

# Box with Multi-Pole SPD for Photovoltaic Systems

## ProTec T1 PV(-3Y)(-S)-RG-Box

Class I • Class II • Type 1 • Type 2



Location of Use: Photovoltaic Systems  
 Mode of Protection: (+)-PE, (-)-PE, (+)-(-)  
 IEC/EN Category: Class I+II, Type 1+2  
 Housing: IP 65 Enclosure  
 Compliance: EN 61643-31:2019  
 IEC 61643-31:2018



### Technical Data

#### ProTec T1 PV(-3Y)(-S)-RG-Box

1100

1500

#### EN Electrical

|                                            |             |                   |                   |
|--------------------------------------------|-------------|-------------------|-------------------|
| Maximum Continuous Operating Voltage (DC)  | $U_{OPV}$   | 1100V             | 1500V             |
| Nominal Discharge Current (8/20 $\mu$ s)   | $I_n$       | 20 kA             | 20 kA             |
| Total Discharge Current (8/20 $\mu$ s)     | $I_{total}$ | 50 kA             | 50 kA             |
| Maximum Discharge Current (8/20 $\mu$ s)   | $I_{max}$   | 40 kA             | 50 kA             |
| Impulse Discharge Current (10/350 $\mu$ s) | $I_{imp}$   | 6.25 kA           | 6.25 kA           |
| Total Discharge Current (10/350 $\mu$ s)   | $I_{total}$ | 12.5 kA           | 12.5 kA           |
| Specific Energy                            | W/R         | 9.77 kJ/ $\Omega$ | 9.77 kJ/ $\Omega$ |
| Charge                                     | Q           | 3.125 As          | 3.125 As          |
| Voltage Protection Level                   | $U_p$       | < 4.4 kV          | < 5.2 kV          |
| Rated Load Current                         | $I_L$       | 35 A              | 35 A              |
| Response Time                              | $t_A$       | < 25 ns           | < 25 ns           |
| Overvoltage Category                       |             | III               | III               |
| Short Circuit Current Rating               | $I_{SCPV}$  | 11 kA             | 30 kA             |
| Number of Strings per MPPT                 |             | 1                 |                   |

#### Mechanical & Environmental

|                                                                        |       |                                                    |  |
|------------------------------------------------------------------------|-------|----------------------------------------------------|--|
| Temperature Range                                                      | $T_a$ | -40 °F to +185 °F [-40 °C to +85 °C]               |  |
| Permissible Humidity                                                   | RH    | 5%...95%                                           |  |
| Pollution Degree                                                       |       | 2                                                  |  |
| Altitude                                                               |       | 13123 ft [4000 m]                                  |  |
| Type of Cable Entry                                                    |       | Cable Gland / Rubber Grommet                       |  |
| Wire Insulation Outer Diameter                                         | (min) | .15" [4 mm] (stranded, flexible)                   |  |
|                                                                        | (max) | .31" [8 mm] (stranded, flexible)                   |  |
| Conductor Cross Section [Cable Gland]                                  | (min) | 24 AWG [0.2 mm <sup>2</sup> ] (stranded, flexible) |  |
|                                                                        | (max) | 5 AWG [16 mm <sup>2</sup> ] (stranded, flexible)   |  |
| 2 Conductors with Same Cross Section and Twin Ferrule [Rubber Grommet] | (min) | 20 AWG [0.5 mm <sup>2</sup> ] (stranded, flexible) |  |
|                                                                        | (max) | 9 AWG [6 mm <sup>2</sup> ] (stranded, flexible)    |  |
| Degree of Protection                                                   |       | IP 65                                              |  |
| Thermal Protection                                                     |       | Yes                                                |  |
| Operating State / Fault Indication                                     |       | Green Flag / Not Green Flag                        |  |
| Housing Material                                                       |       | Polycarbonate with Semi-transparent                |  |
| Mounting                                                               |       | Wall - Indoor/Outdoor                              |  |

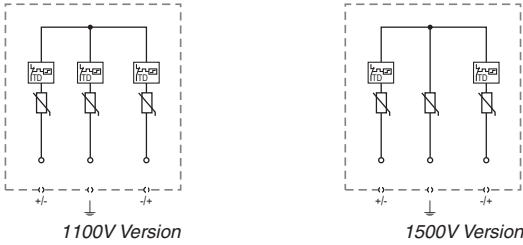
Internal Configuration

**Legend**

+/-, -/+      Terminal for +/-, -/+ Conductor

⏏      Terminal for PE/G Conductor

TD      Thermal Disconnect

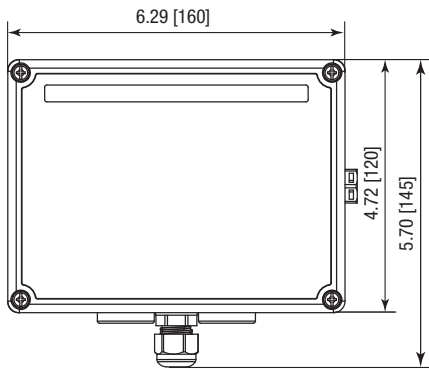
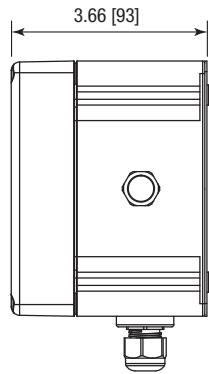


Order Information

| Order Code                   | 1100    | 1500    |
|------------------------------|---------|---------|
| ProTec T1-xxxxPV-3Y-RG-Box   | 515 649 | -       |
| ProTec T1-xxxxPV-3Y-S-RG-Box | -       | 515 651 |

Dimensions & Packaging

inches [mm]



| Complete Unit                    |                |                                       |             |
|----------------------------------|----------------|---------------------------------------|-------------|
| ProTec T1-xxxxPV-3Y(-S)-Box      |                | 1100                                  | 1500        |
| Single Unit Weight               | pounds [grams] | 1.94 [881]                            | 2.17 [986]  |
| ProTec T1-xxxxPV-3Y(-S)-RG-Box   |                |                                       |             |
| Single Unit Weight               | pounds [grams] | 2.46 [1117]                           | 2.86 [1298] |
| Packaging Dimensions (H x W x L) |                | 4.1 x 6.9 x 7.8" [105 x 175 x 200 mm] |             |
| Minimum Package Quantity         |                | 1 Unit                                |             |