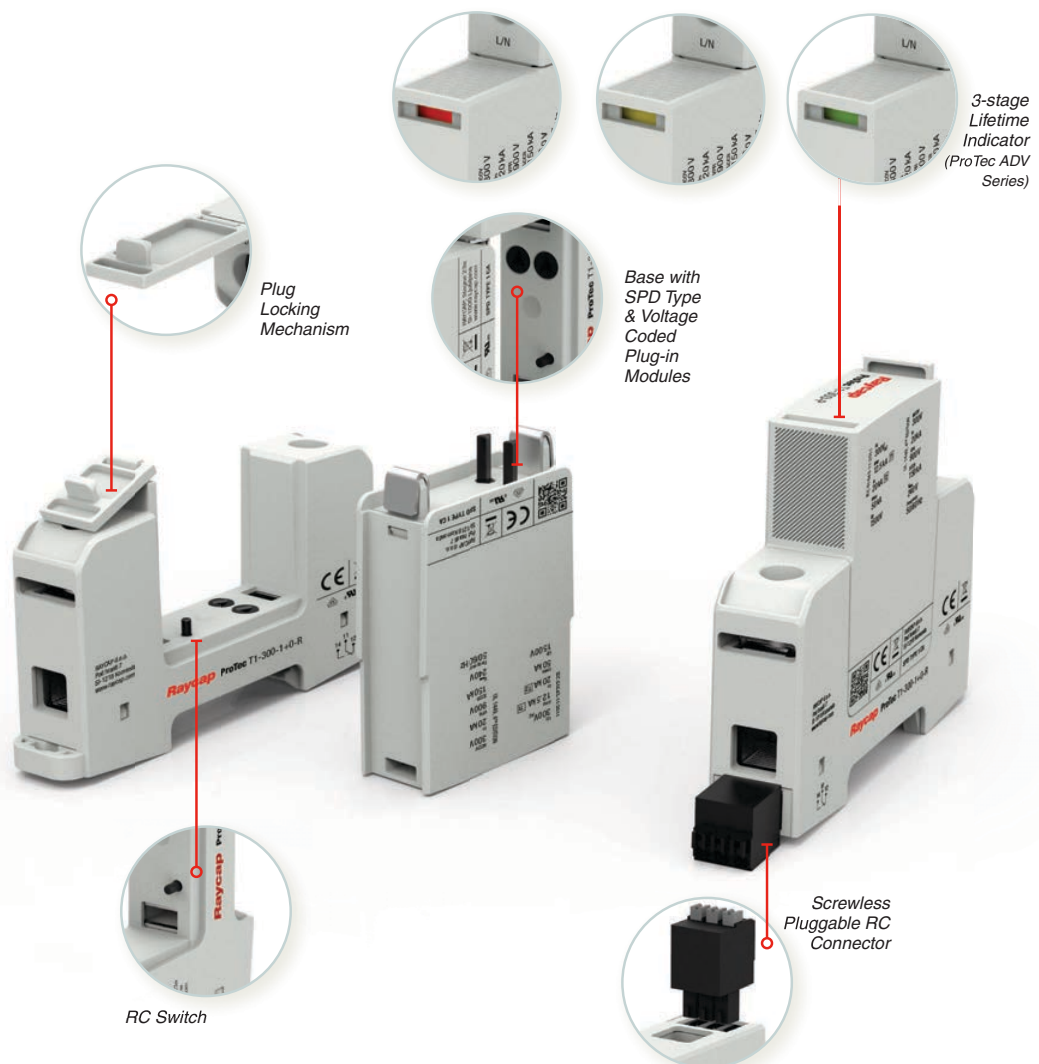


# Surge Protection Devices for Low Voltage Power Systems

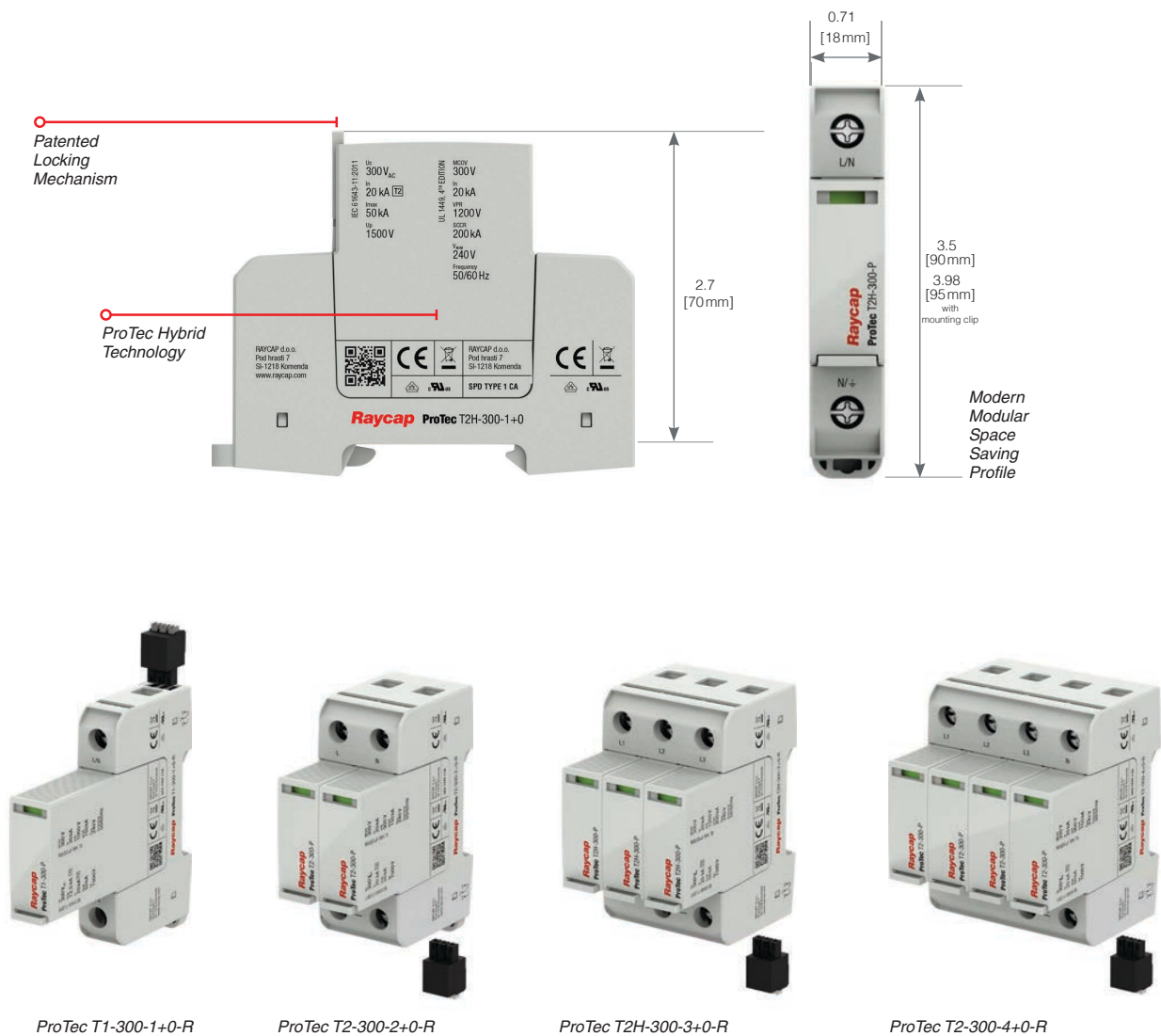
**CAPE**  
ELECTRIC





## Housing Design Features

- Contemporary design
- Low residual protection level
- High durability due to redesigned thermal disconnection mechanism
- No external back-up fuse required up to 315 A
- Patented locking mechanism for secure placement in high vibration environments
- Remote signaling using tool-free remote contact
- Easily visible mechanical lifetime indicator
- Replacement plugs provide ease of installation and preventive maintenance
- Easy replacement during servicing
- Meets IEC/EN 61643-11 and UL 1449 4th Edition



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## Pluggable Single Pole & Multi-pole Surge Protective Devices (SPDs)



### Lightning and Overvoltage Protection **ProTec T1**

**Special features:**

- Available in a wide variety of operating voltages, 75V to 750V
- High impulse current capability using single MOV– 480V and 750V versions comes with reduced impulse current
- Sensitive state-of-the-art thermal disconnecter
- Back-up fuse up to 315A gG, 750V version comes with 250A gG
- Short circuit current rating up to 50kA
- Vibration and shock withstand capability
- VDE-IEC Class I & II / EN Type 1+2 certified and UL Type 1CA certified
- All modules, also N-PE, with operating state green-red
- Optional remote contact (RC) signaling



Compliance	IEC 61643-11:2011	EN 61643-11:2012	UL 1449 4th Edition
ProTec T1 Series	✓	✓	✓

The ProTec T1 series offers basic protection as a Type 1 surge protective device that comes with an extended maximum continuous operating voltage range span from 75V to 750V. Due to its Type 1 classification the product can be installed between boundaries OA – 1 and higher. The varistor based protection module features outstanding short-circuit currents up to 50kA<sub>RMS</sub> without using a back up to a main fuse nominal current of 315A. All modules are equipped with state-of-the-art thermal disconnecter and life-status monitoring (green-red). Due to a unique vibration-proof locking mechanism design, these products are suitable for use in high vibration environments. An optional remote contact (RC) feature offers a three-pole remote signaling terminal to remotely monitor the operating state of the device.

## Pluggable Single Pole & Multi-pole Surge Protective Devices (SPDs)

### Lightning and Overvoltage Protection **ProTec T1H**



#### Special features:

- Leakage free hybrid topology
- Energy coordinated with other ProTec families without additional cable length
- State-of-the-art thermal disconnecter
- Backup fuse up to 315A gG
- Short circuit current rating up to 50kA
- Vibration and shock withstand capability
- All modules, also N-PE, with operating state green-red
- Optional remote contact signaling
- VDE-IEC Class I & II / EN Type 1+2 and UL Type 4CA certified



Compliance	IEC 61643-11:2011	EN 61643-11:2012	UL 1449 4th Edition
ProTec T1H Series	✓	✓	✓

The ProTec T1H modular surge protection device provides high durability due to its leakage-free performance ensured by a special series connection of a varistor and a gas discharge tube. The product family is ideal as a supplement to the basic ProTec T1 product family, available for single or three-phase TN-S, TT and TN-C systems, with a maximum continuous operating voltage of 300V AC where a complete absence of leakage current is required. With its Type 1 classification, the ProTec T1H can be installed between boundaries 0b – 1 and higher. The varistor-based protection modules feature outstanding short-circuit currents up to 50 kA<sub>RMS</sub> without using a back up to a main fuse, with a nominal current of 315A. The device can be installed upstream of meter panels in low-voltage consumer installations. An optional remote contact (RC) features a three-pole remote signaling terminal that enables remote monitoring of the device's operating state.

## Pluggable Single Pole & Multi-pole Surge Protective Devices (SPDs)

### Lightning and Overvoltage Protection **ProTec T1HS**



#### Special features:

- Leakage free hybrid topology
- High discharge capacity due to unique design impulse discharge current of 25kA
- Energy coordinated with other ProTec families without additional cable length
- State-of-the-art thermal disconnecter
- Backup fuse up to 315A gG
- Short circuit current rating up to 50kA
- Vibration and shock withstand capability
- All modules, also N-PE, with operating state green-red
- Optional remote contact (RC) signaling
- VDE-IEC Class I & II / EN Type 1+2 and UL Type 4CA certified



Compliance	IEC 61643-11:2011	EN 61643-11:2012	UL 1449 4th Edition
ProTec T1HS Series	✓	✓	✓

The Type 1+2 surge protective device contains two high rated stand-alone varistors in series with a gas discharge tube that, in combination with a state-of-the-art space-saving thermal disconnection mechanism, ensure optimal system protection under all kinds of overloads. The series connection isolates the varistor from the grid, making it suitable for use upstream of meter panels in low-voltage consumer installations while making it immune to temporary overvoltage. The operating state requires no power to operate and instantly shows the health of the surge protective indicator. Besides a visual mechanical indicator, an optional remote contact (RC) device features a three-pole remote signaling terminal to remotely monitor the operating state of the device.

## Pluggable Single Pole & Multi-pole Surge Protective Devices (SPDs)

### Overvoltage Protection

#### ProTec T2

##### Special features:

- Available in a wide variety of operating voltages 75V to 750V
- High Impulse Current capability using a single MOV
- Sensitive state-of-the-art thermal disconnecter
- Backup fuse up to 315A gG
- Short-circuit current rating up to 50kA
- Vibration and shock withstand capability
- VDE-IEC Class II / Type 2 certified and UL Type 1CA certified
- All modules including N-PE with operating state green-red
- Optional remote contact (RC) signaling



Compliance	IEC 61643-11:2011	EN 61643-11:2012	UL 1449 4th Edition
ProTec T2 Series	✓	✓	✓

ProTec T2 offers basic protection as a Type 2 surge protective device (SPD) that comes with an extended maximum continuous operating voltages ( $U_c$ ) range that spans 75V up to 750V. With the Type 2 classification, ProTec T2 can be installed between boundaries Ob – 1 and higher. The varistor-based protection modules feature outstanding short-circuit currents up to 50kA<sub>RMS</sub> without using a back-up to a main fuse nominal current of 315A. All modules are equipped with a state-of-the-art thermal disconnecter and life-status green-red monitoring indicators. A unique vibration-proof locking mechanism enables secure use in and high vibration environments. Besides the visual mechanical indicator, optional remote contacts (RC) feature a three-pole remote signaling terminal, which enables remote monitoring of the operating state of the device.



## Pluggable Single Pole & Multi-pole Surge Protective Devices (SPDs)

Overvoltage Protection

### ProTec T2H



#### Special features:

- High maximum discharge current capacity ( $I_{max}$ ) of 50kA
- State-of-the-art thermal disconnecter
- Leakage current-free technology
- Backup fuse up to 315A gG
- Short-circuit current rating up to 50kA
- Vibration and shock withstand capability
- VDE-IEC Class II / EN Type 2 certified and UL Type 1CA certified
- All modules including N-PE, with operating state green-red
- Optional remote contact signaling (RC)



Compliance	IEC 61643-11:2011	EN 61643-11:2012	UL 1449 4th Edition
ProTec T2H Series	✓	✓	✓

The ProTec T2H surge protection device provides high durability due to its leakage-free performance ensured by a special series connection of varistor and gas discharge tube. The ProTec T2H product family is an ideal supplement to the basic ProTec T2 product family, available for single or three-phase TN-S, TT and TN-C systems with a maximum continuous voltage of 300VAC. The perfect solution for applications such as railway safety control systems where complete absence of leakage current, is required. With its Type 2 classification, the unit can be installed between boundaries 1 – 2 and higher. The varistor based protection module features outstanding short-circuit currents up to 50kA<sub>RMS</sub> without using a back-up to a main fuse and a nominal current of 315A. All modules are equipped with a state-of-the-art thermal disconnecter and life-status green-red monitoring indicator. A unique vibration-proof locking mechanism enables secure use in high vibration environments. An optional remote contact (RC) features a three-pole remote signaling terminal, which enables remote monitoring of the operating state of the device.

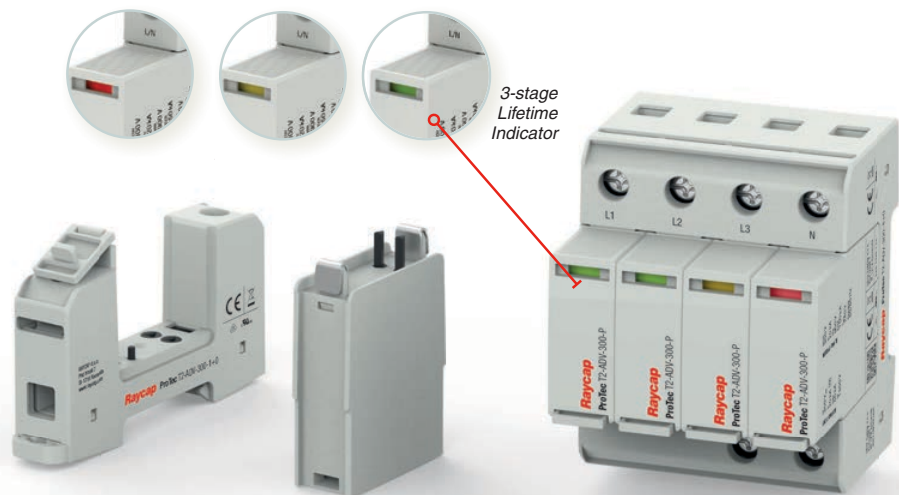
## Pluggable Single Pole & Multi-pole Surge Protective Devices (SPDs)

### Overvoltage Protection

#### ProTec T2-ADV

##### Special features:

- Early warning system with clear green-yellow-red indicators
- Available in a wide variety of operating voltages from 75 V to 480 V
- High surge maximum discharge current capability of 50kA
- State-of-the-art thermal disconnecter
- Backup fuse up to 315 A gG
- Vibration and shock withstand capability
- Optional remote contact (RC) signaling
- VDE-IEC Class II / EN Type 2 certified and UL Type 1CA certified



Compliance	IEC 61643-11:2011	EN 61643-11:2012	UL 1449 4th Edition
ProTec T2-ADV Series	✓	✓	✓

ProTec T2-ADV features an advanced three-stage life status indicator showing an intermediate degradation status before the arrester's end-of-life state, thus indicating possible problems or needed maintenance from overvoltage activity, before complete failure. During the SPDs end-of-life transition, green yellow red, the connected equipment is continually protected against fatal overvoltage effects. The specially treated autonomous varistors provide reliable determination of the first switching disconnecter, and the redundancy of two powerful separate varistors, both of which are functionally connected provide a unique safety advantage. These safety reserve systems are imperative for the growing need for notifications or alerts when changes in conditions occur, and are ideally suited in a variety of environments that protect critical infrastructure. In addition to the visual mechanical indicator, optional remote contacts (RC) feature a three-pole remote signaling terminal, enabling remote monitoring of the operating state of the device.

## Pluggable Multi-pole Surge Protective Devices (SPDs) for Photovoltaic Systems (DC)

Lightning and Overvoltage Protection

### ProTec T1-PV & ProTec T2-PV

**Special features:**

- Vibration and shock withstand capability
- Sensitive and reliable state-of-the-art disconnecter
- Short circuit current rating of 11 kA

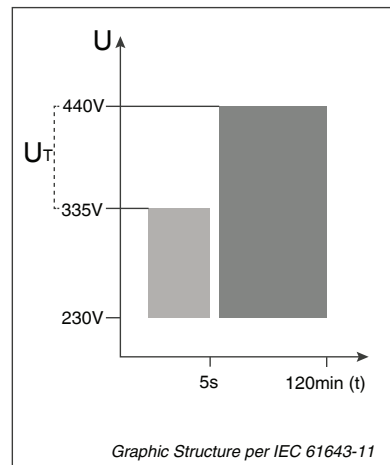
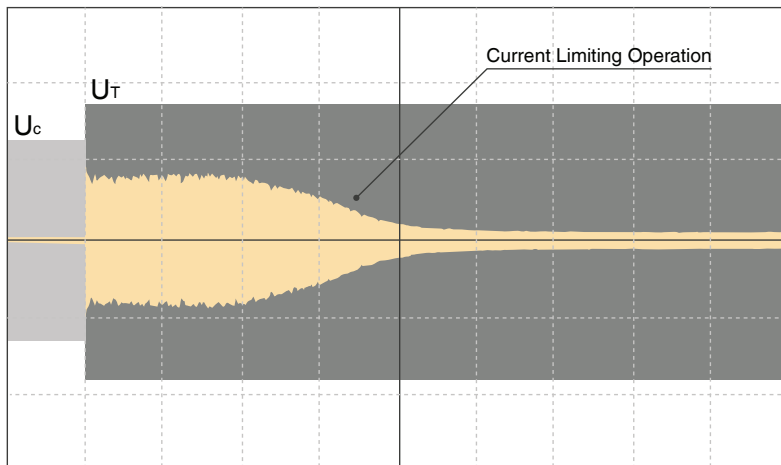


Compliance	EN 50539-11:2013+A1:2014	UL 1449 4th Edition
ProTec T1 PV Series	✓	✓
ProTec T2 PV Series	✓	✓

The ProTec PV product range provides powerful and pluggable protective devices for photovoltaic systems up to 1500 VDC either as Type 1 or Type 2. All devices have a short circuit current rating of 11 kA, the highest available on the market.

### SafeTec Technology

- Good protection level
- Industry standard DIN rail technology for situations where TOVs or switching transients are present on a distribution network
- Open circuit mode in combination with patented current limiting technology offers great immunity to TOVs
- 5-year warranty, 10-year life span
- Low-maintenance cost
- Pluggable installation
- Modular, pluggable, field replaceable modules



Temporary Overvoltages (TOV)

- Maximum Continuous Operating Voltage
- Temporary Overvoltage (TOV)
- Current Through SPD

- SafeTec TC Technology
- Conventional Technology

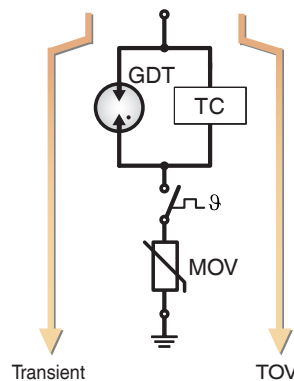
Two possible types of overvoltages may appear in the power supply network:

Transient overvoltages – switching operations, direct and indirect atmospheric discharges

Temporary overvoltages (TOVs) – last between 5 seconds and up to a few weeks, voltage amplitude can reach 173%  $U_{REF}$

$$U_{REF} = U_0 \times 1,1$$

$U_0$ ... Nominal Line Voltage



#### Legend

- Transient Short duration
- TOV Long duration
- TC Thermal control function
- GDT Gas discharge tube
- MOV Metal-oxide varistor
- ⏏ Thermal disconnect

## Pluggable Single Pole & Multi-pole Surge Protective Devices (SPDs)

### Overvoltage Protection

#### SafeTec T2

##### Special features:

- High temporary overvoltage (TOV) immunity
- High maximum discharge current capacity ( $I_{max}$ ) of 50kA
- State-of-the-art thermal disconnector
- Continuous power to the equipment at end-of-life (EOL)
- AC current up to 880V
- Back-up fuse up to 315A gG
- Short circuit current rating up to 50kA
- Vibration and shock withstand capability
- All modules, including N-PE with operating state green-red
- Optional remote contact (RC) signaling
- VDE-IEC Class II / EN Type 2 certified and UL Type 1CA certified
- Worldwide patented thermal control (TC) technology
- Five year warranty



Compliance	IEC 61643-11:2011	EN 61643-11:2012	UL 1449 4th Edition
SafeTec T2 Series	✓	✓	✓

Temporary overvoltages (TOV) are by far the most frequent cause of arrester failure by abnormal overvoltages of the power network (50/60 Hz) with significant duration and amplitude. The SafeTec product family is a reliable solution for all transient overvoltages. This multi-purpose single pole arrester features the industry's widest range and an unprecedented level of integration, enabling power systems to have improved surge protection, simplified designs and lower overall costs. The patented thermal control (TC) technology function prolongs the lifespan of the SPDs, enables TOV immunity and provides low protection level, all at the same dimensions as conventional protective devices. The universal features of SafeTec make the technology suitable for protection of electrical devices not only against overvoltages caused by lightning strikes, but also by switching operations that originate from the internal power system. In addition to the visual mechanical indicator, the optional remote contact (RC) features a three-pole remote signaling terminal enabling remote monitoring of the operating state of the device.

