

ProTec T1 2+0

Class I • Class II • Type 1 • Type 2 • Type 1CA • Open Type 1 SPD Listed



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, Open Type 1 SPD Listed
 Housing: Pluggable Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012 +A11:2018
 UL 1449 5th Edition

Technical Data

ProTec T1-xxx-2+0(-R) & ProTec T1-xxx-2+0-US(-R) **75** **150** **300** **350** **440**** **480** **750**

IEC Electrical			75	150	300	350	440**	480	750
Nominal AC Voltage (50/60Hz)	U_o/U_n		60V	120V	240V	277V	230V	400V	600V
Maximum Continuous Operating Voltage (AC)	U_c		75V	150V	300V	350V	440V	480V	750V
Nominal Discharge Current (8/20µs)	I_n		20kA	20kA	20kA	20kA	20kA	20kA	20kA
Maximum Discharge Current (8/20µs)	I_{max}		50kA	50kA	50kA	50kA	50kA	50kA	35kA
Impulse Discharge Current (10/350µs)	I_{imp}		12.5kA	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	39 kJ/Ω	25 kJ/Ω	6.25 kJ/Ω
Charge	Q		6.25 As	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	1800V	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	440V	581V	871V
TOV 120min	U_T		114V	229V	442V	529V	440V	762V	1143V
	mode	Withstand	Safe Fail	Safe Fail	Safe Fail	Safe Fail	Withstand	Safe Fail	Safe Fail
Number of Ports			1						

UL Electrical			75	150	300	350	440**	480	750
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 (8/20µs)	I_n		20kA	20kA	20kA	20kA	-	20kA	20kA
Short-Circuit Current Rating (AC)	SCCR		100kA	200kA	150kA	150kA	-	200kA	150kA

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

Residual Voltage at 5 kA (8/20 µs)	U_{res}	400V	800V	1100V	1300V	1400V	1500V	2500V	
Overcurrent Protection (min)		160 A gG							80 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}		35 lbf-in per UL 1499 [4.5 Nm]						
Conductor Cross Section (max)			6 AWG (Solid, Stranded) per UL 1449 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)			10AWG (Solid, Stranded) per UL 1449 [1.5 mm ² (Solid)]						

**No VDE and UL certification.

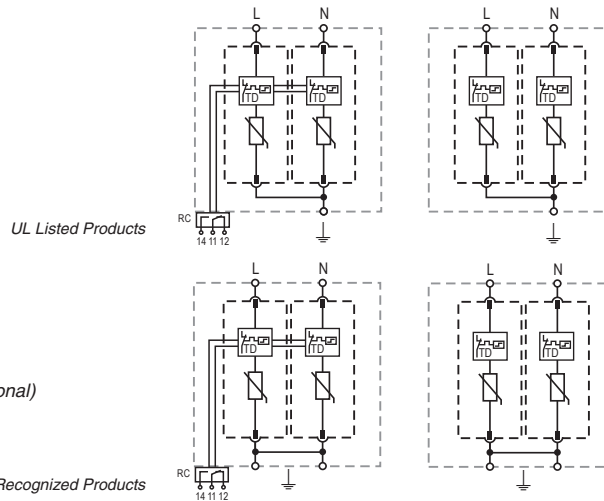
Technical Data includes technical values for both UL Recognized and Open Type 1 UL Listed products.

Mechanical Data includes only technical values for Open Type 1 UL Listed products.

Connection Configurations can be found in QR Code link on intro page.



Internal Configuration



Legend

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

ProTec T1-xxx-2+0(-R)

Order Information VDE Certified and UL Recognized Products

Order Code	75	150	300	350	440**	480	750
ProTec T1-xxx-2+0	59.0349	59.0019	59.0021	59.0023	59.0533	59.0025	59.0027
ProTec T1-xxx-2+0-R (with remote contacts)	59.0350	59.0020	59.0022	59.0024	59.0534	59.0026	59.0028
ProTec T1-xxx-P (plug)	59.0001	59.0002	59.0003	59.0004	59.0539	59.0005	59.0006

**No VDE and UL certification.

ProTec T1-xxx-2+0-US(-R)

For UL Listed products one PE/G Conductor Terminal is covered/closed.

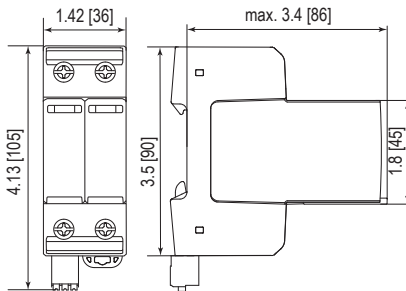
Order Information VDE Certified and Open Type 1 UL Listed Products

Order Code	75	150	300	350	440**	480	750
ProTec T1-xxx-2+0-US	59.B013	59.B015	59.B017	59.B019	-	59.B021	59.B023
ProTec T1-xxx-2+0-US-R (with remote contacts)	59.B014	59.B016	59.B018	59.B020	-	59.B022	59.B024
ProTec T1-xxx-P (plug)	59.0001	59.0002	59.0003	59.0004	59.0539	59.0005	59.0006

**No VDE and UL certification.

Dimensions & Packaging

inches [mm]



Complete Unit UL Recognized Products

ProTec T1-xxx-2+0	75	150	300	350	440**	480	750
Weight	pounds	.595	.697	.750	.833	.864	.860
	grams	270	316	340	378	392	390
ProTec T1-xxx-2+0-R							
Weight	pounds	.615	.717	.769	.853	.866	.884
	grams	279	325	349	387	393	401

Complete Unit UL Listed Products

ProTec T1-xxx-2+0-US	75	150	300	350	440**	480	750
Weight	pounds	.575	.677	.730	.813	.844	.840
	grams	261	307	331	369	383	381
ProTec T1-xxx-2+0-US-R							
Weight	pounds	.595	.697	.749	.833	.846	.864
	grams	270	316	340	378	384	402

DIN 43880 Dimension

2 TE / 1.42" [36]

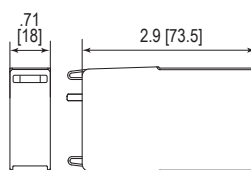
Packaging Dimensions (HxWxL)

4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]

Standard Order Quantity

7 Units

Spare Plug



Single Unit

ProTec T1-xxx-P	75	150	300	350	440**	480	750
Weight	pounds	.152	.203	.229	.271	.287	.284
	grams	69	92	104	123	130	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							