

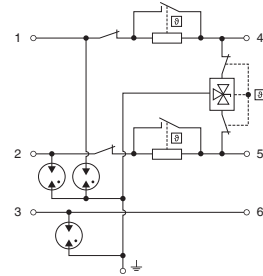
DATA SHEET

SPD for Shielded Cable RayDat NSS-3 Series D1 • C1 • C2 • C3



IEC/EN Category: D1/C1/C2/C3
 Voltages: 5, 12, 24, 48V DC
 Frequency Range: 120 MHz
 Housing: Modular Design
 Compliance: IEC/EN 61643-21
 UL 497B 4th Edition

Configuration:



Technical Data

RayDat NSS-3-xx Series

5

12

24

Electrical

Lines Protected	1 (3 Conductors)			
Nominal Operating Voltage (DC)	U_n	5V	12V	24V
Maximum Continuous Operating Voltage (DC)	U_c	8.5V	15V	30V
Rated Load Current at 40 °C	I_L		800 mA	
Rated Load Current at 70 °C	I_L		600 mA	
C2 Nominal Discharge Current (8/20 μ s)	(Line-Line) I_n		10 kA	
	(Line-Ground)		10 kA	
C2 Total Nominal Discharge Current (8/20 μ s)	I_n		20 kA	
C2 Voltage Protection Level (10kV/5kA)	(Line-Line) U_p	140V	150V	170V
	(Line-Ground)	260V	270V	290V
C3 Voltage Protection Level (1 kV/ μ s)	(Line-Line) U_p	24V	36V	70V
	(Line-Ground)	24V	36V	70V
D1 Impulse Current (10/350 μ s)	(Line-Line) I_{imp}		2.5 kA	
	(Line-Ground)		2.5 kA	
D1 Total Impulse Current (10/350 μ s)	I_{imp}		5 kA	
Rated Spark Overvoltage	(Line-Line)	9V - 12V	16V - 22V	32V - 40V
	(Line-Ground)	9V - 12V	16V - 22V	32V - 40V
	(Shield-Ground)		184V - 276V	
Response Time Overvoltage Protection	t_A		< 1 ns	
Thermal Protection			Yes	
Insulation Resistance of the Protection	(Line-Line) R_{iso}	> 170 k Ω	> 7.5 M Ω	> 15 M Ω
Serial Resistance per Path	R		1 Ω	
Capacitance	(Line-Line) C		typ. 25 pF	
	(Line-Ground)		typ. 20 pF	
Maximum Frequency	f_G		120 MHz	

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	IP20 (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

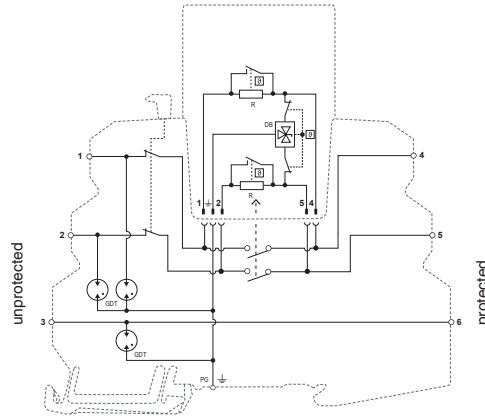
Order Code	5	12	24
NSS-3-xx	7088.38	7088.40	7088.42
NSS-3-xxM (module)	7088.39	7088.41	7088.43

RayDat NSS-3 Series

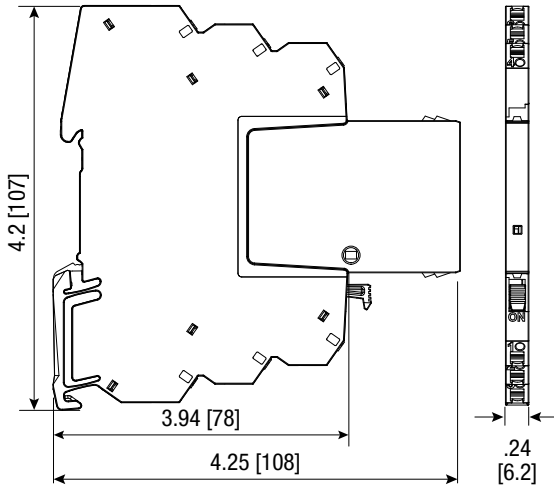
Configuration

Legend

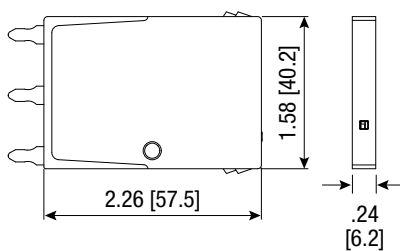
- DB Diode Block
- GDT Gas Discharge Tube
- PG Protective Grounding
- R Resistor



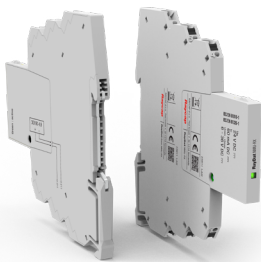
Dimensions & Packaging



NSS-3-xx Series	5	12	24
Dimensions			
Weight per Unit	2.12 oz [60g]		
Dimensions DIN 43880	.24" [6.2mm]		
Packaging Dimensions (Single Unit)	4.72×4.33×0.39" [120×110×10mm]		
Minimum Package Quantity	15 pieces		



NSS-3-xxxM Series	5	12	24
Dimensions			
Weight per Unit	0.56 oz [16g]		
Packaging Dimensions (Single Unit)	4.72×4.33×0.39" [120×110×10mm]		
Minimum Package Quantity	15 pieces		



Monitoring Unit
Transmitter
& Receiver
available for all
product variants.

inches
[mm]

Information contained in this document is subject to change at any time without notice.

