

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



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 +A11:2018
 UL 1449 5th Edition

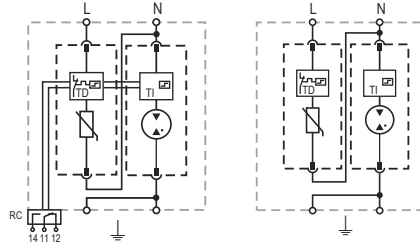
Technical Data

ProTec T1-xxx-1+1(-R)		75	150	300	350
IEC Electrical					
Nominal AC Voltage (50/60Hz)	U_o/U_n	60 V	120 V	240 V	277 V
Maximum Continuous Operating Voltage	(L-N) U_c	75 V	150 V	300 V	350 V
	(N-PE) U_c	305 V	305 V	305 V	305 V
Nominal Discharge Current (8/20 μ s)	(L-N)/(N-PE) I_n		20 kA / 50 kA		
Maximum Discharge Current (8/20 μ s)	(L-N)/(N-PE) I_{max}		50 kA / 100 kA		
Impulse Discharge Current (10/350 μ s)	(L-N)/(N-PE) I_{imp}		12.5 kA / 50 kA		
Specific Energy	(L-N)/(N-PE) W/R		39 kJ/ Ω / 625 kJ/ Ω		
Charge	(L-N)/(N-PE) Q		6.25 As / 25 As		
Voltage Protection Level	(L-N)/(N-PE) U_p	700 V / 1500 V	1000 V / 1500 V	1500 V / 1500 V	1750 V / 1500 V
Follow Current Interrupt Rating (AC)	(N-PE) I_{fi}		100 A		
Response Time	(L-N)/(N-PE) t_A		< 25 ns / < 100 ns		
Overcurrent Protection (max)			315 A / 250 A gG		
Short-Circuit Current Rating (AC)	(L-N) I_{SCCR}		25 kA / 50 kA		
TOV Withstand 5s	(L-N) U_T	114 V	175 V	337 V	403 V
TOV 120min	(L-N) U_T	114 V	229 V	442 V	529 V
		mode	Withstand	Safe Fail	Safe Fail
TOV Withstand 200ms	(N-PE) U_T		1200 V		
Number of Ports			1		
UL Electrical					
Maximum Continuous Operating Voltage (AC)	(L-N)/(N-G) MCOV	75 V / 305 V	150 V / 305 V	300 V / 305 V	350 V / 305 V
Voltage Protection Rating	(L-N)/(N-G) VPR	330 V / 1200 V	600 V / 1200 V	900 V / 1200 V	1200 V / 1200 V
Nominal Discharge Current (8/20 μ s)	(L-N)/(N-G) I_n	20 kA / 20 kA	20 kA / 20 kA	20 kA / 20 kA	20 kA / 20 kA
Short-Circuit Current Rating (AC)	(L-N) SCCR	100 kA	200 kA	150 kA	150 kA
Additional Electrical Parameters - Standard (Tests performed within Raycap testing laboratory only)					
Residual Voltage at 5 kA (8/20 μ s)	(L-N)/(N-PE) U_{res}	400 V/305 V	800 V/305 V	1100 V/305 V	1300 V/305 V
Overcurrent Protection (min)			160 A gG		
Additional Electrical Parameters - Extended (Additionally tested by VDE)					
Short-Circuit Current Rating (AC)	I_{SCCR}		100 kA		
Overcurrent Protection (max)			250 A gG		
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)			

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



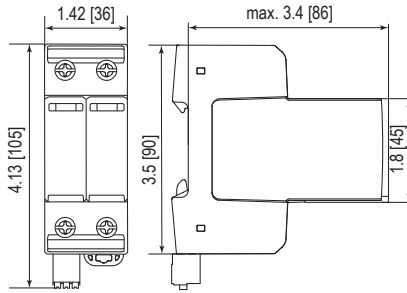
ProTec T1-xxx-1+1(-R)

Order Information

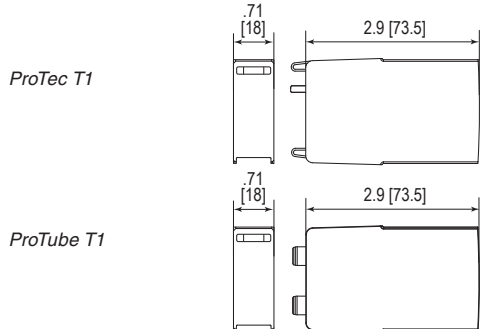
Order Code	75	150	300	350
ProTec T1-xxx-1+1	59.0047	59.0049	59.0051	59.0053
ProTec T1-xxx-1+1-R (with remote contacts)	59.0048	59.0050	59.0052	59.0054
ProTec T1-xxx-P (plug L-N)	59.0001	59.0002	59.0003	59.0004
ProTube T1-50-P (plug N-PE)	59.0269	59.0269	59.0269	59.0269

Dimensions & Packaging

inches [mm]



Spare Plug



Complete Unit

ProTec T1-xxx-1+1	75	150	300	350	
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				

Single Unit

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