# Lightning and Overvoltage Protection

## ProTec T1 2+0

Class I • Class II • Type 1 • Type 2 • Type 1CA

12.5kA Series



Location of Use: Main Distribution Boards  
 Network Systems: TN-S  
 Mode of Protection: L-PE, N-PE  
 IEC/EN/UL Category: Class I+II / Type 1+2 / Type 1CA  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4th Edition

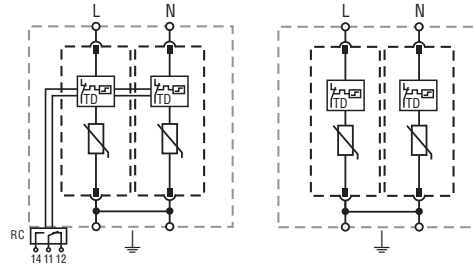
### Technical Data

ProTec T1-xxx-2+0(-R)		75	150	300	350	480	750
<b>IEC Electrical</b>							
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	60V	120V	240V	277V	400V	600V
Maximum Continuous Operating Voltage (AC)	$U_c$	75V	150V	300V	350V	480V	750V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA	20kA	20kA	20kA	20kA	20kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	50kA	50kA	50kA	50kA	50kA	35kA
Impulse Discharge Current (10/350 $\mu$ s)	$I_{imp}$	12.5kA	12.5kA	12.5kA	12.5kA	10kA	5kA
Specific Energy	W/R	39 kJ/ $\Omega$	39kJ/ $\Omega$	39kJ/ $\Omega$	39kJ/ $\Omega$	25 kJ/ $\Omega$	6.25 kJ/ $\Omega$
Charge	Q	6.25 As	6.25 As	6.25 As	6.25 As	5 As	2.5 As
Voltage Protection Level	$U_p$	700V	1000V	1500V	1750V	2100V	3200V
Response Time	$t_A$	< 25 ns					
Overcurrent Protection (max)		315 A / 250A gG					250 A gG
Short-Circuit Current Rating (AC)	$I_{SCCR}$	25 kA / 50kA					50 kA
TOV Withstand 5s	$U_T$	114V	175V	337V	403V	581V	871V
TOV 120min	$U_T$	114V	229V	442V	529V	762V	1143V
	mode	Withstand	Safe Fail	Safe Fail	Safe Fail	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>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	$M_{max}$	39.9 lbf-in [4.5Nm]					
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35mm <sup>2</sup> (Solid, Stranded) / 25mm <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)					
<b>Order Information</b>							
Order Code		75	150	300	350	480	750
ProTec T1-xxx-2+0		59.0349	59.0019	59.0021	59.0023	59.0025	59.0027
ProTec T1-xxx-2+0-R (with remote contacts)		59.0350	59.0020	59.0022	59.0024	59.0026	59.0028
ProTec T1-xxx-P (plug)		59.0001	59.0002	59.0003	59.0004	59.0005	59.0006

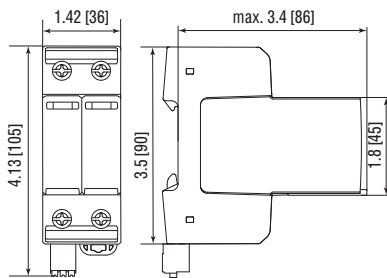
Internal Configuration

Legend

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



Complete Unit



Complete Unit Dimensions & Packaging

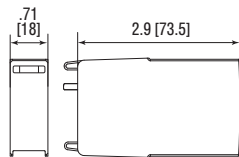
		75	150	300	350	480	750
ProTec T1-xxx-2+0	Weight	pounds .595	.697	.750	.833	.847	.860
		grams 270	316	340	378	384	390
ProTec T1-xxx-2+0-R							
Weight	pounds	.615	.717	.769	.853	.866	.880
	grams	279	325	349	387	393	399
DIN 43880 Dimension		2 TE / 1.42" [36]					
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]					
Standard Order Quantity		7 Units					

Plug Internal Configuration

ProTec T1-xxx-P



Spare Plug



Single Unit Dimensions & Packaging

		75	150	300	350	480	750
ProTec T1-xxx-P	Weight	pounds .152	.203	.229	.271	.278	.284
		grams 69	92	104	123	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					

inches  
[mm]



Lightning and Overvoltage Protection  
**ProTec T1 4+0**  
 Class I • Class II • Type 1 • Type 2 • Type 1CA

**12.5kA Series**



Location of Use: Main Distribution Boards  
 Network Systems: TN-S  
 Mode of Protection: L-PE, N-PE  
 IEC/EN/UL Category: Class I+II / Type 1+2 / Type 1CA  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4th Edition

**Technical Data**

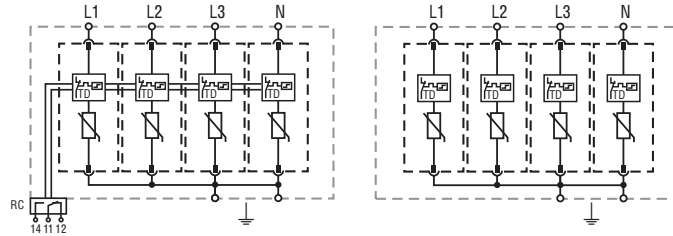
ProTec T1-xxx-4+0(-R)	150	300	350	480	
<b>IEC Electrical</b>					
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	120V	240V	277V	400V
Maximum Continuous Operating Voltage (AC)	$U_c$	150V	300V	350V	480V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA	20kA	20kA	20kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	50kA	50kA	50kA	50kA
Impulse Discharge Current (10/350 $\mu$ s)	$I_{imp}$	12.5kA	12.5kA	12.5kA	10kA
Specific Energy	W/R	39kJ/ $\Omega$	39kJ/ $\Omega$	39kJ/ $\Omega$	25kJ/ $\Omega$
Charge	Q	6.25As	6.25As	6.25As	5As
Voltage Protection Level	$U_p$	1000V	1500V	1750V	2100V
Response Time	$t_A$				< 25 ns
Overcurrent Protection (max)					315 A / 250 A gG
Short-Circuit Current Rating (AC)	$I_{SCCR}$				25kA / 50kA
TOV Withstand 5s	$U_T$	175V	337V	403V	581V
TOV 120min	$U_T$	229V	442V	529V	762V
	mode	Safe Fail	Safe Fail	Safe Fail	Safe Fail
Number of Ports					1
<b>UL Electrical</b>					
Maximum Continuous Operating Voltage (AC)	MCOV	150V	300V	350V	480V
Voltage Protection Rating	VPR	600V	900V	1200V	1500V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA	20kA	20kA	20kA
Short-Circuit Current Rating (AC)	SCCR	200kA	150kA	150kA	200kA
<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	$M_{max}$				39.9 lbf-in [4.5 Nm]
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) / 1.5 mm <sup>2</sup> (Solid)
<b>Order Information</b>					
Order Code	150	300	350	480	
ProTec T1-xxx-4+0	59.0039	59.0041	59.0351	59.0043	
ProTec T1-xxx-4+0-R (with remote contacts)	59.0040	59.0042	59.0352	59.0044	
ProTec T1-xxx-P (plug)	59.0002	59.0003	59.0004	59.0005	



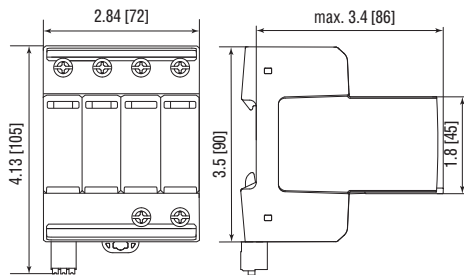
Internal Configuration

Legend

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



Complete Unit

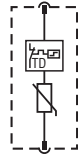


Complete Unit Dimensions & Packaging

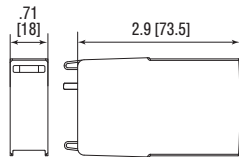
		150	300	350	480
ProTec T1-xxx-4+0	Weight	pounds 1.310	1.415	1.583	1.609
		grams 594	642	718	730
ProTec T1-xxx-4+0-R					
Weight	pounds	1.329	1.435	1.603	1.629
	grams	603	651	727	739
DIN 43880 Dimension		4 TE / 2.84" [72]			
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]			
Standard Order Quantity		4 Units			

Plug Internal Configuration

ProTec T1-xxx-P



Spare Plug



Single Unit Dimensions & Packaging

		150	300	350	480
ProTec T1-xxx-P	Weight	pounds .203	.229	.271	.278
		grams 92	104	123	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			

inches  
[mm]



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

**12.5kA Series**



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  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4th Edition

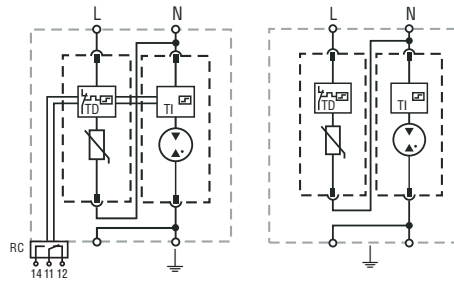
**Technical Data**

ProTec T1-xxx-1+1(-R)		75	150	300	350
<b>IEC Electrical</b>					
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	60 V	120 V	240 V	277 V
Maximum Continuous Operating Voltage	(L-N) $U_c$	75 V	150 V	300 V	350 V
	(N-PE) $U_c$	305 V	305 V	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) $U_p$	700 V / 1500 V	1000 V / 1500 V	1500 V / 1500 V	1750 V / 1500 V
Follow Current Interrupt Rating	(N-PE) $I_{fi}$		100 A <sub>RMS</sub>		
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) $U_T$	114 V	175 V	337 V	403 V
TOV 120min	(L-N) $U_T$	114 V	229 V	442 V	529 V
	mode	Withstand	Safe Fail	Safe Fail	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	75 V / 305 V	150 V / 305 V	300 V / 305 V	350 V / 305 V
Voltage Protection Rating	(L-N)/(N-G) VPR	330 V / 1200 V	600 V / 1200 V	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	20 kA / 20 kA	20 kA / 20 kA
Short-Circuit Current Rating (AC)	(L-N) SCCR	100 kA	200 kA	150 kA	150 kA
<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	$M_{max}$	39.9 lbf-in [4.5 Nm]			
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		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)		16 AWG (Solid) / 1.5 mm <sup>2</sup> (Solid)			
<b>Order Information</b>					
Order Code		75	150	300	350
ProTec T1-xxx-1+1		59.0047	59.0049	59.0051	59.0053
ProTec T1-xxx-1+1-R (with remote contacts)		59.0048	59.0050	59.0052	59.0054
ProTec T1-xxx-P (plug L-N)		59.0001	59.0002	59.0003	59.0004
ProTube T1-50-P (plug N-PE)		59.0269	59.0269	59.0269	59.0269

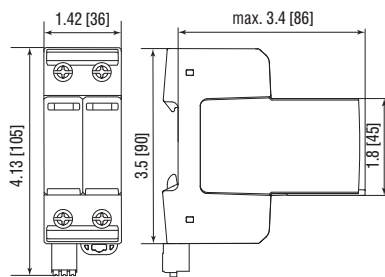
Internal Configuration

Legend

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



Complete Unit

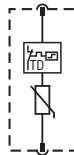


Complete Unit Dimensions & Packaging

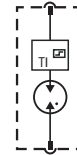
		75	150	300	350
<b>ProTec T1-xxx-1+1</b>	Weight	pounds .659	.710	.736	.778
		grams 299	322	334	353
<b>ProTec T1-xxx-1+1-R</b>					
Weight	pounds	.672	.723	.750	.791
	grams	305	328	340	359
DIN 43880 Dimension		2 TE / 1.42" [36]			
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]			
Standard Order Quantity		7 Units			

Plug Internal Configuration

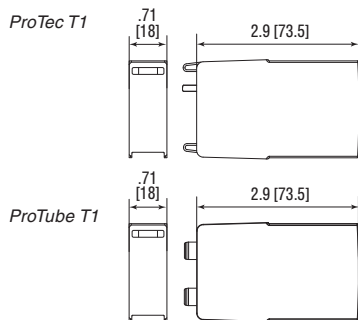
ProTec T1-xxx-P



ProTube T1-50-P



Spare Plug



Single Unit Dimensions & Packaging

		75	150	300	350
<b>ProTec T1-xxx-P</b>	Weight	pounds .152	.203	.229	.271
		grams 69	92	104	123
<b>ProTube T1-50-P</b>				<b>50</b>	
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			

inches  
[mm]



Lightning and Overvoltage Protection  
**ProTec T1 3+1**  
 Class I • Class II • Type 1 • Type 2 • Type 1CA

**12.5kA Series**



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  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4th Edition

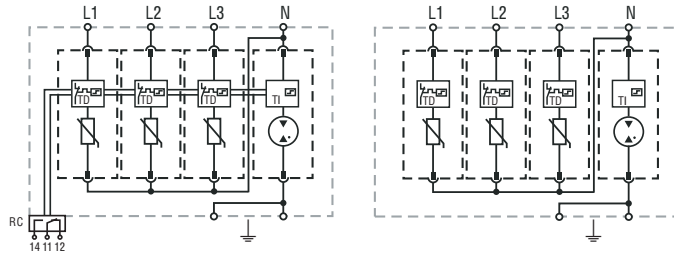
**Technical Data**

ProTec T1-xxx-3+1(-R)		300	350
<b>IEC Electrical</b>			
Nominal AC Voltage (50/60Hz)	$U_0/U_n$	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	(N-PE) $I_{fi}$	100 A <sub>RMS</sub>	
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	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>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	$M_{max}$	39.9 lbf-in [4.5 Nm]	
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		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)		16 AWG (Solid) / 1.5 mm <sup>2</sup> (Solid)	
<b>Order Information</b>			
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

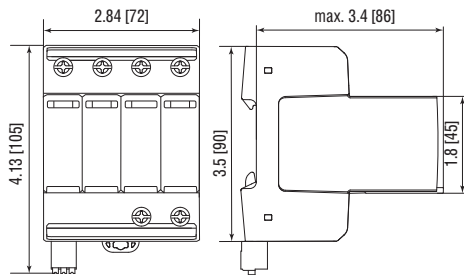
Internal Configuration

Legend

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



Complete Unit



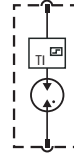
Complete Unit Dimensions & Packaging

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

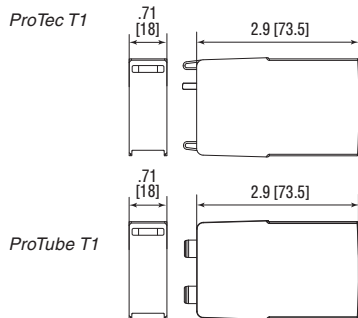
Plug Internal Configuration

ProTec T1-xxx-P

ProTube T1-50-P



Spare Plug



Single Unit Dimensions & Packaging

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

inches  
[mm]

Lightning and Overvoltage Protection  
**ProTec T1H 2+0**  
 Class I • Class II • Type 1 • Type 2 • Type 4CA

12.5kA Series



Location of Use: Main Distribution Boards  
 Network Systems: TN-S  
 Mode of Protection: L-PE, N-PE  
 IEC/EN/UL Category: Class I+II / Type 1+2 / Type 4CA  
 Technology: Hybrid  
 Leakage Current Free: Yes  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4th Edition

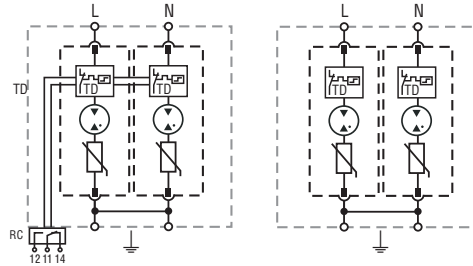
**Technical Data**

ProTec T1H-xxx-2+0(-R)		300
<b>IEC Electrical</b>		
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	240V
Maximum Continuous Operating Voltage (AC)	$U_c$	300V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	65kA
Impulse Discharge Current (10/350 $\mu$ s)	$I_{imp}$	12.5kA
Specific Energy	W/R	39kJ/ $\Omega$
Charge	Q	6.25As
Voltage Protection Level	$U_p$	1500V
Response Time	$t_A$	< 100ns
Overcurrent Protection (max)		315 A / 250 A gG
Short-Circuit Current Rating (AC)	$I_{SCCR}$	25 kA / 50 kA
TOV Withstand 120min	$U_T$	442V
Number of Ports		1
<b>UL Electrical</b>		
Maximum Continuous Operating Voltage (AC)	MCOV	300V
Measured Limiting Voltage	MLV	1220V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA
<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	$M_{max}$	39.9 lbf-in [4.5Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35mm <sup>2</sup> (Solid, Stranded) / 25mm <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)
<b>Order Information</b>		
Order Code		300
ProTec T1H-xxx-2+0		59.0312
ProTec T1H-xxx-2+0-R (with remote contacts)		59.0313
ProTec T1H-xxx-P (plug)		59.0308

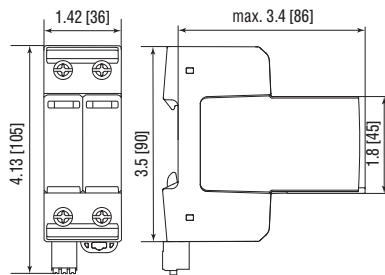
Internal Configuration

Legend

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



Complete Unit

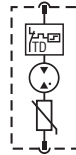


Complete Unit Dimensions & Packaging

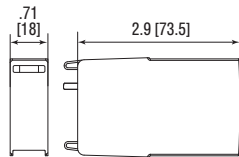
Complete Unit Dimensions & Packaging		
<b>ProTec T1H-xxx-2+0</b>		<b>300</b>
Weight	pounds [grams]	.736 [334]
<b>ProTec T1H-xxx-2+0-R</b>		
Weight	pounds [grams]	.756 [343]
DIN 43880 Dimension		2 TE / 1.42" [36]
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]
Standard Order Quantity		7 Units

Plug Internal Configuration

ProTec T1H-xxx-P



Spare Plug



Single Unit Dimensions & Packaging

Single Unit Dimensions & Packaging		
<b>ProTec T1H-xxx-P</b>		<b>300</b>
Weight	pounds [grams]	.223 [101]
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

inches  
[mm]



Lightning and Overvoltage Protection  
**ProTec T1H 4+0**  
 Class I • Class II • Type 1 • Type 2 • Type 4CA

12.5kA Series



Location of Use: Main Distribution Boards  
 Network Systems: TN-S  
 Mode of Protection: L-PE, N-PE  
 IEC/EN/UL Category: Class I+II / Type 1+2 / Type 4CA  
 Technology: Hybrid  
 Leakage Current Free: Yes  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4th Edition

**Technical Data**

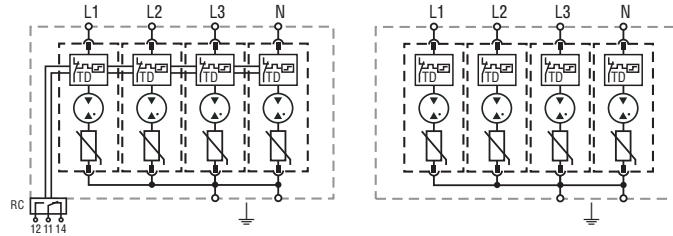
ProTec T1H-xxx-4+0(-R)		300
<b>IEC Electrical</b>		
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	240V
Maximum Continuous Operating Voltage (AC)	$U_c$	300V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	65kA
Impulse Discharge Current (10/350 $\mu$ s)	$I_{imp}$	12.5kA
Specific Energy	W/R	39kJ/ $\Omega$
Charge	Q	6.25As
Voltage Protection Level	$U_p$	1500V
Response Time	$t_A$	< 100ns
Overcurrent Protection (max)		315 A / 250 A gG
Short-Circuit Current Rating (AC)	$I_{SCCR}$	25 kA / 50 kA
TOV Withstand 120min	$U_T$	442V
Number of Ports		1
<b>UL Electrical</b>		
Maximum Continuous Operating Voltage (AC)	MCOV	300V
Measured Limiting Voltage	MLV	1220V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA
<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	$M_{max}$	39.9 lbf-in [4.5Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35mm <sup>2</sup> (Solid, Stranded) / 25mm <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)
<b>Order Information</b>		
Order Code		300
ProTec T1H-xxx-4+0		59.0316
ProTec T1H-xxx-4+0-R (with remote contacts)		59.0317
ProTec T1H-xxx-P (plug)		59.0308



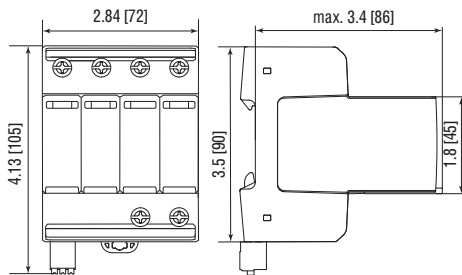
Internal Configuration

Legend

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



Complete Unit



Complete Unit Dimensions & Packaging

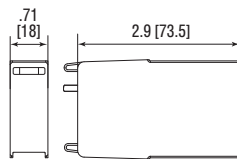
Complete Unit Dimensions & Packaging		
<b>ProTec T1H-xxx-4+0</b>		<b>300</b>
Weight	pounds [grams]	1.389 [630]
<b>ProTec T1H-xxx-4+0-R</b>		
Weight	pounds [grams]	1.409 [639]
DIN 43880 Dimension		4 TE / 2.84" [72]
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]
Standard Order Quantity		4 Units

Plug Internal Configuration

ProTec T1H-xxx-P



Spare Plug



Single Unit Dimensions & Packaging

Single Unit Dimensions & Packaging		
<b>ProTec T1H-xxx-P</b>		<b>300</b>
Weight	pounds [grams]	.223 [101]
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

inches  
[mm]

Lightning and Overvoltage Protection  
**ProTec T1H 1+1**  
 Class I • Class II • Type 1 • Type 2 • Type 4CA

12.5kA Series



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 4CA  
 Technology: Hybrid  
 Leakage Current Free: Yes  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4th Edition

