

Lightning and Overvoltage Protection
ProTec T1 1+1
 Class I • Class II • Type 1 • Type 2 • Type 1CA

12.5kA Series



Location of Use: Main Distribution Boards
 Network Systems: TT, TN-S
 Mode of Protection: L-N, 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-1+1(-R) **75** **150** **300** **350**

IEC Electrical

		75	150	300	350	
Nominal AC Voltage (50/60Hz)	U_o/U_n	60V	120V	240V	277V	
Maximum Continuous Operating Voltage	(L-N) U_c	75V	150V	300V	350V	
	(N-PE) U_c	305V	305V	305V	305V	
Nominal Discharge Current (8/20 μ s)	(L-N)/(N-PE) I_n		20kA / 50kA			
Maximum Discharge Current (8/20 μ s)	(L-N)/(N-PE) I_{max}		50kA / 100kA			
Impulse Discharge Current (10/350 μ s)	(L-N)/(N-PE) I_{imp}		12.5kA / 50kA			
Specific Energy	(L-N)/(N-PE) W/R		39kJ/ Ω / 625kJ/ Ω			
Charge	(L-N)/(N-PE) Q		6.25As / 25As			
Voltage Protection Level	(L-N)/(N-PE) U_p	700V / 1500V	1000V / 1500V	1500V / 1500V	1750V / 1500V	
Follow Current Interrupt Rating	(N-PE) I_{fi}		100A _{RMS}			
Response Time	(L-N)/(N-PE) t_A		< 25ns / < 100ns			
Overcurrent Protection (max)			315A / 250A gG			
Short-Circuit Current Rating (AC)	(L-N) I_{SCCR}		25kA / 50kA			
TOV Withstand 5s	(L-N) U_T	114V	175V	337V	403V	
TOV 120min	(L-N) U_T mode	Withstand	114V	229V	442V	529V
		Safe Fail			Safe Fail	Safe Fail
TOV Withstand 200ms	(N-PE) U_T			1200V		
Number of Ports				1		

UL Electrical

		75V / 305V	150V / 305V	300V / 305V	350V / 305V
Maximum Continuous Operating Voltage (AC)	(L-N)/(N-G) MCOV	75V / 305V	150V / 305V	300V / 305V	350V / 305V
Voltage Protection Rating	(L-N)/(N-G) VPR	330V / 1200V	600V / 1200V	900V / 1200V	1200V / 1200V
Nominal Discharge Current (8/20 μ s)	(L-N)/(N-G) I_n	20kA / 20kA	20kA / 20kA	20kA / 20kA	20kA / 20kA
Short-Circuit Current Rating (AC)	(L-N) SCCR	100kA	200kA	150kA	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)			
		35mm ² (Solid, Stranded) / 25mm ² (Flexible)			
Mounting		35mm 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) / 1.5mm ² (Solid)			

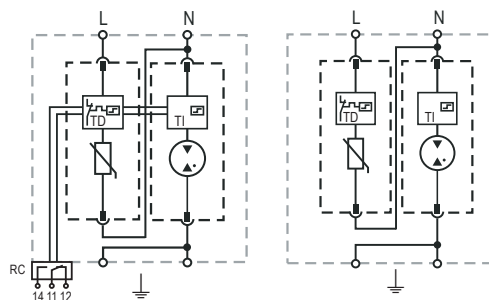
Order Information

	75	150	300	350
Order Code				
ProTec T1-xxx-1+1	59.0047	59.0049	59.0051	59.0053
ProTec T1-xxx-1+1-R (with remote contacts)	59.0048	59.0050	59.0052	59.0054
ProTec T1-xxx-P (plug L-N)	59.0001	59.0002	59.0003	59.0004
ProTube T1-50-P (plug N-PE)	59.0269	59.0269	59.0269	59.0269

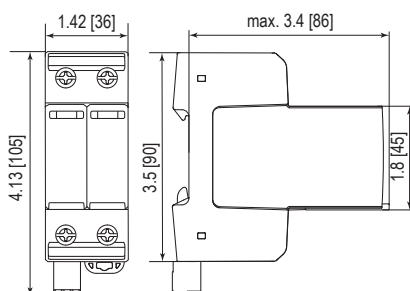
Internal Configuration

Legend

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



Complete Unit

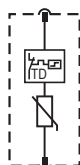


Complete Unit Dimensions & Packaging

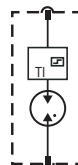
		75	150	300	350
ProTec T1-xxx-1+1	Weight	pounds .659	.710	.736	.778
		grams 299	322	334	353
ProTec T1-xxx-1+1-R					
Weight	pounds	.672	.723	.750	.791
	grams	305	328	340	359
DIN 43880 Dimension		2 TE / 1.42" [36]			
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]			
Standard Order Quantity		7 Units			

Plug Internal Configuration

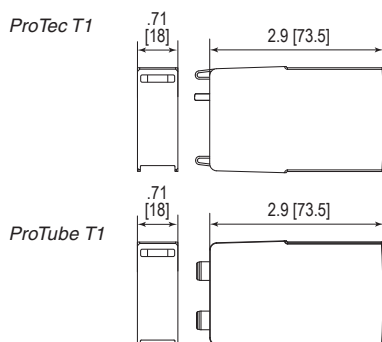
ProTec T1-xxx-P



ProTube T1-50-P



Spare Plug



Single Unit Dimensions & Packaging

		75	150	300	350
ProTec T1-xxx-P	Weight	pounds .152	.203	.229	.271
		grams 69	92	104	123
ProTube T1-50-P				50	
Weight	pounds				.214
	grams				97
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			

inches
[mm]

