

Enclosure with Multi-Pole SPD for Photovoltaic Systems

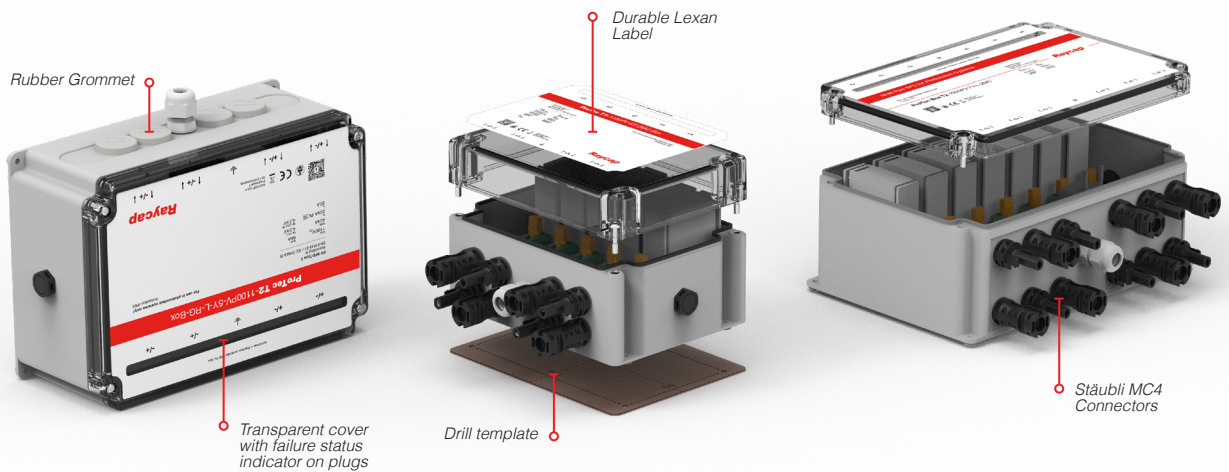


Lightning and Overvoltage Protection

ProTec T1 PV 3Y, 5Y & 7Y Box & ProTec T2 PV 3Y, 5Y & 7Y Box

Special features:

- Available for 1100V and 1500V PV systems
- 3Y, 5Y, and 7Y configuration for 1, 2, and 3 string systems
- Compact UV-stable housing with protection class up to IP 67
- Transparent cover with failure status indicator on plugs
- Fast, on-wall installation of DC-side protection near the inverter
- Multiple connection options available



EN 61643-31:2019

IEC 61643-31:2018



These space-saving surge protection and connection solutions were developed for the protection of Photovoltaic (PV) inverters. The pre-assembled enclosures feature Class I & II / EN Type 1 & 2 arresters for 1100V and 1500V DC. Designed for quick on-wall installation at the DC side of the inverter, the compact UV-stable housing is suitable for indoor and outdoor installations. A transparent cover allows clear visibility of module fault status indicators.

PV Box T1



PV Box T2



More Product Information



PV Box Series

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 μ s)	I_n	20 kA	20 kA
Total Discharge Current (8/20 μ s)	I_{total}	50 kA	50 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	40 kA	50 kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	6.25 kA	6.25 kA
Total Discharge Current (10/350 μ s)	I_{total}	12.5 kA	12.5 kA
Specific Energy	W/R	9.77 kJ/ Ω	9.77 kJ/ Ω
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 ²] (stranded, flexible)	
	(max)	5 AWG [16 mm ²] (stranded, flexible)	
2 Conductors with Same Cross Section and Twin Ferrule [Rubber Grommet]	(min)	20 AWG [0.5 mm ²] (stranded, flexible)	
	(max)	9 AWG [6 mm ²] (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	

