

Overvoltage Protection with Integrated Fuse

ProTec T2F 1+0

Class II • Class III • Type 2 • Type 3



Location of Use: Sub-Distribution Boards
 Network Systems: TN-S, TN-C, TT (only L-N), IT*(only 440V)
 Mode of Protection: L-PE, N-PE (only TN-S), L-PEN, L-N
 IEC/EN Category: Class II+III / Type 2+3
 Housing: Pluggable Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012+A11:2018

Technical Data

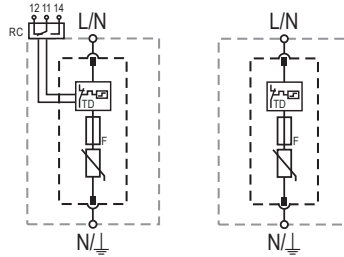
ProTec T2F-xxx-1+0(-R)		300	440
IEC Electrical			
Nominal AC Voltage (50/60Hz)	U_o/U_n	240V	240V
Maximum Continuous Operating Voltage (AC)	U_c	300V	440V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA	15 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	40 kA	30 kA
Open Circuit Voltage of Combination Wave Generator (1.2/50 μ s)	U_{oc}	6 kV	6 kV
Short Circuit Current of Combination Wave Generator (8/20 μ s)	I_{cw}	3 kA	3 kA
Voltage Protection Level	U_p	1500V	2000V
Response Time	t_A	< 25ns	< 25ns
Overcurrent Protection		Not Required	Not Required
Short-Circuit Current Rating (AC)	I_{SCCR}	100kA	100kA
TOV Withstand 5s	U_T	337V	580V
TOV 120min	U_T	442V	630V
	mode	Safe Fail	Safe Fail
Number of Ports			1
Additional Electrical Parameters - Standard (Tests performed within Raycap testing laboratory only)			
Residual Voltage at 5 kA (8/20 μ s)	U_{res}	1150V	1500V
Overcurrent Protection (min)		Not Required	Not Required
Additional Electrical Parameters - Extended (Additionally tested by VDE)			
Short-Circuit Current Rating (AC)	I_{SCCR}	100kA	100kA
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 [4000m]	
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	
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)	

*Only applicable to IT power systems where the earth on the distribution transformer is interconnected with the earth on the consumer side (RE=RA in Figure 44.A1 of IEC 60364-4-44:2018).

Internal Configuration

Legend

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



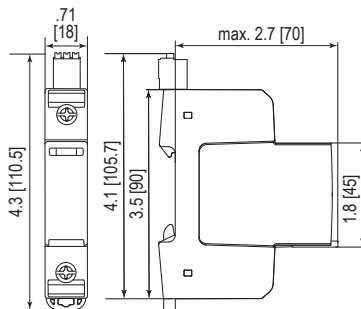
ProTec T2F-xxx-1+0(-R)

Order Information

Order Code	300	440
ProTec T2F-xxx-1+0	59.A250	59.A942
ProTec T2F-xxx-1+0-R (with remote contacts)	59.A251	59.A943
ProTec T2F-xxx-P (plug)	59.A258	59.A950

Dimensions & Packaging

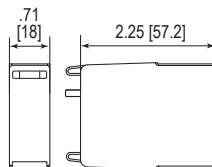
inches [mm]



Complete Unit

ProTec T2F-xxx-1+0		300	440
Weight	pounds	.320	.335
	grams	145	152
ProTec T2F-xxx-1+0-R			
Weight	pounds	.342	.357
	grams	155	162
DIN 43880 Dimension	1 TE / .71" [18]		
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]		
Standard Order Quantity	12 Units		

Spare Plug



Single Unit

ProTec T2F-xxx-P		300	440
Weight	pounds	.152	.167
	grams	69	76
DIN 43880 Dimension	1 TE / .71" [18]		
Packaging Dimensions (HxWxL)	3.2 x 4.5 x 12" [83 x 116 x 305 mm]		
Standard Order Quantity	24 Units		