DATASHEET

Lightning and Overvoltage Protection

ProTec T1SM 3+0

Class I • Class II • Class III • Type 1 • Type 2 • Type 3

25 kA Series



Location of Use: Main Distribution Boards
Network Systems: TN-C
Mode of Protection: L-PEN
IEC/EN Category: Class I+II+III/Type 1+2+3
Housing: Pluggable Design
Compliance: IEC 61643-11:2025
EN IEC 61643-11:2025

CE RoHS COMPLIANT

Technical Data

ProTec T1SM-xxx-3+0(-R)		275
IEC Electrical		
Nominal AC Voltage (50/60 Hz)	U_o/U_n	240 V
Maximum Continuous Operating Voltage (AC)	U_c	275 V
Nominal Discharge Current (8/20 µs)	I_n	25 kA
Maximum Discharge Current (8/20 µs)	I_{max}	65 kA
Impulse Discharge Current (10/350 µs)	I_{imp}	25 kA
Specific Energy	W/R	156.2 kJ/Ω
Charge	Q	12.5 As
Open Circuit Voltage of Combination Wave Generator (1.2/50 µs)	U_{oc}	6 kV
Short Circuit Current of Combination Wave Generator (8/20µs)	I_{cw}	3 kA
Voltage Protection Level	U_p	1500 V
Response Time	t_A	< 100 ns
Overvoltage Category		III
Overcurrent Protection (max)		315 A gG
Short-Circuit Current Rating (AC)	I_{SCCR}	50 kA
Follow Current Interrupt Rating (AC)	I_{fi}	50 kA
TOV Withstand 120 min	U_T	442 V
Number of Ports		1
Additional Electrical Parameters *(Tests performed within Raycap testing laboratory only)*		
Residual Voltage at 5 kA (8/20 µs)	U_{res}	1200 V
Minimum Overcurrent Protection, if required		250 A gG
Mechanical & Environmental		
Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Operating Humidity	RH	5%...95%
Altitude (max)		13123 ft [4000 m]
Terminal Screw Torque	M_{max}	40 lbf·in [4.5 Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded)/4 AWG (Flexible)
		35 mm² (Solid, Stranded)/25 mm² (Flexible)
Mounting		35 mm DIN Rail, EN 60715
Degree of Protection		IP 20 (built-in)
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0
Operating State/Fault Indication		Green Flag/Not Green Flag
Remote Contacts (RC)		Optional
RC Switching Capacity		AC: 250 V/0.5 A, 125 V/0.1 A; DC: 48 V/0.5 A, 24 V/0.5 A, 12 V/0.5 A
RC Conductor Cross Section (max)		16 AWG (Solid)/1.5 mm² (Solid)
Overvoltage Category		III

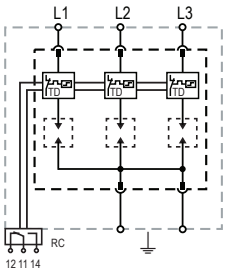
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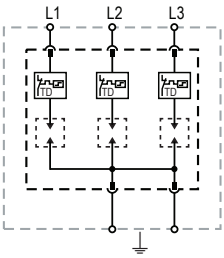
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Internal Configuration

Legend

L *Line Conductor Terminal*
⏚ *PEN Conductor Terminal*
RC *Remote Contacts Terminal (Optional)*
TD *Thermal Disconnector*

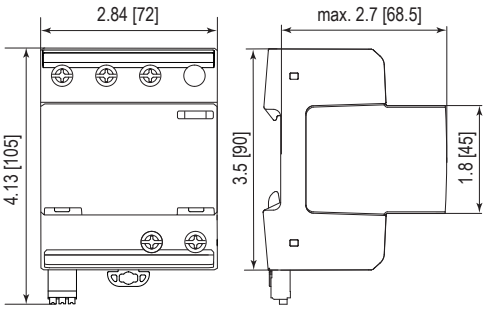




Order Information	
Order Code	**275**
ProTec T1SM-xxx-3+0	59.D133
ProTec T1SM-xxx-3+0-R (with remote contacts)	59.D134
ProTec T1SM-xxx-3+0-P (plug)	59.D139

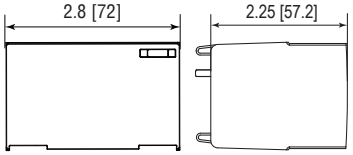
Dimensions & Packaging

inches [mm]



Complete Unit		
ProTec T1SM-xxx-3+0		**275**
Weight	pounds [grams]	.930 [422]
ProTec T1SM-xxx-3+0-R		
Weight	pounds [grams]	.942 [427]
DIN 43880 Dimension		4 TE/2.84 [72 mm]
Packaging Dimensions (H x W x L)		4.3 × 4.5 × 13.8" [109 × 115 × 352 mm]
Standard Order Quantity		4 Units

Spare Plug



Single Unit		
ProTec T1SM-xxx-3+0-P		**275**
Weight	pounds [grams]	.399 [180]
DIN 43880 Dimension		4 TE/2.84 [72 mm]
Packaging Dimensions (H x W x L)		3.1 × 4.5 × 12" [80 × 115 × 305 mm]
Standard Order Quantity		7 Units

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