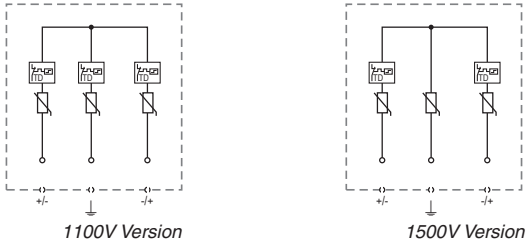
Internal Configuration

Legend

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

⏏ Terminal for PE/G Conductor

TD Thermal Disconnect

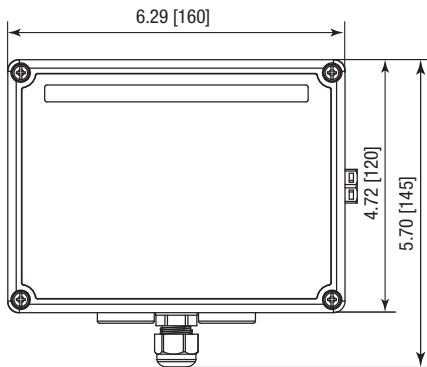
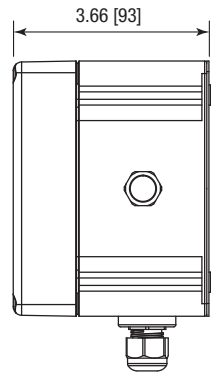


Order Information

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	



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 Box T1-xxxxPV-5Y(-S)(-RG)****1100****1500****EN Electrical**

Maximum Continuous Operating Voltage (DC)	U_{OPV}	1100V	1500V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA	20 kA
Total Discharge Current (8/20 μ s)	I_{total}	50 kA	50 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	40 kA	50 kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	6.25 kA	6.25 kA
Total Discharge Current (10/350 μ s)	I_{total}	12.5 kA	12.5 kA
Specific Energy	W/R	9.77 kJ/ Ω	9.77 kJ/ Ω
Charge	Q	3.125 As	3.125 As
Voltage Protection Level	U_p	4400V	5200V
Rated Load Current	I_L	45 A	45 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		2	

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 ²] (stranded, flexible)	
	(max)	5 AWG [16 mm ²] (stranded, flexible)	
2 Conductors with Same Cross Section and Twin Ferrule [Rubber Grommet]	(min)	20 AWG [0.5 mm ²] (stranded, flexible)	
	(max)	9 AWG [6 mm ²] (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

