

Characteristics:

General Description:

The single channel DIN Rail Intrinsically Safe Power Supply PSD1004, is an intrinsically safe module that can be installed in Hazardous Area zone 0, gas group IIB, temperature classification T4.

Powered at about 12 Vdc from the intrinsically safe associated apparatus PSD1001C supply module, it provides a stabilized 5 V, 160 mA supply with 500 V input/output isolation, short circuit and reverse input polarity protection, remote sensing capability and regulation.

Function:

1 channel I.S. power supply, provides input/output isolation and 5 V, 160 mA regulated voltage. Typical application is to power intrinsically safe circuits implementing digital logic blocks, microcontroller operated peripherals like keyboards, encoders, logic solvers, LCD display units and transmitters.

Signalling LED:

Power supply indication (green).

EMC:

Fully compliant with CE marking applicable requirements.

Technical Data:

Supply:

from PSD1001C supply module (nominal 20.5 Vdc with 68.3 Ω series resistance).

Isolation (Test Voltage):

Input/Output 500 V.

Output:

Voltage: 5 Vdc ± 3 %.

Current: 0 to 160 mA.

Voltage regulation: ≤ 0.2 % for a 0 to 160 mA load change.

Output ripple: ≤ 20 mVrms.

Compatibility:

CE CE mark compliant, conforms to 94/9/EC Atex Directive and to 2004/108/CE EMC Directive.

Environmental conditions:

Operating: temperature limits -20 to + 60 °C,

relative humidity max 90 % non condensing, up to 35 °C.

Storage: temperature limits - 45 to + 80 °C.

Safety Description:



II 1 G EEx ia IIB T4 intrinsically safe apparatus.

U_o = 6.51 V, P_o = 1760 mW at terminals 13-14-15-16.

U_i = 24.2 V, I_i = 363 mA, P_i = 1760 mW, C_i = 330 nF, L_i = 0 nH at terminals 1-2/3-4.

-20 °C ≤ T_a ≤ 60 °C.

Approvals:

DNV-2005-OSL-ATEX-0334X conforms to EN50014, EN50020, EN50284,

IEC60079-0, IEC60079-11,

DNV and KR Type Approval Certificate for marine applications.

Mounting:

T35 DIN Rail according to EN50022.

Weight: about 125 g.

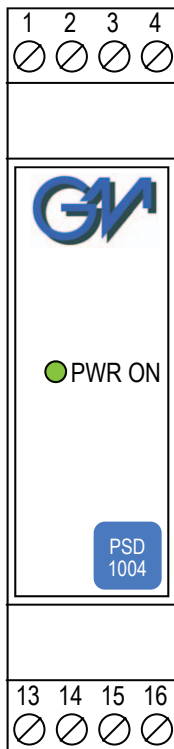
Connection: by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm².

Location: Hazardous Area Zone 0, Group IIB, Temperature Class T4 installation.

Protection class: IP 20.

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

Front Panel and Features:



- Installation in Zone 0.
- High output capability Power Supply for Hazardous Area equipment.
- Short circuit proof stabilized output with remote sensing voltage regulation.
- Rugged sealed construction suitable for installation in harsh environments.
- Isolation Input/Output.
- EMC Compatibility to EN61000-6-2, EN61000-6-4.
- ATEX Certification.
- Type Approval Certificate DNV and KR for marine applications.
- High Reliability, SMD components.
- Simplified installation using standard DIN Rail and plug-in terminal blocks.

Ordering Information:

Model: PSD1004

Image:



Function Diagram:

HAZARDOUS AREA ZONE 0, GROUP IIB T4

SAFE AREA, ZONE 2, GROUP IIC T4