**Technical Data**

ProTec T1H-xxx-1+1(-R)

300

**IEC Electrical**

Nominal AC Voltage (50/60Hz)	$U_o/U_n$	240V
Maximum Continuous Operating Voltage (AC)	(L-N) / (N-PE) $U_c$	300V / 305V
Nominal Discharge Current (8/20 $\mu$ s)	(L-N) / (N-PE) $I_n$	20kA / 50kA
Maximum Discharge Current (8/20 $\mu$ s)	(L-N) / (N-PE) $I_{max}$	65kA / 100kA
Impulse Discharge Current (10/350 $\mu$ s)	(L-N) / (N-PE) $I_{imp}$	12.5kA / 50kA
Specific Energy	(L-N) / (N-PE) W/R	39kJ/ $\Omega$ / 625kJ/ $\Omega$
Charge	(L-N) / (N-PE) Q	6.25As / 25As
Voltage Protection Level	(L-N) / (N-PE) $U_p$	1500V / 1500V
Response Time	(L-N) / (N-PE) $t_A$	< 100ns / < 100ns
Overcurrent Protection (max)		315A / 250A gG
Short-Circuit Current Rating (AC)	(L-N) $I_{SCCR}$	25kA / 50kA
Follow Current Interrupt Rating	(N-PE) $I_{fi}$	100A <sub>RMS</sub>
TOV Withstand 120min	(L-N) $U_T$	442V
TOV Withstand 200ms	(N-PE) $U_T$	1200V
Number of Ports		1

**UL Electrical**

Maximum Continuous Operating Voltage (AC)	(L-N) / (N-G) MCOV	300V / 305V
Measured Limiting Voltage	(L-N) / (N-G) MLV	1220V / 1800V
Nominal Discharge Current (8/20 $\mu$ s)	(L-N) / (N-G) $I_n$	20kA / 20kA

**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	$M_{max}$	39.9 lbf-in [4.5Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35mm <sup>2</sup> (Solid, Stranded) / 25mm <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)

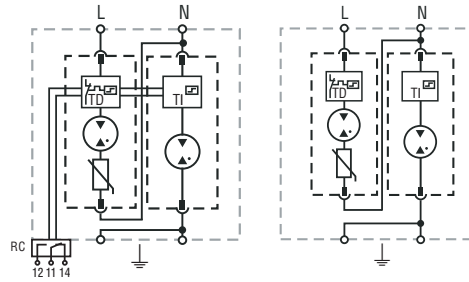
**Order Information**

Order Code	300
ProTec T1H-xxx-1+1	59.0318
ProTec T1H-xxx-1+1-R (with remote contacts)	59.0319
ProTec T1H-xxx-P (plug L-N)	59.0308
ProTube T1H-50-P (plug N-PE)	59.0309

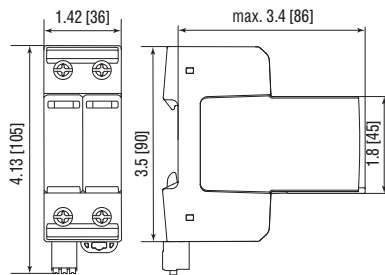
Internal Configuration

Legend

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



Complete Unit



Complete Unit Dimensions & Packaging

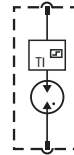
<b>ProTec T1H-xxx-1+1</b>	<b>300</b>
Weight	pounds [grams] .730 [331]
<b>ProTec T1H-xxx-1+1-R</b>	
Weight	pounds [grams] .743 [337]
DIN 43880 Dimension	2 TE / 1.42" [36]
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]
Standard Order Quantity	7 Units

Plug Internal Configuration

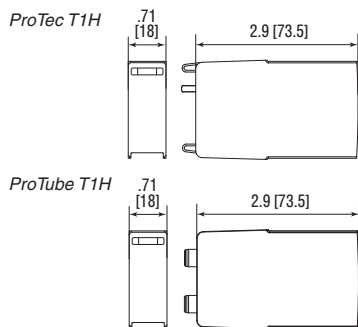
ProTec T1H-xxx-P



ProTube T1H-50-P



Spare Plug



Single Unit Dimensions & Packaging

<b>ProTec T1H-xxx-P</b>	<b>300</b>
Weight	pounds [grams] .223 [101]
<b>ProTube T1H-50-P</b>	<b>50</b>
Weight	pounds [grams] .214 [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

inches  
[mm]



Lightning and Overvoltage Protection  
**ProTec T1H 3+1**  
 Class I • Class II • Type 1 • Type 2 • Type 4CA

12.5kA Series



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 4CA  
 Technology: Hybrid  
 Leakage Current Free: Yes  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4th Edition

**Technical Data**

ProTec T1H-xxx-3+1(-R)

300

**IEC Electrical**

Nominal AC Voltage (50/60Hz)	$U_o / U_n$	240V
Maximum Continuous Operating Voltage (AC)	(L-N) / (N-PE) $U_c$	300V / 305V
Nominal Discharge Current (8/20 $\mu$ s)	(L-N) / (N-PE) $I_n$	20kA / 50kA
Maximum Discharge Current (8/20 $\mu$ s)	(L-N) / (N-PE) $I_{max}$	65kA / 100kA
Impulse Discharge Current (10/350 $\mu$ s)	(L-N) / (N-PE) $I_{imp}$	12.5kA / 50kA
Specific Energy	(L-N) / (N-PE) W/R	39kJ/ $\Omega$ / 625kJ/ $\Omega$
Charge (L-N) / (N-PE)	Q	6.25As / 25As
Voltage Protection Level	(L-N) / (N-PE) $U_p$	1500V / 1500V
Response Time	(L-N) / (N-PE) $t_A$	< 100ns / < 100ns
Overcurrent Protection (max)		315A / 250A gG
Short-Circuit Current Rating (AC)	(L-N) $I_{SCCR}$	25kA / 50kA
Follow Current Interrupt Rating	(N-PE) $I_{fi}$	100A <sub>RMS</sub>
TOV Withstand 120min	(L-N) $U_T$	442V
TOV Withstand 200ms	(N-PE) $U_T$	1200V
Number of Ports		1

**UL Electrical**

Maximum Continuous Operating Voltage (AC)	(L-N) / (N-G) MCOV	300V / 305V
Measured Limiting Voltage	(L-N) / (N-G) MLV	1220V / 1800V
Nominal Discharge Current (8/20 $\mu$ s)	(L-N) / (N-G) $I_n$	20kA / 20kA

**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	$M_{max}$	39.9 lbf-in [4.5Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35mm <sup>2</sup> (Solid, Stranded) / 25mm <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)

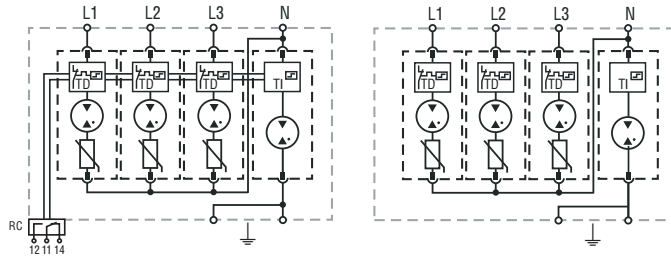
**Order Information**

Order Code	300
ProTec T1H-xxx-3+1	59.0320
ProTec T1H-xxx-3+1-R (with remote contacts)	59.0321
ProTec T1H-xxx-P (plug L-N)	59.0308
ProTube T1H-50-P (plug N-PE)	59.0309

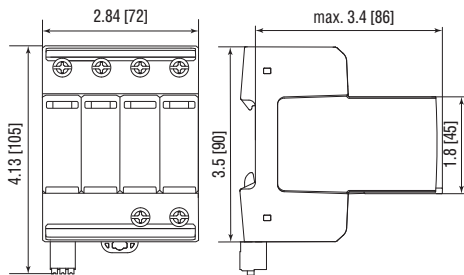
Internal Configuration

Legend

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



Complete Unit



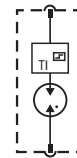
Complete Unit Dimensions & Packaging	
<b>ProTec T1H-xxx-3+1</b>	<b>300</b>
Weight	pounds [grams] 1.446 [656]
<b>ProTec T1H-xxx-3+1-R</b>	<b>300</b>
Weight	pounds [grams] 1.466 [665]
DIN 43880 Dimension	4 TE / 2.84 [72]
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]
Standard Order Quantity	4 Units

Plug Internal Configuration

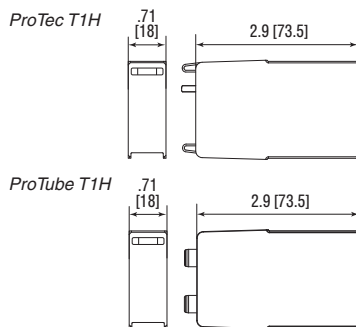
ProTec T1H-xxx-P



ProTube T1H-50-P



Spare Plug



Single Unit Dimensions & Packaging	
<b>ProTec T1H-xxx-P</b>	<b>300</b>
Weight	pounds [grams] .223 [101]
<b>ProTube T1H-50-P</b>	<b>50</b>
Weight	pounds [grams] .214 [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

inches  
[mm]



Lightning and Overvoltage Protection  
**ProTec T1HS 4+0**  
 Class I • Class II • Type 1 • Type 2 • Type 4CA

25kA Series



Location of Use: Main Distribution Boards  
 Network Systems: TN-S  
 Mode of Protection: L-PE, N-PE  
 IEC/EN/UL Category: Class I+II, Type 1+2, Type 4CA  
 Technology: Hybrid  
 Leakage Current Free: Yes  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11: 2011  
 EN 61643-11: 2012  
 UL 1449 4th Edition

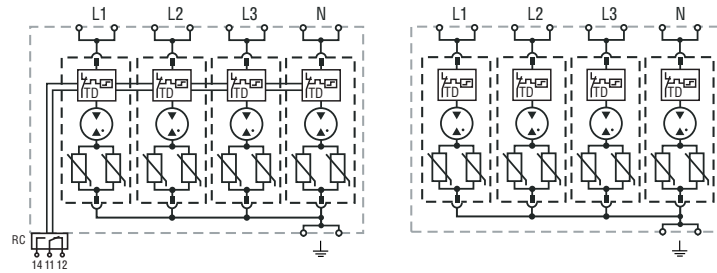
**Technical Data**

ProTec T1HS-xxx-4+0(-R)		300
<b>IEC Electrical</b>		
Nominal AC Voltage (50/60Hz)	$U_c/U_n$	240V
Maximum Continuous Operating Voltage (AC)	$U_c$	300V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	25 kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	65 kA
Impulse Discharge Current (10/350 $\mu$ s)	$I_{imp}$	25 kA
Specific Energy	W/R	156.2 kJ/ $\Omega$
Charge	Q	12.5 As
Voltage Protection Level	$U_p$	1500V
Rated Load Current	$I_L$	100 A
Response Time	$t_A$	< 100 ns
Overcurrent Protection (max)		315 A gG
Short-Circuit Current Rating (AC)	$I_{SCCR}$	50 kA
TOV Withstand 120min	$U_T$	442 V
Number of Ports		1
<b>UL Electrical</b>		
Maximum Continuous Operating Voltage (AC)	MCOV	300V
Measured Limiting Voltage	MLV	1280V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20 kA
<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		13123 ft [4000m]
Terminal Screw Torque	$M_{max}$	39.9 lbf-in [4.5 Nm]
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		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)		16 AWG (Solid) / 1.5 mm <sup>2</sup> (Solid)
<b>Order Information</b>		
Order Code		300
ProTec T1HS-xxx-4+0		59.0260
ProTec T1HS-xxx-4+0-R (with remote contacts)		59.0261
ProTec T1HS-xxx-P (plug)		59.0302

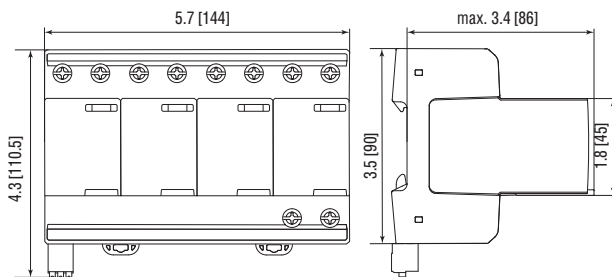
Internal Configuration

Legend

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



Complete Unit



Complete Unit Dimensions & Packaging

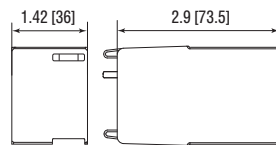
<b>ProTec T1HS-xxx-4+0</b>	<b>300</b>
Weight	pounds [grams] 2.502 [1135]
<b>ProTec T1HS-xxx-4+0-R</b>	
Weight	pounds [grams] 2.522 [1144]
DIN 43880 Dimension	8 TE / 5.7" [144]
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]
Standard Order Quantity	2 Units

Plug Internal Configuration

ProTec T1HS-xxx-P



Spare Plug



Single Unit Dimensions & Packaging

<b>ProTec T1HS-xxx-P</b>	<b>300</b>
Weight	pounds [grams] .364 [165]
DIN 43880 Dimension	2 TE / 1.42 [36]
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]
Standard Order Quantity	14 Units

inches  
[mm]



Lightning and Overvoltage Protection  
**ProTec T1HS 3+1**  
 Class I • Class II • Type 1 • Type 2 • Type 4CA

25kA Series



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 4CA  
 Technology: Hybrid  
 Leakage Current Free: Yes  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11: 2011  
 EN 61643-11: 2012  
 UL 1449 4th Edition

**Technical Data**

ProTec T1HS-xxx-3+1(-R)

300

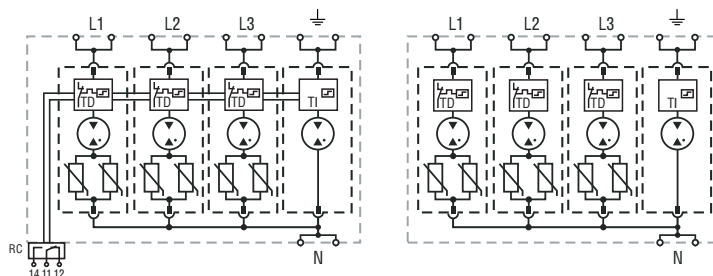
IEC Electrical		
Nominal AC Voltage (50/60Hz)	$U_o / U_n$	240V
Maximum Continuous Operating Voltage (AC)	(L-N) / (N-PE) $U_c$	300V / 305V
Nominal Discharge Current (8/20 $\mu$ s)	(L-N) / (N-PE) $I_n$	25kA / 100kA
Maximum Discharge Current (8/20 $\mu$ s)	(L-N) / (N-PE) $I_{max}$	65kA / 130kA
Impulse Discharge Current (10/350 $\mu$ s)	(L-N) / (N-PE) $I_{imp}$	25kA / 100kA
Specific Energy	(L-N) / (N-PE) W/R	156.2kJ/ $\Omega$ / 2500 kJ/ $\Omega$
Charge	(L-N) / (N-PE) Q	12.5As / 50As
Voltage Protection Level	(L-N) / (N-PE) $U_p$	1500V / 1500V
Rated Load Current	$I_L$	100A
Response Time	(L-N) / (N-PE) $t_A$	< 100ns / < 100ns
Overcurrent Protection (max)		315A gG
Short-Circuit Current Rating (AC)	$I_{SCCR}$	50kA
Follow Current Interrupt Rating	(N-PE) $I_{fi}$	100A <sub>RMS</sub>
TOV Withstand 120min	(L-N) $U_T$	442V
TOV Withstand 200ms	(N-PE) $U_T$	1200V
Number of Ports		1
UL Electrical		
Maximum Continuous Operating Voltage (AC)	(L-N)/(N-G) MCOV	300V / 305V
Measured Limiting Voltage	(L-N)/(N-G) MLV	1280V / 1000V
Nominal Discharge Current (8/20 $\mu$ s)	(L-N)/(N-G) $I_n$	20kA
Mechanical & Environmental		
Operating Temperature Range	$T_a$	-40 °F to +185 °F [-40 °C to +85 °C]
Permissible Operating Humidity	RH	5%...95%
Altitude		13123 ft [4000m]
Terminal Screw Torque	$M_{max}$	39.9 lbf-in [4.5Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35mm <sup>2</sup> (Solid, Stranded) / 25mm <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)
Order Information		
Order Code		300
ProTec T1HS-xxx-3+1		59.0306
ProTec T1HS-xxx-3+1-R (with remote contacts)		59.0307
ProTec T1HS-xxx-P (plug L-N)		59.0302
ProTube T1HS-100-P (plug N-PE)		59.0303



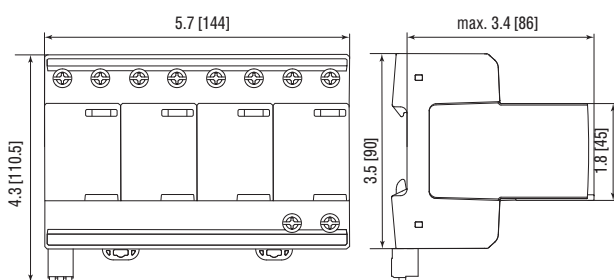
Internal Configuration

Legend

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



Complete Unit



Complete Unit Dimensions & Packaging

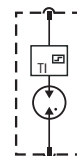
<b>ProTec T1HS-xxx-3+1</b>	<b>300</b>
Weight	pounds [grams] 2.348 [1065]
<b>ProTec T1HS-xxx-3+1-R</b>	
Weight	pounds [grams] 2.368 [1074]
DIN 43880 Dimension	8 TE / 5.7 [144]
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]
Standard Order Quantity	2 Units

Plug Internal Configuration

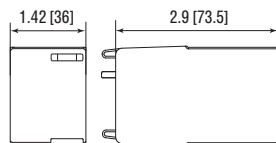
ProTec T1HS-xxx-P



ProTube T1HS-100-P



Spare Plug



Single Unit Dimensions & Packaging

<b>ProTec T1HS-xxx-P</b>	<b>300</b>
Weight	pounds [grams] .364 [165]
<b>ProTube T1HS-100-P</b>	<b>100</b>
Weight	pounds [grams] 0.209 [95]
DIN 43880 Dimension	2 TE / 1.42 [36]
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]
Standard Order Quantity	14 Unit

inches  
[mm]

# Overvoltage Protection

## ProTec T2 1+0

### Class II • Type 2 • Type 1CA



Location of Use: Sub-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 II / Type 2 /  
 Type 1CA  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4th Edition

#### Technical Data

ProTec T2-xxx-1+0(-R)		75	150	300	350	480	550*	750
<b>IEC Electrical</b>								
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	60V	120V	240V	277V	400V	480V	600V
Maximum Continuous Operating Voltage (AC)	$U_c$	75V	150V	300V	350V	480V	550V	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
Voltage Protection Level	$U_p$	800V	1250V	1500V	1750V	2300V	2500V	3400V
Response Time	$t_A$	< 25ns						
Overcurrent Protection (max)		315 A / 250 A gG						
Short-Circuit Current Rating (AC)	$I_{SCCR}$	25 kA / 50kA						
TOV Withstand 5s	$U_T$	114V	229V	337V	403V	581V	697V	871V
TOV 120min	$U_T$	114V	229V	442V	529V	762V	915V	1143V
	mode	Withstand	Withstand	Safe Fail	Safe Fail	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1						
<b>UL Electrical</b>								
Maximum Continuous Operating Voltage (AC)	MCOV	75V	150V	300V	350V	480V	550V	750V
Voltage Protection Rating	VPR	330V	600V	900V	1000V	1500V	2000V	2500V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA	20kA	20kA	20kA	20kA	20kA	20kA
Short-Circuit Current Rating (AC)	SCCR	100kA	200kA	150kA	200kA	200kA	200kA	200kA
<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	$M_{max}$	39.9 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		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)		16 AWG (Solid) / 1.5 mm <sup>2</sup> (Solid)						
<b>Order Information</b>								
Order Code		75	150	300	350	480	550*	750
ProTec T2-xxx-1+0		59.0069	59.0071	59.0073	59.0075	59.0077	59.0677	59.0079
ProTec T2-xxx-1+0-R (with remote contacts)		59.0070	59.0072	59.0074	59.0076	59.0078	59.0678	59.0080
ProTec T2-xxx-P (plug)		59.0063	59.0064	59.0065	59.0066	59.0067	59.0685	59.0068

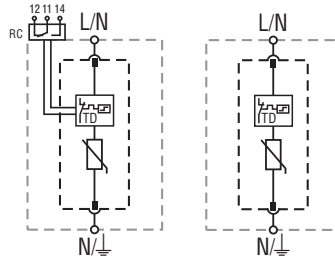
\*UL recognized, no IEC/EN certification.

