

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



Location of Use: Main Distribution Boards  
 Network Systems: TT, TN-S  
 Mode of Protection: L-N, N-PE  
 IEC/EN Category: Class I+II / Type 1+2  
 Housing: Pluggable Design  
 Compliance: IEC 61643-11:2011  
 EN 61643-11:2012+A11:2018

**Technical Data**

**ProTec T1-xxx-3+1-LH(-R)**

**300**

**IEC Electrical**

|  |                        |                                    |
|--|------------------------|------------------------------------|
| Nominal AC Voltage (50/60Hz)               | $U_o/U_n$              | 240 V                              |
| Maximum Continuous Operating Voltage       | (L-N) $U_c$            | 300 V                              |
|  | (N-PE) $U_c$           | 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) $I_{max}$ | 40 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                    |
| Follow Current Interrupt Rating (AC)       | (N-PE) $I_{fi}$        | 100 A                              |
| Response Time                              | (L-N)/(N-PE) $t_A$     | < 25 ns / < 100 ns                 |
| Overcurrent Protection (max)               |                        | 160 A gG                           |
| Short-Circuit Current Rating (AC)          | (L-N) $I_{SCCR}$       | 50 kA                              |
| TOV Withstand 5s                           | (L-N) $U_T$            | 337 V                              |
| TOV 120min                                 | (L-N) $U_T$            | 442 V                              |
|  | mode                   | Safe Fail                          |
| TOV Withstand 200ms                        | (N-PE) $U_T$           | 1200 V                             |
| Number of Ports                            |                        | 1                                  |

**Additional Electrical Parameters** (Tests performed within Raycap testing laboratory only)

|   |           |               |
|---|-----------|---------------|
| Residual Voltage at 5 kA (8/20 $\mu$ s) | $U_{res}$ | 700 V / 305 V |
| Overcurrent Protection (min)            |           | 160 A gG      |

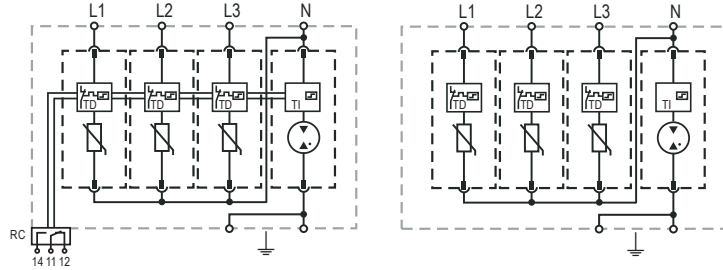
**Mechanical & Environmental**

|                                    |           |  |
|------------------------------------|-----------|--|
| Operating Temperature Range        | $T_a$     | -40 °F to +185 °F [-40 °C to +85 °C]                                 |
| Permissible Operating Humidity     | RH        | 5%...95%   |
| Altitude (max)                     |           | 13123 ft [4000m]   |
| Terminal Screw Torque              | $M_{max}$ | 40 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)                         |

## Internal Configuration

### Legend

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



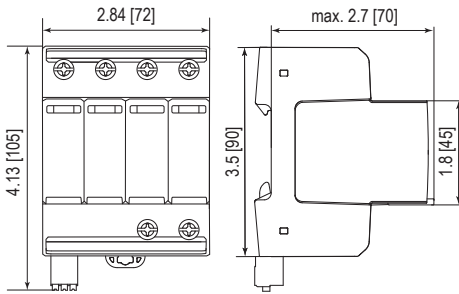
### ProTec T1-xxx-3+1-LH(-R)

#### Order Information

|   |            |
|---|------------|
| Order Code                                    | <b>300</b> |
| ProTec T1-xxx-3+1-LH                          | 59.A381    |
| ProTec T1-xxx-3+1-LH-R (with remote contacts) | 59.A382    |
| ProTec T1-xxx-LH-P (plug L-N)                 | 59.A383    |
| ProTube T1-50-LH-P (plug N-PE)                | 59.A385    |

## Dimensions & Packaging

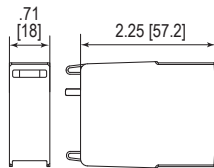
inches [mm]



#### Complete Unit

|                               |  |
|-------------------------------|--|
| <b>ProTec T1-xxx-3+1-LH</b>   | <b>300</b>                             |
| Weight                        | pounds 1.419                           |
|                               | grams 644                              |
| <b>ProTec T1-xxx-3+1-LH-R</b> |  |
| Weight                        | pounds 1.441                           |
|                               | grams 654                              |
| DIN 43880 Dimension           | 4 TE / 2.84" [72]                      |
| Packaging Dimensions (HxWxL)  | 4.3 x 4.5 x 13.8" [109 x 115 x 352 mm] |
| Standard Order Quantity       | 4 Units                                |

## Spare Plug



#### Single Unit

|                              |  |
|------------------------------|--|
| <b>ProTec T1-xxx-LH-P</b>    | <b>300</b>                             |
| Weight                       | pounds .255                            |
|                              | grams 116                              |
| <b>ProTube T1-50-LH-P</b>    | <b>50</b>                              |
| Weight                       | pounds .112                            |
|                              | grams 51                               |
| DIN 43880 Dimension          | 1 TE / .71" [18]                       |
| Packaging Dimensions (HxWxL) | 4.3 x 4.5 x 13.8" [109 x 116 x 352 mm] |
| Standard Order Quantity      | 24 Units                               |