

HSE01201CC

DIN Rail

Made in Germany

120 Watt Constant Current Power Supply -20...+70°C
115/230Vac Input Voltage (250Vdc-375Vdc)

Short Specification:

- Metal housing
- Up to 89% 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
- Safe against idling
- EMI/EMS EN61000-6-2,3, EN55022 class B
- PFC-norm: EN61000-3-2 class A
- cUL60950/16950 IEC(EN)60950-1
- Series & parallel operation
- DIN Rail 35mm
- Screw terminals AWG26...AWG12
- 24 hours burn in test
- High reliability, shock & vibration resistant

Applications:

- **Battery charger**
- **LED lighting**



Technical Data Table			
AC Input Range	85-132Vac/184-265Vac , 47-63Hz , 250-375Vdc (set AC to 230V)		
AC Input Nominal	115Vac <2.2A 230Vac <1.1A		
DC Voltage Nominal	36V	42V	57,4V
DC Current Nominal	3.0A	2.8A	2.0A
DC Voltage Adjust Range	Output voltage factory set to prevent from accidental misuse		
Ripple 230Vac 20MHz	120mVpp		
Factory Adjust. Tolerance Uout	± 0.5%		
Load regulation	< ± 0.1% 10-100%, 100-10%		
Baseload	Idling proof		
Efficiency	89% typ.		
Over Current Protection I(AB)	2.0/2.8/3.0A ±200mA, auto recovery (see C/V chart)		
Over Voltage Protection	145% of U _{out} , auto recovery		
Short Circuit Protection	Continuous		
Hold Up Time	> 30ms 230Vac @ full load		
Inrush Current	< 16A (230Vac)		
Soft Start	50ms typical		
Cooling	Natural convection		
Ambient Temperature	- 20°C...+70°C (see derating chart)		
Storage Temperature	- 40°C...+85°C		
EMI	EN61000-6-3 (noise immunity) EN55022 class B EN61000-3-2 (harmonics)		
EMS	EN61000-6-2,		
Safety Norms	IEC60950-1, EN60204-1		
Safety Class (with PE connected)	1, VDE0805, VDE0100		
Air & Creep Distance	> 8mm		
Input / Output Isolation	I/P-O/P:3kVac I/P-G:2kVac O/P-G:1.4kVdc		
Power Good Relay	<48Vdc/500mA, isolated ≤60Vdc		
MTBF EN61709	589000h		
MTTF EN61709.SN29500	147250h @ 40°C 24/7, 85% load		
Climate Class / Pollution Degree	3k3 / class2		
Humidity in Operation	90% @ 25°C, not condensing		
Operation Altitude	≤ 3000m over sea level (9842 feet)		
Dimensions (HxWxD)	124x50x96mm		
Net Weight	510g		

Conception:

The HSE power supply series realizes very high power efficiency in a space-saving housing. Latest generation electrical devices relate to the high reliability of all Camtec products. The HSE01201CC series is a constant current mode power supply. It is designed to be used as a battery charger or a LED driver. The used screw terminals allow easy and smooth service.

Parallel & series connection:

Camtec power supplies of the same model and the same output voltage can be either used in parallel or in series connection. 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. Always use equal cabling length for all DC-outputs.

C/V-Chart:

The HSE01201CC models base on a typical quasi resonance converter. The devices provide a vertically C/V-chart. Thus the converter is designed for complex loads.

Power Good Relay:

As a standard the power good relay allows to control the power supply is ok. When the output voltage breaks down the contact opens.

Manual and Technical Details

Table of Connections SK1

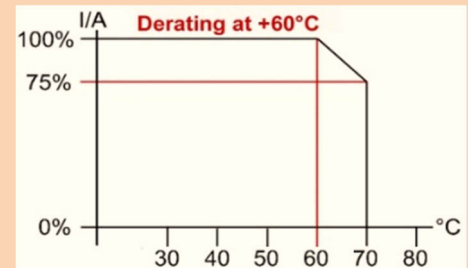
Pin	Name	Type	Function	Signal	Remarks
1	L	Power Input	Phase	Under DC supply operation an external fuse for each input line L & N is required!	1pc 3520038 connector required
2	N	Power Input	Neutral Terminal		
3	PE	Power Input	GND / Protective Earth		

Table of Connections SK2

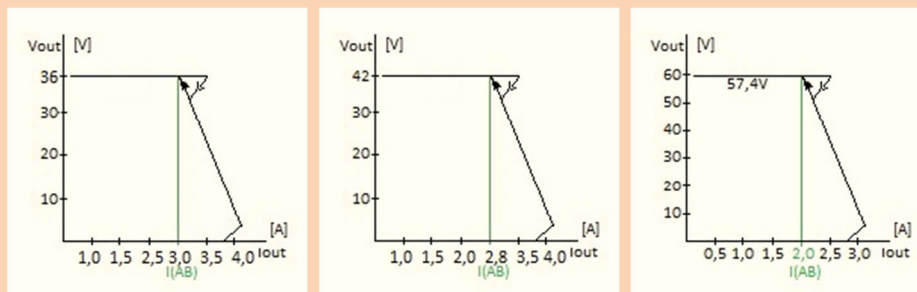
Pin	Name	Type	Function	Signal	Remarks
1	DC +	DC Output	-	-	1pc 3520037 connector required
2	DC +	DC Output	-	-	1pc 3520037 connector required
3	DC -	DC Output	-	-	1pc 3520037 connector required
4	DC -	DC Output	-	-	1pc 3520037 connector required
5	DC-OK	Relay	Power Good Relay	-	1pc 3520037 connector required
6	DC-OK	Relay	Power Good Relay	-	1pc 3520037 connector required

Temperature Monitoring & Derating

The maximum ambient temperature during operation is + 60°C.
The measuring point is 10mm outside the power supply.



