to alterations. This product is not designed to be used in applications such as life support systems wherein a failure or malfunction could result in injury or death)



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 TC

We offer the HSE 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
- 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 B-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
- 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
- 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.

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