

Lightning and Overvoltage Protection  
**ProTec T1 1+0**  
 Class I • Class II • Type 1 • Type 2 • Type 1CA



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  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012 +A11:2018  
 UL 1449 5th Edition

**Technical Data**

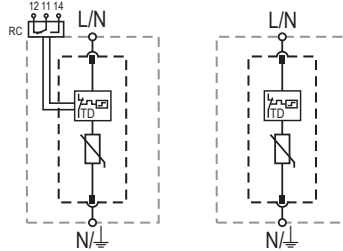
ProTec T1-xxx-1+0(-R)		75	150	300	350	440**	480	750	
<b>IEC Electrical</b>									
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	60V	120V	240V	277V	230V	400V	600V	
Maximum Continuous Operating Voltage (AC)	$U_c$	75V	150V	300V	350V	440V	480V	750V	
Nominal Discharge Current (8/20µs)	$I_n$	20kA	20kA	20kA	20kA	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	39kJ/Ω	39kJ/Ω	39kJ/Ω	39kJ/Ω	25kJ/Ω	6.25kJ/Ω	
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							250 A gG
Short-Circuit Current Rating (AC)	$I_{SCCR}$	25kA / 50kA							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 (8/20µs)	$I_n$	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 µs)	$U_{res}$	400V	800V	1100V	1300V	1400V	1500V	2500V	
Overcurrent Protection (min)		160A gG							80A 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	$M_{max}$	40 lbf-in [4.5Nm]							
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 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)		16 AWG (Solid) / 1.5mm <sup>2</sup> (Solid)							

\*\*No VDE and UL certification.

## Internal Configuration

### Legend

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



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

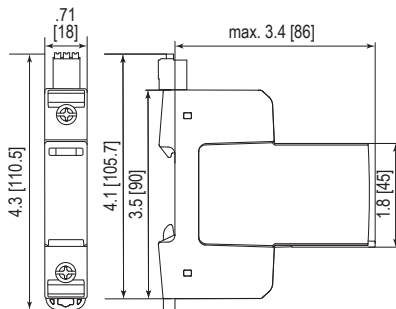
#### Order Information

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

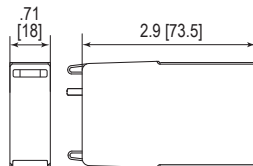
\*\*No VDE and UL certification.

## Dimensions & Packaging

inches [mm]



### Spare Plug



#### Single Unit

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

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

#### 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	126

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