

HPV04801

DIN Rail

Made in Germany

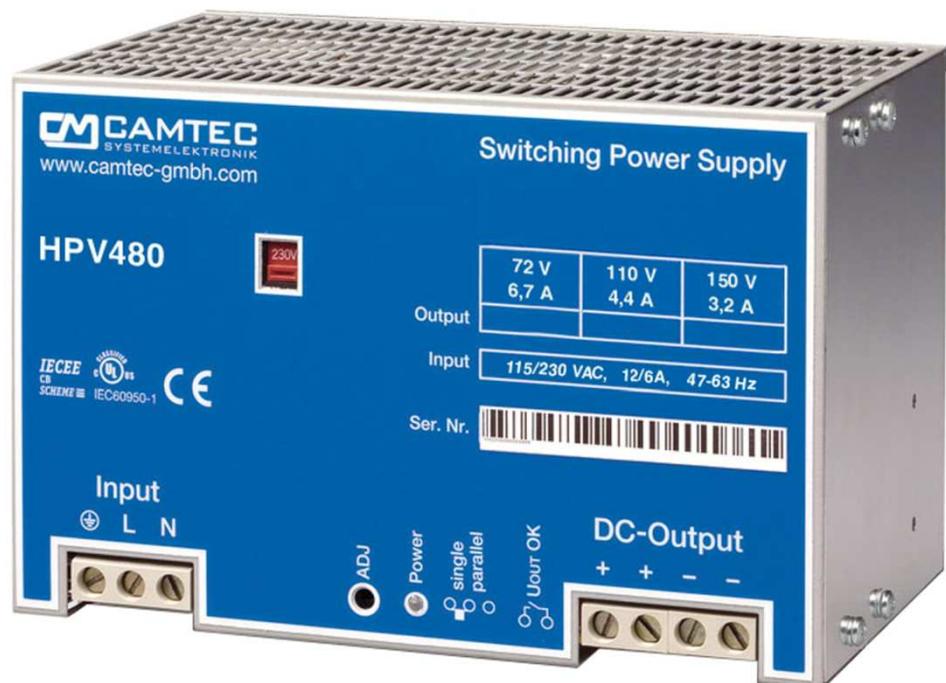
480 Watt Switch Mode Power Supply -20...+70°C
Single Output: 72V, 110V, 150V, 220V, 300V

Short Specification:

- Metal housing
- 92% Efficiency
- -20°C...+60°C full output power
- Natural convection
- Galvanic isolation
- Continuous short circuit protected
- Low voltage & over voltage proof
- Soft start & auto recovery
- Hold up time >50ms
- Continuous zero load proof
- Input 115/230Vac
- EMI/EMS EN61000-6-2/3, EN55022 class B
- IEC(EN)60950-1
- Series & parallel operation n+1
- DIN Rail TS35mm
- Spring-type terminal AWG20 - 6 /0,5...12mm²
- 24 hours Burn-In
- High reliable, shock & vibration proof



1-stage forward converter with classic VI-characteristic for complex loads like DC-drives, LED and UPS -applications



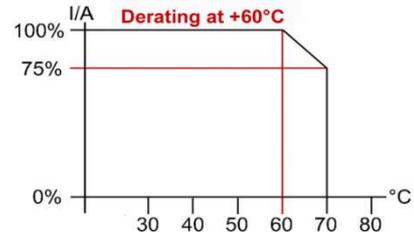
In accordance with IEC60950-1

AC input voltage	90..132Vac / 184..265Vac , 47...63Hz , 250...375Vdc				
AC nominal voltage	115Vac <8.8A 230Vac <4.3A				
DC output voltage	72V	110V	150V	220V	300V*
DC output current	6.7A (480W)	4.4A (480W)	3.2A (480W)	2.2A (480W)	1.6A (480W)
Ripple [mVpp] 230Vac	150 (20MHz)	200 (20MHz)	200 (20MHz)	300 (20MHz)	400 (20MHz)
DC adjust range	58...86V	86...132V	132...180V	180...240V	264...360V