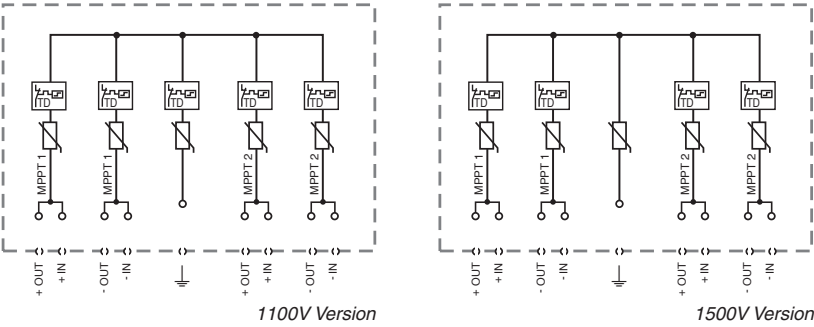
+/-, -/+

Terminal for +/-, -/+ Conductor

Terminal for PE/G Conductor

TD

Thermal Disconnect

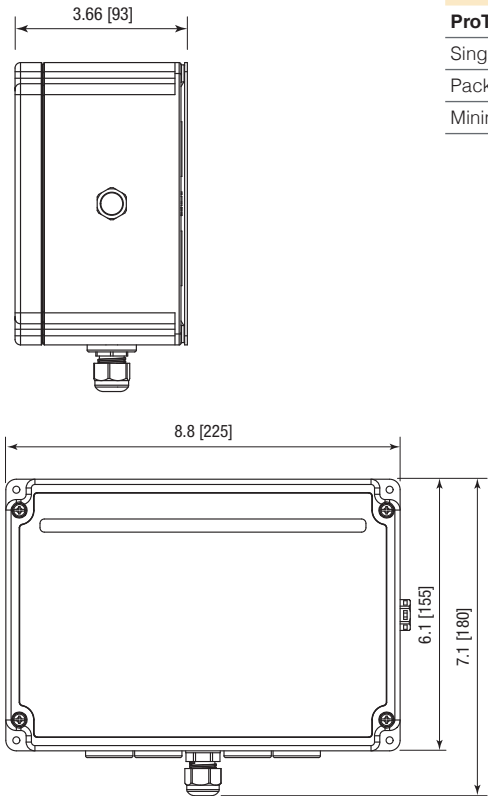


Order Information

Order Code	1100	1500
ProTec Box T1-xxxxPV-5Y-RG	515 936	-
ProTec Box T1-xxxxPV-5Y-S-RG	-	515 937

Dimensions & Packaging

inches [mm]



Complete Unit			
ProTec Box T1-xxxxPV-5Y(-S)(-RG)		1100	1500
Single Unit Weight	pounds [grams]	3.289 [1492]	3.739 [1696]
Packaging Dimensions (H x W x L)		4.1 x 8.7 x 10.8" [105 x 220 x 275 mm]	
Minimum Package Quantity		1 Unit	

DATASHEET

Box with Multi-Pole SPD for Photovoltaic Systems

ProTec T1 PV-3Y(-S)-2MC-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 67 Enclosure
 Compliance: EN 61643-31:2019
 IEC 61643-31:2018



Technical Data

ProTec T1-xxxxPV-3Y(-S)-2MC-Box

1100
1500

EN Electrical

Maximum Continuous Operating Voltage (DC)	U_{OPV}	1100V	1500V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA	20 kA
Total Discharge Current (8/20 μ s)	I_{total}	50 kA	50 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	40 kA	50 kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	6.25 kA	6.25 kA
Total Discharge Current (10/350 μ s)	I_{total}	12.5 kA	12.5 kA
Specific Energy	W/R	9.77 kJ/ Ω	9.77 kJ/ Ω
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 / MC4 Connectors	
Wire Insulation Outer Diameter	(min)	.15" [4 mm] (stranded, flexible)	
	(max)	.31" [8 mm] (stranded, flexible)	
Conductor Cross Section Grounding [Cable Gland]	(min)	24 AWG [0.2 mm ²] (stranded, flexible)	
	(max)	5 AWG [16 mm ²] (stranded, flexible)	
Degree of Protection		IP 67	
Thermal Protection		Yes	
Operating State / Fault Indication		Green Flag / Not Green Flag	
Housing Material		Polycarbonate with Semi-transparent	
Mounting		Wall - Indoor/Outdoor	

