

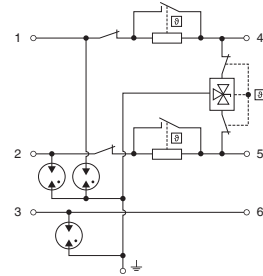
# DATA SHEET

## 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

		5	12	24
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 μs)	(Line-Line) $I_n$		10 kA	
	(Line-Ground)		10 kA	
C2 Total Nominal Discharge Current (8/20 μs)	$I_n$		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/μs)	(Line-Line) $U_p$	24V	36V	70V
	(Line-Ground)	24V	36V	70V
D1 Impulse Current (10/350 μs)	(Line-Line) $I_{imp}$		2.5 kA	
	(Line-Ground)		2.5 kA	
D1 Total Impulse Current (10/350 μs)	$I_{imp}$		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 kΩ	> 7.5 MΩ	> 15 MΩ
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 <sup>2</sup> (solid)		
		14 AWG / 2.5 mm <sup>2</sup> (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

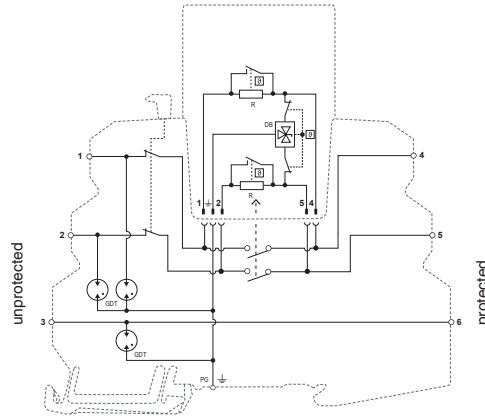
Order Code	5	12	24
NSS-3-xx	7088.38	7088.40	7088.42
NSS-3-xxM (module)	7088.39	7088.41	7088.43

# RayDat NSS-3 Series

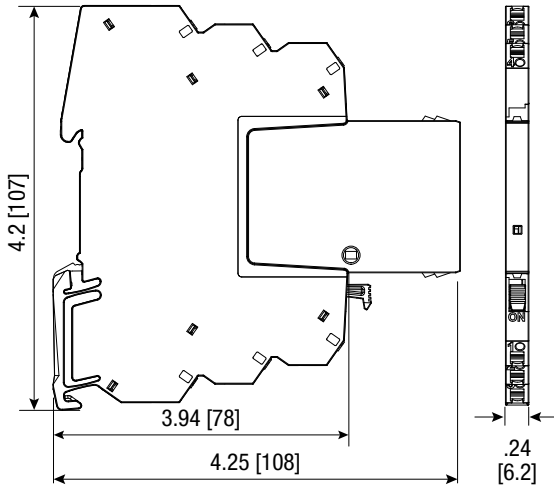
## Configuration

### Legend

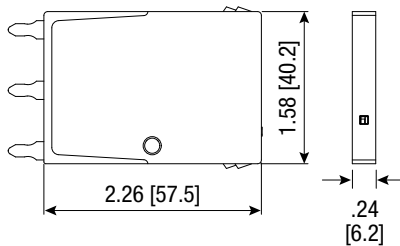
- DB Diode Block
- GDT Gas Discharge Tube
- PG Protective Grounding
- R Resistor



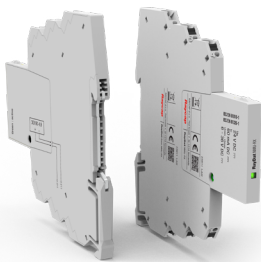
## Dimensions & Packaging



NSS-3-xx Series	5	12	24
<b>Dimensions</b>			
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
<b>Dimensions</b>			
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.

