

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)	$U_o / U_n$	240 V
Maximum Continuous Operating Voltage (AC)	$U_c$	275 V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	25 kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	65 kA
Impulse Discharge Current (10/350 $\mu$ s)	$I_{imp}$	25 kA
Specific Energy	W/R	156.2 kJ/ $\Omega$
Charge	Q	12.5 As
Voltage Protection Level	$U_p$	1500 V
Response Time	$t_A$	< 100 ns
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	$U_T$	442 V
Number of Ports		1

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

Residual Voltage at 5 kA (8/20 $\mu$ s)	$U_{res}$	1200 V
Overcurrent Protection (min)		Not Required

**Additional Electrical Parameters - Extended** (Additionally tested by VDE)

Short-Circuit Current Rating (AC)	$I_{SCCR}$	100 kA
Overcurrent Protection (max)		Not Required

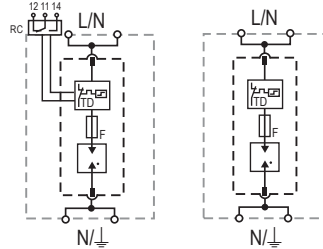
**Mechanical & Environmental**

Operating Temperature Range	$T_a$	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Operating Humidity	RH	5%...95%
Altitude		6562 ft [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 mm <sup>2</sup> (Solid, Stranded) / 25 mm <sup>2</sup> (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 <sup>2</sup> (Solid)

## 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



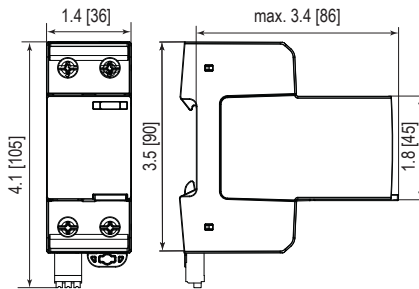
### ProTec T1SF-xxx-1+0(-R)

#### 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

## Dimensions & Packaging

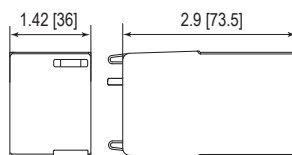
inches [mm]



#### Complete Unit

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

## Spare Plug



#### Single Unit

ProTec T1SF-xxx-P		275
Weight	pounds [grams]	.427 [194]
DIN 43880 Dimension		2 TE / 1.42" [36mm]
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352mm]
Standard Order Quantity		16 Units