Internal Configuration

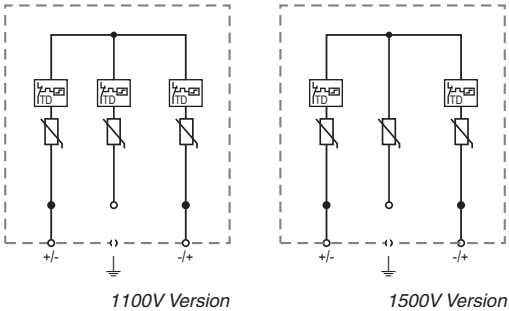
Legend

- +/-, -/+

Terminal for +/-, -/+ Conductor
- 

Terminal for PE/G Conductor
- TD

Thermal Disconnect

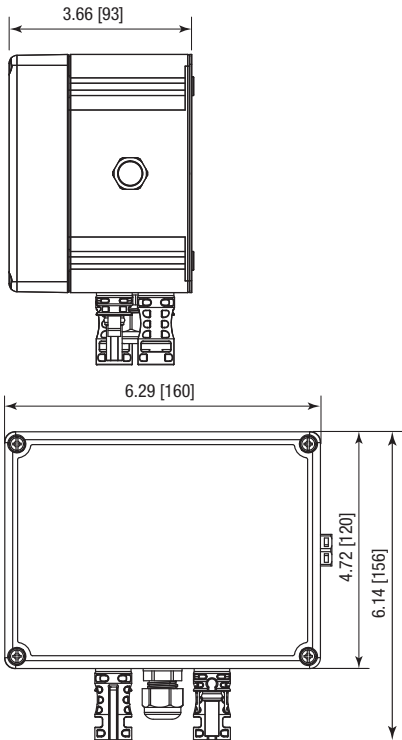


Order Information

Order Code	1100	1500
ProTec T1-xxxxPV-3Y-2MC-Box	515 657	-
ProTec T1-xxxxPV-3Y-S-2MC-Box	-	515 659

Dimensions & Packaging

inches [mm]



Complete Unit			
ProTec T1-xxxxPV-3Y(-S)-2MC-Box			
Single Unit Weight	pounds [grams]	2.01 [915]	2.24 [1020]
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	

Box with Multi-Pole SPD for Photovoltaic Systems

ProTec T1 PV-5Y(-S)-2MC-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 67 Enclosure
 Compliance: EN 61643-31:2019
 IEC 61643-31:2018



Technical Data

ProTec T1-xxxxPV-5Y(-S)-2MC-Box

1100

1500

EN Electrical

Maximum Continuous Operating Voltage (DC)	U_{OPV}	1100V	1500V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA	20 kA
Total Discharge Current (8/20 μ s)	I_{total}	50 kA	50 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	40 kA	50 kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	6.25 kA	6.25 kA
Total Discharge Current (10/350 μ s)	I_{total}	12.5 kA	12.5 kA
Specific Energy	W/R	9.77 kJ/ Ω	9.77 kJ/ Ω
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		2	

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 / MC4 Connectors	
Wire Insulation Outer Diameter	(min)	.15" [4 mm] (stranded, flexible)	
	(max)	.31" [8 mm] (stranded, flexible)	
Conductor Cross Section Grounding [Cable Gland]	(min)	24 AWG [0.2 mm ²] (stranded, flexible)	
	(max)	5 AWG [16 mm ²] (stranded, flexible)	
Degree of Protection		IP 67	
Thermal Protection		Yes	
Operating State / Fault Indication		Green Flag / Not Green Flag	
Housing Material		Polycarbonate with Semi-transparent	
Mounting		Wall - Indoor/Outdoor	

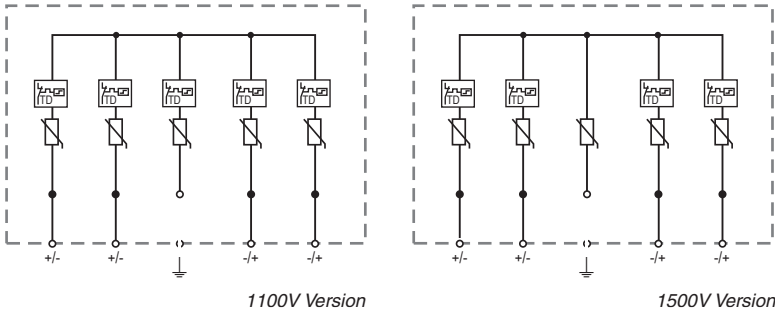
Internal Configuration

Legend

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

⏏ Terminal for PE/G Conductor

TD Thermal Disconnect

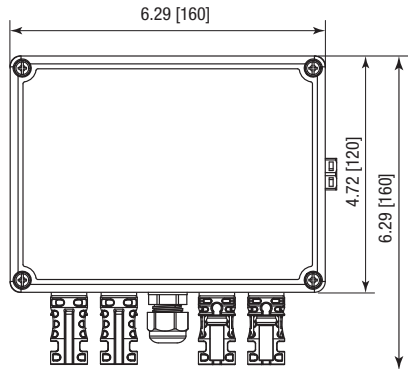
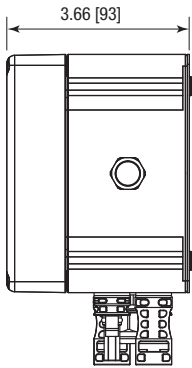


