

Lightning and Overvoltage Protection

ProTec T1 2+0

Class I • Class II • Type 1 • Type 2 • Type 1CA

12.5kA Series



Location of Use: Main Distribution Boards
 Network Systems: TN-S
 Mode of Protection: L-PE, N-PE
 IEC/EN/UL Category: Class I+II / Type 1+2 / Type 1CA
 Housing: Pluggable Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012
 UL 1449 4th Edition

Technical Data

ProTec T1-xxx-2+0(-R)		75	150	300	350	480	750
IEC Electrical							
Nominal AC Voltage (50/60Hz)	U_o/U_n	60V	120V	240V	277V	400V	600V
Maximum Continuous Operating Voltage (AC)	U_c	75V	150V	300V	350V	480V	750V
Nominal Discharge Current (8/20 μ s)	I_n	20kA	20kA	20kA	20kA	20kA	20kA
Maximum Discharge Current (8/20 μ s)	I_{max}	50kA	50kA	50kA	50kA	50kA	35kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	12.5kA	12.5kA	12.5kA	12.5kA	10kA	5kA
Specific Energy	W/R	39 kJ/ Ω	39 kJ/ Ω	39 kJ/ Ω	39 kJ/ Ω	25 kJ/ Ω	6.25 kJ/ Ω
Charge	Q	6.25 As	6.25 As	6.25 As	6.25 As	5 As	2.5 As
Voltage Protection Level	U_p	700V	1000V	1500V	1750V	2100V	3200V
Response Time	t_A	< 25 ns					
Overcurrent Protection (max)		315 A / 250 A gG					250 A gG
Short-Circuit Current Rating (AC)	I_{SCCR}	25 kA / 50 kA					50 kA
TOV Withstand 5s	U_T	114V	175V	337V	403V	581V	871V
TOV 120min	U_T	114V	229V	442V	529V	762V	1143V
	mode	Withstand	Safe Fail	Safe Fail	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1					

UL Electrical							
Maximum Continuous Operating Voltage (AC)	MCOV	75V	150V	300V	350V	480V	750V
Voltage Protection Rating	VPR	330V	600V	900V	1200V	1500V	2500V
Nominal Discharge Current (8/20 μ s)	I_n	20kA	20kA	20kA	20kA	20kA	20kA
Short-Circuit Current Rating (AC)	SCCR	100kA	200kA	150kA	150kA	200kA	150kA

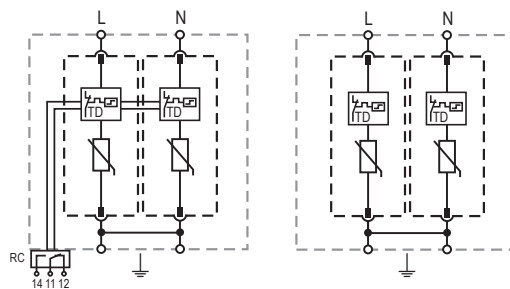
Mechanical & Environmental							
Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]					
Permissible Operating Humidity	RH	5%...95%					
Altitude (max)		13123 ft [4000m]					
Terminal Screw Torque	M_{max}	39.9 lbf-in [4.5Nm]					
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 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		75	150	300	350	480	750
ProTec T1-xxx-2+0		59.0349	59.0019	59.0021	59.0023	59.0025	59.0027
ProTec T1-xxx-2+0-R (with remote contacts)		59.0350	59.0020	59.0022	59.0024	59.0026	59.0028
ProTec T1-xxx-P (plug)		59.0001	59.0002	59.0003	59.0004	59.0005	59.0006

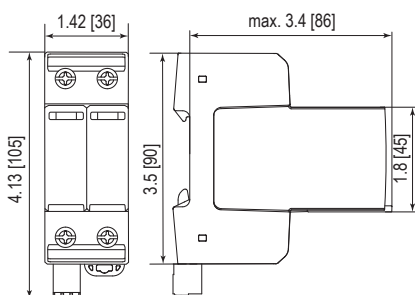
Internal Configuration

Legend

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



Complete Unit

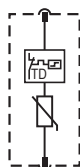


Complete Unit Dimensions & Packaging

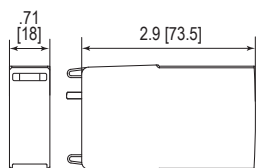
		75	150	300	350	480	750
ProTec T1-xxx-2+0							
Weight	pounds	.595	.697	.750	.833	.847	.860
	grams	270	316	340	378	384	390
ProTec T1-xxx-2+0-R							
Weight	pounds	.615	.717	.769	.853	.866	.880
	grams	279	325	349	387	393	399
DIN 43880 Dimension		2 TE / 1.42" [36]					
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]					
Standard Order Quantity		7 Units					

Plug Internal Configuration

ProTec T1-xxx-P



Spare Plug



Single Unit Dimensions & Packaging

		75	150	300	350	480	750
ProTec T1-xxx-P							
Weight	pounds	.152	.203	.229	.271	.278	.284
	grams	69	92	104	123	126	129
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		28 Units					

