

Overvoltage Protection

ProTec T2 3+0

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



Location of Use: Sub-Distribution Boards
 Network Systems: TN-C
 Mode of Protection: L-PEN
 IEC/EN/UL Category: Class II / Type 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 T2-xxx-3+0(-R) & ProTec T2-xxx-3+0-US(-R)		150	300	350	440**	480	550***	750
IEC Electrical								
Nominal AC Voltage (50/60Hz)	U _o /U _n	120V	240V	277V	230 V	400V	480V	600V
Maximum Continuous Operating Voltage (AC)	U _c	150V	300V	350V	440 V	480V	550V	750V
Nominal Discharge Current (8/20μs)	I _n	20 kA	20 kA	20 kA	20 kA	20 kA	20 kA	20 kA
Maximum Discharge Current (8/20μs)	I _{max}	50 kA	50 kA	50 kA	50 kA	50 kA	50 kA	35 kA
Voltage Protection Level	U _p	1250V	1500V	1750V	1800V	2300V	2500V	3400V
Response Time	t _A	< 25 ns						
Overcurrent Protection (max)		315 A / 250 A gG						
Short-Circuit Current Rating (AC)	I _{SCCR}	25 kA / 50 kA						
TOV Withstand 5s	U _T	229V	337V	403V	440V	581V	697V	871V
TOV 120min	U _T	229V	442V	529V	440V	762V	915V	1143V
	mode	Withstand	Safe Fail	Safe Fail	Withstand	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1						
UL Electrical								
Maximum Continuous Operating Voltage (AC)	MCOV	150V	300V	350V	-	480V	550V	750V
Voltage Protection Rating	VPR	600V	900V	1000V	-	1500V	2000V	2500V
Nominal Discharge Current (8/20μs)	I _n	20 kA	20 kA	20 kA	-	20 kA	20 kA	20 kA
Short-Circuit Current Rating (AC)	SCCR	200kA	150 kA	200 kA	-	200 kA	200 kA	200 kA
Additional Electrical Parameters - Standard <i>(Tests performed within Raycap testing laboratory only)</i>								
Residual Voltage at 5 kA (8/20 μs)	U _{res}	750V	1000V	1300V	1400V	1500V	1800V	2500V
Overcurrent Protection (min)		80 A gG						
Additional Electrical Parameters - Extended <i>(Additionally tested by VDE)</i>								
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 mm² (Solid, Stranded) / 25 mm² (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 mm² (Solid)]						

**No VDE and UL certification.

***No VDE certification.

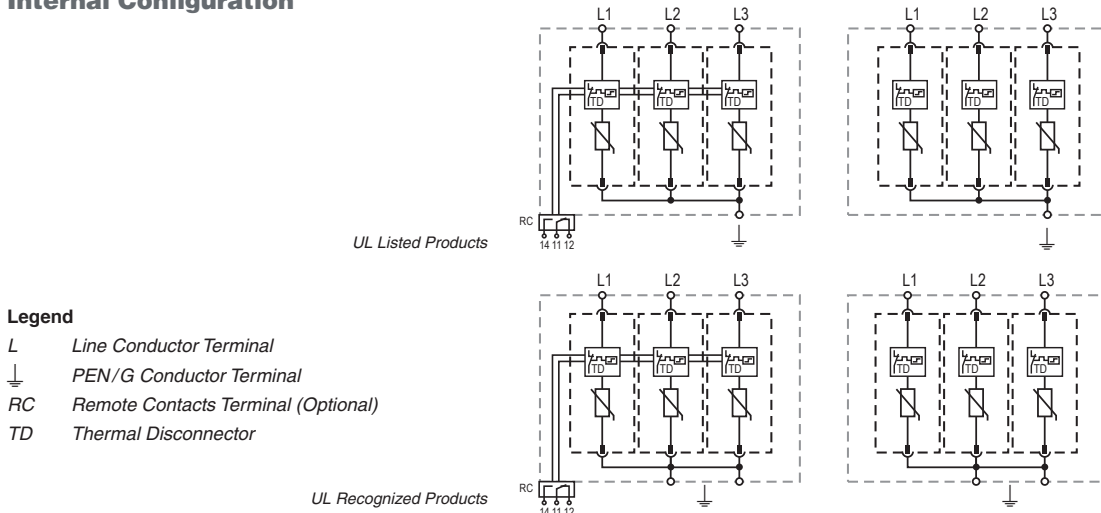
Technical Data includes technical values for both UL Recognized and Open Type 1 UL Listed products.

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 T2-xxx-3+0(-R)

Order Information VDE Certified and UL Recognized Products

Order Code	150	300	350	440**	480	550***	750
ProTec T2-xxx-3+0	59.0091	59.0093	59.0095	59.0550	59.0097	59.0681	59.0099
ProTec T2-xxx-3+0-R (with remote contacts)	59.0092	59.0094	59.0096	59.0551	59.0098	59.0682	59.0100
ProTec T2-xxx-P (plug)	59.0064	59.0065	59.0066	59.0547	59.0067	59.0685	59.0068

ProTec T2-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

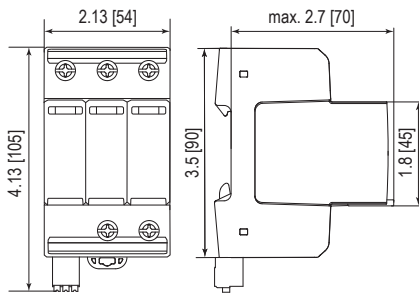
Order Code	150	300	350	440**	480	550***	750
ProTec T2-xxx-3+0-US	59.B099	59.B101	59.B103	-	59.B105	59.B107	59.B109
ProTec T2-xxx-3+0-US-R (with remote contacts)	59.B100	59.B102	59.B104	-	59.B106	59.B108	59.B110
ProTec T2-xxx-P (plug)	59.0064	59.0065	59.0066	59.0547	59.0067	59.0685	59.0068

**No VDE and UL certification.

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Dimensions & Packaging

inches [mm]



Complete Unit UL Recognized Products

ProTec T2-xxx-3+0	150	300	350	440**	480	550***	750
Weight	pounds	.800	.820	.853	.867	.893	.910
	grams	363	372	387	393	405	413

ProTec T2-xxx-3+0-R

Weight	pounds	.820	.840	.873	.886	.912	.933
	grams	372	381	396	402	414	423

Complete Unit UL Listed Products

ProTec T2-xxx-3+0-US	150	300	350	440**	480	550***	750
Weight	pounds	.780	.800	.833	.847	.873	.890
	grams	354	363	378	384	396	404

ProTec T2-xxx-3+0-US-R

Weight	pounds	.800	.820	.853	.866	.892	.913
	grams	363	372	387	393	405	414

DIN 43880 Dimension

3 TE / 2.13" [54]

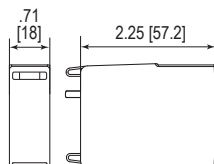
Packaging Dimensions (HxWxL)

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

Standard Order Quantity

5 Units

Spare Plug



Single Unit

ProTec T2-xxx-P	150	300	350	440**	480	550***	750
Weight	pounds	.123	.130	.141	.146	.154	.163
	grams	56	59	64	66	70	74

DIN 43880 Dimension

1 TE / .71" [18]

Packaging Dimensions (HxWxL)

3.2 x 4.5 x 12" [83 x 116 x 305 mm]

Standard Order Quantity

24 Units