Order Information

Order Code	1100	1500
ProTec T1-xxxxPV-5Y-2MC-Box	515 658	-
ProTec T1-xxxxPV-5Y-S-2MC-Box	-	515 660

Dimensions & Packaging

inches [mm]



Complete Unit			
ProTec T1-xxxxPV-5Y(-S)-2MC-Box			
Single Unit Weight	pounds [grams]	2.53 [1151]	2.93 [1332]
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	

DATASHEET

Box with Multi-Pole SPD for Photovoltaic Systems

ProTec Box T1 7Y RG & 2MC4

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: Up to IP 67 Enclosure
 Compliance: EN 61643-31:2019
 IEC 61643-31:2018



Technical Data

ProTec Box T1-xxxxPV-7Y(-S)(-RG)(-2MC4)

1100

1500

EN Electrical

Maximum Continuous Operating Voltage (DC)	U_{OPV}	1100V	1500V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA	20 kA
Total Discharge Current (8/20 μ s)	I_{total}	50 kA	50 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	40 kA	50 kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	6.25 kA	6.25 kA
Total Discharge Current (10/350 μ s)	I_{total}	12.5 kA	12.5 kA
Specific Energy	W/R	9.77 kJ/ Ω	9.77 kJ/ Ω
Charge	Q	3.125 As	3.125 As
Voltage Protection Level [Rubber Grommet]	U_p	4400V	5200V
Voltage Protection Level [Double MC Connector]	U_p	4400V	5200V
Rated Load Current [Rubber Grommet]	I_L	45 A	45 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		3	

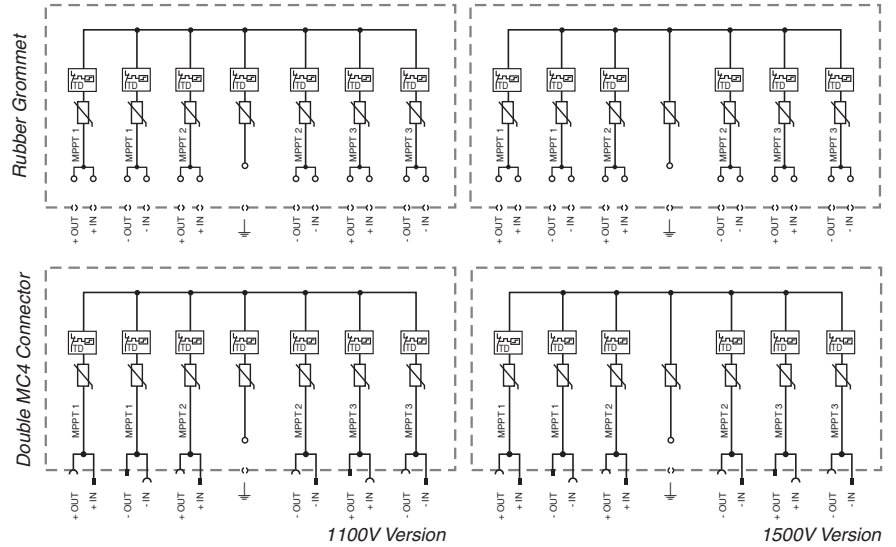
Mechanical & Environmental

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 / MC4	
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 ²] (stranded, flexible)	
	(max)	5 AWG [16 mm ²] (stranded, flexible)	
2 Conductors with Same Cross Section and Twin Ferrule [Rubber Grommet]	(min)	20 AWG [0.5 mm ²] (stranded, flexible)	
	(max)	9 AWG [6 mm ²] (stranded, flexible)	
Degree of Protection [Double MC4 Connector / Rubber Grommet]		IP 67/ 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