## ProTec T2 1+0

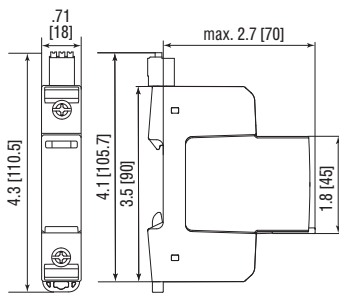
### Internal Configuration

#### Legend

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



### Complete Unit



#### Complete Unit Dimensions & Packaging

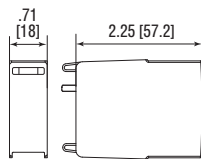
		75	150	300	350	480	550*	750
ProTec T2-xxx-1+0	Weight	pounds .259	.275	.281	.292	.306	.311	.336
		grams 118	125	128	133	139	141	153
ProTec T2-xxx-1+0-R								
ProTec T2-xxx-1+0-R	Weight	pounds .275	.290	.297	.308	.321	.326	.352
		grams 125	132	135	140	146	148	160
DIN 43880 Dimension		1 TE / .71" [18 mm]						
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]						
Standard Order Quantity		12 Units						

### Plug Internal Configuration

#### ProTec T2-xxx-P



### Spare Plug



#### Single Unit Dimensions & Packaging

		75	150	300	350	480	550*	750
ProTec T2-xxx-P	Weight	pounds .108	.123	.130	.141	.154	.163	.185
		grams 49	56	59	64	70	74	84
DIN 43880 Dimension		1 TE / .71" [18 mm]						
Packaging Dimensions (HxWxL)		3.2 x 4.5 x 12" [83 x 115 x 305 mm]						
Standard Order Quantity		24 Units						

inches  
[mm]

Overvoltage Protection  
**ProTec T2 2+0**  
 Class II • Type 2 • Type 1CA



Location of Use: Sub-Distribution Boards  
 Network Systems: TN-S  
 Mode of Protection: L-PE, N-PE  
 IEC/EN/UL Category: Class II / Type 2 / Type 1CA  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4th Edition

**Technical Data**

ProTec T2-xxx-2+0(-R)		75	150	300	350	480	550*	750
<b>IEC Electrical</b>								
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	60V	120V	240V	277V	400V	480V	600V
Maximum Continuous Operating Voltage (AC)	$U_c$	75V	150V	300V	350V	480V	550V	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
Voltage Protection Level	$U_p$	800V	1250V	1500V	1750V	2300V	2500V	3400V
Response Time	$t_A$	< 25ns						
Overcurrent Protection (max)		315 A / 250 A gG						
Short-Circuit Current Rating (AC)	$I_{SCCR}$	25 kA / 50kA						
TOV Withstand 5s	$U_T$	114V	229V	337V	403V	581V	697V	871V
TOV 120min	$U_T$	114V	229V	442V	529V	762V	915V	1143V
	mode	Withstand	Withstand	Safe Fail	Safe Fail	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1						
<b>UL Electrical</b>								
Maximum Continuous Operating Voltage (AC)	MCOV	75V	150V	300V	350V	480V	550V	750V
Voltage Protection Rating	VPR	330V	600V	900V	1000V	1500V	2000V	2500V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA	20kA	20kA	20kA	20kA	20kA	20kA
Short-Circuit Current Rating (AC)	SCCR	100kA	200kA	150kA	200kA	200kA	200kA	200kA
<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	$M_{max}$	39.9 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		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)		16 AWG (Solid) / 1.5 mm <sup>2</sup> (Solid)						
<b>Order Information</b>								
Order Code		75	150	300	350	480	550*	750
ProTec T2-xxx-2+0		59.0343	59.0081	59.0083	59.0085	59.0087	59.0679	59.0089
ProTec T2-xxx-2+0-R (with remote contacts)		59.0344	59.0082	59.0084	59.0086	59.0088	59.0680	59.0090
ProTec T2-xxx-P (plug)		59.0063	59.0064	59.0065	59.0066	59.0067	59.0685	59.0068

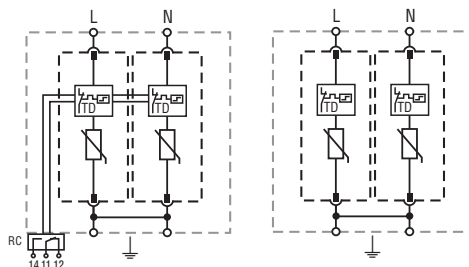
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## ProTec T2 2+0

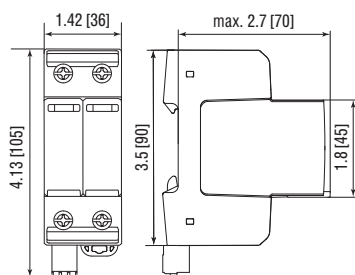
### Internal Configuration

#### Legend

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



### Complete Unit



#### Complete Unit Dimensions & Packaging

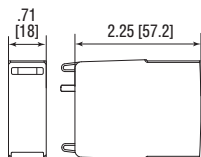
		75	150	300	350	480	550*	750
ProTec T2-xxx-2+0	Weight	.505	.536	.549	.571	.598	.608	.660
		grams	229	243	249	259	271	276
ProTec T2-xxx-2+0-R	Weight	.525	.556	.569	.591	.618	.639	.679
		grams	238	252	258	268	280	290
DIN 43880 Dimension		2 TE / 1.42" [36]						
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]						
Standard Order Quantity		7 Units						

### Plug Internal Configuration

#### ProTec T2-xxx-P



### Spare Plug



#### Single Unit Dimensions & Packaging

		75	150	300	350	480	550*	750
ProTec T2-xxx-P	Weight	.108	.123	.130	.141	.154	.163	.185
		grams	49	56	59	64	70	74
DIN 43880 Dimension		1 TE / .71" [18]						
Packaging Dimensions (HxWxL)		3.2 x 4.5 x 12" [83 x 115 x 305 mm]						
Standard Order Quantity		24 Units						

inches  
[mm]

# Overvoltage Protection ProTec T2 3+0 Class II • Type 2 • Type 1CA



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  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4th Edition

## Technical Data

ProTec T2-xxx-3+0(-R)		150	300	350	480	550*	750
<b>IEC Electrical</b>							
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	120V	240V	277V	400V	480V	600V
Maximum Continuous Operating Voltage (AC)	$U_c$	150V	300V	350V	480V	550V	750V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA	20kA	20kA	20kA	20kA	20kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	50kA	50kA	50kA	50kA	50kA	35kA
Voltage Protection Level	$U_p$	1250V	1500V	1750V	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	581V	697V	871V
TOV 120min	$U_T$	229V	442V	529V	762V	915V	1143V
	mode	Withstand	Safe Fail	Safe Fail	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1					
<b>UL Electrical</b>							
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 (8/20 $\mu$ s)	$I_n$	20kA	20kA	20kA	20kA	20kA	20kA
Short-Circuit Current Rating (AC)	SCCR	200kA	150kA	200kA	200kA	200kA	200kA
<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	$M_{max}$	39.9 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		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)		16 AWG (Solid) / 1.5 mm <sup>2</sup> (Solid)					
<b>Order Information</b>							
Order Code		150	300	350	480	550*	750
ProTec T2-xxx-3+0		59.0091	59.0093	59.0095	59.0097	59.0681	59.0099
ProTec T2-xxx-3+0-R (with remote contacts)		59.0092	59.0094	59.0096	59.0098	59.0682	59.0100
ProTec T2-xxx-P (plug)		59.0064	59.0065	59.0066	59.0067	59.0685	59.0068

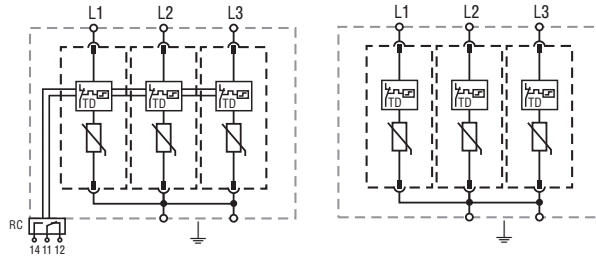
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## ProTec T2 3+0

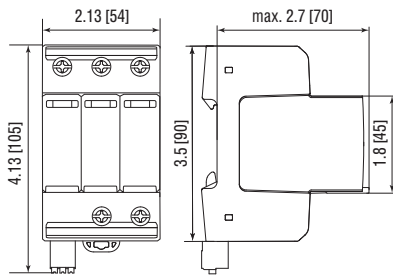
### Internal Configuration

#### Legend

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



### Complete Unit

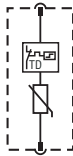


#### Complete Unit Dimensions & Packaging

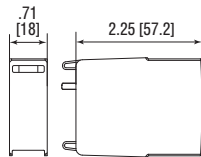
		150	300	350	480	550*	750
ProTec T2-xxx-3+0	Weight	pounds .780	.800	.833	.873	.890	.965
		grams 354	363	378	396	404	438
ProTec T2-xxx-3+0-R							
ProTec T2-xxx-3+0-R	Weight	pounds .800	.820	.853	.892	.913	.985
		grams 363	372	387	405	414	447
DIN 43880 Dimension		3 TE / 2.13" [54]					
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]					
Standard Order Quantity		5 Units					

### Plug Internal Configuration

#### ProTec T2-xxx-P



### Spare Plug



#### Single Unit Dimensions & Packaging

		150	300	350	480	550*	750
ProTec T2-xxx-P	Weight	pounds .123	.130	.141	.154	.163	.185
		grams 56	59	64	70	74	84
DIN 43880 Dimension		1 TE / .71" [18]					
Packaging Dimensions (HxWxL)		3.2 x 4.5 x 12" [83 x 115 x 305 mm]					
Standard Order Quantity		24 Units					

inches  
[mm]

# Overvoltage Protection ProTec T2 4+0 Class II • Type 2 • Type 1CA



Location of Use: Sub-Distribution Boards  
 Network Systems: TN-S  
 Mode of Protection: L-PE, N-PE  
 IEC/EN/UL Category: Class II / Type 2 /  
 Type 1CA  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4th Edition

## Technical Data

ProTec T2-xxx-4+0(-R)		150	300	350	480	550*
<b>IEC Electrical</b>						
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	120V	240V	277V	400V	480V
Maximum Continuous Operating Voltage (AC)	$U_c$	150V	300V	350V	480V	550V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA	20kA	20kA	20kA	20kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	50kA	50kA	50kA	50kA	50kA
Voltage Protection Level	$U_p$	1250V	1500V	1750V	2300V	2500V
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	581V	697V
TOV 120min	$U_T$	229V	442V	529V	762V	915V
	mode	Withstand	Safe Fail	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1				
<b>UL Electrical</b>						
Maximum Continuous Operating Voltage (AC)	MCOV	150V	300V	350V	480V	550V
Voltage Protection Rating	VPR	600V	900V	1000V	1500V	2000V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA	20kA	20kA	20kA	20kA
Short-Circuit Current Rating (AC)	SCCR	200kA	150kA	200kA	200kA	200kA
<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	$M_{max}$	39.9 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		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)		16 AWG (Solid) / 1.5 mm <sup>2</sup> (Solid)				
<b>Order Information</b>						
Order Code		150	300	350	480	550*
ProTec T2-xxx-4+0		59.0101	59.0103	59.0300	59.0105	59.0683
ProTec T2-xxx-4+0-R (with remote contacts)		59.0102	59.0104	59.0301	59.0106	59.0684
ProTec T2-xxx-P (plug)		59.0064	59.0065	59.0066	59.0067	59.0685

\*UL recognized, no IEC/EN certification.

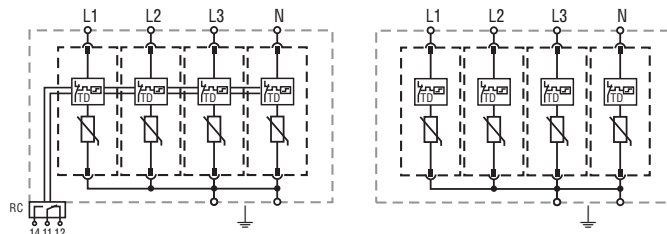


## ProTec T2 4+0

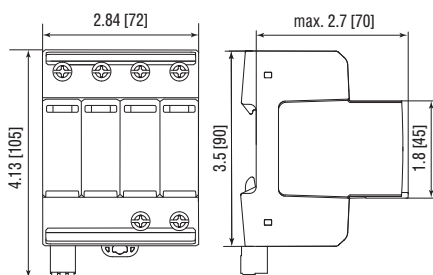
### Internal Configuration

#### Legend

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



### Complete Unit

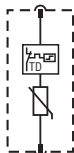


#### Complete Unit Dimensions & Packaging

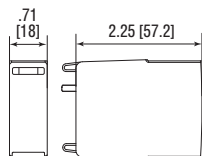
		150	300	350	480	550*
ProTec T2-xxx-4+0	Weight	pounds .989	1.015	1.059	1.112	1.208
		grams 448	460	480	504	548
ProTec T2-xxx-4+0-R						
ProTec T2-xxx-4+0-R	Weight	pounds 1.008	1.035	1.079	1.132	1.228
		grams 457	469	489	513	557
DIN 43880 Dimension		4 TE / 2.84" [72]				
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]				
Standard Order Quantity		4 Units				

### Plug Internal Configuration

#### ProTec T2-xxx-P



### Spare Plug



#### Single Unit Dimensions & Packaging

		150	300	350	480	550*
ProTec T2-xxx-P	Weight	pounds .123	.130	.141	.154	.163
		grams 56	59	64	70	74
DIN 43880 Dimension		1 TE / .71" [18]				
Packaging Dimensions (HxWxL)		3.2 x 4.5 x 12" [83 x 115 x 305 mm]				
Standard Order Quantity		24 Units				

inches  
[mm]



Overvoltage Protection  
**ProTec T2 1+1**  
 Class II • Type 2 • Type 1CA



Location of Use: Sub-Distribution Boards  
 Network Systems: TT, TN-S  
 Mode of Protection: L-N, N-PE  
 IEC/EN/UL Category: Class II / Type 2 /  
 Type 1CA  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4th Edition

**Technical Data**

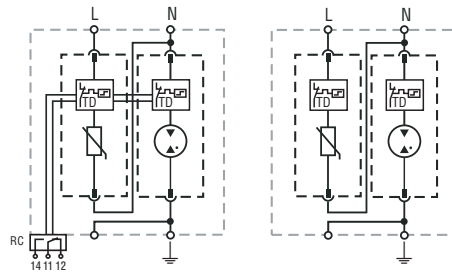
ProTec T2-xxx-1+1(-R)		75	150	300	350
<b>IEC Electrical</b>					
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	60V	120V	240V	277V
Maximum Continuous Operating Voltage (AC)	(L-N) $U_c$	75V	150V	300V	350V
	(N-PE) $U_c$	305V	305V	305V	305V
Nominal Discharge Current (8/20 $\mu$ s)	(L-N)/(N-PE) $I_n$	20kA / 40kA	20kA / 40kA	20kA / 40kA	20kA / 40kA
Maximum Discharge Current (8/20 $\mu$ s)	(L-N)/(N-PE) $I_{max}$	50kA / 65kA	50kA / 65kA	50kA / 65kA	50kA / 65kA
Voltage Protection Level	(L-N)/(N-PE) $U_p$	800V / 1500V	1250V / 1500V	1500V / 1500V	1750V / 1500V
Follow Current Interrupt Rating	(N-PE) $I_{fi}$	100 A <sub>RMS</sub>			
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) $U_T$	114V	229V	337V	403V
TOV 120min	(L-N) $U_T$	114V	229V	442V	529V
		mode	Withstand	Withstand	Safe Fail
TOV Withstand 200ms	(N-PE) $U_T$	1200V			
Number of Ports		1			
<b>UL Electrical</b>					
Maximum Continuous Operating Voltage (AC)	(L-N)/(N-G) MCOV	75V / 305V	150V / 305V	300V / 305V	350V / 305V
Voltage Protection Rating	(L-N)/(N-G) VPR	330V / 1000V	600V / 1000V	900V / 1000V	1000V / 1000V
Nominal Discharge Current (8/20 $\mu$ s)	(L-N)/(N-G) $I_n$	20kA / 20kA			
Short-Circuit Current Rating (AC)	(L-N) SCCR	100kA	200kA	150kA	200kA
<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	$M_{max}$	39.9 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		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/1 A; DC: 48V/0.5A, 24V/0.5A, 12V/0.5A			
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm <sup>2</sup> (Solid)			
<b>Order Information</b>					
Order Code		75	150	300	350
ProTec T2-xxx-1+1		59.0109	59.0111	59.0113	59.0115
ProTec T2-xxx-1+1-R (with remote contacts)		59.0110	59.0112	59.0114	59.0116
ProTec T2-xxx-P (plug L-N)		59.0063	59.0064	59.0065	59.0066
ProTube T2-40-P (plug N-PE)		59.0273	59.0273	59.0273	59.0273

## ProTec T2 1+1

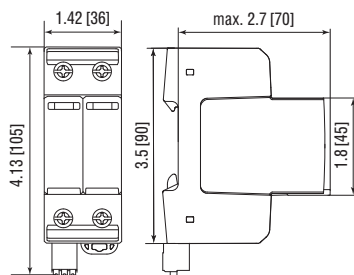
### Internal Configuration

#### Legend

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



### Complete Unit

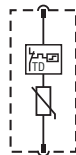


#### Complete Unit Dimensions & Packaging

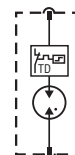
		75	150	300	350
<b>ProTec T2-xxx-1+1</b>	Weight	pounds .512	.527	.534	.545
		grams 232	239	242	247
<b>ProTec T2-xxx-1+1-R</b>					
Weight	pounds	.521	.536	.543	.554
	grams	236	243	246	251
DIN 43880 Dimension	2 TE / 1.42" [36]				
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]				
Standard Order Quantity	7 Units				

### Plug Internal Configuration

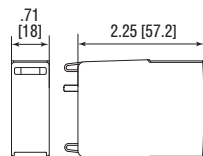
#### ProTec T2-xxx-P



#### ProTube T2-40-P



### Spare Plug



#### Single Unit Dimensions & Packaging

		75	150	300	350
<b>ProTec T2-xxx-P</b>	Weight	pounds .108	.123	.130	.141
		grams 49	56	59	64
<b>ProTube T2-40-P</b>				<b>40</b>	
Weight	pounds	.093			
	grams	42			
DIN 43880 Dimension	1 TE / .71" [18]				
Packaging Dimensions (HxWxL)	3.2 x 4.5 x 12" [83 x 115 x 305 mm]				
Standard Order Quantity	24 Units				

inches  
[mm]

Overvoltage Protection  
**ProTec T2 3+1**  
 Class II • Type 2 • Type 1CA



Location of Use: Sub-Distribution Boards  
 Network Systems: TT, TN-S  
 Mode of Protection: L-N, N-PE  
 IEC/EN/UL Category: Class II / Type 2 /  
 Type 1CA  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4th Edition

**Technical Data**

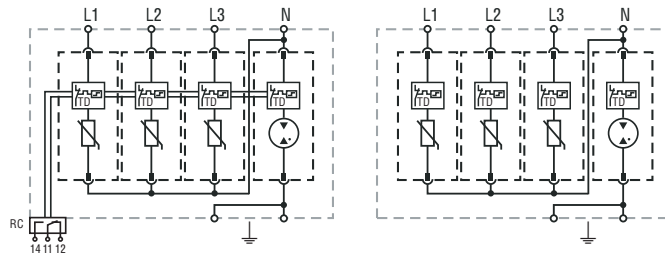
ProTec T2-xxx-3+1(-R)		300	350
<b>IEC Electrical</b>			
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	240V	277V
Maximum Continuous Operating Voltage (AC)	(L-N) $U_c$	300V	350V
	(N-PE) $U_c$	305V	305V
Nominal Discharge Current (8/20 $\mu$ s)	(L-N)/(N-PE) $I_n$	20kA / 40kA	20kA / 40kA
Maximum Discharge Current (8/20 $\mu$ s)	(L-N)/(N-PE) $I_{max}$	50kA / 65kA	50kA / 65kA
Voltage Protection Level	(L-N)/(N-PE) $U_p$	1500V / 1500V	1750V / 1500V
Follow Current Interrupt Rating	(N-PE) $I_{fi}$		100 A <sub>RMS</sub>
Response Time	(L-N)/(N-PE) $t_A$		< 25 ns / < 100 ns
Overcurrent Protection (max)			315A / 250A gG
Short-Circuit Current Rating (AC)	(L-N) $I_{SCCR}$		25kA / 50kA
TOV Withstand 5s	(L-N) $U_T$	337V	403V
TOV 120min	(L-N) $U_T$	442V	529V
	mode	Safe Fail	Safe Fail
TOV Withstand 200ms	(N-PE) $U_T$		1200V
Number of Ports			1
<b>UL Electrical</b>			
Maximum Continuous Operating Voltage (AC)	(L-N)/(N-G) MCOV	300V / 305V	350V / 305V
Voltage Protection Rating	(L-N)/(N-G) VPR	900V / 1000V	1000V / 1000V
Nominal Discharge Current (8/20 $\mu$ s)	(L-N)/(N-G) $I_n$		20kA / 20kA
Short-Circuit Current Rating (AC)	(L-N) SCCR	150kA	200kA
<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	$M_{max}$	39.9 lbf-in [4.5Nm]	
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible)	
		35mm <sup>2</sup> (Solid, Stranded) / 25mm <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/1 A; DC: 48V/0.5A, 24V/0.5A, 12V/0.5A	
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5mm <sup>2</sup> (Solid)	
<b>Order Information</b>			
Order Code		300	350
ProTec T2-xxx-3+1		59.0121	59.0123
ProTec T2-xxx-3+1-R (with remote contacts)		59.0122	59.0124
ProTec T2-xxx-P (plug L-N)		59.0065	59.0066
ProTube T2-40-P (plug N-PE)		59.0273	59.0273

## ProTec T2 3+1

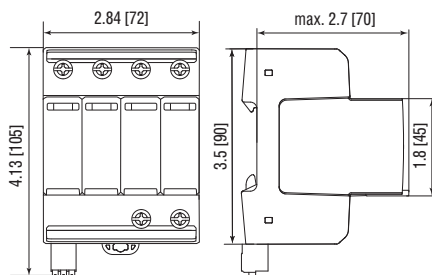
### Internal Configuration

#### Legend

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



### Complete Unit



#### Complete Unit Dimensions & Packaging

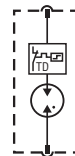
Complete Unit Dimensions & Packaging			
<b>ProTec T2-xxx-3+1</b>		<b>300</b>	<b>350</b>
Weight	pounds	1.000	1.033
	grams	453	468
<b>ProTec T2-xxx-3+1-R</b>			
Weight	pounds	1.011	1.044
	grams	458	473
DIN 43880 Dimension		4 TE / 2.84" [72]	
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]	
Standard Order Quantity		4 Units	

### Plug Internal Configuration

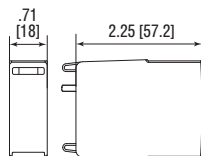
#### ProTec T2-xxx-P



#### ProTube T2-40-P



### Spare Plug



#### Single Unit Dimensions & Packaging

Single Unit Dimensions & Packaging			
<b>ProTec T2-xxx-P</b>		<b>300</b>	<b>350</b>
Weight	pounds	.130	.141
	grams	59	64
<b>ProTube T2-40-P</b>		<b>40</b>	
Weight	pounds	.093	
	grams	42	
DIN 43880 Dimension		1 TE / .71" [18]	
Packaging Dimensions (HxWxL)		3.2 x 4.5 x 12" [83 x 115 x 305 mm]	
Standard Order Quantity		24 Units	

inches  
[mm]

Overvoltage Protection  
**ProTube T2 40 0+1**  
 Class II • Type 2 • Type 1CA



Location of Use: Sub-Distribution Boards  
 Network Systems: TT, TN-S  
 Mode of Protection: N-PE  
 IEC/EN/UL Category: Class II / Type 2 /  
 Type 1CA  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4th Edition

**Technical Data**

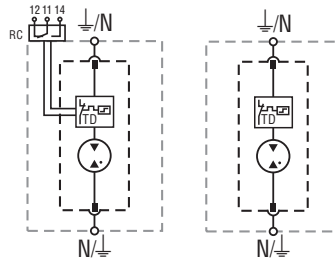
ProTube T2-xxx-0+1(-R)		40
<b>IEC Electrical</b>		
Maximum Continuous Operating Voltage	$U_c$	305V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	40kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	65kA
Voltage Protection Level	$U_p$	1500V
Follow Current Interrupt Rating	$I_{fi}$	100 A <sub>RMS</sub>
Response Time	$t_A$	< 100 ns
TOV Withstand 200ms	$U_T$	1200V
Number of Ports		1
<b>UL Electrical</b>		
Maximum Continuous Operating Voltage (AC)	MCOV	305V
Voltage Protection Rating	VPR	1000V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA
<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	$M_{max}$	39.9 lbf-in [4.5 Nm]
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		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/1 A; DC: 48V/0.5A, 24V/0.5A, 12V/0.5A
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm <sup>2</sup> (Solid)
<b>Order Information</b>		
Order Code		40
ProTube T2-xxx-0+1		59.0280
ProTube T2-xxx-0+1-R (with remote contacts)		59.0336
ProTube T2-40-P (plug)		59.0273

