

Overvoltage Protection

ProTec T2 1+1

Class II • Type 2 • Type 1CA



Location of Use: Sub-distribution Boards
 Network Systems: TT, TN-S
 Mode of Protection: L-N, N-PE
 IEC/EN/UL Category: Class II / Type 2 / Type 1CA
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012+A11:2018
 UL 1449 5th Edition



Technical Data

ProTec T2-xxx-1+1(-R)

		75	150	300	350
IEC Electrical					
Nominal AC Voltage (50/60Hz)	U_o/U_n	60V	120V	240V	277V
Maximum Continuous Operating Voltage (AC)	(L-N)/(N-PE) U_c	75V / 305V	150V / 305V	300V / 305V	350V / 305V
Nominal Discharge Current (8/20μs)	(L-N)/(N-PE) I_n	20kA / 40kA	20kA / 40kA	20kA / 40kA	20kA / 40kA
Maximum Discharge Current (8/20μs)	(L-N)/(N-PE) I_{max}	50kA / 65kA	50kA / 65kA	50kA / 65kA	50kA / 65kA
Voltage Protection Level	(L-N)/(N-PE) U_p	800V / 1500V	1250V / 1500V	1500V / 1500V	1750V / 1500V
Follow Current Interrupt Rating	(N-PE) I_{fi}	100A			
Response Time	(L-N)/(N-PE) t_A	< 25 ns / < 100 ns			
Overvoltage Category		III			
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	229V	337V	403V
TOV 120min	(L-N) U_T	114V	229V	442V	529V
	mode	Withstand	Withstand	Safe Fail	Safe Fail
TOV Withstand 200ms	(N-PE) U_T	1200V			
Number of Ports		1			

UL Electrical

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 / 1000V	600V / 1000V	900V / 1000V	1000V / 1000V
Nominal Discharge Current (8/20μs)	(L-N)/(N-G) I_n	20kA / 20kA			
Short-Circuit Current Rating (AC)	(L-N) SCCR	100kA	200kA	150kA	200kA

Additional Electrical Parameters - Standard (Tests performed within Raycap testing laboratory only)

Residual Voltage at 5 kA (8/20 μs)	U_{res}	400V / 305V	750V / 305V	1000V / 305V	1300V / 305V
Minimum Backup fuse, if required		80A gG			

Additional Electrical Parameters - Extended (Additionally tested by VDE)

Short-Circuit Current Rating (AC)	I_{SCCR}	100kA			
Overcurrent Protection (max)		250A gG			

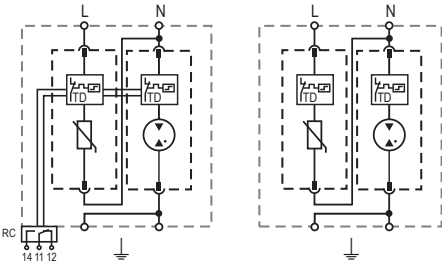
Mechanical & Environmental

Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]			
Permissible Operating Humidity	RH	5%...95%			
Pollution Degree		2			
Altitude (max)		13123 ft [4000m]			
Terminal Screw Torque	M_{max}	40 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)			
Overvoltage Category		III			

Internal Configuration

Legend

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

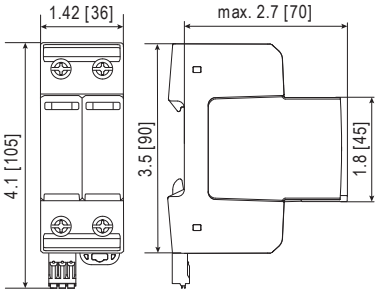


Order Information

Order Code	75	150	300	350
ProTec T2-xxx-1+1	59.0109	59.0111	59.0113	59.0115
ProTec T2-xxx-1+1-R (with remote contacts)	59.0110	59.0112	59.0114	59.0116
ProTec T2-xxx-P (plug L-N)	59.0063	59.0064	59.0065	59.0066
ProTube T2-40-P (plug N-PE)	59.0273	59.0273	59.0273	59.0273

Dimensions & Packaging

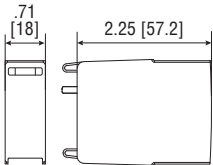
inches [mm]



Complete Unit

ProTec T2-xxx-1+1		75	150	300	350
Weight	pounds	.532	.547	.554	.565
	grams	241	248	251	256
ProTec T2-xxx-1+1-R					
Weight	pounds	.541	.556	.563	.574
	grams	245	253	255	260
DIN 43880 Dimension			2 TE / 1.42" [36 mm]		
Packaging Dimensions (HxWxL)			4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]		
Standard Order Quantity			7 Units		

Spare Plug



Single Unit

ProTec T2-xxx-P		75	150	300	350
Weight	pounds	.108	.123	.130	.141
	grams	49	56	59	64
ProTube T2-40-P			40		
Weight	pounds	.093			
	grams	42			
DIN 43880 Dimension			1 TE / .71" [18 mm]		
Packaging Dimensions (HxWxL)			3.2 x 4.5 x 12" [83 x 116 x 305 mm]		
Standard Order Quantity			24 Units		