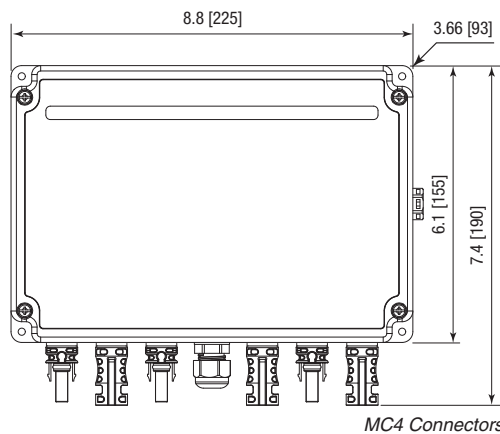
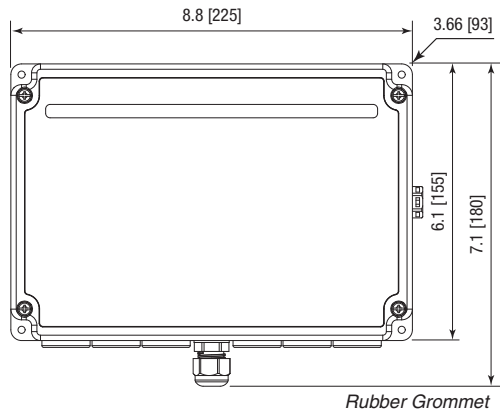


Order Information

Order Code	1100	1500
ProTec Box T1-xxxxPV-7Y-RG (Rubber Grommet)	515 863	-
ProTec Box T1-xxxxPV-7Y-S-RG (Rubber Grommet)	-	515 864
ProTec Box T1-xxxxPV-7Y-2MC4 (Double MC4 Connectors)	515 850	-
ProTec Box T1-xxxxPV-7Y-S-2MC4 (Double MC4 Connectors)	-	515 851

Dimensions & Packaging

inches [mm]



Complete Unit

ProTec Box T1-xxxxPV-7Y(-S)(-RG)		1100	1500
Single Unit Weight	pounds [grams]	3.743 [1698]	4.361 [1978]
ProTec Box T1-xxxxPV-7Y(-S)(-2MC4)			
Single Unit Weight	pounds [grams]	3.699 [1678]	4.317 [1958]
Packaging Dimensions (H x W x L)		4.1 x 8.7 x 10.8" [105 x 220 x 275 mm]	
Minimum Package Quantity		1 Unit	

Box with Multi-Pole SPD for Photovoltaic Systems

ProTec T2 PV-3Y-L-RG-Box

Class II • Type 2



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



Technical Data

ProTec T2-xxxxPV-3Y-L-RG-Box

1100

1500

EN Electrical

Maximum Continuous Operating Voltage (DC)	U_{OPV}	1100V	1500V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA	15 kA
Total Discharge Current (8/20 μ s)	I_{total}	40 kA	40 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	40 kA	40 kA
Voltage Protection Level	U_p	< 4.2 kV	< 4.8 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}	9 kA	9 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 ²] (stranded, flexible)	
	(max)	5 AWG [16 mm ²] (stranded, flexible)	
2 Conductors with Same Cross Section and Twin Ferrule [Rubber Grommet]	(min)	20 AWG [0.5 mm ²] (stranded, flexible)	
	(max)	9 AWG [6 mm ²] (stranded, flexible)	
Degree of Protection [Cable Gland / Rubber Grommet]		IP 65	
Thermal Protection		Yes	
Operating State / Fault Indication		Green Flag / Not Green Flag	
Housing Material		Polycarbonate with Semi-transparent	
Mounting		Wall - Indoor/Outdoor	

