

Lightning and Overvoltage Protection with Integrated Fuse

ProTec T1SF 1+0

Class I • Class II • Type 1 • Type 2



Location of Use: Main Distribution Boards
 Network Systems: TN-S, TN-C, TT (only L-N)
 Mode of Protection: L-PE, N-PE (only TN-S), L-PEN, L-N
 IEC/EN Category: Class I+II / Type 1+2
 Housing: Pluggable Design
 Compliance: IEC 61643-11:2011
 EN 61643-11: 2012+A11:2018

Technical Data

ProTec T1SF-xxx-1+0(-R)

275

IEC Electrical

Nominal AC Voltage (50/60Hz)	U_o/U_n	240V
Maximum Continuous Operating Voltage (AC)	U_c	275V
Nominal Discharge Current (8/20 μ s)	I_n	25 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	65 kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	25 kA
Specific Energy	W/R	156.2 kJ/ Ω
Charge	Q	12.5 As
Voltage Protection Level	U_p	1500V
Response Time	t_A	< 100ns
Overcurrent Protection		Not Required
Short-Circuit Current Rating (AC)	I_{SCCR}	75 kA
Follow Current Interrupt Rating (AC)	I_{fi}	75 kA
TOV Withstand 120min	U_T	442V
Number of Ports		1

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

Residual Voltage at 5 kA (8/20 μ s)	U_{res}	1200V
Overcurrent Protection (min)		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%
Altitude		6562 ft [2000m]
Terminal Screw Torque	M_{max}	39.9 lbf-in [4.5Nm]
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
Thermal Protection		Yes
Operating State / Fault Indication		Green Flag / Not Green Flag
Remote Contacts (RC)		Optional
RC Switching Capacity		AC: 250V/1A, 125V/1A; DC: 48V/0.5A, 24V/0.5A, 12V/0.5A
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)

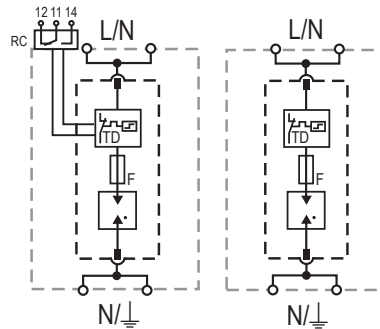
Order Information

Order Code	275
ProTec T1SF-xxx-1+0	59.A500
ProTec T1SF-xxx-1+0-R (with remote contacts)	59.A501
ProTec T1SF-xxx-P (plug)	59.A502

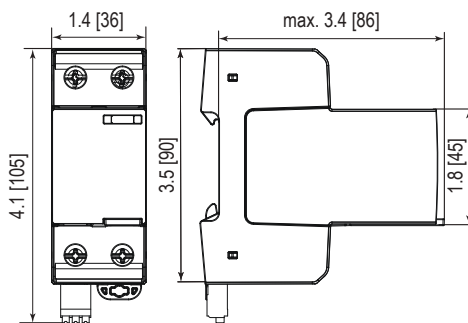
Internal Configuration

Legend

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



Complete Unit inches [mm]

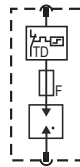


Dimensions & Packaging

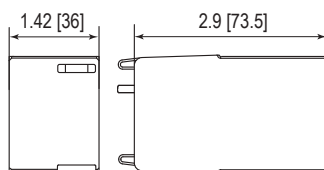
ProTec T1SF-xxx-1+0	275
Single Unit Weight pounds [grams]	.727 [330]
ProTec T1SF-xxx-1+0-R	275
Single Unit Weight pounds [grams]	.736 [334]
Single Unit DIN 43880 Dimension	2 TE / 1.42 [36]
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]
Standard Order Quantity	7 Units

Plug Internal Configuration

ProTec T1SF-xxx-P



Spare Plug inches [mm]



Dimensions & Packaging

ProTec T1SF-xxx-P	275
Single Unit Weight pounds [grams]	.427 [194]
Single Unit DIN 43880 Dimension	2 TE / 1.42 [36]
Packaging Dimensions (HxWxL)	3.3 x 4.5 x 12" [83 x 115 x 305 mm]
Standard Order Quantity	6 Units