

ProTec T1SM 3+1

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



Location of Use: Main Distribution Boards
 Network Systems: TT, TN-S
 Mode of Protection: L-N, N-PE, L-PE (combined)
 IEC/EN Category: Class I+II+III/Type 1+2+3
 Housing: Pluggable Design
 Compliance: IEC 61643-11:2025
 EN IEC 61643-11:2025



Technical Data

ProTec T1SM-xxx-3+1(-R)

275

IEC Electrical

Nominal AC Voltage (50/60Hz)	U_o/U_n	240V
Maximum Continuous Operating Voltage (AC)	(L-N)/(N-PE) U_c	275V/305V
Nominal Discharge Current (8/20µs)	(L-N)/(N-PE) I_n	25 kA/100 kA
Maximum Discharge Current (8/20µs)	(L-N)/(N-PE) I_{max}	65 kA/150 kA
Impulse Discharge Current (10/350µs)	(L-N)/(N-PE) I_{imp}	25 kA/100 kA
Specific Energy	(L-N)/(N-PE) W/R	156.2 kJ/Ω/2500 kJ/Ω
Charge	(L-N)/(N-PE) Q	12.5 As/50 As
Open Circuit Voltage of Combination Wave Generator (1.2/50µs)	U_{oc}	6 kV
Short Circuit Current of Combination Wave Generator (8/20µs)	I_{cw}	3 kA
Voltage Protection Level	(L-N)/(N-PE)/(L-PE) U_p	1500V/1500V/2000V
Response Time	t_A	< 100 ns
Overvoltage Category		III
Overcurrent Protection (max)		315 A gG
Short-Circuit Current Rating (AC)	(L-N) I_{SCCR}	50 kA
Follow Current Interrupt Rating (AC)	(L-N)/(N-PE) I_{fi}	50 kA/100 A
TOV Withstand 120 min	(L-N) U_T	442 V
TOV Withstand 200 ms	(N-PE) U_T	1200 V
Number of Ports		1

Additional Electrical Parameters (Tests performed within Raycap testing laboratory only)

Residual Voltage at 5 kA (8/20 µs)	(L-N)/(N-PE) U_{res}	1200V/305V
Minimum Overcurrent Protection, if required		250 A gG

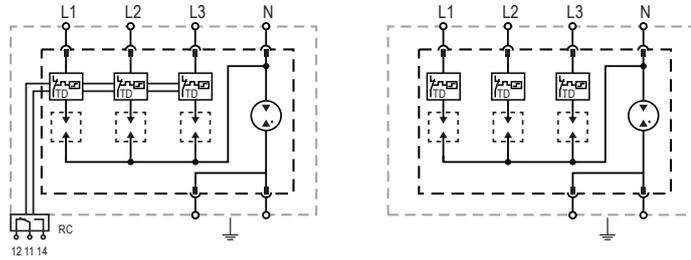
Mechanical & Environmental

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 mm ² (Solid, Stranded)/25 mm ² (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: 250V/0.5A, 125V/0.1A; DC: 48V/0.5A, 24V/0.5A, 12V/0.5A
RC Conductor Cross Section (max)		16 AWG (Solid)/1.5 mm ² (Solid)
Overvoltage Category		III

Internal Configuration

Legend

- L Line Conductor Terminal
- N Neutral Conductor Terminal
- ⏏ PE Conductor Terminal
- RC Remote Contacts Terminal (Optional)
- TD Thermal Disconnect

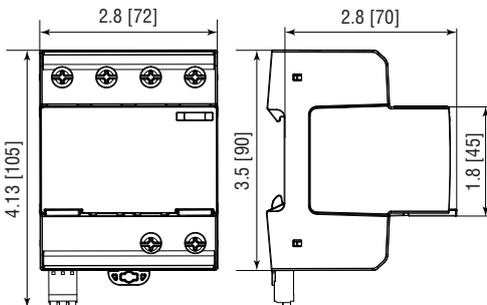


Order Information

Order Code	275
ProTec T1SM-xxx-3+1	59.D137
ProTec T1SM-xxx-3+1-R (with remote contacts)	59.D138
ProTec T1SM-xxx-3+1-P (plug)	59.D141

Dimensions & Packaging

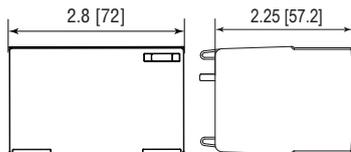
inches [mm]



Complete Unit

ProTec T1SM-xxx-3+1	275
Weight	pounds [grams] 1.015 [460]
ProTec T1SM-xxx-3+1-R	
Weight	pounds [grams] 1.027 [466]
DIN 43880 Dimension	4 TE/2.84 [72]
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]
Standard Order Quantity	4 Units

Spare Plug



Single Unit

ProTec T1SM-xxx-3+1-P	275
Weight	pounds [grams] .484 [219]
DIN 43880 Dimension	4 TE/2.84 [72]
Packaging Dimensions (HxWxL)	3.1 x 4.5 x 12" [80 x 115 x 305 mm]
Standard Order Quantity	7 Units