

# 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+A11:2018  
 UL 1449 5th Edition



## Technical Data

### ProTec T2-ADV-xxx-2+0(-R)

|                                           |            | 75        | 150       | 300       | 350       | 480       |
|-------------------------------------------|------------|-----------|-----------|-----------|-----------|-----------|
| <b>IEC Electrical</b>                     |            |           |           |           |           |           |
| Nominal AC Voltage (50/60Hz)              | $U_o/U_n$  | 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    |           |           |           |           |
| Overvoltage Category                      |            | III       |           |           |           |           |
| Maximum Backup fuse, if required          |            | 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         |           |           |           |           |

### UL Electrical

|                                           |       |       |       |       |       |       |
|-------------------------------------------|-------|-------|-------|-------|-------|-------|
| 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 |

### Additional Electrical Parameters - Standard (Tests performed within Raycap testing laboratory only)

|                                         |           |        |      |       |       |       |
|-----------------------------------------|-----------|--------|------|-------|-------|-------|
| Residual Voltage at 5 kA (8/20 $\mu$ s) | $U_{res}$ | 400V   | 700V | 1000V | 1300V | 1600V |
| Minimum Backup fuse, if required        |           | 80A gG |      |       |       |       |

### Additional Electrical Parameters - Extended (Additionally tested by VDE)

|                                   |            |         |  |  |  |  |
|-----------------------------------|------------|---------|--|--|--|--|
| Short-Circuit Current Rating (AC) | $I_{SCCR}$ | 100kA   |  |  |  |  |
| Maximum Backup fuse, if required  |            | 160A gG |  |  |  |  |

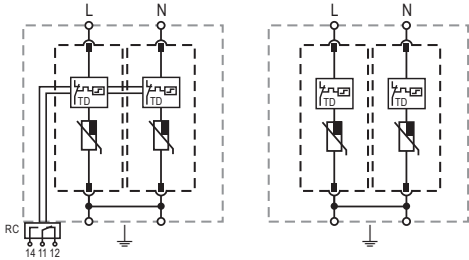
### Mechanical & Environmental

|                                    |           |                                                                      |  |  |  |  |
|------------------------------------|-----------|----------------------------------------------------------------------|--|--|--|--|
| Operating Temperature Range        | $T_a$     | -40 °F to +185 °F [-40 °C to +85 °C]                                 |  |  |  |  |
| Permissible Operating Humidity     | RH        | 5%...95%                                                             |  |  |  |  |
| Pollution Degree                   |           | 2                                                                    |  |  |  |  |
| 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)                         |  |  |  |  |
| Overvoltage Category               |           | III                                                                  |  |  |  |  |

Internal Configuration

Legend

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



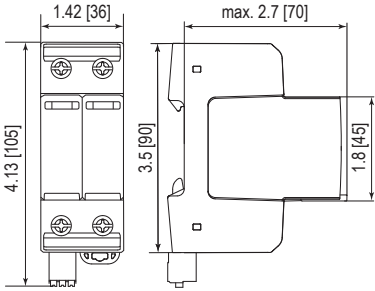
ProTec T2-ADV-xxx-2+0(-R)

Order Information

| 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 |

Dimensions & Packaging

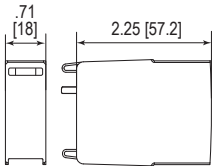
inches [mm]



Complete Unit

| ProTec T2-ADV-xxx-2+0        |        | 75   | 150                                   | 300  | 350  | 480  |
|------------------------------|--------|------|---------------------------------------|------|------|------|
| Weight                       | pounds | .544 | .562                                  | .593 | .615 | .637 |
|                              | grams  | 247  | 255                                   | 269  | 279  | 289  |
| ProTec T2-ADV-xxx-2+0-R      |        |      |                                       |      |      |      |
| Weight                       | pounds | .575 | .593                                  | .610 | .646 | .668 |
|                              | grams  | 261  | 269                                   | 267  | 293  | 303  |
| DIN 43880 Dimension          |        |      | 2 TE / 1.42" [36mm]                   |      |      |      |
| Packaging Dimensions (HxWxL) |        |      | 4.3 x 4.5 x 13.8" [109 x 115 x 352mm] |      |      |      |
| Standard Order Quantity      |        |      | 7 Units                               |      |      |      |

Spare Plug



Single Unit

| ProTec T2-ADV-xxx-P          |        | 75   | 150                                 | 300  | 350  | 480  |
|------------------------------|--------|------|-------------------------------------|------|------|------|
| Weight                       | pounds | .120 | .127                                | .143 | .154 | .165 |
|                              | grams  | 54   | 58                                  | 65   | 70   | 75   |
| DIN 43880 Dimension          |        |      | 1 TE / .71" [18mm]                  |      |      |      |
| Packaging Dimensions (HxWxL) |        |      | 3.2 x 4.5 x 12" [83 x 116 x 305 mm] |      |      |      |
| Standard Order Quantity      |        |      | 24 Units                            |      |      |      |