## ProTube T2 40 0+1

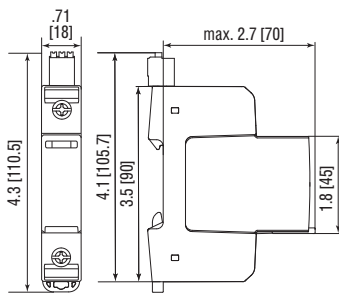
### Internal Configuration

#### Legend

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



### Complete Unit

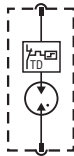


#### Complete Unit Dimensions & Packaging

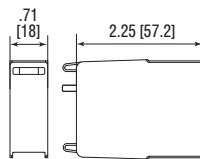
ProTube T2-xxx-0+1		40
Weight	pounds	.244
	grams	111
ProTube T2-xxx-0+1-R		
Weight	pounds	.259
	grams	118
DIN 43880 Dimension		1 TE / .71" [18]
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]
Standard Order Quantity		12 Units

### Plug Internal Configuration

#### ProTube T2-40-P



### Spare Plug



#### Single Unit Dimensions & Packaging

ProTube T2-40-P		40
Weight	pounds	.093
	grams	42
DIN 43880 Dimension		1 TE / .71" [18]
Packaging Dimensions (HxWxL)		3.2 x 4.5 x 12" [83 x 115 x 305 mm]
Standard Order Quantity		24 Units

inches  
[mm]

# Overvoltage Protection

## ProTec T2-ADV 1+0

### Class II • Type 2 • Type 1CA



Location of Use: Sub-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 II / Type 2 / Type 1CA  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4th Edition

#### Technical Data

ProTec T2-ADV-xxx-1+0(-R)		75	150	300	350	480
<b>IEC Electrical</b>						
Nominal AC Voltage (50/60Hz)	$U_0/U_n$	60V	120V	240V	277V	400V
Maximum Continuous Operating Voltage (AC)	$U_c$	75V	150V	300V	350V	480V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA	20kA	20kA	20kA	20kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	50kA	50kA	50kA	50kA	50kA
Voltage Protection Level	$U_p$	600V	1000V	1300V	1700V	2000V
Response Time	$t_A$	< 25ns				
Overcurrent Protection (max)		160A gG				
Short-Circuit Current Rating (AC)	$I_{SCCR}$	50kA				
TOV Withstand 5s	$U_T$	114V	229V	337V	403V	581V
TOV 120min	$U_T$	114V	229V	442V	528V	762V
	mode	Withstand	Withstand	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1				
<b>UL Electrical</b>						
Maximum Continuous Operating Voltage (AC)	MCOV	75V	150V	300V	350V	480V
Voltage Protection Rating	VPR	400V	600V	900V	1200V	1500V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA	20kA	20kA	20kA	20kA
Short-Circuit Current Rating (AC)	SCCR	100kA	200kA	150kA	200kA	200kA
<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	$M_{max}$	39.9 lbf-in [4.5Nm]				
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35mm <sup>2</sup> (Solid, Stranded) / 25mm <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)		16 AWG (Solid) / 1.5mm <sup>2</sup> (Solid)				
<b>Order Information</b>						
Order Code		75	150	300	350	480
ProTec T2-ADV-xxx-1+0		59.0208	59.0210	59.0212	59.0214	59.0216
ProTec T2-ADV-xxx-1+0-R (with remote contacts)		59.0209	59.0211	59.0213	59.0215	59.0217
ProTec T2-ADV-xxx-P (plug)		59.0202	59.0203	59.0204	59.0205	59.0206

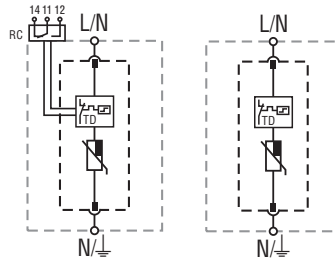


## ProTec T2-ADV 1+0

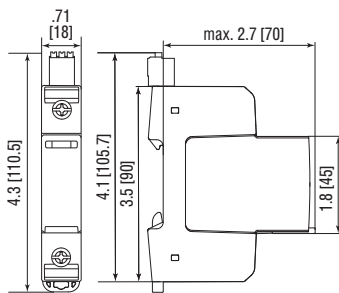
### Internal Configuration

#### Legend

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



### Complete Unit



#### Complete Unit Dimensions & Packaging

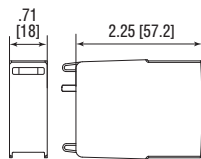
		75	150	300	350	480
Weight	pounds	.266	.275	.291	.302	.304
	grams	121	125	132	137	144
<b>ProTec T2-ADV-xxx-1+0-R</b>						
Weight	pounds	.283	.291	.306	.317	.328
	grams	128	132	139	144	149
DIN 43880 Dimension		1 TE / .71" [18]				
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]				
Standard Order Quantity		12 Units				

### Plug Internal Configuration

#### ProTec T2-ADV-xxx-P



### Spare Plug



#### Single Unit Dimensions & Packaging

		75	150	300	350	480
Weight	pounds	.120	.127	.143	.154	.165
	grams	54	58	65	70	75
DIN 43880 Dimension		1 TE / .71" [18]				
Packaging Dimensions (HxWxL)		3.2 x 4.5 x 12" [83 x 115 x 305 mm]				
Standard Order Quantity		24 Units				

inches  
[mm]

# Overvoltage Protection ProTec T2-ADV 2+0

Class II • Type 2 • Type 1CA



Location of Use: Sub-Distribution Boards  
 Network Systems: TN-S  
 Mode of Protection: L-PE, N-PE  
 IEC/EN/UL Category: Class II / Type 2 / Type 1CA  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4th Edition

## Technical Data

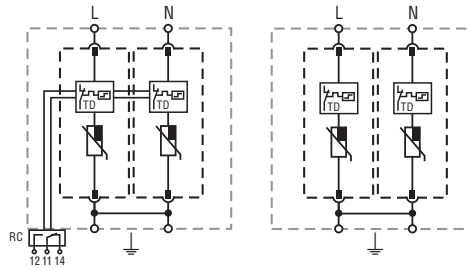
ProTec T2-ADV-xxx-2+0(-R)		75	150	300	350	480
<b>IEC Electrical</b>						
Nominal AC Voltage (50/60Hz)	$U_0/U_n$	60V	120V	240V	277V	400V
Maximum Continuous Operating Voltage (AC)	$U_c$	75V	150V	300V	350V	480V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA	20kA	20kA	20kA	20kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	50kA	50kA	50kA	50kA	50kA
Voltage Protection Level	$U_p$	600V	1000V	1300V	1700V	2000V
Response Time	$t_A$	< 25ns				
Overcurrent Protection (max)		160A gG				
Short-Circuit Current Rating (AC)	$I_{SCCR}$	50kA				
TOV Withstand 5s	$U_T$	114V	229V	337V	403V	581V
TOV 120min	$U_T$	114V	229V	442V	528V	762V
	mode	Withstand	Withstand	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1				
<b>UL Electrical</b>						
Maximum Continuous Operating Voltage (AC)	MCOV	75V	150V	300V	350V	480V
Voltage Protection Rating	VPR	400V	600V	900V	1200V	1500V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA	20kA	20kA	20kA	20kA
Short-Circuit Current Rating (AC)	SCCR	100kA	200kA	150kA	200kA	200kA
<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	$M_{max}$	39.9 lbf-in [4.5Nm]				
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35mm <sup>2</sup> (Solid, Stranded) / 25mm <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)		16 AWG (Solid) / 1.5mm <sup>2</sup> (Solid)				
<b>Order Information</b>						
Order Code		75	150	300	350	480
ProTec T2-ADV-xxx-2+0		59.0347	59.0220	59.0222	59.0224	59.0226
ProTec T2-ADV-xxx-2+0-R (with remote contacts)		59.0348	59.0221	59.0223	59.0225	59.0227
ProTec T2-ADV-xxx-P (plug)		59.0202	59.0203	59.0204	59.0205	59.0206

## ProTec T2-ADV 2+0

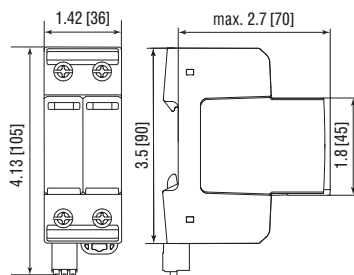
### Internal Configuration

#### Legend

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



### Complete Unit

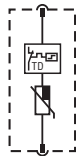


#### Complete Unit Dimensions & Packaging

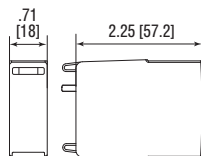
		75	150	300	350	480
ProTec T2-ADV-xxx-2+0	Weight	pounds .524	.542	.573	.595	.617
		grams 238	246	260	270	280
ProTec T2-ADV-xxx-2+0-R						
Weight	pounds	.555	.573	.590	.626	.648
	grams	252	260	268	284	294
DIN 43880 Dimension	2 TE / 1.42" [36]					
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]					
Standard Order Quantity	7 Units					

### Plug Internal Configuration

#### ProTec T2-ADV-xxx-P



### Spare Plug



#### Single Unit Dimensions & Packaging

		75	150	300	350	480
ProTec T2-ADV-xxx-P	Weight	pounds .120	.127	.143	.154	.165
		grams 54	58	65	70	75
DIN 43880 Dimension	1 TE / .71" [18]					
Packaging Dimensions (HxWxL)	3.2 x 4.5 x 12" [83 x 115 x 305 mm]					
Standard Order Quantity	24 Units					

inches  
[mm]

# Overvoltage Protection ProTec T2-ADV 3+0

Class II • Type 2 • Type 1CA



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  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4th Edition

## Technical Data

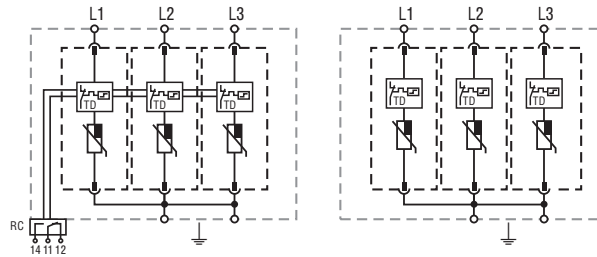
ProTec T2-ADV-xxx-3+0(-R)	150	300	350	480	
<b>IEC Electrical</b>					
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	120V	240V	277V	400V
Maximum Continuous Operating Voltage (AC)	$U_c$	150V	300V	350V	480V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA	20kA	20kA	20kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	50kA	50kA	50kA	50kA
Voltage Protection Level	$U_p$	1000V	1300V	1700V	2000V
Response Time	$t_A$				< 25 ns
Overcurrent Protection (max)					160A gG
Short-Circuit Current Rating (AC)	$I_{SCCR}$				50kA
TOV Withstand 5s	$U_T$	229V	337V	403V	581V
TOV 120min	$U_T$	229V	442V	528V	762V
	mode	Withstand	Safe Fail	Safe Fail	Safe Fail
Number of Ports					1
<b>UL Electrical</b>					
Maximum Continuous Operating Voltage (AC)	MCOV	150V	300V	350V	480V
Voltage Protection Rating	VPR	600V	900V	1200V	1500V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA	20kA	20kA	20kA
Short-Circuit Current Rating (AC)	SCCR	200kA	150kA	200kA	200kA
<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	$M_{max}$				39.9 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) / 1.5 mm <sup>2</sup> (Solid)
<b>Order Information</b>					
Order Code		150	300	350	480
ProTec T2-ADV-xxx-3+0		59.0228	59.0230	59.0232	59.0234
ProTec T2-ADV-xxx-3+0-R (with remote contacts)		59.0229	59.0231	59.0233	59.0235
ProTec T2-ADV-xxx-P (plug)		59.0203	59.0204	59.0205	59.0206

## ProTec T2-ADV 3+0

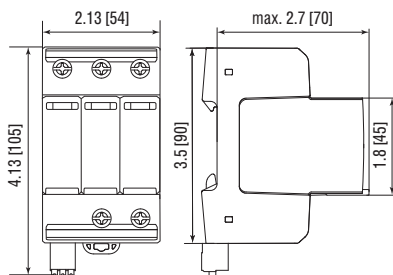
### Internal Configuration

#### Legend

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



### Complete Unit



#### Complete Unit Dimensions & Packaging

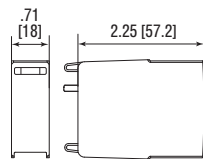
		150	300	350	480
Weight	pounds	.787	.833	.866	.899
	grams	357	378	393	408
<b>ProTec T2-ADV-xxx-3+0-R</b>					
Weight	pounds	.809	.855	.888	.921
	grams	367	388	403	418
DIN 43880 Dimension		3 TE / 2.13" [54]			
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]			
Standard Order Quantity		5 Units			

### Plug Internal Configuration

#### ProTec T2-ADV-xxx-P



### Spare Plug



#### Single Unit Dimensions & Packaging

		150	300	350	480
Weight	pounds	.127	.143	.154	.165
	grams	58	65	70	75
DIN 43880 Dimension		1 TE / .71" [18]			
Packaging Dimensions (HxWxL)		3.2 x 4.5 x 12" [83 x 115 x 305 mm]			
Standard Order Quantity		24 Units			

inches  
[mm]

# Overvoltage Protection ProTec T2-ADV 4+0

Class II • Type 2 • Type 1CA



Location of Use: Sub-Distribution Boards  
 Network Systems: TN-S  
 Mode of Protection: L-PE, N-PE  
 IEC/EN/UL Category: Class II / Type 2 /  
 Type 1CA  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4th Edition

## Technical Data

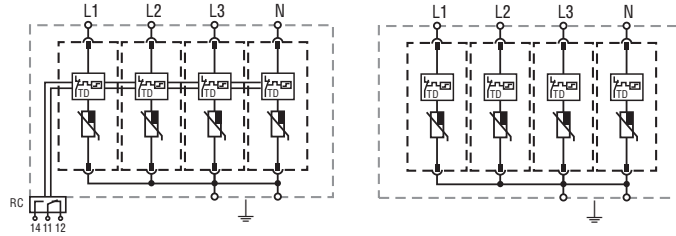
ProTec T2-ADV-xxx-4+0(-R)		150	300	350	480
<b>IEC Electrical</b>					
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	120V	240V	277V	400V
Maximum Continuous Operating Voltage (AC)	$U_c$	150V	300V	350V	480V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA	20kA	20kA	20kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	50kA	50kA	50kA	50kA
Voltage Protection Level	$U_p$	1000V	1300V	1700V	2000V
Response Time	$t_A$	< 25 ns			
Overcurrent Protection (max)		160A gG			
Short-Circuit Current Rating (AC)	$I_{SCCR}$	50kA			
TOV Withstand 5s	$U_T$	229V	337V	403V	581V
TOV 120min	$U_T$	229V	442V	528V	762V
	mode	Withstand	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1			
<b>UL Electrical</b>					
Maximum Continuous Operating Voltage (AC)	MCOV	150V	300V	350V	480V
Voltage Protection Rating	VPR	600V	900V	1200V	1500V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA	20kA	20kA	20kA
Short-Circuit Current Rating (AC)	SCCR	200kA	150kA	200kA	200kA
<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	$M_{max}$	39.9 lbf-in [4.5 Nm]			
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		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)		16 AWG (Solid) / 1.5 mm <sup>2</sup> (Solid)			
<b>Order Information</b>					
Order Code		150	300	350	480
ProTec T2-ADV-xxx-4+0		59.0236	59.0238	59.0240	59.0242
ProTec T2-ADV-xxx-4+0-R (with remote contacts)		59.0237	59.0239	59.0241	59.0243
ProTec T2-ADV-xxx-P (plug)		59.0203	59.0204	59.0205	59.0206

## ProTec T2-ADV 4+0

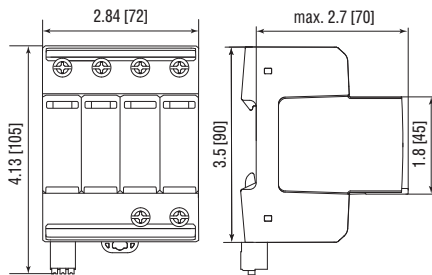
### Internal Configuration

#### Legend

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



### Complete Unit



#### Complete Unit Dimensions & Packaging

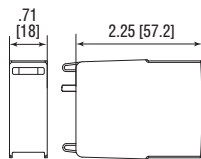
		150	300	350	480	
ProTec T2-ADV-xxx-4+0	Weight	pounds	1.067	1.128	1.172	1.216
		grams	484	512	532	552
ProTec T2-ADV-xxx-4+0-R						
Weight	pounds	1.086	1.148	1.192	1.236	
	grams	493	521	541	561	
DIN 43880 Dimension	4 TE / 2.84" [72]					
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]					
Standard Order Quantity	4 Units					

### Plug Internal Configuration

#### ProTec T2-ADV-xxx-P



### Spare Plug



#### Single Unit Dimensions & Packaging

		150	300	350	480	
ProTec T2-ADV-xxx-P	Weight	pounds	.127	.143	.154	.165
		grams	58	65	70	75
DIN 43880 Dimension	1 TE / .71" [18]					
Packaging Dimensions (HxWxL)	3.2 x 4.5 x 12" [83 x 115 x 305 mm]					
Standard Order Quantity	24 Units					

inches  
[mm]

Overvoltage Protection  
**ProTec T2H 2+0**  
 Class II • Type 2 • Type 1 • Type 2 • Type 1CA



Location of Use: Sub-Distribution Boards  
 Network Systems: TN-S  
 Mode of Protection: L-PE, N-PE  
 IEC/EN/UL Category: Class II / Type 2 / Type 1CA  
 Technology: Hybrid  
 Leakage Current Free: Yes  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4th Edition

**Technical Data**

ProTec T2H-xxx-2+0(-R)		300
<b>IEC Electrical</b>		
Nominal AC Voltage (50/60Hz)	$U_c/U_n$	240V
Maximum Continuous Operating Voltage (AC)	$U_c$	300V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20 kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	50 kA
Voltage Protection Level	$U_p$	1500V
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 120min	$U_T$	442V
Number of Ports		1
<b>UL Electrical</b>		
Maximum Continuous Operating Voltage (AC)	MCOV	300V
Voltage Protection Rating	VPR	1200V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20 kA
Short-Circuit Current Rating (AC)	SCCR	200 kA
<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	$M_{max}$	39.9 lbf-in [4.5 Nm]
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		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)		16 AWG (Solid) / 1.5 mm <sup>2</sup> (Solid)
<b>Order Information</b>		
Order Code		300
ProTec T2H-xxx-2+0		59.0326
ProTec T2H-xxx-2+0-R (with remote contacts)		59.0327
ProTec T2H-xxx-P (plug)		59.0322

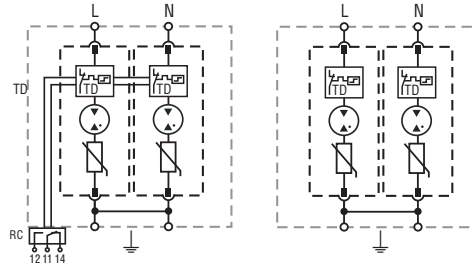


## ProTec T2H 2+0

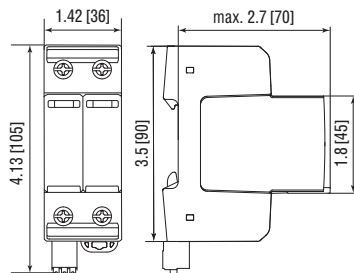
### Internal Configuration

#### Legend

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



### Complete Unit



#### Complete Unit Dimensions & Packaging

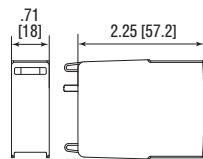
Complete Unit Dimensions & Packaging		
<b>ProTec T2H-xxx-2+0</b>		<b>300</b>
Weight	pounds [grams]	.514 [233]
<b>ProTec T2H-xxx-2+0-R</b>		
Weight	pounds [grams]	.534 [242]
DIN 43880 Dimension		2 TE / 1.42" [36]
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]
Standard Order Quantity		7 Units

### Plug Internal Configuration

#### ProTec T2H-xxx-P



### Spare Plug



#### Single Unit Dimensions & Packaging

Single Unit Dimensions & Packaging		
<b>ProTec T2H-xxx-P</b>		<b>300</b>
Weight	pounds [grams]	.112 [51]
DIN 43880 Dimension		1 TE / .71" [18]
Packaging Dimensions (HxWxL)		3.2 x 4.5 x 12" [83 x 115 x 305 mm]
Standard Order Quantity		24 Units

inches  
[mm]



# Overvoltage Protection

## ProTec T2H 3+0

Class II • Type 2 • Type 1 • Type 2 • Type 1CA



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  
 Technology: Hybrid  
 Leakage Current Free: Yes  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4th Edition

### Technical Data

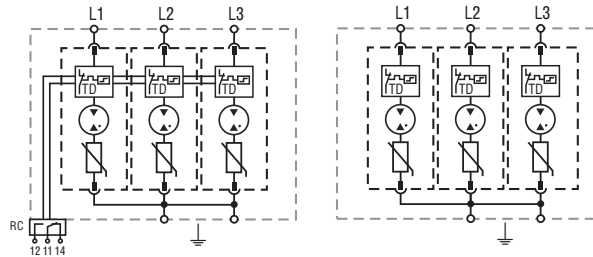
ProTec T2H-xxx-3+0(-R)		300
<b>IEC Electrical</b>		
Nominal AC Voltage (50/60Hz)	$U_c/U_n$	240V
Maximum Continuous Operating Voltage (AC)	$U_c$	300V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20 kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	50 kA
Voltage Protection Level	$U_p$	1500V
Response 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 120min	$U_T$	442V
Number of Ports		1
<b>UL Electrical</b>		
Maximum Continuous Operating Voltage (AC)	MCOV	300V
Voltage Protection Rating	VPR	1200V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20 kA
Short-Circuit Current Rating (AC)	SCCR	200 kA
<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	$M_{max}$	39.9 lbf-in [4.5 Nm]
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		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)		16 AWG (Solid) / 1.5 mm <sup>2</sup> (Solid)
<b>Order Information</b>		
Order Code		300
ProTec T2H-xxx-3+0		59.0328
ProTec T2H-xxx-3+0-R (with remote contacts)		59.0329
ProTec T2H-xxx-P (plug)		59.0322

