

Modular Surge Protective Devices (SPDs)
for DC Power Systems in Signaling Applications

DC Power Systems for Signaling Applications

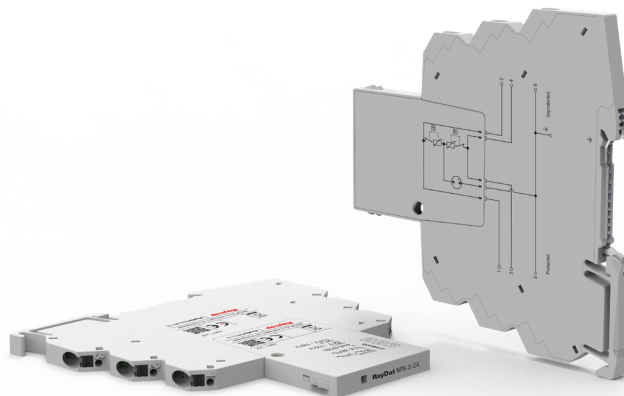
RayDat NPS-2 Series

Special features:

- Narrow form factor - just 6.2 mm wide
- High surge ratings
- Suitable for AC and DC power systems
- The connection lines remain enabled during module replacement (hot swapping)
- Equipped with quick connect terminals for fast wiring

Application:

- PoE - Power supplying lines used for Power over Ethernet signal lines and powerful signal lines

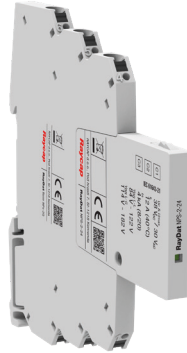


The RayDat Narrow Line series protects DC power lines in protocols that require the protection of both power and signal lines, such as the CAN bus and DeviceNet.

The RayDat NPS-2 Series is designed to protect power supplies. Protection is provided by a combination of gas discharge tube (GDT) and metal oxide varistor (MOV) technologies.

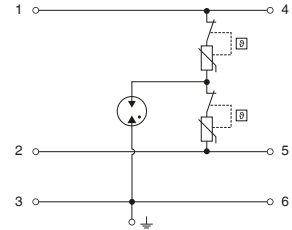
DATA SHEET

SPD for DC Power Systems RayDat NPS-2 Series C1 • C2 • C3



IEC/EN Category: C1/C2/C3
 Voltages: 24, 48 V DC
 Frequency Range: up to 800 kHz
 Housing: Modular Design
 Compliance: IEC/EN 61643-21
 UL 497B 4th Edition

Configuration:



Technical Data

NPS-2 Series

24

Electrical

Lines Protected		1 (2 Conductors)
Nominal Operating Voltage (DC)	U_n	24V
Maximum Continuous Operating Voltage (DC)	U_c	38V
Maximum Continuous Operating Voltage (AC)	U_c	38V
Rated Load Current at 40 °C	I_L	12A
Rated Load Current at 70 °C	I_L	10A
C2 Nominal Discharge Current (8/20 μs)	(Line-Line) I_n	4 kV/2 kA
	(Line-Ground)	4 kV/2 kA
C2 Total Nominal Discharge Current (8/20 μs)	I_n	8 kV/4 kA
C2 Voltage Protection Level (4 kV/2 kA)	(Line-Line) U_p	250V
	(Line-Ground)	650V
C3 Voltage Protection Level (1 kV/μs)	(Line-Line) U_p	200V
	(Line-Ground)	700V
Rated Spark Overvoltage	(Line-Line)	84 V - 106V
	(Line-Ground)	72 V - 160V
Response Time Overvoltage Protection	t_A	<25 ns
Thermal Protection		Yes
Insulation Resistance of the Protection	(Line-Line) R_{iso}	> 10 MΩ
Serial Resistance per Path	R	0.1 Ω
Capacitance	(Line-Line) C	typ. 5 nF
	(Line-Ground)	typ. 10 pF
Maximum Frequency	f_G	550 kHz

Mechanical

Temperature Range	-40 °F to +176 °F [-40 °C to +80 °C]
Conductor Cross Section (max.)	12 AWG / 4 mm ² (solid)
	14 AWG / 2.5 mm ² (flexible)
Degree of Protection IEC/EN 60529	IP 20 (built-in)
Housing Material	Thermoplastic; Grey; Extinguishing Degree V-0
Mounting IEC/EN 60715	35 mm DIN Rail
Operating State / Fault Indication	Green Flag / Red Flag

Order Information

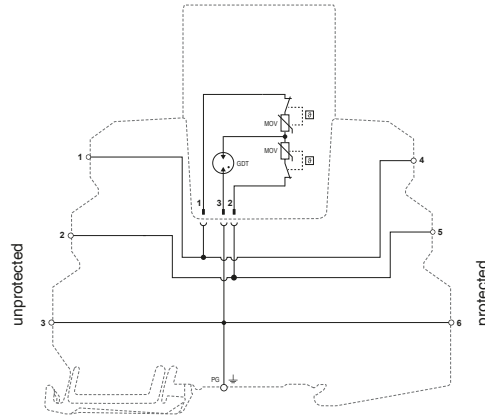
Order Code	24
NPS-2-xx	7088.21
NPS-2-xxM (module)	7088.22

RayDat NPS-2 Series

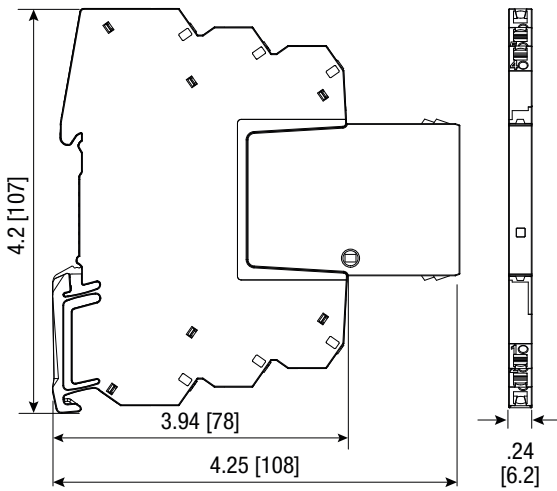
Configuration

Legend

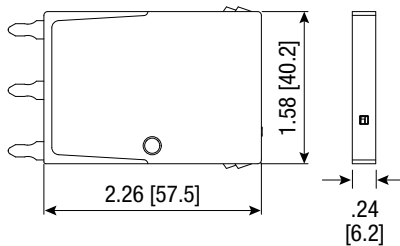
- GDT Gas Discharge Tube
- PG Protective Grounding
- MOV Metal Oxide Varistor



Dimensions & Packaging



NPS-2 Series	24
Dimensions	
Weight per Unit	2.05 oz [58 g]
Dimensions DIN 43880	.24" [6.2 mm]
Packaging Dimensions (Single Unit)	4.45×4.37×0.43" [113×111×11 mm]
Minimum Package Quantity	15 pieces



NPS-2-xxxM Series	24
Dimensions	
Weight per Unit	0.56 oz [16 g]
Packaging Dimensions (Single Unit)	4.45×4.37×0.43" [113×111×11 mm]
Minimum Package Quantity	15 pieces



Monitoring Unit
Transmitter
& Receiver
available for all
product variants.

inches
[mm]

