GM INTERNATIONAL
TECHNOLOGY FOR SAFETY

PS D1000

Universal AC Input Switching Power Supply 24 Vdc Output Model PSD1000

Characteristics:

General Description:

The PSD1000 is a DIN Rail mounting universal AC input switching power supply with 24 Vdc 500 mA current output capability, to supply D1000 Series units or other 24 Vdc devices; it provides isolation between input and output and a relay for detection of supply fault (input line, output overload or thermal overload). The output is protected from overload (current or thermal) and short circuit (the unit switch off the output for a second and then try to re-activate until the fault condition is removed). The output is diode protected to connect multiple power supply (redundant output) or to increase the output power.

Function:

Universal Input Power Supply to drive D1000 Series units or other field equipment.

Signalling LED:

Power supply indication (green).

EMC:

Fully compliant with CE marking applicable requirements.

Front Panel and Features:

- Units can be mounted close to the I.S. modules (no 50 mm distance) because V ac input and Vdc output are on the same side (safe) of the unit.
- Universal AC Input Power Supply.
- Stabilized 24 Vdc 500 mA output capability.
- Redundant outputs connection.
- Isolation Input/Output.
- EMC Compatibility to EN61000-6-2, EN61000-6-4.
- Output short circuit proof and current limited.
- Simplified installation using standard DIN Rail with plug-in disconnect terminal blocks.

Technical Data:

Supply:

115-230 Vac input, 50-60 Hz typical connection (90 to 264 Vac, 48 to 400 Hz), or 130 to 370 Vdc, ripple within voltage limits ≤ 10 Vpp.

Current consumption: 220 mA at 115 Vac, 150 mA at 230 Vac with 500 mA output current.

Inrush Current: 10 A with < 10 ms duration.

Max. power consumption: 15 W with full output, 1W with no load, max. internal power dissipation 3 W.

Isolation:

AC Input/DC Output 2.5 KV, Fault Output/AC Input 2.5 KV
Fault Output/DC Output 500 V.

Output:

24 Vdc (22.8 to 25.2 V) with 500 mA current capability, parallel connection possible for redundant output.

Current output: 400 mA with 90 Vac input, 60 °C ambient temperature 700 mA with 230 Vac input and 40 °C ambient temperture.

Short circuit current: 750 mA.

Ripple content: < 400 mVrms.

Efficiency: 80% at 115 Vac input, 82% at 230 Vac input.

Fault Output:

Voltage free SPDT relay contact, normally energized. De-energize in fault conditions (output overload or input line fault).

Contact rating: 1 A 50 V (resistive load).

Response time: 20 ms.

Compatibility:

CE mark compliant, conforms to EN61000-6-2, EN61000-6-4 and EN60950 for electrical safety.

Environmental conditions:

Operating: Temperature limits -20 to + 60 °C, relative humidity max 90 % non condensing, up to 35 °C.

Storage: Temperature limits – 40 to + 80 °C.

Mounting:

T35 DIN Rail according to EN50022.

Weight: about 150 g.

Connection: By polarized plug-in disconnect screw terminal blocks to accomodate terminations up to 2,5 mm^2.

Location: Safe Area installation.

Protection class: IP 20.

Dimensions: Width 22.5 mm, Depth 99 mm, Height 114.5 mm.

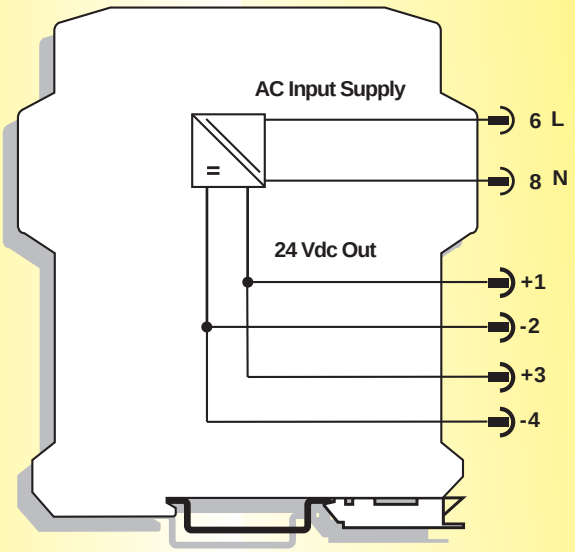
Ordering Information:

Model:	**PSD1000**	
Without Fault Relay Output Terminal	Blank	
With Fault Relay Output Terminal	F	
Power Bus enclosure output option		/B

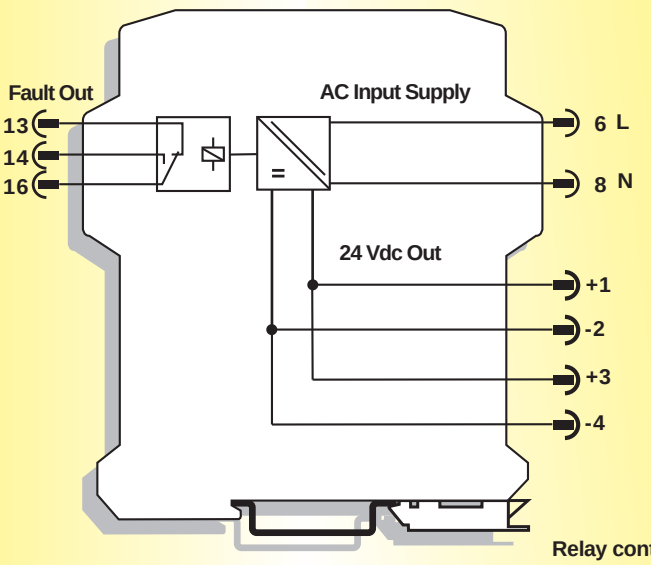
Function Diagram:

SAFE AREA

MODEL PSD1000



MODEL PSD1000F



Relay contact shown in de-energised position