## ProTec T2H 3+0

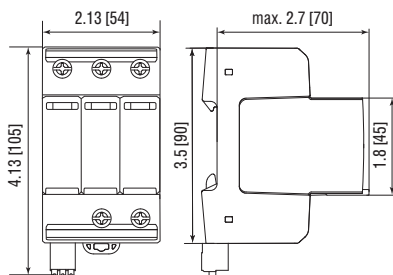
### Internal Configuration

#### Legend

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



### Complete Unit



#### Complete Unit Dimensions & Packaging

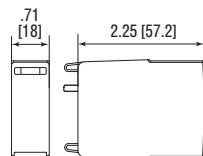
ProTec T2H-xxx-3+0		300
Weight	pounds [grams]	.747 [339]
ProTec T2H-xxx-3+0-R		300
Weight	pounds [grams]	.767 [348]
DIN 43880 Dimension		3 TE / 2.13" [54]
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]
Standard Order Quantity		5 Units

### Plug Internal Configuration

#### ProTec T2H-xxx-P



### Spare Plug



#### Single Unit Dimensions & Packaging

ProTec T2H-xxx-P		300
Weight	pounds [grams]	.112 [51]
DIN 43880 Dimension		1 TE / .71" [18]
Packaging Dimensions (HxWxL)		3.2 x 4.5 x 12" [83 x 115 x 305 mm]
Standard Order Quantity		24 Units

inches  
[mm]

# Overvoltage Protection

## ProTec T2H 4+0

### Class II • Type 2 • Type 1 • Type 2 • Type 1CA



Location of Use: Sub-Distribution Boards  
 Network Systems: TN-S  
 Mode of Protection: L-PE, N-PE  
 IEC/EN/UL Category: Class II / Type 2 / Type 1CA  
 Technology: Hybrid  
 Leakage Current Free: Yes  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4th Edition

## Technical Data

ProTec T2H-xxx-4+0(-R)

300

### IEC Electrical

Nominal AC Voltage (50/60Hz)	$U_c/U_n$	240V
Maximum Continuous Operating Voltage (AC)	$U_c$	300V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20 kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	50 kA
Voltage Protection Level	$U_p$	1500V
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 120min	$U_T$	442V
Number of Ports		1

### UL Electrical

Maximum Continuous Operating Voltage (AC)	MCOV	300V
Voltage Protection Rating	VPR	1200V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20 kA
Short-Circuit Current Rating (AC)	SCCR	200 kA

### 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 [4000 m]
Terminal Screw Torque	$M_{max}$	39.9 lbf-in [4.5 Nm]
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		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)		16 AWG (Solid) / 1.5 mm <sup>2</sup> (Solid)

### Order Information

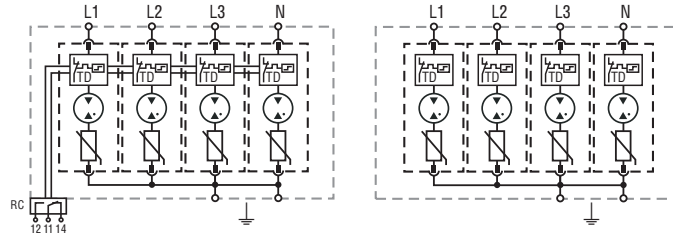
Order Code	300
ProTec T2H-xxx-4+0	59.0330
ProTec T2H-xxx-4+0-R (with remote contacts)	59.0331
ProTec T2H-xxx-P (plug)	59.0322

## ProTec T2H 4+0

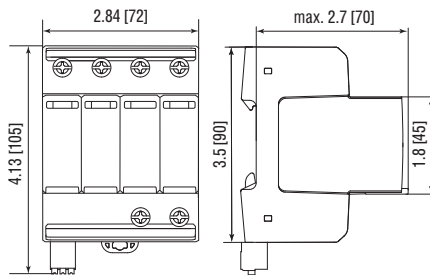
### Internal Configuration

#### Legend

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



### Complete Unit



#### Complete Unit Dimensions & Packaging

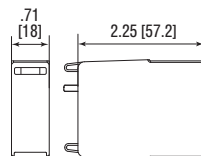
Complete Unit Dimensions & Packaging		
<b>ProTec T2H-xxx-4+0</b>		<b>300</b>
Weight	pounds [grams]	.944 [428]
<b>ProTec T2H-xxx-4+0-R</b>		
Weight	pounds [grams]	.964 [437]
DIN 43880 Dimension		4 TE / 2.84" [72]
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]
Standard Order Quantity		4 Units

### Plug Internal Configuration

#### ProTec T2H-xxx-P



### Spare Plug



#### Single Unit Dimensions & Packaging

Single Unit Dimensions & Packaging		
<b>ProTec T2H-xxx-P</b>		<b>300</b>
Weight	pounds [grams]	.112 [51]
DIN 43880 Dimension		1 TE / .71" [18]
Packaging Dimensions (HxWxL)		3.2 x 4.5 x 12" [83 x 115 x 305 mm]
Standard Order Quantity		24 Units

inches  
[mm]

Overvoltage Protection  
**ProTec T2H 1+1**  
 Class II • Type 2 • Type 1 • Type 2 • Type 1CA



Location of Use: Sub-Distribution Boards  
 Network Systems: TT, TN-S  
 Mode of Protection: L-N, N-PE  
 IEC/EN/UL Category: Class II / Type 2 /  
 Type 1CA  
 Technology: Hybrid  
 Leakage Current Free: Yes  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11: 2011  
 EN 61643-11: 2012  
 UL 1449 4th Edition

### Technical Data

ProTec T2H-xxx-1+1(-R)

300

#### IEC Electrical

Nominal AC Voltage (50/60Hz)	$U_c/U_n$	240V
Maximum Continuous Operating Voltage (AC)	(L-N) / (N-PE) $U_c$	300V / 305V
Nominal Discharge Current (8/20 $\mu$ s)	(L-N) / (N-PE) $I_n$	20kA / 40kA
Maximum Discharge Current (8/20 $\mu$ s)	(L-N) / (N-PE) $I_{max}$	50kA / 65kA
Voltage Protection Level	(L-N) / (N-PE) $U_p$	1500V / 1500V
Response Time	(L-N) / (N-PE) $t_A$	<25ns / <100ns
Overcurrent Protection (max)		315A / 250A gG
Short-Circuit Current Rating (AC)	(L-N) $I_{SCCR}$	25kA / 50kA
Follow Current Interrupt Rating	(N-PE) $I_f$	100A <sub>RMS</sub>
TOV Withstand 120min	(L-N) $U_T$	442V
TOV Withstand 200ms	(N-PE) $U_T$	1200V
Number of Ports		1

#### UL Electrical

Maximum Continuous Operating Voltage (AC)	(L-N)/(N-G) MCOV	300V / 305V
Voltage Protection Rating	(L-N)/(N-G) VPR	1200V / 1000V
Nominal Discharge Current (8/20 $\mu$ s)	(L-N)/(N-G) $I_n$	20kA / 20kA
Short-Circuit Current Rating (AC)	(L-N) SCCR	200kA

#### 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	$M_{max}$	39.9 lbf-in [4.5Nm]
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35mm <sup>2</sup> (Solid, Stranded) / 25mm <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)

#### Order Information

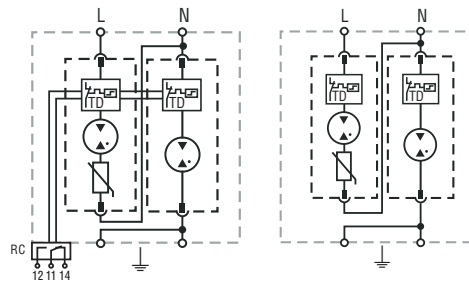
Order Code	300
ProTec T2H-xxx-1+1	59.0332
ProTec T2H-xxx-1+1-R (with remote contacts)	59.0333
ProTec T2H-xxx-P (plug L-N)	59.0322
ProTube T2H-40-P (plug N-PE)	59.0323

## ProTec T2H 1+1

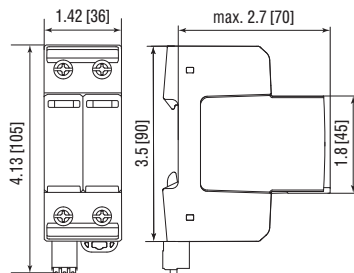
### Internal Configuration

#### Legend

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



### Complete Unit



#### Complete Unit Dimensions & Packaging

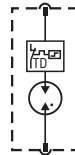
ProTec T2H-xxx-1+1		300
Weight	pounds [grams]	.516 [234]
ProTec T2H-xxx-1+1-R		300
Weight	pounds [grams]	.525 [238]
DIN 43880 Dimension		2 TE / 1.42" [36]
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]
Standard Order Quantity		7 Units

### Plug Internal Configuration

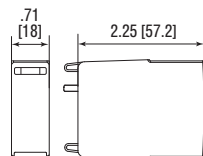
#### ProTec T2H-xxx-P



#### ProTube T2H-40-P



### Spare Plug



#### Single Unit Dimensions & Packaging

ProTec T2H-xxx-P		300
Weight	pounds [grams]	.112 [51]
ProTube T2H-40-P		40
Weight	pounds [grams]	.093 [42]
DIN 43880 Dimension		1 TE / .71" [18]
Packaging Dimensions (HxWxL)		3.2 x 4.5 x 12" [83 x 115 x 305 mm]
Standard Order Quantity		24 Units

inches  
[mm]

# Overvoltage Protection

## ProTec T2H 3+1

### Class II • Type 2 • Type 1 • Type 2 • Type 1CA



Location of Use: Sub-Distribution Boards  
 Network Systems: TT, TN-S  
 Mode of Protection: L-N, N-PE  
 IEC/EN/UL Category: Class II / Type 2 /  
 Type 1CA  
 Technology: Hybrid  
 Leakage Current Free: Yes  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11: 2011  
 EN 61643-11: 2012  
 UL 1449 4th Edition

## Technical Data

### ProTec T2H-xxx-3+1(-R)

300

#### IEC Electrical

Nominal AC Voltage (50/60Hz)	$U_c/U_n$	240V
Maximum Continuous Operating Voltage (AC)	(L-N) / (N-PE) $U_c$	300V / 305V
Nominal Discharge Current (8/20 $\mu$ s)	(L-N) / (N-PE) $I_n$	20kA / 40kA
Maximum Discharge Current (8/20 $\mu$ s)	(L-N) / (N-PE) $I_{max}$	50kA / 65kA
Voltage Protection Level	(L-N) / (N-PE) $U_p$	1500V / 1500V
Response Time	(L-N) / (N-PE) $t_A$	<25ns / <100ns
Overcurrent Protection (max)		315A / 250A gG
Short-Circuit Current Rating (AC)	(L-N) $I_{SCCR}$	25kA / 50kA
Follow Current Interrupt Rating	(N-PE) $I_{fi}$	100A <sub>RMS</sub>
TOV Withstand 120min	(L-N) $U_T$	442V
TOV Withstand 200ms	(N-PE) $U_T$	1200V
Number of Ports		1

#### UL Electrical

Maximum Continuous Operating Voltage (AC)	(L-N)/(N-G) MCOV	300V / 305V
Voltage Protection Rating	(L-N)/(N-G) VPR	1200V / 1000V
Nominal Discharge Current (8/20 $\mu$ s)	(L-N)/(N-G) $I_n$	20kA / 20kA
Short-Circuit Current Rating (AC)	(L-N) SCCR	200kA

#### 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	$M_{max}$	39.9 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) / 1.5 mm <sup>2</sup> (Solid)

#### Order Information

Order Code	300
ProTec T2H-xxx-3+1	59.0334
ProTec T2H-xxx-3+1-R (with remote contacts)	59.0335
ProTec T2H-xxx-P (plug L-N)	59.0322
ProTube T2H-40-P (plug N-PE)	59.0323

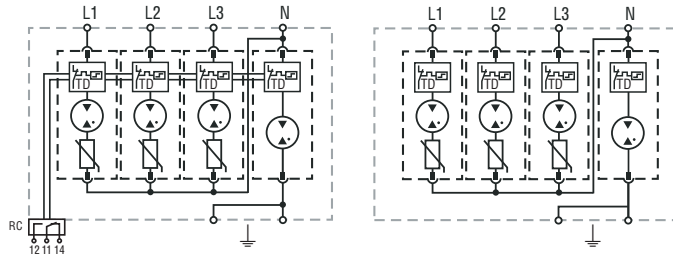


## ProTec T2H 3+1

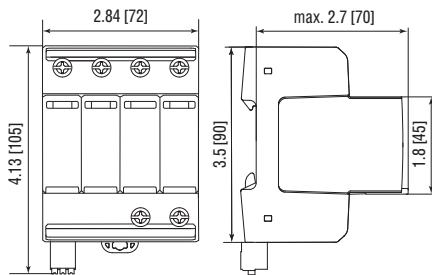
### Internal Configuration

#### Legend

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



### Complete Unit



#### Complete Unit Dimensions & Packaging

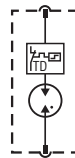
Complete Unit Dimensions & Packaging	
<b>ProTec T2H-xxx-3+1</b>	<b>300</b>
Weight	pounds [grams] .947 [429]
<b>ProTec T2H-xxx-3+1-R</b>	<b>300</b>
Weight	pounds [grams] .958 [434]
DIN 43880 Dimension	4 TE / 2.84" [72]
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]
Standard Order Quantity	4 Units

### Plug Internal Configuration

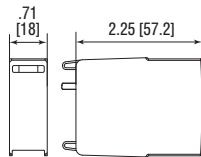
#### ProTec T2H-xxx-P



#### ProTube T2H-40-P



### Spare Plug



#### Single Unit Dimensions & Packaging

Single Unit Dimensions & Packaging	
<b>ProTec T2H-xxx-P</b>	<b>300</b>
Weight	pounds [grams] .112 [51]
<b>ProTube T2H-40-P</b>	<b>40</b>
Weight	pounds [grams] .093 [42]
DIN 43880 Dimension	1 TE / .71" [18]
Packaging Dimensions (HxWxL)	3.2 x 4.5 x 12" [83 x 115 x 305 mm]
Standard Order Quantity	24 Units

inches  
[mm]

Overvoltage Protection  
**SafeTec T2 2+0**  
 Class II • Type 2 • Type 1CA



Location of Use: Sub-distribution Boards  
 Network Systems: TN-S  
 Mode of Protection: L-N, N-PE  
 IEC/EN/UL Category: Class II / Type 2 / Type 1CA  
 Safety: Patented Current Limiting Technology  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4<sup>th</sup> Edition

**Technical Data**

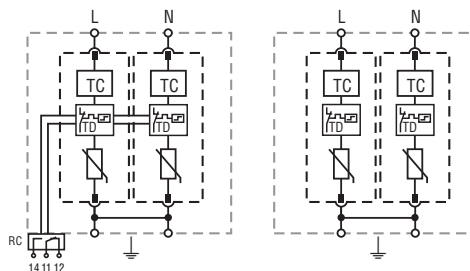
SafeTec T2-xxx-2+0(-R)		75	150	300	350	480	550	750	880
<b>IEC Electrical</b>									
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	60V	120V	240V	277V	400V	400V	600V	600V
Maximum Continuous Operating Voltage (AC)	$U_c$	75V	150V	300V	350V	480V	550V	750V	880V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA	20kA	20kA	20kA	20kA	20kA	20kA	20kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	50kA	50kA	50kA	50kA	50kA	50kA	35kA	35kA
Voltage Protection Level	$U_p$	800V	1250V	1650V	1750V	2300V	2500V	3500V	3600V
Response Time	$t_A$	< 25 ns							
Overcurrent Protection (max)		315A/250A gG							
Short-Circuit Current Rating (AC)	$I_{SCCR}$	25kA/50kA							
TOV Withstand 120min	$U_T$	150V	255V	442V	529V	762V	918V	1200V	1250V
Number of Ports		1							
<b>UL Electrical</b>									
Maximum Continuous Operating Voltage (AC)	MCOV	75V	150V	300V	350V	480V	550V	750V	880V
Voltage Protection Rating	VPR	600V	700V	1200V	1200V	1500V	1800V	2500V	2500V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA	20kA	20kA	20kA	20kA	20kA	20kA	20kA
Short-Circuit Current Rating (AC)	SCCR	85kA	200kA	150kA	200kA	200kA	200kA	200kA	200kA
<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	$M_{max}$	39.9 lbf-in [4.5Nm]							
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35mm <sup>2</sup> (Solid, Stranded) / 25mm <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)							
<b>Order Information</b>									
Order Code		75	150	300	350	480	550	750	880
SafeTec T2-xxx-2+0		59.0345	59.0148	59.0150	59.0152	59.0154	59.0156	59.0158	59.0160
SafeTec T2-xxx-2+0-R (with remote contacts)		59.0346	59.0149	59.0151	59.0153	59.0155	59.0157	59.0159	59.0161
SafeTec T2-xxx-P (plug)		59.0125	59.0126	59.0127	59.0128	59.0129	59.0299	59.0130	59.0131

## SafeTec T2 2+0

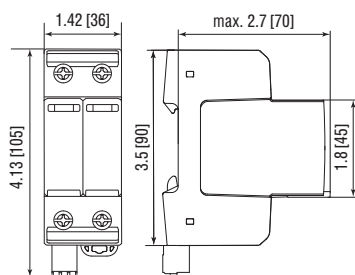
### Internal Configuration

#### Legend

- L Line Conductor Terminal
- N Neutral Conductor Terminal
- ⊥ PE/G Conductor Terminal
- RC Remote Contacts Terminal (Optional)
- TC Thermal Control Function
- TD Thermal Disconnect



### Complete Unit

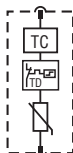


#### Complete Unit Dimensions & Packaging

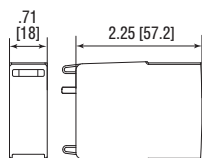
SafeTec T2-xxx-2+0	75	150	300	350	480	550	750	880	
Weight	pounds	.545	.567	.580	.616	.620	.642	.677	.686
	grams	247	257	263	279	281	291	307	311
<b>SafeTec T2-xxx-2+0-R</b>									
Weight	pounds	.565	.587	.600	.635	.640	.662	.697	.706
	grams	256	266	272	288	290	300	316	320
DIN 43880 Dimension	2 TE / 1.42" [36]								
Packaging Dimensions (HxWxL)	4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]								
Standard Order Quantity	7 Units								

### Plug Internal Configuration

#### SafeTec T2-xxx-P



### Spare Plug



#### Single Unit Dimensions & Packaging

SafeTec T2-xxx-P	75	150	300	350	480	550	750	880	
Weight	pounds	.128	.139	.146	.163	.165	.176	.194	.198
	grams	58	63	66	74	75	80	88	90
DIN 43880 Dimension	1 TE / .71" [18]								
Packaging Dimensions (HxWxL)	3.2 x 4.5 x 12" [83 x 115 x 305 mm]								
Standard Order Quantity	24 Units								

inches  
[mm]

Overvoltage Protection  
**SafeTec T2 4+0**  
 Class II • Type 2 • Type 1CA



Location of Use: Sub-distribution Boards  
 Network Systems: TN-S  
 Mode of Protection: L-PE, N-PE  
 IEC/EN/UL Category: Class II / Type 2 / Type 1CA  
 Safety: Patented Current Limiting Technology  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4<sup>th</sup> Edition

**Technical Data**

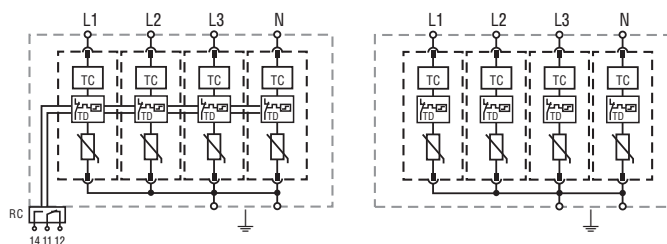
SafeTec T2-xxx-4+0(-R)		150	300	350	480	550
<b>IEC Electrical</b>						
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	120V	240V	277V	400V	400V
Maximum Continuous Operating Voltage (AC)	$U_c$	150V	300V	350V	480V	550V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA	20kA	20kA	20kA	20kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	50kA	50kA	50kA	50kA	50kA
Voltage Protection Level	$U_p$	1250V	1650V	1750V	2300V	2500V
Response Time	$t_A$			< 25ns		
Overcurrent Protection (max)				315A/250A gG		
Short-Circuit Current Rating (AC)	$I_{SCCR}$			25kA/50kA		
TOV Withstand 120min	$U_T$	255V	442V	529V	762V	918V
Number of Ports				1		
<b>UL Electrical</b>						
Maximum Continuous Operating Voltage (AC)	MCOV	150V	300V	350V	480V	550V
Voltage Protection Rating	VPR	700V	1200V	1200V	1500V	1800V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA	20kA	20kA	20kA	20kA
Short-Circuit Current Rating (AC)	SCCR	200kA	150kA	200kA	200kA	200kA
<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	$M_{max}$			39.9 lbf-in [4.5Nm]		
Conductor Cross Section (max)				2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35 mm <sup>2</sup> (Solid, Stranded) / 25mm <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)		
<b>Order Information</b>						
Order Code		150	300	350	480	550
SafeTec T2-xxx-4+0		59.0176	59.0178	59.0180	59.0182	59.0184
SafeTec T2-xxx-4+0-R (with remote contacts)		59.0177	59.0179	59.0181	59.0183	59.0185
SafeTec T2-xxx-P (plug)		59.0126	59.0127	59.0128	59.0129	59.0299

## SafeTec T2 4+0

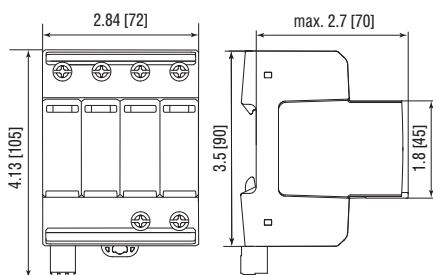
### Internal Configuration

#### Legend

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



### Complete Unit

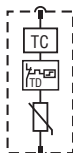


#### Complete Unit Dimensions & Packaging

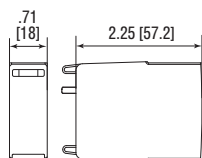
		150	300	350	480	550
Weight	pounds	1.050	1.077	1.147	1.156	1.200
	grams	476	488	520	524	544
<b>SafeTec T2-xxx-4+0-R</b>						
Weight	pounds	1.070	1.097	1.167	1.176	1.220
	grams	485	497	529	533	553
DIN 43880 Dimension		4 TE / 2.84" [72]				
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]				
Standard Order Quantity		4 Units				

