

**ProTec T1 1+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, TN-C, TT (only L-N)  
 Mode of Protection: L-PE, N-PE (only TN-S), L-PEN, L-N  
 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-1+0(-R) & ProTec T1-xxx-1+0-US(-R)		75	150	300	350	440**	480	750
<b>IEC Electrical</b>								
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 (8/20 $\mu$ s)	$I_n$	20kA	20kA	20kA	20kA	20kA	20kA	20kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	50kA	50kA	50kA	50kA	50kA	50kA	35kA
Impulse Discharge Current (10/350 $\mu$ s)	$I_{imp}$	12.5kA	12.5kA	12.5kA	12.5kA	12.5kA	10kA	5kA
Specific Energy	W/R	39 kJ/ $\Omega$	39kJ/ $\Omega$	39kJ/ $\Omega$	39kJ/ $\Omega$	39kJ/ $\Omega$	25kJ/ $\Omega$	6.25kJ/ $\Omega$
Charge	Q	6.25As	6.25As	6.25As	6.25As	6.25As	5As	2.5As
Voltage Protection Level	$U_p$	700V	1000V	1500V	1750V	1800V	2100V	3200V
Response Time	$t_A$	< 25ns						
Overcurrent Protection (max)		315 A / 250 A gG						
Short-Circuit Current Rating (AC)	$I_{SCCR}$	25kA / 50kA						
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	Withstand	Safe Fail	Safe Fail
Number of Ports		1						
<b>UL Electrical</b>								
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 (8/20 $\mu$ s)	$I_n$	20kA	20kA	20kA	20kA	-	20kA	20kA
Short-Circuit Current Rating (AC)	SCCR	100kA	200kA	150kA	150kA	-	200kA	150kA
<b>Additional Electrical Parameters - Standard</b> (Tests performed within Raycap testing laboratory only)								
Residual Voltage at 5 kA (8/20 $\mu$ s)	$U_{res}$	400V	800V	1100V	1300V	1400V	1500V	2500V
Overcurrent Protection (min)		160A gG						
<b>Additional Electrical Parameters - Extended</b> (Additionally tested by VDE)								
Short-Circuit Current Rating (AC)	$I_{SCCR}$	100kA						
Overcurrent Protection (max)		250A gG						
<b>Mechanical &amp; Environmental</b>								
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 <sup>2</sup> (Solid, Stranded) / 25 mm <sup>2</sup> (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)		10AWG (Solid, Stranded) per UL 1449 [1.5 mm <sup>2</sup> (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.



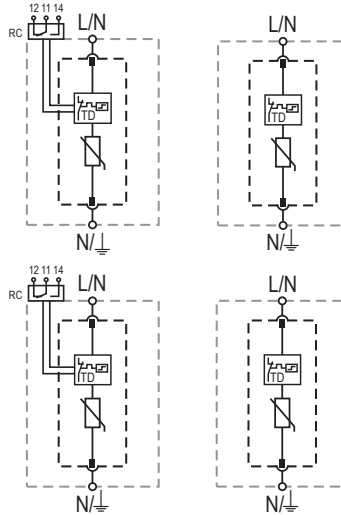
## Internal Configuration

### Legend

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

UL Listed Products

UL Recognized Products



### ProTec T1-xxx-1+0(-R)

#### Order Information VDE Certified and UL Recognized Products

Order Code	75	150	300	350	440**	480	750
ProTec T1-xxx-1+0	59.0007	59.0009	59.0011	59.0013	59.0531	59.0015	59.0017
ProTec T1-xxx-1+0-R (with remote contacts)	59.0008	59.0010	59.0012	59.0014	59.0532	59.0016	59.0018
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-1+0-US(-R)

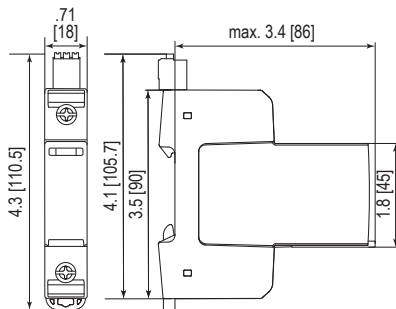
#### Order Information VDE Certified and Open Type 1 UL Listed Products

Order Code	75	150	300	350	440**	480	750
ProTec T1-xxx-1+0-US	59.B001	59.B003	59.B005	59.B007	-	59.B009	59.B011
ProTec T1-xxx-1+0-US-R (with remote contacts)	59.B002	59.B004	59.B006	59.B008	-	59.B010	59.B012
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-1+0	75	150	300	350	440**	480	750	
Weight	pounds	.304	.355	.381	.423	.439	.430	.437
	grams	138	161	173	192	199	195	198

#### ProTec T1-xxx-1+0-R

Weight	pounds	.320	.370	.397	.439	.454	.445	.452
	grams	145	168	180	199	206	202	205

#### Complete Unit UL Listed Products

ProTec T1-xxx-1+0-US	75	150	300	350	440**	480	750	
Weight	pounds	.304	.355	.381	.423	.439	.430	.437
	grams	138	161	173	192	199	195	198

#### ProTec T1-xxx-1+0-US-R

Weight	pounds	.320	.370	.397	.439	.454	.445	.452
	grams	145	168	180	199	206	202	205

DIN 43880 Dimension

1 TE / .71" [18]

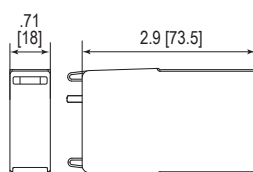
Packaging Dimensions (HxWxL)

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

Standard Order Quantity

12 Units

## Spare Plug



#### Single Unit

ProTec T1-xxx-P	75	150	300	350	440**	480	750	
Weight	pounds	.152	.203	.229	.271	.287	.278	.284
	grams	69	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