Ordering code: HPV04801.Ua+(T= DIN Rail ; W= wall mount) Example: 150V DIN Rail = HPV04801.150T

*upon request

Tolerance calibration	± 1%
Response on load switch	< ± 0.1% 10-100%, 100-10%
Stability on load switch	<1ms 10-100%, 100-10%
Basic load	None required
Efficiency typ.	92%
Load protection	1,1x I _{rated} ,auto recovery
Voltage protection	140% of U _{out} , auto recovery
Short circuit protection	Continuous
Temperature control	Ja
Hold up time (230Vac)	>50ms full load (230Vac)
Circuit breaker recommended	B16A
Inrush current (230Vac)	< 40A
Soft start	100ms typical
Cooling	Natural convection
Operating temperature	- 20°C...+70°C
Storage temperature	- 40°C...+85°C
EMI	EN55022 class B
EMS	EN61000-6-2,3
Safety	cUL60950, EN60950-1, EN60204-1
Safety class 1(A)	VDE0805, VDE0100
Creepage distances	> 8mm
Input-/output isolation	AC-Input/DC-Output : 3KV, Input/GND 2KV, Output/GND 500Vdc
Power Good Relais	Not available
MTBF IEC61709	400.000h
MTTF IEC60050	128.124h (40°C/230Vac/75%)
Relative air humidity	95% not condensing @ 25°C
Climatic class	3K3
Safety class	II A (pollution degree)
Nominal altitude (max.)	3000m over sea level
Dimensions (HxWxD)	130x200x118mm
Weight	2.800g
Spring types terminals in/out	AWG20...AWG6 / 0,5...12mm ² (finely stranded)



Connections:

1 = N
SK1 2 = L
3 = GND

1 = DC +
SK2 2 = DC +
3 = DC -
4 = DC -

B Single/Parallel-operation

Accessory:

Plug spring-type terminal for Power Good Relay

Art.Nr.: 3520037
(2 pins) (each package = 10 pcs)

Camtec-Concept:

The Camtec power supply models provide high power density in a small housing. Camtec consequently follows the highest product quality. We only use brand parts of the leading manufacturers on the highest level available. The advanced thermal design affords fanless operation. With the use of 125°C High-End Elkos at recommended places this offers the synergetic effect of novel product life time. The HPV power supply series is being manufactured in our on FAB in Germany.