### Plug Internal Configuration

#### SafeTec T2-xxx-P



### Spare Plug



#### Single Unit Dimensions & Packaging

		150	300	350	480	550
Weight	pounds	.139	.146	.163	.165	.176
	grams	63	66	74	75	80
DIN 43880 Dimension		1 TE / .71" [18]				
Packaging Dimensions (HxWxL)		3.2 x 4.5 x 12" [83 x 115 x 305 mm]				
Standard Order Quantity		24 Units				

inches  
[mm]

Overvoltage Protection  
**SafeTec T2 1+1**  
 Class II • Type 2 • Type 1CA



Location of Use: Sub-distribution Boards  
 Network Systems: TT, TN-S  
 Mode of Protection: L-N, N-PE  
 IEC/EN/UL Category: Class II / Type 2 / Type 1CA  
 Safety: Patented Current Limiting Technology  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4<sup>th</sup> Edition

**Technical Data**

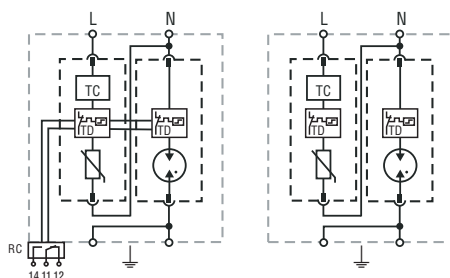
SafeTec T2-xxx-1+1(-R)		75	150	300	350
<b>IEC Electrical</b>					
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	60V	120V	240V	277V
Maximum Continuous Operating Voltage (AC)	(L-N) $U_c$	75V	150V	300V	350V
	(N-PE) $U_c$	305V	305V	305V	305V
Nominal Discharge Current (8/20 $\mu$ s)	(L-N)/(N-PE) $I_n$	20kA/40kA	20kA/40kA	20kA/40kA	20kA/40kA
Maximum Discharge Current (8/20 $\mu$ s)	(L-N)/(N-PE) $I_{max}$	50kA/65kA	50kA/65kA	50kA/65kA	50kA/65kA
Voltage Protection Level	(L-N)/(N-PE) $U_p$	800V/1500V	1250V/1500V	1650V/1500V	1750V/1500V
Follow Current Interrupt Rating	(N-PE) $I_{fi}$	100 A <sub>RMS</sub>			
Response Time	(L-N)/(N-PE) $t_A$	< 25ns / < 100ns			
Overcurrent Protection (max)		315A/250 A gG			
Short-Circuit Current Rating (AC)	(L-N) $I_{SCCR}$	25kA/50kA			
TOV Withstand 120min	(L-N) $U_T$	150V	255V	442V	529V
TOV Withstand 200ms	(N-PE) $U_T$	1200V			
Number of Ports		1			
<b>UL Electrical</b>					
Maximum Continuous Operating Voltage (AC)	(L-N)/(N-G) MCOV	75V/305V	150V/305V	300V/305V	350V/305V
Voltage Protection Rating	(L-N)/(N-G) VPR	600V/1000V	700V/1000V	1200V/1000V	1200V/1000V
Nominal Discharge Current (8/20 $\mu$ s)	(L-N)/(N-G) $I_n$	20kA/20kA			
Short-Circuit Current Rating (AC)	(L-N) SCCR	85kA	200kA	150kA	200kA
<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	$M_{max}$	39.9 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) / 1.5 mm <sup>2</sup> (Solid)			
<b>Order Information</b>					
Order Code		75	150	300	350
SafeTec T2-xxx-1+1		59.0186	59.0188	59.0190	59.0192
SafeTec T2-xxx-1+1-R (with remote contacts)		59.0187	59.0189	59.0191	59.0193
SafeTec T2-xxx-P (plug L-N)		59.0125	59.0126	59.0127	59.0128
SafeTube T2-40-P (plug N-PE)		59.0274	59.0274	59.0274	59.0274

## SafeTec T2 1+1

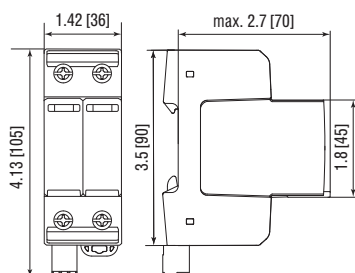
### Internal Configuration

#### Legend

- L Line Conductor Terminal
- N Neutral Conductor Terminal
- ⊥ PE/G Conductor Terminal
- RC Remote Contacts Terminal (Optional)
- TC Thermal Control Function
- TD Thermal Disconnect



### Complete Unit

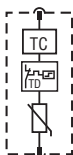


#### Complete Unit Dimensions & Packaging

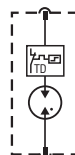
		75	150	300	350
Weight	pounds	.532	.543	.549	.567
	grams	241	246	249	257
<b>SafeTec T2-xxx-1+1-R</b>					
Weight	pounds	.541	.552	.558	.576
	grams	245	250	253	261
DIN 43880 Dimension		2 TE / 1.42" [36]			
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]			
Standard Order Quantity		7 Units			

### Plug Internal Configuration

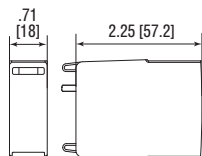
#### SafeTec T2-xxx-P



#### SafeTube T2-40-P



### Spare Plug



#### Single Unit Dimensions & Packaging

		75	150	300	350
Weight	pounds	.128	.139	.146	.163
	grams	58	63	66	74
<b>SafeTube T2-40-P</b>					
Weight	pounds	.093			
	grams	42			
DIN 43880 Dimension		1 TE / .71" [18]			
Packaging Dimensions (HxWxL)		3.2 x 4.5 x 12" [83 x 115 x 305 mm]			
Standard Order Quantity		24 Units			

inches  
[mm]

Overvoltage Protection  
**SafeTec T2 3+1**  
 Class II • Type 2 • Type 1CA



Location of Use: Sub-distribution Boards  
 Network Systems: TT, TN-S  
 Mode of Protection: L-N, N-PE  
 IEC/EN/UL Category: Class II / Type 2 / Type 1CA  
 Safety: Patented Current Limiting Technology  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012  
 UL 1449 4<sup>th</sup> Edition

**Technical Data**

SafeTec T2-xxx-3+1(-R)		300	350
<b>IEC Electrical</b>			
Nominal AC Voltage (50/60Hz)	$U_o/U_n$	240V	277V
Maximum Continuous Operating Voltage (AC)	(L-N) $U_c$	300V	350V
	(N-PE) $U_c$	305V	305V
Nominal Discharge Current (8/20 $\mu$ s)	(L-N)/(N-PE) $I_n$	20kA/40kA	20kA/40kA
Maximum Discharge Current (8/20 $\mu$ s)	(L-N)/(N-PE) $I_{max}$	50kA/65kA	50kA/65kA
Voltage Protection Level	(L-N)/(N-PE) $U_p$	1650V/1500V	1750V/1500V
Follow Current Interrupt Rating	(N-PE) $I_{fi}$		100 A <sub>RMS</sub>
Response Time	(L-N)/(N-PE) $t_A$		< 25 ns / < 100 ns
Overcurrent Protection (max)			315A/250 A gG
Short-Circuit Current Rating (AC)	(L-N) $I_{SCCR}$		25kA/50kA
TOV Withstand 120min	(L-N) $U_T$	442V	529V
TOV Withstand 200ms	(N-PE) $U_T$		1200V
Number of Ports			1
<b>UL Electrical</b>			
Maximum Continuous Operating Voltage (AC)	(L-N)/(N-PE) MCOV	300V/305V	350V/305V
Voltage Protection Rating	(L-N)/(N-PE) VPR	1200V/1000V	1200V/1000V
Nominal Discharge Current (8/20 $\mu$ s)	(L-N)/(N-PE) $I_n$		20kA/20kA
Short-Circuit Current Rating (AC)	(L-N) SCCR	150kA	200kA
<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	$M_{max}$	39.9 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) / 1.5 mm <sup>2</sup> (Solid)	
<b>Order Information</b>			
Order Code		300	350
SafeTec T2-xxx-3+1		59.0198	59.0200
SafeTec T2-xxx-3+1-R (with remote contacts)		59.0199	59.0201
SafeTec T2-xxx-P (plug L-N)		59.0127	59.0128
SafeTube T2-40-P (plug N-PE)		59.0274	59.0274

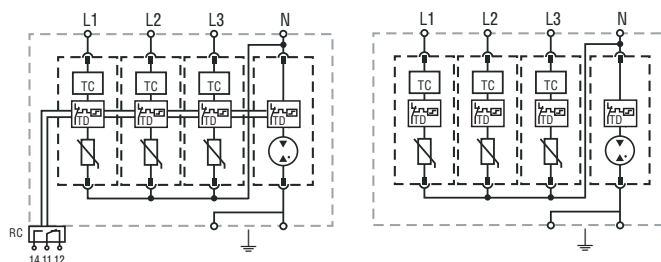


## SafeTec T2 3+1

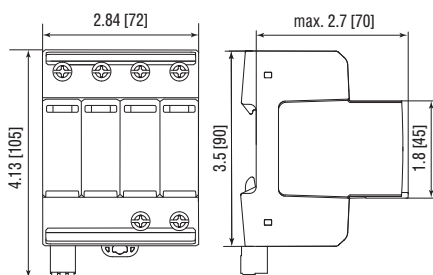
### Internal Configuration

#### Legend

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



### Complete Unit

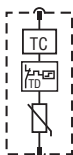


#### Complete Unit Dimensions & Packaging

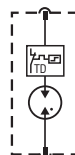
Complete Unit Dimensions & Packaging			
<b>SafeTec T2-xxx-3+1</b>		<b>300</b>	<b>350</b>
Weight	pounds	1.046	1.099
	grams	474	498
<b>SafeTec T2-xxx-3+1-R</b>			
Weight	pounds	1.057	1.110
	grams	479	503
DIN 43880 Dimension		4 TE / 2.84" [72]	
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]	
Standard Order Quantity		4 Units	

### Plug Internal Configuration

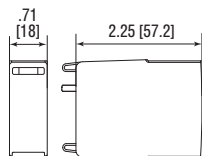
#### SafeTec T2-xxx-P



#### SafeTube T2-40-P



### Spare Plug



#### Single Unit Dimensions & Packaging

Single Unit Dimensions & Packaging			
<b>SafeTec T2-xxx-P</b>		<b>300</b>	<b>350</b>
Weight	pounds	.146	.163
	grams	66	74
<b>SafeTube T2-40-P</b>		<b>40</b>	
Weight	pounds	.093	
	grams	42	
DIN 43880 Dimension		1 TE / .71" [18]	
Packaging Dimensions (HxWxL)		3.2 x 4.5 x 12" [83 x 115 x 305 mm]	
Standard Order Quantity		24 Units	

inches  
[mm]

# Pluggable Multi-Pole SPD for Photovoltaic Systems

## ProTec T1-PV 3+0

### Type 1 • Type 2 • Type 1CA



Location of Use: String box, Inverter  
 Mode of Protection: (+)-PE, (-)-PE, (+)-(-)  
 EN/UL Category: Type 1, Type 2 / Type 1CA  
 Housing: Pluggable Design  
 Compliance: EN 50539-11:2013+A1:2014  
 UL 1449 4<sup>th</sup> Edition

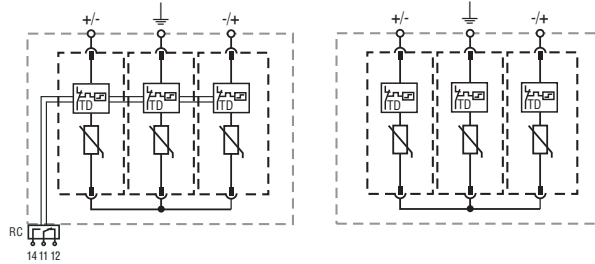
ProTec T1-xxxxPV-3+0(-R)		1100	1500
<b>EN Electrical</b>			
Maximum Continuous Operating Voltage (PV)	$U_{CPV}$	1100V	1500V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA	20kA
Impulse Discharge Current (10/350 $\mu$ s)	$I_{imp}$	6.25kA	5kA
Specific Energy	W/R	9.77 kJ/ $\Omega$	6.25 kJ/ $\Omega$
Charge	Q	3.125As	2.5As
Total Discharge Current (10/350 $\mu$ s)	$I_{Total}$	12.5kA	10kA
Total Discharge Current (8/20 $\mu$ s)	$I_{Total}$	50kA	40kA
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	40kA	30kA
Voltage Protection Level	(+)-PE, (-)-PE $U_p$	3800V	5000V
	(+)-(-) $U_p$	3800V	5000V
Response Time	$t_A$		< 25 ns
Short-Circuit Current Rating	$I_{SCPV}$		11 kA
Number of Ports			1
<b>UL Electrical</b>			
Maximum Permitted DC Voltage	$V_{pVdc}$	1100V	1500V
Voltage Protection Rating	(+)-G, (-)-G $V_{PR}$	2500V	4000V
	(+)-(-) $V_{PR}$	2500V	4000V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$		20kA
Short-Circuit Current Rating	SCCR	50kA	65kA
<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	$M_{max}$	39.9 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) / 1.5 mm <sup>2</sup> (Solid)	
<b>Order Information</b>			
Order Code		1100	1500
ProTec T1-xxxxPV-3+0		59.0285	59.0289
ProTec T1-xxxxPV-3+0-R (with remote contacts)		59.0286	59.0290
ProTec T1-550PV-P (middle plug)		59.0283	-
ProTec T1-550PV-M-P (side plug)		59.0284	-
ProTec T1-750PV-P (middle plug)		-	59.0287
ProTec T1-750PV-M-P (side plug)		-	59.0288

## ProTec T1-PV 3+0

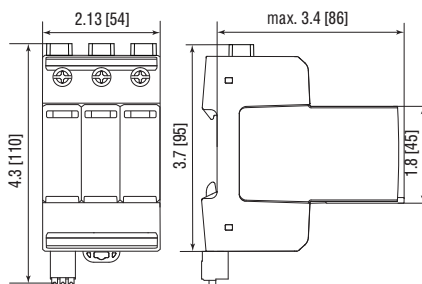
### Internal Configuration

#### Legend

- +/-, -/+ + or - Conductor Terminal
- ⊥ PE/G Conductor Terminal
- RC Remote Contacts Terminal (Optional)
- TD Thermal Disconnect



### Complete Unit

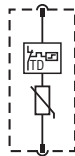


#### Complete Unit Dimensions & Packaging

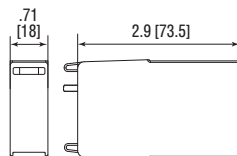
		1100	1500
ProTec T1-xxxxPV-3+0	Weight	pounds .968	1.034
		grams 439	469
ProTec T1-xxxxPV-3+0-R	Weight	pounds .979	1.045
		grams 444	474
DIN 43880 Dimension		3 TE / 2.13" [54]	
Packaging Dimensions (H x W x L)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]	
Standard Order Quantity		5 Units	

### Plug Internal Configuration

ProTec T1-xxxPV-P  
ProTec T1-xxxPV-M-P



### Spare Plug



#### Single Unit Dimensions & Packaging

		550	750
ProTec T1-xxxPV-P	Weight	pounds .220	.282
		grams 100	128
ProTec T1-xxxPV-M-P	Weight	pounds .194	.196
		grams 88	89
DIN 43880 Dimension		1 TE / .71" [18]	
Packaging Dimensions (H x W x L)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]	
Standard Order Quantity		28 Units	

inches  
[mm]

Pluggable Multi-Pole SPD for Photovoltaic Systems  
**ProTec T2-PV 3+0**  
 Type 2 • Type 1CA



Location of Use: String box, Inverter  
 Mode of Protection: (+)-PE, (-)-PE, (+)-(-)  
 EN/UL Category: Type 2 / Type 1CA  
 Housing: Pluggable Design  
 Compliance: EN 50539-11:2013+A1:2014  
 UL 1449 4<sup>th</sup> Edition

**Technical Data**

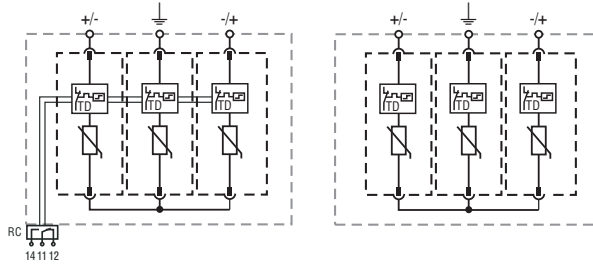
ProTec T2-xxxxPV-3+0(-R)		1100	1500
<b>EN Electrical</b>			
Maximum Continuous Operating Voltage (PV)	$U_{CPV}$	1100V	1500V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA	
Maximum Discharge Current (8/20 $\mu$ s)	$I_{max}$	40kA	30kA
Total Discharge Current	$I_{Total}$	50kA	40kA
Voltage Protection Level	$U_p$	3800V	5000V
Response Time	$t_A$	< 25 ns	
Short-Circuit Current Rating	$I_{SCPV}$	11kA	
Number of Ports		1	
<b>UL Electrical</b>			
Maximum Permitted DC Voltage	$V_{pvdC}$	1100V	1500V
Voltage Protection Rating	VPR	2500V	4000V
Nominal Discharge Current (8/20 $\mu$ s)	$I_n$	20kA	
Short-Circuit Current Rating	SCCR	50kA	65kA
<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	$M_{max}$	39.9 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		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)		16 AWG (Solid) / 1.5mm <sup>2</sup> (Solid)	
<b>Order Information</b>			
Order Code		1100	1500
ProTec T2-xxxxPV-3+0		59.0292	59.0295
ProTec T2-xxxxPV-3+0-R (with remote contacts)		59.0293	59.0296
ProTec T2-550PV-P (plug)		59.0291	-
ProTec T2-750PV-P (plug)		-	59.0294

## ProTec T2-PV 3+0

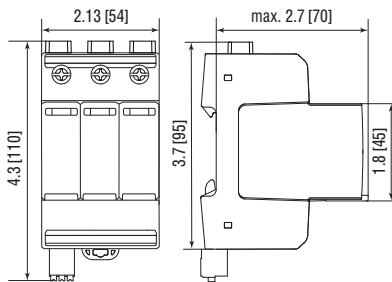
### Internal Configuration

#### Legend

- +/-, -/+ + or - Conductor Terminal
- ⊥ PE/G Conductor Terminal
- RC Remote Contacts Terminal (Optional)
- TD Thermal Disconnect



### Complete Unit



#### Complete Unit Dimensions & Packaging

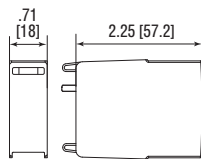
		1100	1500
<b>ProTec T2-xxxxPV-3+0</b>			
Weight	pounds	.806	.879
	grams	366	399
<b>ProTec T2-xxxxPV-3+0-R</b>			
Weight	pounds	.817	.890
	grams	371	404
DIN 43880 Dimension		3 TE / 2.13" [54]	
Packaging Dimensions (HxWxL)		4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]	
Standard Order Quantity		5 Units	

### Plug Internal Configuration

#### ProTec T2-XXXPV-P



### Spare Plug



#### Single Unit Dimensions & Packaging

		550	750
<b>ProTec T2-xxxPV-P</b>			
Weight	pounds	.150	.174
	grams	68	79
DIN 43880 Dimension		1 TE / .71" [18]	
Packaging Dimensions (HxWxL)		3.2 x 4.5 x 12" [83 x 115 x 305 mm]	
Standard Order Quantity		24 Units	

inches  
[mm]

## Isolating Spark Gaps (ISG) EPZ 100/350 Ex Class 1L for Light Duty



Corrosion resistant enclosure with hermetic environmental seal and flying leads for ease of connection. Use in places in which an explosive atmosphere consisting of a mixture with air of flammable substances in the form of gas or vapour is not likely to occur in normal operation, but if it does occur, will persist for short period only (usually no longer than two hours).

**Location of Use:** Explosive atmosphere, Zone 2, Group II, Category 3

**Type of Protection:** Equipment Producing Operational Sparks  
**IEC/EN Category:** Class 1L

**Housing:** Corrosion resistant enclosure

**Compliance:** IEC 60079-0:2011

IEC 60079-15:2010

EN 60079-0:2012+A11:2013

EN 60079-15:2010

EN 62561-3:2017



### Technical Data

**EPZ 100/350 Ex**

**350**

#### Intrinsic Safety Parameters

IECEX BAS 15.0069X	Ex nC IIC T5 Gc (-30°C ≤ 70°C)
Basefa15ATEX0102X	II 3G Ex nC IIC T5 Gc (-30°C ≤ 70°C)

#### Electrical

Rated Power Frequency Withstand Voltage	$U_{WAC}$	240V
Rated DC Withstand Voltage	$U_{WDC}$	350V
Rated Impulse Sparkover Voltage	$U_{r imp}$	1000V
Maximum Discharge Current (8/20 μs)	$I_{max}$	100 kA
Impulse Discharge Current (10/350 μs)	$I_{imp}$	25 kA
Specific Energy	W/R	156 kJ/Ω
Charge	Q	12.5 As
Residual Voltage at 5 kA (8/20 μs)	$U_{res}$	1.6 kV
ISG Classification		1 L
Capacitance at 1 MHz	C	< 10 pF

#### Mechanical & Environmental

Temperature Range	Ta	-40 °F to +158 °F [-40 °C to +70 °C]
Nominal Outer Diameter		1.102" [28 mm]
Nominal Length		5.511" [140 mm]
Length With Cables (approx)		37.402" [950 mm]
Cross Sectional Area		6 AWG [16 mm <sup>2</sup> ]
Number of Conductors		≥ 465/0.21
Insulation		Double Insulated
Environmental Protection		UV Stabilized, Flame Retardant
Resistant		Acids, Solvents and Oils
Connection		Suitable for Screw or Lug Termination
Degree of Protection		IP 67
Housing Material		Metal Tube
Location		Indoor/Outdoor

#### Specifications for Use

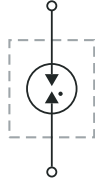
Environmental	Local heating by pipelines and other hot surfaces in vicinity of the installation of the product must be considered by the installer to ensure that specified maximum ambient temperature is not exceeded.
Wiring	Connection of the internal cables must be in accordance with the applicable requirement of IEC 60079-0 and IEC 60079-15 for field wiring connections.
Safety	EPZ has an external non-metallic heat shrink sleeve which may provide a potential electrostatic charging hazard. See installation instructions for further information.

