

CPS-A

Intrinsically Safe Compact Power Supplies

Description

The CPS-A series of Compact Intrinsically Safe Power Supplies convert 110VAC or 48VDC to intrinsically safe low voltage DC power.

The DIN rail mount enclosure is made of robust black polycarbonate and has a protection rating of IP20. Top and bottom enclosure walls feature ventilation slots for natural convection cooling. The side walls are solid and allow other components to be stacked against it on the DIN rail. Top and bottom ventilation slots must be kept free for air circulation. Screw terminals are located on the front for connecting the AC mains cable and the output load circuits. The output has two terminals for each of the positive and negative DC supply.

The power supply has Associated Apparatus approval and must be mounted in an appropriate enclosure, or in the safe area.

Some typical uses of this power supply are for voice communication systems, gas detection systems and other electronic equipment requiring intrinsically safe Ex ia power in a Group 1 environment.



Features

- Switched Mode Power Supply
- 32mm DIN Rail Mounting
- LED Status Indication
- Certified Intrinsically Safe – [Ex ia] I
- Tested to IEC 60079.0:2004 and IEC 60079.11:2006
- 110VAC Mains Voltage or 48VDC Operation

Operation

The CPS-A is an active power supply and exhibits very low output impedance. At full load the output voltage is reduced by only 0.3V.

The power supply output acts as a current limited voltage source. The load impedance can vary down to short circuit while the maximum output current is maintained.

LED Indicators

The following four (4) Status LEDs are located on the fascia:

- | | | |
|------------|------------------|-------|
| • LED 1 AC | Mains supply ON | Green |
| • LED 2 DC | Output Power ON | Green |
| • LED 3 DC | Output Switch ON | Green |
| • LED 4 DC | Output Overload | Red |

The red OVERLOAD indication lamp on the fascia lights up when current limit sets in. The OUTPUT indication lamp is driven directly by the output voltage. In current limit the light intensity drops with lower voltage. The OUTPUT SWITCH light indicates that the internal control circuit is healthy and the output is ON. The light turns off when mains power is removed and when a fault occurs. If mains power is healthy but the OUTPUT SWITCH light is OFF, return the power supply to Ampcontrol for repair.

Specifications	
General	
Supply Voltage	110VAC \pm 20%, 50/60Hz
	48VDC (32- 52VDC)
Certification	
IEC Ex TSA 06.0014X [Ex ia] I	
Input Parameter Um = 132V (All types)	
The external earth connection on the safe area input terminals shall be connected to the protective earth	
Mechanical & Environmental	
Dimensions (H x W x D)	102 x 125 x 113 (mm) (125mm D – When including terminals)
Weight	1kg
Operating Temperature Range	0-50°C for 12.6V / 2.4A 0-60°C all other models

Part Number and Output Parameters (Currently Approved Types)						
Part Number	Input Voltage	Uo	Io	Co	Lo	L/R
157351	110VAC	12.6V	2.4A	10 μ F	74 μ H	30 μ H/ Ω
157353			2.4A	20 μ F	40 μ H	8 μ H/ Ω
157354			2.0A	20 μ F	95 μ H	40 μ H/ Ω
157341		15.1V	1.5A	1 μ F	190 μ H	30 μ H/ Ω
157352			0.51A	2 μ F	450 μ H	65 μ H/ Ω
				0.47A	2 μ F	450 μ H

Part Number	Input Voltage	Uo	Io	Co	Lo	L/R
197542	48VDC	12.6V	2.4A	10 μ F	74 μ H	30 μ H/ Ω
			2.4A	20 μ F	40 μ H	8 μ H/ Ω

