

Overvoltage Protection **ProTec T2 3+0**

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



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
 Open Type 1 SPD Listed
 Housing: Pluggable Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012+A11:2018
 UL 1449 5th Edition

Technical Data

| ProTec T2-xxx-3+0(-R) & ProTec T2-xxx-3+0-US(-R) | | 150 | 300 | 350 | 440** | 480 | 550*** | 750 |
|--|------------|---|-----------|-----------|-----------|-----------|-----------|-----------|
| IEC Electrical | | | | | | | | |
| Nominal AC Voltage (50/60Hz) | U_o/U_n | 120V | 240V | 277V | 230V | 400V | 480V | 600V |
| Maximum Continuous Operating Voltage (AC) | U_c | 150V | 300V | 350V | 440V | 480V | 550V | 750V |
| Nominal Discharge Current (8/20 μ s) | I_n | 20kA | 20kA | 20kA | 20kA | 20kA | 20kA | 20kA |
| Maximum Discharge Current (8/20 μ s) | I_{max} | 50kA | 50kA | 50kA | 50kA | 50kA | 50kA | 35kA |
| Voltage Protection Level | U_p | 1250V | 1500V | 1750V | 1800V | 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 | 440V | 581V | 697V | 871V |
| TOV 120min | U_T | 229V | 442V | 529V | 440V | 762V | 915V | 1143V |
| Number of Ports | mode | Withstand | Safe Fail | Safe Fail | Withstand | Safe Fail | Safe Fail | Safe Fail |
| | | 1 | | | | | | |
| UL Electrical | | | | | | | | |
| 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 μ s) | I_n | 20kA | 20kA | 20kA | - | 20kA | 20kA | 20kA |
| Short-Circuit Current Rating (AC) | SCCR | 200kA | 150kA | 200kA | - | 200kA | 200kA | 200kA |
| Additional Electrical Parameters - Standard (Tests performed within Raycap testing laboratory only) | | | | | | | | |
| Residual Voltage at 5 kA (8/20 μ s) | U_{res} | 750V | 1000V | 1300V | 1400V | 1500V | 1800V | 2500V |
| Overcurrent Protection (min) | | 80 A gG | | | | | | |
| Additional Electrical Parameters - Extended (Additionally tested by VDE) | | | | | | | | |
| Short-Circuit Current Rating (AC) | I_{SCCR} | 100 kA | | | | | | |
| Overcurrent Protection (max) | | 250 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} | 35 lbf-in per UL 1499 [4.5 Nm] | | | | | | |
| Conductor Cross Section (max) | | 6 AWG (Solid, Stranded) per UL 1449 35 mm ² (Solid, Stranded) / 25 mm ² (Flexible) | | | | | | |
| Mounting | | 35 mm DIN Rail, EN 60715 | | | | | | |
| Degree of Protection | | IP 20 (built-in) | | | | | | |
| Housing Material | | Thermoplastic: Extinguishing Degree UL 94 V-0 | | | | | | |
| Thermal Protection | | Yes | | | | | | |
| Operating State / Fault Indication | | Green Flag / Not Green Flag | | | | | | |
| Remote Contacts (RC) | | Optional | | | | | | |
| RC Switching Capacity | | AC: 250V/1A, 125V/1A; DC: 48V/0.5A, 24V/0.5A, 12V/0.5A | | | | | | |
| RC Conductor Cross Section (max) | | 10AWG (Solid, Stranded) per UL 1449 [1.5 mm ² (Solid)] | | | | | | |

**No VDE and UL certification.

***No VDE certification.

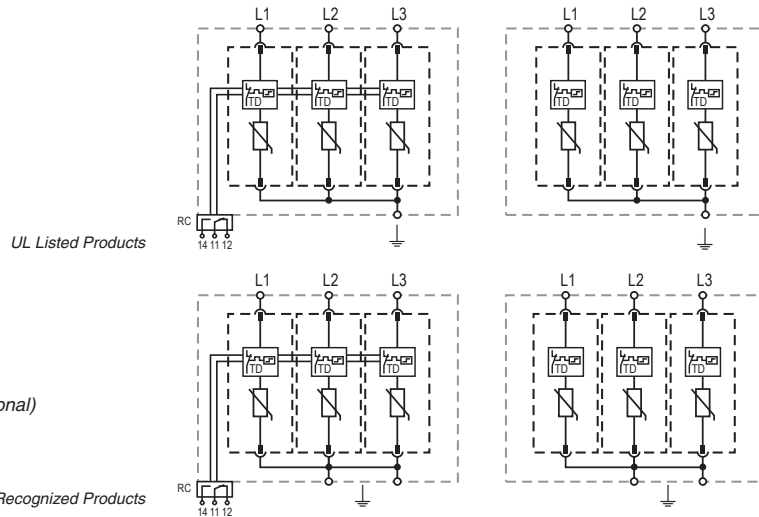
Technical Data includes technical values for both UL Recognized and Open Type 1 UL Listed products.

Mechanical Data includes only technical values for Open Type 1 UL Listed products.

Connection Configurations can be found in QR Code link on intro page.



Internal Configuration



Legend

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

ProTec T2-xxx-3+0(-R)

Order Information VDE Certified and UL Recognized Products

| Order Code | 150 | 300 | 350 | 440** | 480 | 550*** | 750 |
|--|---------|---------|---------|---------|---------|---------|---------|
| ProTec T2-xxx-3+0 | 59.0091 | 59.0093 | 59.0095 | 59.0550 | 59.0097 | 59.0681 | 59.0099 |
| ProTec T2-xxx-3+0-R (with remote contacts) | 59.0092 | 59.0094 | 59.0096 | 59.0551 | 59.0098 | 59.0682 | 59.0100 |
| ProTec T2-xxx-P (plug) | 59.0064 | 59.0065 | 59.0066 | 59.0547 | 59.0067 | 59.0685 | 59.0068 |

ProTec T2-xxx-3+0-US(-R)

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

Order Information VDE Certified and Open Type 1 UL Listed Products

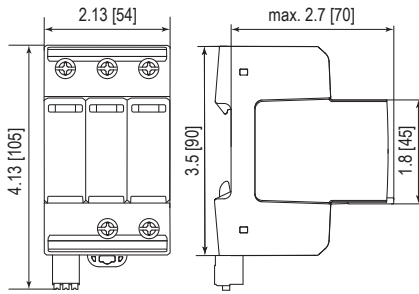
| Order Code | 150 | 300 | 350 | 440** | 480 | 550*** | 750 |
|---|---------|---------|---------|---------|---------|---------|---------|
| ProTec T2-xxx-3+0-US | 59.B099 | 59.B101 | 59.B103 | - | 59.B105 | 59.B107 | 59.B109 |
| ProTec T2-xxx-3+0-US-R (with remote contacts) | 59.B100 | 59.B102 | 59.B104 | - | 59.B106 | 59.B108 | 59.B110 |
| ProTec T2-xxx-P (plug) | 59.0064 | 59.0065 | 59.0066 | 59.0547 | 59.0067 | 59.0685 | 59.0068 |

**No VDE and UL certification.

***No VDE certification.

Dimensions & Packaging

inches [mm]



Complete Unit UL Recognized Products

| ProTec T2-xxx-3+0 | 150 | 300 | 350 | 440** | 480 | 550*** | 750 |
|-------------------|--------|------|------|-------|------|--------|------|
| Weight | pounds | .800 | .820 | .853 | .867 | .893 | .910 |
| | grams | 363 | 372 | 387 | 393 | 405 | 413 |

ProTec T2-xxx-3+0-R

| | | | | | | | |
|--------|--------|------|------|------|------|------|------|
| Weight | pounds | .820 | .840 | .873 | .886 | .912 | .933 |
| | grams | 372 | 381 | 396 | 402 | 414 | 423 |

Complete Unit UL Listed Products

| ProTec T2-xxx-3+0-US | 150 | 300 | 350 | 440** | 480 | 550*** | 750 |
|----------------------|--------|------|------|-------|------|--------|------|
| Weight | pounds | .780 | .800 | .833 | .847 | .873 | .890 |
| | grams | 354 | 363 | 378 | 384 | 396 | 404 |

ProTec T2-xxx-3+0-US-R

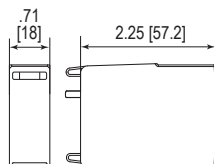
| | | | | | | | |
|--------|--------|------|------|------|------|------|------|
| Weight | pounds | .800 | .820 | .853 | .866 | .892 | .913 |
| | grams | 363 | 372 | 387 | 393 | 405 | 414 |

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

Spare Plug



Single Unit

| ProTec T2-xxx-P | 150 | 300 | 350 | 440** | 480 | 550*** | 750 |
|-----------------|--------|------|------|-------|------|--------|------|
| Weight | pounds | .123 | .130 | .141 | .146 | .154 | .163 |
| | grams | 56 | 59 | 64 | 66 | 70 | 74 |

DIN 43880 Dimension 1 TE / .71" [18]

Packaging Dimensions (HxWxL) 3.2 x 4.5 x 12" [83 x 116 x 305 mm]

Standard Order Quantity 24 Units