

Lightning and Overvoltage Protection

ProTec T1 3+1

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

12.5 kA 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

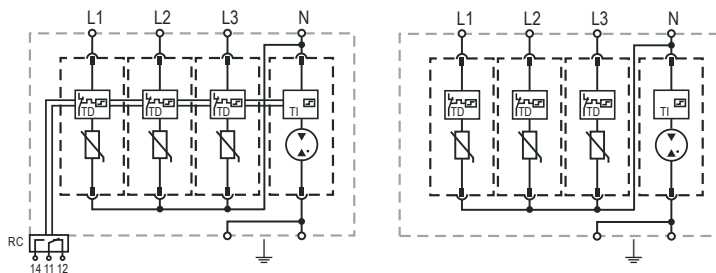
ProTec T1-xxx-3+1(-R)

		300	350
IEC Electrical			
Nominal AC Voltage (50/60Hz)	U_o/U_n	240 V	277 V
Maximum Continuous Operating Voltage	(L-N) U_c	300 V	350 V
	(N-PE) U_c	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	1500 V / 1500 V	1750 V / 1500 V
Follow Current Interrupt Rating	(N-PE) I_{fi}	100 A _{RMS}	
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	337 V	403 V
		mode	Safe Fail
TOV 120min	(L-N) U_T	442 V	529 V
		mode	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	300 V / 305 V	350 V / 305 V
Voltage Protection Rating	(L-N)/(N-G) VPR	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
Short-Circuit Current Rating (AC)	(L-N) SCCR	150 kA	150 kA
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 [4000 m]	
Terminal Screw Torque	M_{max}	39.9 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)	
Order Information			
Order Code		300	350
ProTec T1-xxx-3+1		59.0059	59.0061
ProTec T1-xxx-3+1-R (with remote contacts)		59.0060	59.0062
ProTec T1-xxx-P (plug L-N)		59.0003	59.0004
ProTube T1-50-P (plug N-PE)		59.0269	59.0269

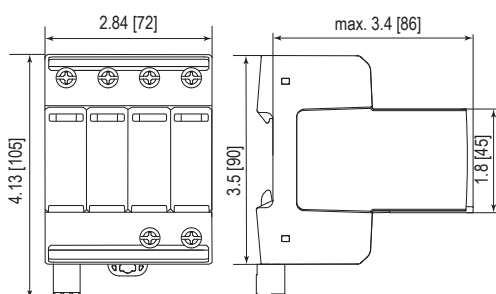
Internal Configuration

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

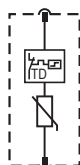


Complete Unit Dimensions & Packaging

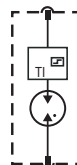
		300	350
ProTec T1-xxx-3+1	Weight	pounds 1.466	1.592
		grams 665	722
ProTec T1-xxx-3+1-R			
ProTec T1-xxx-3+1-R	Weight	pounds 1.486	1.612
		grams 674	724
DIN 43880 Dimension	4 TE / 2.84" [72]		
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]		
Standard Order Quantity	4 Units		

Plug Internal Configuration

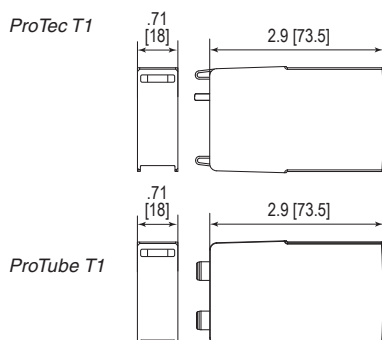
ProTec T1-xxx-P



ProTube T1-50-P



Spare Plug



Single Unit Dimensions & Packaging

		300	350
ProTec T1-xxx-P	Weight	pounds .229	.271
		grams 104	123
ProTube T1-50-P			
ProTube T1-50-P	Weight	pounds .214	.271
		grams 97	123
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]