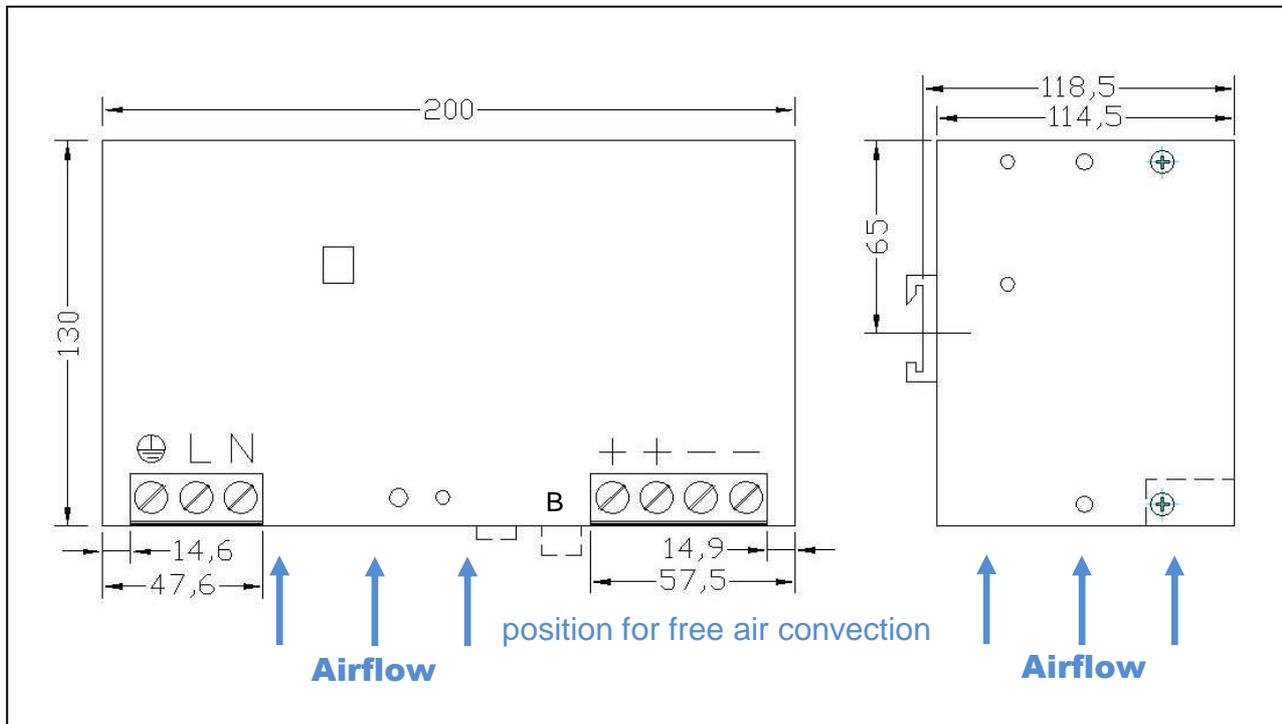
Parallel and Serial Operation:

Camtec power supplies of the same model & the same output voltage can operate in parallel or serial mode. Generally the use of external electrical parts is not recommended. Make sure that the output voltage of all the involved units is accurately adjusted with a tolerance of at least ±1%. Apply equal wiring lengths to connect the load. We recommend to use a neutral point wire network or to use power bars. In serial mode please observe national safety norms for dangerous voltage. The switcher B selects between the single and the parallel operation setup. Set to parallel mode the VI-chart of the power supply will be smoothly bent. In result the PWM-circuit switches somewhat more softly. The power distribution between the involved power supply units is being more accurate. The team-play is being more harmonious. The HPV04801-Serie is prepared to operate up to 300Vdc with floating outputs.

VI-Characteristic and Over Boost Operation (temperature control)

The HPV04801-Models base on a classic forward resonant converter. The HPV series provides an ideal at right angle VI-chart and with no fold back. In result the HPV power supply units excellently apply to complex loads, LED-applications and dc-drives. Intentional our engineers avoided to design an excessive power boost that can be found in less exact working control circuits of some power supply units on the market. The HPV design places reliance on extraordinary huge electrolytic capacity that saves immense power reserves. The main advantage of such a design is that the HPV power supply unit delivers its energy always constantly and always controlled. Even in fault operation the connected load will never be endangered.

The **Temperature Control** follows the VI-characteristic. The output power will decrease over the voltage; the current will be delivered constantly. In case of dangerous overheating the HPV will be safety shut down. After heat dissipation the HPV restarts (soft start) automatically (auto recovery mode).



Coating Option (Option C):

We offer the HPV-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 power supply must be installed by specialist staff only.

Installation:

- 1.) The HPV 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 HPV, making any modifications to it, dismantling any screws from it, operating the HPV out of specification and/or using it in appropriate area will inevitably result in loosing manufactureres guarantee; we decline taking any responsibility for risk of damages caused to someones health or to any installed system.
- 4.) Attention: The HPV has an internal input fuse. It is necessary to wire an automatic circuit braker to the line. We suggest to use a 16A-type with B-characteristic. It is verboten to operate the HPV without protective earth wired. It essential to install a line switch before the HPV.

Warnings:

Disregard these warnings can cause fire, electric shock, serious accident and death.

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