#### Order Information

Order Code	<b>350</b>
EPZ 100/350 Ex	509 521

## EPZ 100/350 Ex

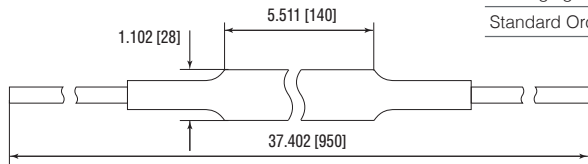
### Internal Configuration



### Complete Unit




#### Complete Unit Dimensions & Packaging

EPZ 100/350 Ex		350
Weight	pounds [grams]	1.103 [500]
Packaging Dimensions (H×W×L)		13.7 × 4.9 × 2.1" [350 × 125 × 55 mm]
Standard Order Quantity		27 Units




inches  
[mm]










	Product Name	Order Code	Dimensions DIN 43880	Catalog Page(s)
<b>Pluggable Single Pole &amp; Multi-pole Surge Protective Devices</b>				
<b>ProTec T1 2+0 (R)</b> 	ProTec T1-75-2+0	59.0349	2 TE	14
	ProTec T1-75-2+0-R	59.0350	2 TE	14
	ProTec T1-150-2+0	59.0019	2 TE	14
	ProTec T1-150-2+0-R	59.0020	2 TE	14
	ProTec T1-300-2+0	59.0021	2 TE	14
	ProTec T1-300-2+0-R	59.0022	2 TE	14
	ProTec T1-350-2+0	59.0023	2 TE	14
	ProTec T1-350-2+0-R	59.0024	2 TE	14
	ProTec T1-480-2+0	59.0025	2 TE	14
	ProTec T1-480-2+0-R	59.0026	2 TE	14
	ProTec T1-750-2+0	59.0027	2 TE	14
ProTec T1-750-2+0-R	59.0028	2 TE	14	
<b>ProTec T1 4+0 (R)</b> 	ProTec T1-150-4+0	59.0039	4 TE	16
	ProTec T1-150-4+0-R	59.0040	4 TE	16
	ProTec T1-300-4+0	59.0041	4 TE	16
	ProTec T1-300-4+0-R	59.0042	4 TE	16
	ProTec T1-350-4+0	59.0351	4 TE	16
	ProTec T1-350-4+0-R	59.0352	4 TE	16
	ProTec T1-480-4+0	59.0043	4 TE	16
	ProTec T1-480-4+0-R	59.0044	4 TE	16
<b>ProTec T1 1+1 (R)</b> 	ProTec T1-75-1+1	59.0047	2 TE	18
	ProTec T1-75-1+1-R	59.0048	2 TE	18
	ProTec T1-150-1+1	59.0049	2 TE	18
	ProTec T1-150-1+1-R	59.0050	2 TE	18
	ProTec T1-300-1+1	59.0051	2 TE	18
	ProTec T1-300-1+1-R	59.0052	2 TE	18
	ProTec T1-350-1+1	59.0053	2 TE	18
	ProTec T1-350-1+1-R	59.0054	2 TE	18
<b>ProTec T1 3+1 (R)</b> 	ProTec T1-300-3+1	59.0059	4 TE	20
	ProTec T1-300-3+1-R	59.0060	4 TE	20
	ProTec T1-350-3+1	59.0061	4 TE	20
	ProTec T1-350-3+1-R	59.0062	4 TE	20
<b>ProTec T1-xxx-P</b>	ProTec T1-75-P	59.0001	1 TE plug	14, 18
	ProTec T1-150-P	59.0002	1 TE plug	14-18
	ProTec T1-300-P	59.0003	1 TE plug	54-64
	ProTec T1-350-P	59.0004	1 TE plug	14-20
	ProTec T1-480-P	59.0005	1 TE plug	14, 16
	ProTec T1-750-P	59.0006	1 TE plug	14
<b>ProTec T1H 2+0 (R)</b> 	ProTec T1H-300-2+0	59.0312	2 TE	22
	ProTec T1H-300-2+0-R	59.0313	2 TE	22
<b>ProTec T1H 4+0 (R)</b> 	ProTec T1H-300-4+0	59.0316	4 TE	24
	ProTec T1H-300-4+0-R	59.0317	4 TE	24



	Product Name	Order Code	Dimensions DIN 43880	Catalog Page(s)
<b>Pluggable Single Pole &amp; Multi-pole Surge Protective Devices</b>				
<i>(continued)</i>				
ProTec T1H 1+1 (R)	ProTec T1H-300-1+1	59.0318	2 TE	26
	ProTec T1H-300-1+1-R	59.0319	2 TE	26
ProTec T1H 3+1 (R)	ProTec T1H-300-3+1	59.0320	4 TE	28
	ProTec T1H-300-3+1-R	59.0321	4 TE	28
ProTec T1H-300-P	ProTec T1H-300-P	59.0308	1 TE plug	22-28
ProTec T1HS 4+0 (R)	ProTec T1HS-300-4+0	59.0260	8 TE	30
	ProTec T1HS-300-4+0-R	59.0261	8 TE	30
ProTec T1HS 3+1 (R)	ProTec T1HS-300-3+1	59.0306	8 TE	32
	ProTec T1HS-300-3+1-R	59.0307	8 TE	32
ProTec T1HS-300-P	ProTec T1HS-300-P	59.0302	1 TE plug	30-32



	Product Name	Order Code	Dimensions DIN 43880	Catalog Page(s)
<b>Pluggable Single Pole &amp; Multi-pole Surge Protective Devices</b>				
<b>ProTec T2 1+0 (R)</b> 	ProTec T2-75-1+0	59.0069	1 TE	34
	ProTec T2-75-1+0-R	59.0070	1 TE	34
	ProTec T2-150-1+0	59.0071	1 TE	34
	ProTec T2-150-1+0-R	59.0072	1 TE	34
	ProTec T2-300-1+0	59.0073	1 TE	34
	ProTec T2-300-1+0-R	59.0074	1 TE	34
	ProTec T2-350-1+0	59.0075	1 TE	34
	ProTec T2-350-1+0-R	59.0076	1 TE	34
	ProTec T2-480-1+0	59.0077	1 TE	34
	ProTec T2-480-1+0-R	59.0078	1 TE	34
	ProTec T2-550-1+0	59.0677	1 TE	34
	ProTec T2-550-1+0-R	59.0678	1 TE	34
	ProTec T2-750-1+0	59.0079	1 TE	34
	ProTec T2-750-1+0-R	59.0080	1 TE	34
<b>ProTec T2 2+0 (R)</b> 	ProTec T2-75-2+0	59.0343	2 TE	36
	ProTec T2-75-2+0-R	59.0344	2 TE	36
	ProTec T2-150-2+0	59.0081	2 TE	36
	ProTec T2-150-2+0-R	59.0082	2 TE	36
	ProTec T2-300-2+0	59.0083	2 TE	36
	ProTec T2-300-2+0-R	59.0084	2 TE	36
	ProTec T2-350-2+0	59.0085	2 TE	36
	ProTec T2-350-2+0-R	59.0086	2 TE	36
	ProTec T2-480-2+0	59.0087	2 TE	36
	ProTec T2-480-2+0-R	59.0088	2 TE	36
	ProTec T2-550-2+0	59.0679	2 TE	36
	ProTec T2-550-2+0-R	59.0680	2 TE	36
	ProTec T2-750-2+0	59.0089	2 TE	36
	ProTec T2-750-2+0-R	59.0090	2 TE	36
<b>ProTec T2 3+0 (R)</b> 	ProTec T2-150-3+0	59.0091	3 TE	38
	ProTec T2-150-3+0-R	59.0092	3 TE	38
	ProTec T2-300-3+0	59.0093	3 TE	38
	ProTec T2-300-3+0-R	59.0094	3 TE	38
	ProTec T2-350-3+0	59.0095	3 TE	38
	ProTec T2-350-3+0-R	59.0096	3 TE	38
	ProTec T2-480-3+0	59.0097	3 TE	38
	ProTec T2-480-3+0-R	59.0098	3 TE	38
	ProTec T2-550-3+0	59.0681	3 TE	38
	ProTec T2-550-3+0-R	59.0682	3 TE	38
	ProTec T2-750-3+0	59.0099	3 TE	38
ProTec T2-750-3+0-R	59.0100	3 TE	38	
<b>ProTec T2 4+0 (R)</b> 	ProTec T2-150-4+0	59.0101	4 TE	40
	ProTec T2-150-4+0-R	59.0102	4 TE	40
	ProTec T2-300-4+0	59.0103	4 TE	40
	ProTec T2-300-4+0-R	59.0104	4 TE	40
	ProTec T2-350-4+0	59.0300	4 TE	40
	ProTec T2-350-4+0-R	59.0301	4 TE	40
	ProTec T2-480-4+0	59.0105	4 TE	40
	ProTec T2-480-4+0-R	59.0106	4 TE	40
	ProTec T2-550-4+0	59.0683	4 TE	40
	ProTec T2-550-4+0-R	59.0684	4 TE	40
<b>ProTec T2 1+1 (R)</b> 	ProTec T2-75-1+1	59.0109	2 TE	42
	ProTec T2-75-1+1-R	59.0110	2 TE	42
	ProTec T2-150-1+1	59.0111	2 TE	42
	ProTec T2-150-1+1-R	59.0112	2 TE	42
	ProTec T2-300-1+1	59.0113	2 TE	42
	ProTec T2-300-1+1-R	59.0114	2 TE	42
	ProTec T2-350-1+1	59.0115	2 TE	42
ProTec T2-350-1+1-R	59.0116	2 TE	42	

	Product Name	Order Code	Dimensions DIN 43880	Catalog Page(s)
<b>Pluggable Single Pole &amp; Multi-pole Surge Protective Devices</b>				
<i>(continued)</i>				
	ProTec T2-300-3+1	59.0121	4 TE	44
	ProTec T2-300-3+1-R	59.0122	4 TE	44
	ProTec T2-350-3+1	59.0123	4 TE	44
	ProTec T2-350-3+1-R	59.0124	4 TE	44
	ProTec T2-75-P	59.0063	1 TE plug	34-26, 42
	ProTec T2-150-P	59.0064	1 TE plug	34-42
	ProTec T2-300-P	59.0065	1 TE plug	34-44
	ProTec T2-350-P	59.0066	1 TE plug	34-44
	ProTec T2-480-P	59.0067	1 TE plug	34-40
	ProTec T2-550-P	59.0685	1 TE plug	34-40
	ProTec T2-750-P	59.0068	1 TE plug	34-38
	ProTec T2-ADV-75-1+0	59.0208	1 TE	48
	ProTec T2-ADV-75-1+0-R	59.0209	1 TE	48
	ProTec T2-ADV-150-1+0	59.0210	1 TE	48
	ProTec T2-ADV-150-1+0-R	59.0211	1 TE	48
	ProTec T2-ADV-300-1+0	59.0212	1 TE	48
	ProTec T2-ADV-300-1+0-R	59.0213	1 TE	48
	ProTec T2-ADV-350-1+0	59.0214	1 TE	48
	ProTec T2-ADV-350-1+0-R	59.0215	1 TE	48
	ProTec T2-ADV-480-1+0	59.0216	1 TE	48
ProTec T2-ADV-480-1+0-R	59.0217	1 TE	48	
	ProTec T2-ADV-75-2+0	59.0347	2 TE	50
	ProTec T2-ADV-75-2+0-R	59.0348	2 TE	50
	ProTec T2-ADV-150-2+0	59.0220	2 TE	50
	ProTec T2-ADV-150-2+0-R	59.0221	2 TE	50
	ProTec T2-ADV-300-2+0	59.0222	2 TE	50
	ProTec T2-ADV-300-2+0-R	59.0223	2 TE	50
	ProTec T2-ADV-350-2+0	59.0224	2 TE	50
	ProTec T2-ADV-350-2+0-R	59.0225	2 TE	50
	ProTec T2-ADV-480-2+0	59.0226	2 TE	50
ProTec T2-ADV-480-2+0-R	59.0227	2 TE	50	
	ProTec T2-ADV-150-3+0	59.0228	3 TE	52
	ProTec T2-ADV-150-3+0-R	59.0229	3 TE	52
	ProTec T2-ADV-300-3+0	59.0230	3 TE	52
	ProTec T2-ADV-300-3+0-R	59.0231	3 TE	52
	ProTec T2-ADV-350-3+0	59.0232	3 TE	52
	ProTec T2-ADV-350-3+0-R	59.0233	3 TE	52
	ProTec T2-ADV-480-3+0	59.0234	3 TE	52
ProTec T2-ADV-480-3+0-R	59.0235	3 TE	52	
	ProTec T2-ADV-150-4+0	59.0236	4 TE	54
	ProTec T2-ADV-150-4+0-R	59.0237	4 TE	54
	ProTec T2-ADV-300-4+0	59.0238	4 TE	54
	ProTec T2-ADV-300-4+0-R	59.0239	4 TE	54
	ProTec T2-ADV-350-4+0	59.0240	4 TE	54
	ProTec T2-ADV-350-4+0-R	59.0241	4 TE	54
	ProTec T2-ADV-480-4+0	59.0242	4 TE	54
ProTec T2-ADV-480-4+0-R	59.0243	4 TE	54	
	ProTec T2-ADV-75-P	59.0202	1 TE plug	48-50
	ProTec T2-ADV-150-P	59.0203	1 TE plug	48-54
	ProTec T2-ADV-300-P	59.0204	1 TE plug	48-54
	ProTec T2-ADV-350-P	59.0205	1 TE plug	48-54
	ProTec T2-ADV-480-P	59.0206	1 TE plug	48-54


ProTec T2H 2+0 (R)		ProTec T2H-300-2+0	59.0326	2 TE	56
		ProTec T2H-300-2+0-R	59.0327	2 TE	56
ProTec T2H 3+0 (R)		ProTec T2H-300-3+0	59.0328	3 TE	58
		ProTec T2H-300-3+0-R	59.0329	3 TE	58
ProTec T2H 4+0 (R)		ProTec T2H-300-4+0	59.0330	4 TE	60
		ProTec T2H-300-4+0-R	59.0331	4 E	60
ProTec T2H 1+1 (R)		ProTec T2H-300-1+1	59.0332	2 TE	62
		ProTec T2H-300-1+1-R	59.0333	2 TE	62
ProTec T2H 3+1 (R)		ProTec T2H-300-3+1	59.0334	4 TE	64
		ProTec T2H-300-3+1-R	59.0335	4 TE	64
ProTec T2H-300-P		ProTec T2H-300-P	59.0322	1 TE plug	56-64
ProTube T2 0+1 (R)		ProTube T2-40-0+1	59.0280	1 TE	46
		ProTube T2-40-0+1-R	59.0336		46
SafeTec T2 2+0 (R)		SafeTec T2-75-2+0	59.0345	2 TE	66
		SafeTec T2-75-2+0-R	59.0346	2 TE	66
		SafeTec T2-150-2+0	59.0148	2 TE	66
		SafeTec T2-150-2+0-R	59.0149	2 TE	66
		SafeTec T2-300-2+0	59.0150	2 TE	66
		SafeTec T2-300-2+0-R	59.0151	2 TE	66
		SafeTec T2-350-2+0	59.0152	2 TE	66
		SafeTec T2-350-2+0-R	59.0153	2 TE	66
		SafeTec T2-480-2+0	59.0154	2 TE	66
		SafeTec T2-480-2+0-R	59.0155	2 TE	66
		SafeTec T2-550-2+0	59.0156	2 TE	66
		SafeTec T2-550-2+0-R	59.0157	2 TE	66
		SafeTec T2-750-2+0	59.0158	2 TE	66
		SafeTec T2-750-2+0-R	59.0159	2 TE	66
		SafeTec T2-880-2+0	59.0160	2 TE	66
		SafeTec T2-880-2+0-R	59.0161	2 TE	66
SafeTec T2 4+0 (R)		SafeTec T2-150-4+0	59.0176	4 TE	68
		SafeTec T2-150-4+0-R	59.0177	4 TE	68
		SafeTec T2-300-4+0	59.0178	4 TE	68
		SafeTec T2-300-4+0-R	59.0179	4 TE	68
		SafeTec T2-350-4+0	59.0180	4 TE	68
		SafeTec T2-350-4+0-R	59.0181	4 TE	68
		SafeTec T2-480-4+0	59.0182	4 TE	68
		SafeTec T2-480-4+0-R	59.0183	4 TE	68
		SafeTec T2-550-4+0	59.0184	4 TE	68
		SafeTec T2-550-4+0-R	59.0185	4 TE	68

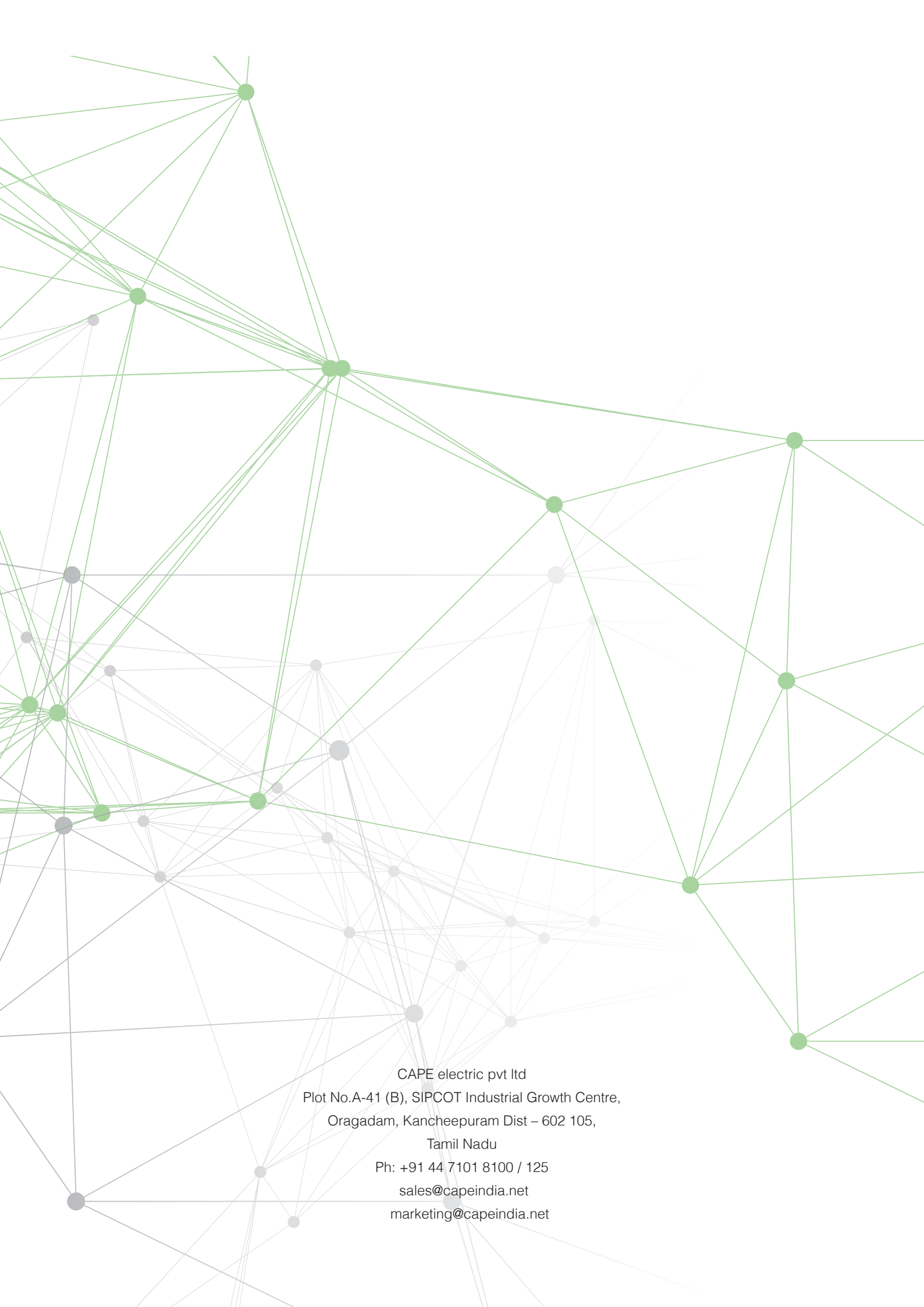
<b>SafeTec T2 1+1 (R)</b> 	SafeTec T2-75-1+1	59.0186	2 TE	70
	SafeTec T2-75-1+1-R	59.0187	2 TE	70
	SafeTec T2-150-1+1	59.0188	2 TE	70
	SafeTec T2-150-1+1-R	59.0189	2 TE	70
	SafeTec T2-300-1+1	59.0190	2 TE	70
	SafeTec T2-300-1+1-R	59.0191	2 TE	70
	SafeTec T2-350-1+1	59.0192	2 TE	70
	SafeTec T2-350-1+1-R	59.0193	2 TE	70
<b>SafeTec T2 3+1 (R)</b> 	SafeTec T2-300-3+1	59.0198	4 TE	72
	SafeTec T2-300-3+1-R	59.0199	4 TE	72
	SafeTec T2-350-3+1	59.0200	4 TE	72
	SafeTec T2-350-3+1-R	59.0201	4 TE	72
<b>SafeTec T2-xxx-P</b>	SafeTec T2-75-P	59.0125	1 TE plug	66,70
	SafeTec T2-150-P	59.0126	1 TE plug	66-70
	SafeTec T2-300-P	59.0127	1 TE plug	66-72
	SafeTec T2-350-P	59.0128	1 TE plug	66-72
	SafeTec T2-480-P	59.0129	1 TE plug	66,68
	SafeTec T2-550-P	59.0299	1 TE plug	66,68
	SafeTec T2-750-P	59.0130	1 TE plug	66
	SafeTec T2-880-P	59.0131	1 TE plug	66

## Type 1 • Type 2 • Type 1 CA

	Product Name	Order Code	Dimensions DIN 43880	Catalog Page(s)
<b>Pluggable Multi-Pole SPD for Photovoltaic Systems</b>				
<b>ProTec T1-PV-3+0 (R)</b> 	ProTec T1-1100PV-3+0	59.0285	3 TE	74
	ProTec T1-1100PV-3+0-R	59.0286	3 TE	74
	ProTec T1-1500PV-3+0	59.0289	3 TE	74
	ProTec T1-1500PV-3+0-R	59.0290	3 TE	74
<b>ProTec T1-xxx-PV-(M)-P</b>	ProTec T1-550PV-P	59.0283	1 TE plug	74
	ProTec T1-550PV-M-P	59.0284	1 TE plug	74
	ProTec T1-750PV-P	59.0287	1 TE plug	74
	ProTec T1-750PV-M-P	59.0288	1 TE plug	74
<b>ProTec T2-PV-3+0 (R)</b> 	ProTec T2-1100PV-3+0	59.0292	3 TE	76
	ProTec T2-1100PV-3+0-R	59.0293	3 TE	76
	ProTec T2-1500PV-3+0	59.0295	3 TE	76
	ProTec T2-1500PV-3+0-R	59.0296	3 TE	76
<b>ProTec T2-xxx-PV-P</b>	ProTec T2-550PV-P	59.0291	1 TE plug	76
	ProTec T2-750PV-P	59.0294	1 TE plug	76

## Class 1L

	Product Name	Order Code	Dimensions DIN 43880	Catalog Page(s)
<b>Isolating Spark Gap</b>				
<b>EPZ 100/350 Ex</b> 	EPZ 100/350	509 521		78



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