

Characteristics:

General Description:

The Intrinsically Safe Power Supply module PSU1003, is an intrinsically safe module potted as a sealed component in a 55 x 30 x 15 mm plastic enclosure with soldering pins for printed circuit board mounting. It 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:

I.S. power supply module, 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.

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 \pm 3 %.

Current: 0 to 160 mA.

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

Output ripple: \leq 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 $^{\circ}$ C,

relative humidity max 90 % non condensing, up to 35 $^{\circ}$ C.

Storage: temperature limits -45 to +80 $^{\circ}$ C.

Safety Description:



II 1 G EEx ia IIB T4.

$U_o = 6.51$ V, $P_o = 1760$ mW at output pins O+, O-, S+, S-.

$U_i = 24.2$ V, $I_i = 363$ mA, $P_i = 1760$ mW, $C_i = 330$ nF, $L_i = 0$ nH at input pins I+, I-.

-20 $^{\circ}$ C $\leq T_a \leq 60$ $^{\circ}$ C.

Approvals:

DNV-2005-OSL-ATEX-0334X conforms to EN50014, EN50020, EN50284, IEC60079-0, IEC60079-11.

Mounting:

soldered on printed circuit board by connection pins.

Weight: about 30 g.

Connection: by PCB soldering, square pins 0.6 mm, length 7 mm (\varnothing 1 mm drilling).

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

Dimensions: Width 55 mm, Depth 30 mm, Height 15 mm.

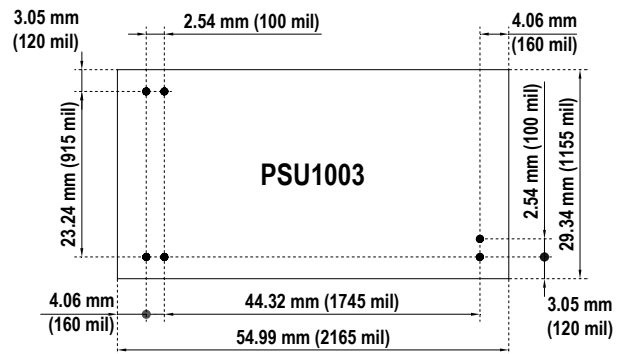
Features:

- 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.
- High Reliability, SMD components.

Ordering Information:

Model: PSU1003

PCB Drilling Dimensions Top View:



Pin Assignment Top View:

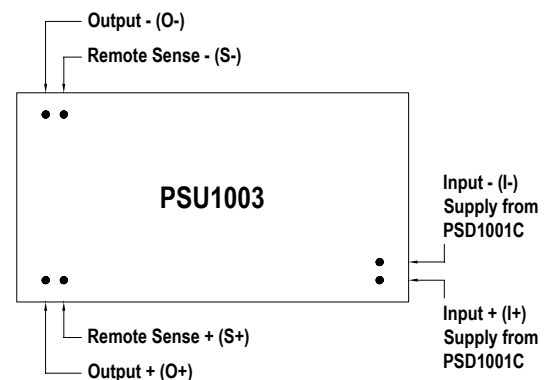


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Function Diagram:

HAZARDOUS AREA ZONE 0, GROUP IIB T4

SAFE AREA, ZONE 2, GROUP IIC T4

