

ProTec T1 3+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-C
 Mode of Protection: L-PEN
 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-3+0(-R) & ProTec T1-xxx-3+0-US(-R)		150	300	350	440**	480	750
IEC Electrical							
Nominal AC Voltage (50/60Hz)	U_o/U_n	120V	240V	277V	230V	400V	600V
Maximum Continuous Operating Voltage (AC)	U_c	150V	300V	350V	440V	480V	750V
Nominal Discharge Current (8/20 μ s)	I_n	20kA	20kA	20kA	20kA	20kA	20kA
Maximum Discharge Current (8/20 μ s)	I_{max}	50kA	50kA	50kA	50kA	50kA	35kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	12.5kA	12.5kA	12.5kA	12.5kA	10kA	5kA
Specific Energy	W/R	39kJ/ Ω	39kJ/ Ω	39kJ/ Ω	39kJ/ Ω	25kJ/ Ω	6.25kJ/ Ω
Charge	Q	6.25As	6.25As	6.25As	6.25As	5As	2.5As
Voltage Protection Level	U_p	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}	25kA / 50kA					50kA
TOV Withstand 5s	U_T	175V	337V	403V	440V	581V	871V
TOV 120min	U_T	229V	442V	529V	440V	762V	1143V
	mode	Safe Fail	Safe Fail	Safe Fail	Withstand	Safe Fail	Safe Fail
Number of Ports		1					
UL Electrical							
Maximum Continuous Operating Voltage (AC)	MCOV	150V	300V	350V	-	480V	750V
Voltage Protection Rating	VPR	600V	900V	1200V	-	1500V	2500V
Nominal Discharge Current (8/20 μ s)	I_n	20kA	20kA	20kA	-	20kA	20kA
Short-Circuit Current Rating (AC)	SCCR	200kA	150kA	150kA	-	200kA	150kA
Additional Electrical Parameters - Standard (Tests performed within Raycap testing laboratory only)							
Residual Voltage at 5 kA (8/20 μ s)	U_{res}	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}	100kA					
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)		10 AWG (Solid, Stranded) per UL 1449 [1.5 mm ² (Solid)]					

**No VDE and UL certification.

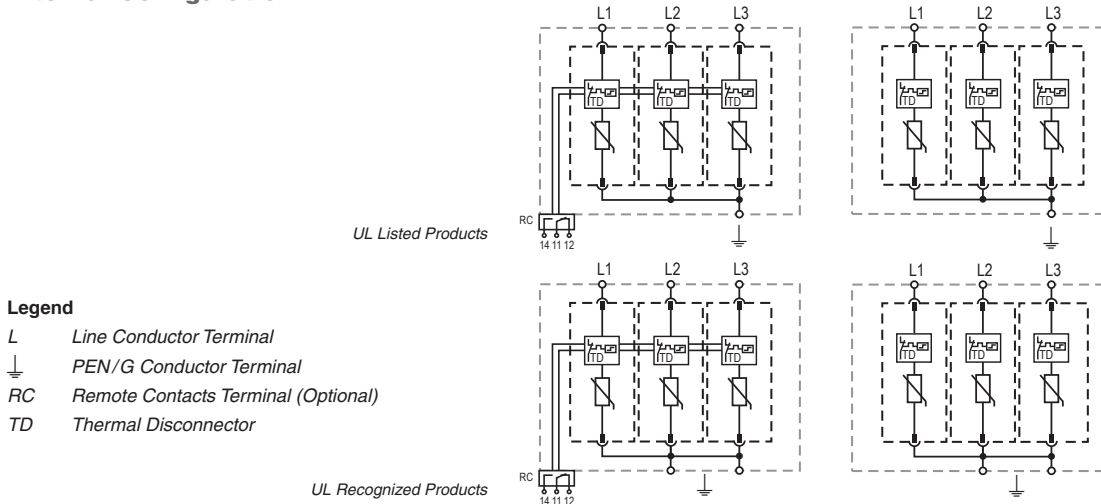
Technical Data includes technical values for both UL Recognized and Open Type 1 UL Listed products.

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



ProTec T1-xxx-3+0(-R)

Order Information VDE Certified and UL Recognized Products

Order Code	150	300	350	440**	480	750
ProTec T1-xxx-3+0	59.0029	59.0031	59.0033	59.0535	59.0035	59.0037
ProTec T1-xxx-3+0-R (with remote contacts)	59.0030	59.0032	59.0034	59.0536	59.0036	59.0038
ProTec T1-xxx-P (plug)	59.0002	59.0003	59.0004	59.0539	59.0005	59.0006

**No VDE and UL certification.

ProTec T1-xxx-3+0-US(-R)

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

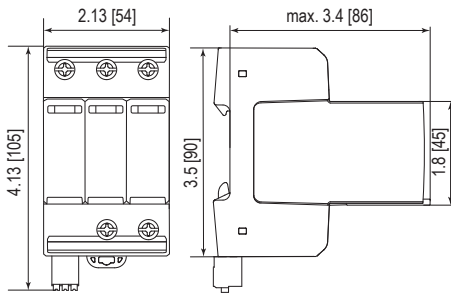
Order Information VDE Certified and Open Type 1 UL Listed Products

Order Code	150	300	350	440**	480	750
ProTec T1-xxx-3+0-US	59.B025	59.B027	59.B029	-	59.B031	59.B033
ProTec T1-xxx-3+0-US-R (with remote contacts)	59.B026	59.B028	59.B030	-	59.B032	59.B034
ProTec T1-xxx-P (plug)	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-3+0	150	300	350	440**	480	750	
Weight	pounds	1.021	1.100	1.226	1.272	1.246	1.265
	grams	463	499	556	577	565	574

ProTec T1-xxx-3+0-R

Weight	pounds	1.041	1.120	1.246	1.292	1.265	1.285
	grams	472	508	565	586	574	583

Complete Unit UL Listed Products

ProTec T1-xxx-3+0-US	150	300	350	440**	480	750	
Weight	pounds	1.001	1.080	1.206	1.252	1.226	1.245
	grams	454	490	547	568	556	565

ProTec T1-xxx-3+0-US-R

Weight	pounds	1.021	1.100	1.226	1.272	1.245	1.265
	grams	463	499	556	577	565	574

DIN 43880 Dimension

3 TE / 2.13" [54]

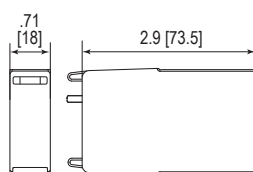
Packaging Dimensions (HxWxL)

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

Standard Order Quantity

5 Unit

Spare Plug



Single Unit

ProTec T1-xxx-P	150	300	350	440**	480	750	
Weight	pounds	.203	.229	.271	.287	.278	.284
	grams	92	104	123	130	126	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