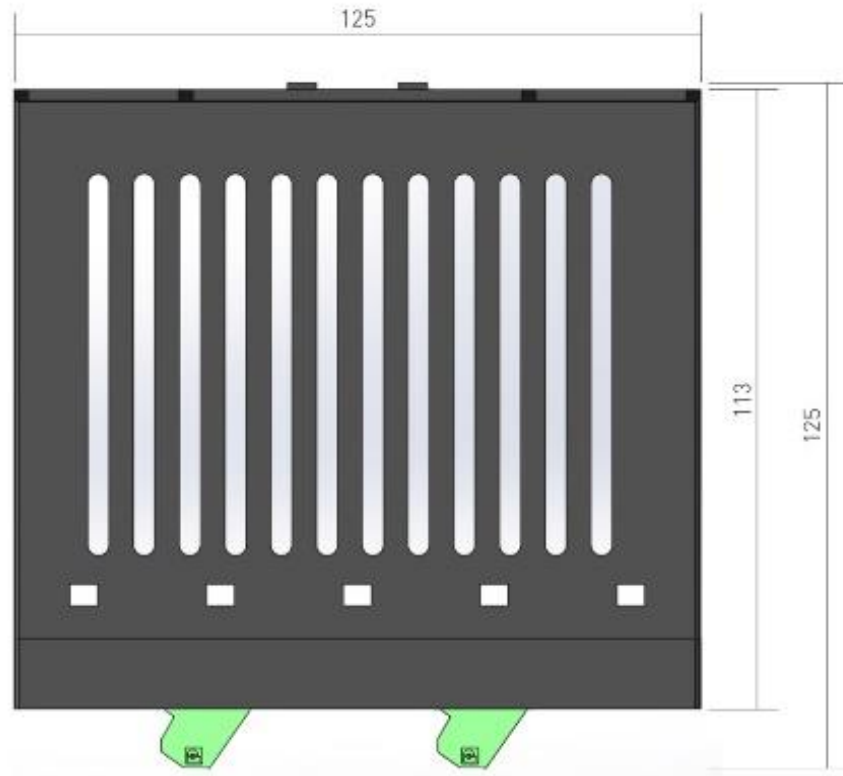
It is a condition of safe use that the above parameters shall be taken into account during installation.

Condition of Safe Use

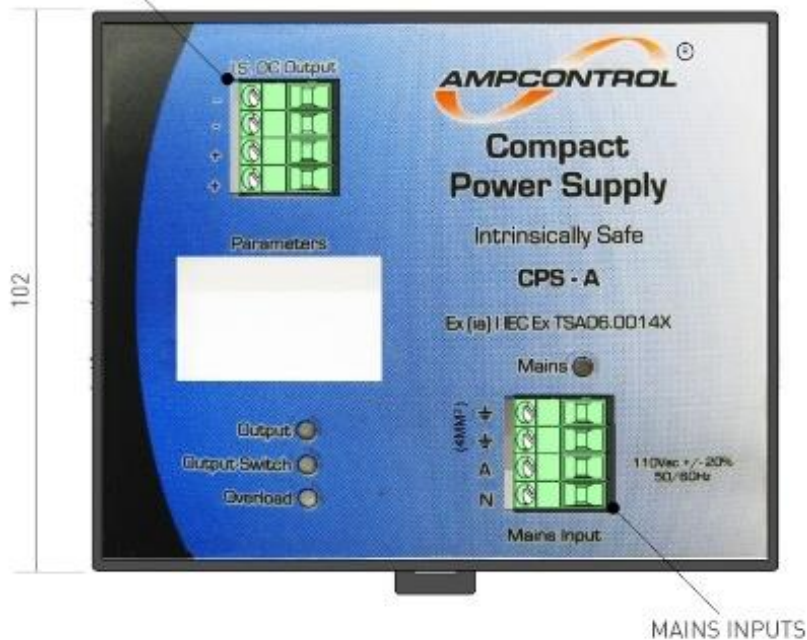
The input mains terminals and output DC terminals have a minimum separation distance of 50mm. This separation must be maintained by using insulated wires and lugs.

The external earth connection on the safe area input terminals shall be connected to the protective earth.

Dimensions



IS DC OUTPUTS



Find Out More

For more information on this product, contact Ampcontrol Customer Service on +61 1300 267 373 or customerservice@ampcontrolgroup.com or visit the Ampcontrol website: www.ampcontrolgroup.com

DISCLAIMER

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