DATASHEET

Lightning and Overvoltage Protection with Integrated Fuse
ProTec T1SF 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
IEC/EN Category: Class I+II+III, Type 1+2+3
Housing: Pluggable Design
Compliance: IEC 61643-11: 2011
EN 61643-11: 2012+A11:2018

RoHS COMPLIANT

Technical Data

ProTec T1SF-xxx-3+1(-R)			275
IEC Electrical			
Nominal AC Voltage (50/60Hz)		U_o/U_n	240 V
Maximum Continuous Operating Voltage (AC)	(L-N)/(N-PE)	U_c	275 V/305 V
Nominal Discharge Current (8/20 µs)	(L-N)/(N-PE)	I_n	25 kA/100 kA
Maximum Discharge Current (8/20 µs)	(L-N)/(N-PE)	I_{max}	65 kA/150 kA
Impulse Discharge Current (10/350 µs)	(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 (1.2/50 µs)	(L-N)/(N-PE)	U_{oc}	6 kV/6 kV
Short Circuit Current of Combination Wave Generator (8/20 µs)	(L-N)/(N-PE)	I_{cw}	3 kA/3 kA
Voltage Protection Level	(L-N)/(N-PE)	U_p	1900 V/1500 V
Response Time	(L-N)/(N-PE)	t_A	< 100 ns/< 100 ns
Overvoltage Category			III
Overcurrent Protection (max)			Not Required
Short-Circuit Current Rating (AC)		I_{SCCR}	100 kA
Follow Current Interrupt Rating (AC)	(L-N)/(N-PE)	I_{fi}	100 kA/100 A
TOV Withstand 120min	(L-N)	U_T	442 V
TOV Withstand 200ms	(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}	1200 V/305 V
Minimum Backup fuse, if required			Not required
Mechanical & Environmental			
Operating Temperature Range		T_a	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Operating Humidity		RH	5%...95%
Pollution Degree			2
Altitude			6562 ft [2000 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/1A, 125 V/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

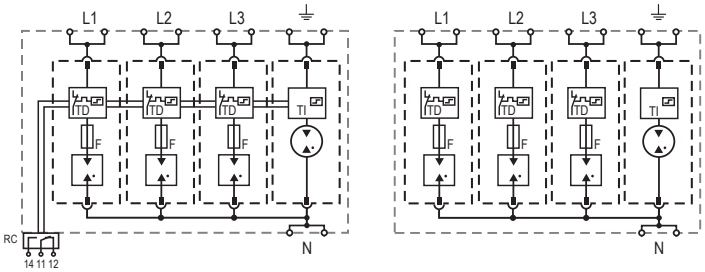
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Internal Configuration

Legend

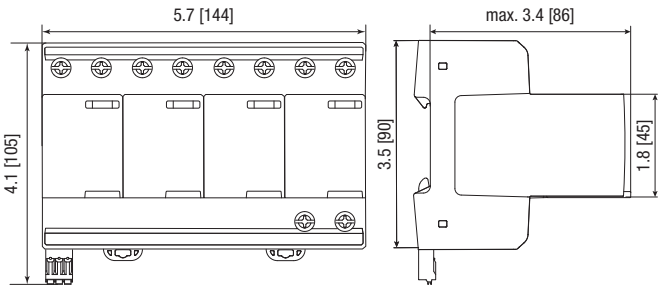
L	*Line Conductor Terminal*
N	*Neutral Conductor Terminal*
⏚	*PE Conductor Terminal*
RC	*Remote Contacts Terminal (Optional)*
TD	*Thermal Disconnector*
TI	*Thermal Indication*
F	*Integrated Surge Adapted Backup Fuse*



Order Information	
Order Code	**275**
ProTec T1SF-xxx-3+1	59.C172
ProTec T1SF-xxx-3+1-R (with remote contacts)	59.C173
ProTec T1SF-xxx-P (plug L-N)	59.A502
ProTube T1SF-100-P (plug N-PE)	59.C175

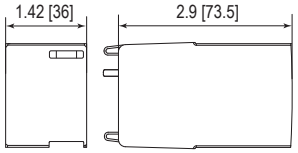
Dimensions & Packaging

inches [mm]



Complete Unit		
ProTec T1SF-xxx-3+1		**275**
Weight	pounds [grams]	2.348 [1065]
ProTec T1SF-xxx-3+1-R		
Weight	pounds [grams]	2.368 [1074]
DIN 43880 Dimension		8 TE/5.7" [144 mm]
Packaging Dimensions (H x W x L)		4.3 × 4.5 × 13.8" [109 × 115 × 352 mm]
Standard Order Quantity		2 Units

Spare Plug



Single Unit		
ProTec T1SF-xxx-P		**275**
Weight	pounds [grams]	.427 [194]
ProTube T1SF-xxx-P		**100**
Weight	pounds [grams]	.209 [95]
DIN 43880 Dimension		2 TE/1.42 [36 mm]
Packaging Dimensions (H x W x L)		4.3 × 4.5 × 13.8" [109 × 115 × 352 mm]
Standard Order Quantity		14 Units

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