C/V charts

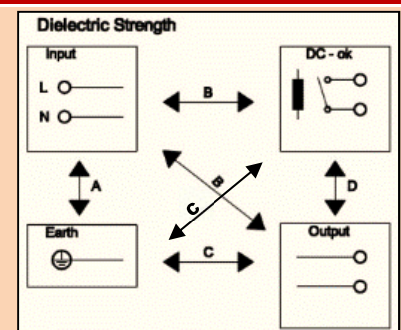


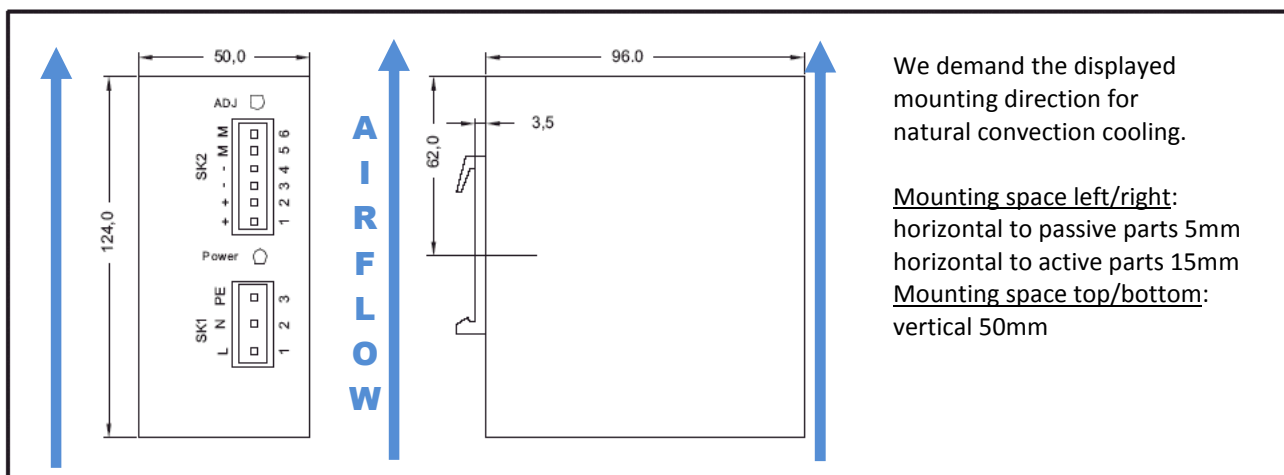
Electrical Safety (Factory-Test / Fieldtest Owner)

Type Test	T	A	B	C	D
Type Test	60s	2000Vac	3000Vac	1400Vdc	500Vdc
Factory Test	5s	2000Vac	2000Vac	1400Vdc	500Vdc
Field Test	2s	2000Vac	2000Vac	1400Vdc	500Vdc

Type and Factorytest are the manufacturer. While repeating damage can happen to the power supply unit. For the fieldtest (owner) follow the below instruction:

- Use suitable test equipment, raising the voltage slowly
- Short circuit L1 and N, and all the DC output terminals.
- Use only test voltages of 50/60Hz. The outputs are unearthed and therefore they have no resistance to GND/PE.
- If the residual voltage is $\geq 60Vdc$, observe the safety standards. Use only specially insulated screwdriver to trim the U_a/I_a .





We demand the displayed mounting direction for natural convection cooling.

Mounting space left/right:
horizontal to passive parts 5mm
horizontal to active parts 15mm
Mounting space top/bottom:
vertical 50mm

Ordering Codes & Options

Term	Information	Camtec Article Number
HSE01201CC36T	36,0Vdc/3.0A	3041038017CA
HSE01201CC42T	42,0Vdc/2,8A	3041038018CA
HSE01201CC.60T	57,4Vdc/2.0A	3041038020CA
AC Input Connector	3pole terminal connector LS7,5mm AWG26-AWG12, Package = 10pcs	3520038
DC Output Connector	2pole terminal connector LS5,08mm AWG26-AWG12, Package = 10pcs	3520037

Safety regulations: Please read these instructions completely before using the equipment. Keep these instructions on to hand. The device may only be operated by trained specialist staff.

Installation:

- 1) The device is designed for devices and systems that meet the standard requirements for hazardous voltages, power and fire prevention.
- 2.) Installation and service only by trained persons. The AC power must be switched off. The work is to be labeled; accidental reconnection of the system must be prevented.
- 3.) Opening the device, its modification, loosening bolts or operation outside the specified herein specification or in an unsuitable environment, has the immediate loss of warranty to follow. We disclaim any responsibility for any resulting damage to persons or things.
- 4.) Note: The device must not be operated without an upstream circuit breaker (CB). We recommend the use of B-Type 8A. It is forbidden to use the unit without PE. It may be necessary upstream device has a power switch.

Warning:

Non-compliance can result in fire and serious injury or death.

1. Operate the appliance without PE connection.
2. Before connecting the device to the network, turn off the power.
3. Pay attention to careful and standardized wiring.
4. Never open the unit. Inside are dangerous voltages that may lead to a severe electrical shock.
5. It may fall into the device any objects.
6. Operate in damp or wet conditions
7. Operation under EX-conditions is prohibited.



All parameters after 15 minutes of continuous operation at full load / 25°C / 230Vac 50/60Hz, unless otherwise indicated.