

**ProTec T1 3+1**

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



Location of Use: Main Distribution Boards  
 Network Systems: TT, TN-S  
 Mode of Protection: L-N, 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-3+1(-R) & ProTec T1-xxx-3+1-US(-R)		300	350
<b>IEC Electrical</b>			
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	240 V	277 V
Maximum Continuous Operating Voltage	(L-N) $U_c$	300 V	350 V
	(N-PE) $U_c$	305 V	305 V
Nominal Discharge Current (8/20 $\mu$ s)	(L-N)/(N-PE) $I_n$	20 kA / 50 kA	
Maximum Discharge Current (8/20 $\mu$ s)	(L-N)/(N-PE) $I_{max}$	50 kA / 100 kA	
Impulse Discharge Current (10/350 $\mu$ s)	(L-N)/(N-PE) $I_{imp}$	12.5 kA / 50 kA	
Specific Energy	(L-N)/(N-PE) W/R	39 kJ/ $\Omega$ / 625 kJ/ $\Omega$	
Charge	(L-N)/(N-PE) Q	6.25 As / 25 As	
Voltage Protection Level	(L-N)/(N-PE) $U_p$	1500 V / 1500 V	1750 V / 1500 V
Follow Current Interrupt Rating (AC)	(N-PE) $I_{fi}$	100 A	
Response Time	(L-N)/(N-PE) $t_A$	< 25 ns / < 100 ns	
Overcurrent Protection (max)		315 A / 250 A gG	
Short-Circuit Current Rating (AC)	(L-N) $I_{SCCR}$	25 kA / 50 kA	
TOV Withstand 5s	(L-N) $U_T$	337 V	403 V
TOV 120min	(L-N) $U_T$	442 V	529 V
		mode	Safe Fail
TOV Withstand 200ms	(N-PE) $U_T$	1200 V	
Number of Ports		1	
<b>UL Electrical</b>			
Maximum Continuous Operating Voltage (AC)	(L-N)/(N-G) MCOV	300 V / 305 V	350 V / 305 V
Voltage Protection Rating	(L-N)/(N-G) VPR	900 V / 1200 V	1200 V / 1200 V
Nominal Discharge Current (8/20 $\mu$ s)	(L-N)/(N-G) $I_n$	20 kA / 20 kA	20 kA / 20 kA
Short-Circuit Current Rating (AC)	(L-N) SCCR	150 kA	150 kA
<b>Additional Electrical Parameters - Standard</b> (Tests performed within Raycap testing laboratory only)			
Residual Voltage at 5 kA (8/20 $\mu$ s)	(L-N)/(N-PE) $U_{res}$	1100 V / 305 V	1300 V / 305 V
Overcurrent Protection (min)		160 A gG	
<b>Additional Electrical Parameters - Extended</b> (Additionally tested by VDE)			
Short-Circuit Current Rating (AC)	$I_{SCCR}$	100 kA	
Overcurrent Protection (max)		250 A 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 [4000 m]	
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		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 <sup>2</sup> (Solid)]	

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.



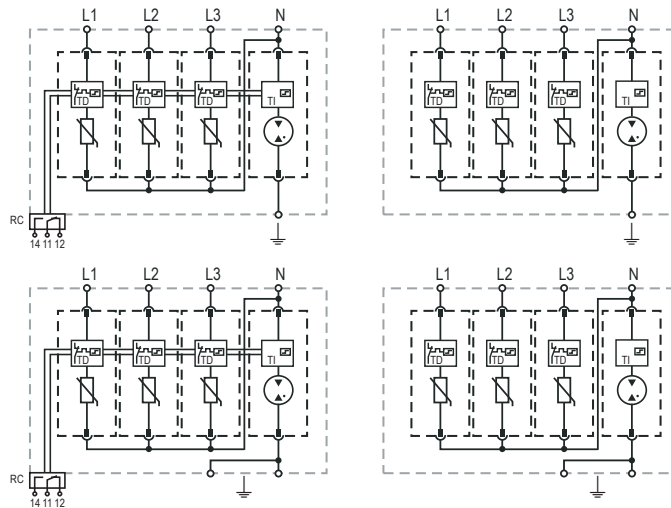
## Internal Configuration

### Legend

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

UL Listed Products

UL Recognized Products



### ProTec T1-xxx-3+1(-R)

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

Order Code	300	350
ProTec T1-xxx-3+1	59.0059	59.0061
ProTec T1-xxx-3+1-R (with remote contacts)	59.0060	59.0062
ProTec T1-xxx-P (plug L-N)	59.0003	59.0004
ProTube T1-50-P (plug N-PE)	59.0269	59.0269

### ProTec T1-xxx-3+1-US(-R)

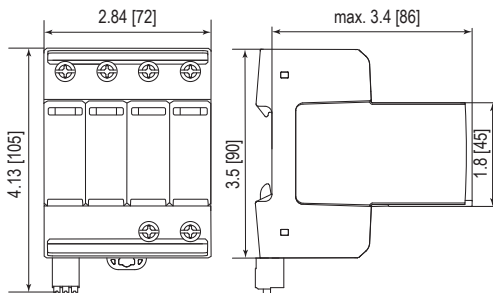
For UL Listed products one PE/G Conductor Terminal is covered/closed.

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

Order Code	300	350
ProTec T1-xxx-3+1-US	59.B051	59.B053
ProTec T1-xxx-3+1-US-R (with remote contacts)	59.B052	59.B054
ProTec T1-xxx-P (plug L-N)	59.0003	59.0004
ProTube T1-50-P (plug N-PE)	59.0269	59.0269

## Dimensions & Packaging

inches [mm]



#### Complete Unit UL Recognized Products

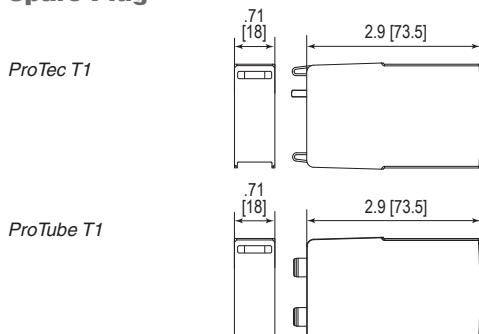
ProTec T1-xxx-3+1		300	350
Weight	pounds	1.466	1.592
	grams	665	722
ProTec T1-xxx-3+1-R			
Weight	pounds	1.486	1.612
	grams	674	724

#### Complete Unit UL Listed Products

ProTec T1-xxx-3+1-US		300	350
Weight	pounds	1.446	1.572
	grams	656	7113
ProTec T1-xxx-3+1-US(-R)			
Weight	pounds	1.466	1.592
	grams	665	715

DIN 43880 Dimension	4 TE / 2.84" [72]
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]
Standard Order Quantity	4 Units

## Spare Plug



#### Single Unit

ProTec T1-xxx-P		300	350
Weight	pounds	.229	.271
	grams	104	123
ProTube T1-50-P		50	
Weight	pounds	.214	
	grams	97	

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