

Characteristics:

General Description:

The PSD5201 is a single channel DIN Rail Power Supply able to drive measuring, process control equipment in IIB Group Hazardous Area, providing isolation between supply and output.

A typical application is to drive high power devices, transmitters or other equipment with 14.5 V, 150 mA supply capability.

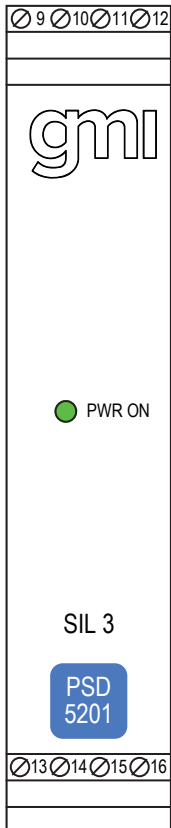
Mounting on standard DIN-Rail, in Safe Area or in Zone 2.

Functional Safety Management certification:

G.M. International is certified by TUV to conform to IEC61508:2010 part 1 clauses 5-6 for safety related systems up to and included SIL3.



Front Panel and Features:



- SIL 3 according to IEC61508:2010 Ed. 2 for NE Loads for Tproof = 2 / 10 years ($\leq 10\%$ / $> 10\%$ of total SIF).
- SIL 2 according to IEC61508:2010 Ed. 2 for NE Loads for Tproof = 20 years ($\leq 10\%$ of total SIF).
- PFDavg (1 year) 4.33 E-05, SFF 91.15 %.
- Systematic capability SIL 3
- Output to Zone 0 (Zone 20), installation in Zone 2.
- High output capability Power Supply for Hazardous Area equipment.
- Output short circuit proof and current limited.
- Isolation Supply/Output.
- EMC Compatibility to EN61000-6-2, EN61000-6-4, EN61326-1, EN61326-3-1 for safety system.
- ATEX, IECEx, UKR TR n. 898, TÜV Certification.
- Simplified installation using standard DIN Rail and plug-in terminal blocks.
- 250 Vrms (Um) max. voltage allowed to the instruments associated with the module.

Technical Data:

Supply:

24 Vdc nom (21.5 to 30 Vdc) reverse polarity protected, ripple within voltage limits ≤ 5 Vpp, 2 A time lag fuse internally protected.

Current consumption @ 24 V: 200 mA with 150 mA nominal load, 210 mA with short circuited output.

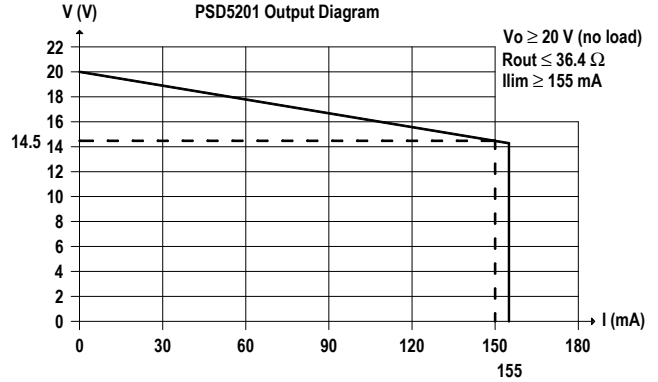
Power dissipation: 2.5 W with 24 V supply voltage and 150 mA nominal load.

Isolation (Test Voltage):

I.S. Out/Supply 1.5 KV.

Output:

150 mA at 14.5 V (20 V no load, 36.4 Ω series resistance).



Short circuit current: ≥ 155 mA.

Compatibility:

CE mark compliant, conforms to Directive: 2014/34/EU ATEX, 2014/30/EU EMC, 2014/35/EU LVD, 2011/65/EU RoHS.

Environmental conditions:

Operating: temperature limits - 40 to + 70 °C, relative humidity 95 %, up to 55 °C.

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

Safety Description:



ATEX: II 3(1)G Ex nA [ia Ga] IIB T4 Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

IECEx: Ex nA [ia Ga] IIB T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I,

UKR TR n. 898: 2ExnAiallCT4 X, Exial X

associated apparatus and non-sparking electrical equipment.

Uo/Voc = 21.5 V, Io/Isc = 604 mA, Po/Po = 3243 mW at terminals 13/15-14/16.

Um = 250 Vrms, -40 °C \leq Ta \leq 70 °C.

Approvals:

BVS 14 ATEX E 023 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEx BVS 14.0019X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

CL 16.0036 X conforms to DCTY 7113, GOCT 22782.5-78, DCTY IEC 60079-15.

TÜV Certificate No. C-IS-236198-04, SIL 2 / SIL 3 conforms to IEC61508:2010 Ed.2.

TÜV Certificate No. C-IS-236198-09, SIL 3 Functional Safety Certificate conforms to IEC61508:2010 Ed.2, for Management of Functional Safety.

Mounting:

T35 DIN Rail according to EN50022.

Weight: about 145 g.

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

Location: Safe Area or Zone 2, Group IIB T4 installation.

Protection class: IP 20.

Dimensions: Width 22.5 mm, Depth 123 mm, Height 120 mm.

Ordering Information:

Model: PSD5201

Parameters Table:

Safety Description	Maximum External Parameters			
	Group Cenelec	Co/Ca (μF)	Lo/La (mH)	Lo/Ro (μH/Ω)
Terminals 13/15-14/16	IIB	1.2	0.39	43.8
Uo/Voc = 21.5 V	IIA	4.5	0.78	87.7
Io/Isc = 604 mA	I	6.5	1.28	143.9
Po/Po = 3243 mW	IIIC	1.2	0.39	43.8

Image:



Function Diagram:

