

# Pluggable Multi-Pole SPD for DC Systems

## ProTec T2 DCGU 3Y

### Class II • DC SPD Type 4CA



Location of Use: DC Systems, EV Chargers  
 Network Systems: Unipolar grounded / ungrounded, TN, TT\*, IT\*  
 Mode of Protection: (+)-PE/G, (-)-PE/G, (+)-(-)  
 IEC/UL Category: Class II, DC SPD Type 4CA  
 Housing: Pluggable Design  
 Compliance: IEC FDIS 61643-41 Edition 1  
 UL 1449 5th Edition



## Technical Data

### ProTec T2-xxxxDCGU-3Y(-R)

1000

#### IEC Electrical

|                                            |                  |                    |
|--------------------------------------------|------------------|--------------------|
| Nominal DC System Voltage                  | (+)-(-) $U_n$    | 900 V              |
| Maximum Continuous Operating Voltage (DC)  | (+)-(-) $U_c$    | 1000 V             |
|                                            | (+)/(-)-PE $U_c$ | 1000 V             |
| Nominal Discharge Current (8/20 $\mu$ s)   | $I_n$            | 20 kA              |
| Maximum Discharge Current                  | $I_{max}$        | 40 kA              |
| Impulse Discharge Current (10/350 $\mu$ s) | $I_{imp}$        | 2.5 kA             |
| Total Discharge Current (8/20 $\mu$ s)     | $I_{Total}$      | 65 kA              |
| Voltage Protection Level                   | (+)-(-) $U_p$    | 3700 V             |
|                                            | (+)-PE $U_p$     | 2400 V             |
|                                            | (-)-PE $U_p$     | 2400 V             |
| Response Time                              | (+)-(-) $t_A$    | <25 ns             |
|                                            | (+)/(-)-PE $t_A$ | <100 ns            |
| Overvoltage Category                       |                  | III                |
| Overcurrent Protection (max)               |                  | 200 AgBat**        |
| Short-Circuit Current Rating (DC)          | $I_{SCCR}$       | 30 kA (L/R < 3 ms) |
| Number of Ports                            |                  | 1                  |

#### UL Electrical

|                                          |                       |        |
|------------------------------------------|-----------------------|--------|
| Maximum Permitted DC Voltage             | (+)-(-) $V_{dmcov}$   | 1000 V |
|                                          | (+)/(-)-G $V_{dmcov}$ | 1000 V |
| Measured Limiting Voltage                | (+)-(-) MLV           | 3700 V |
|                                          | (+)/(-)-G MLV         | 4300 V |
| Nominal Discharge Current (8/20 $\mu$ s) | $I_n$                 | 20 kA  |

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

|                                                              |           |        |
|--------------------------------------------------------------|-----------|--------|
| Rated DC withstand voltage (in accordance with IEC 61851-23) | $U_{WDC}$ | 1200 V |
|--------------------------------------------------------------|-----------|--------|

#### 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)                     |           | 6562 ft [2000 m]                                                     |
| Terminal Screw Torque              | $M_{max}$ | 35 lbf-in per UL 1449 [4.5 Nm]                                       |
| Conductor Cross Section (max)      |           | 6 AWG (Solid, Stranded) per UL 1449                                  |
|                                    |           | 35 mm <sup>2</sup> (Solid, Stranded) / 25 mm <sup>2</sup> (Flexible) |
|                                    |           | Cu Only per UL 1449                                                  |
| 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: 125 V / 1 A; DC: 48 V / 0.5 A, 24 V / 0.5 A, 12 V / 0.5 A        |
| RC Conductor Cross Section (max)   |           | 16 AWG (Solid) / 1.5 mm <sup>2</sup> (Solid)                         |
| Overvoltage Category               |           | III                                                                  |

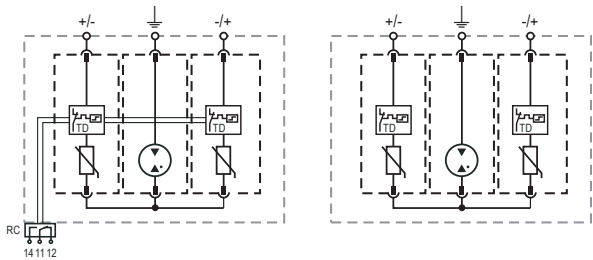
\*Only for DC power systems which are electrically separated from AC power systems.

\*\*ETI NH1 BAT 200A/1500V DC (004110656)

Internal Configuration

Legend

- PE / G Conductor Terminal
- RC Remote Contacts Terminal (Optional)
- TD Thermal Disconnecter

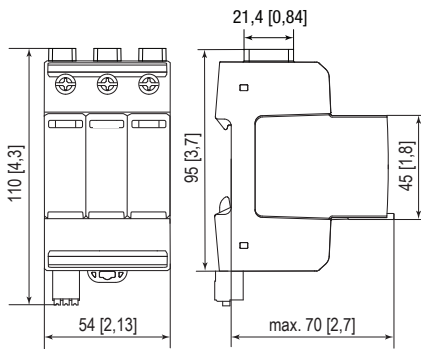


Order Information

|                                                |         |
|------------------------------------------------|---------|
| Order Code                                     | 1000    |
| ProTec T2-xxxxDCGU-3Y                          | 59.C380 |
| ProTec T2-xxxxDCGU-3Y-R (with remote contacts) | 59.C381 |
| ProTec T2-500DCGU-M-P (plug)                   | 59.C383 |
| ProTube T2-500DCGU-P (middle plug)             | 59.C382 |

Dimensions & Packaging

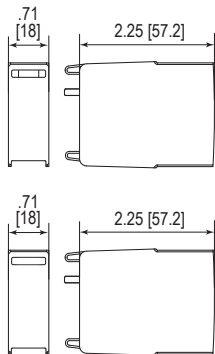
inches [mm]



Complete Unit Dimensions & Packaging

|                              |                                        |
|------------------------------|----------------------------------------|
| ProTec T2-xxxxDCGU-3Y        | 1000                                   |
| Weight                       | pounds .758                            |
|                              | grams 344                              |
| ProTec T2-xxxxDCGU-3Y-R      |                                        |
| Weight                       | pounds .778                            |
|                              | grams 353                              |
| DIN 43880 Dimension          | 3 TE / 2.13" [54mm]                    |
| 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 Dimensions & Packaging

|                              |                                     |
|------------------------------|-------------------------------------|
| ProTec T2-xxxDCGU-M-P        | 500                                 |
| Weight                       | pounds .148                         |
|                              | grams 67                            |
| ProTube T2-xxxDCGU-P         | 500                                 |
| Weight                       | pounds .088                         |
|                              | grams 40                            |
| DIN 43880 Dimension          | 1 TE / .70" [18 mm]                 |
| Packaging Dimensions (HxWxL) | 3.2 x 4.5 x 12" [83 x 116 x 305 mm] |
| Standard Order Quantity      | 24 Units                            |