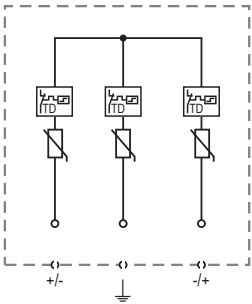
Internal Configuration

Legend

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

⏏ Terminal for PE/G Conductor

TD Thermal Disconnect

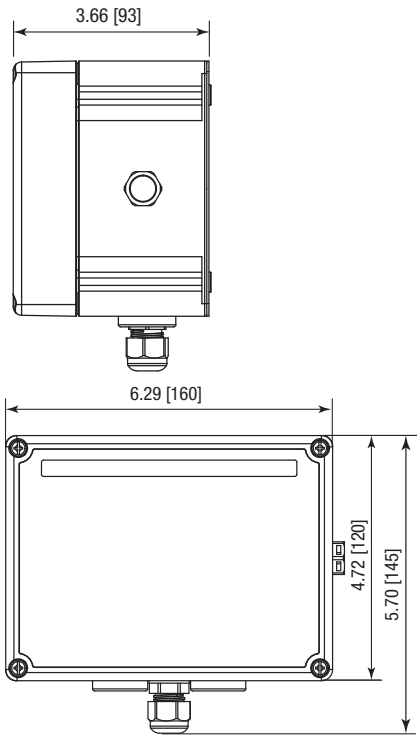


Order Information

Order Code	1100	1500
ProTec T2-xxxxPV-3Y-L-RG-Box	515 646	515 648

Dimensions & Packaging

inches [mm]



Complete Unit

ProTec T2-xxxxPV-3Y-L-RG-Box		1100	1500
Single Unit Weight	pounds [grams]	1.73 [787]	1.79 [814]
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	

Box with Multi-Pole SPD for Photovoltaic Systems

ProTec Box T2 5Y RG

Class II • Type 2



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



Technical Data

ProTec Box T2-xxxxPV-5Y(-L)(-RG)

1100

1500

EN Electrical

Maximum Continuous Operating Voltage (DC)	U_{OPV}	1100V	1500V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA	15 kA
Total Discharge Current (8/20 μ s)	I_{total}	40 kA	40 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	40 kA	40 kA
Voltage Protection Level	U_p	4200V	4800V
Rated Load Current	I_L	45 A	45 A
Response Time	t_A	< 25 ns	< 25 ns
Overvoltage Category		III	III
Short Circuit Current Rating	I_{SCPV}	9 kA	9 kA
Number of Strings per MPPT		2	

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 ²] (stranded, flexible)	
	(max)	5 AWG [16 mm ²] (stranded, flexible)	
2 Conductors with Same Cross Section and Twin Ferrule [Rubber Grommet]	(min)	20 AWG [0.5 mm ²] (stranded, flexible)	
	(max)	9 AWG [6 mm ²] (stranded, flexible)	
Degree of Protection [Rubber Grommet]		IP 65	
Thermal Protection		Yes	
Operating State / Fault Indication		Green Flag / Not Green Flag	
Housing Material		Polycarbonate with Semi-transparent	
Mounting		Wall - Indoor/Outdoor	

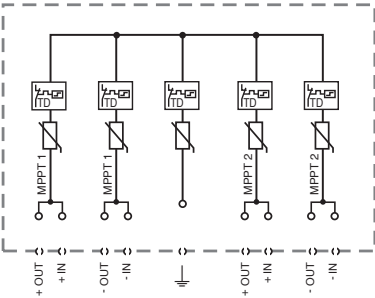
Internal Configuration

Legend

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

⏏ Terminal for PE/G Conductor

TD Thermal Disconnect

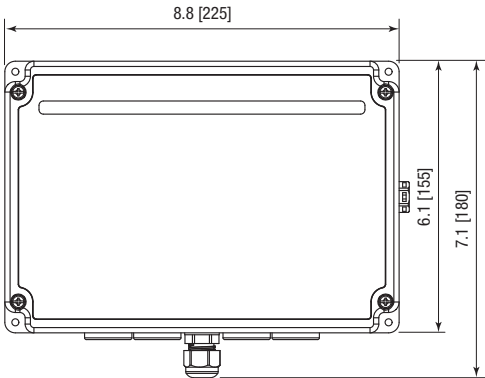
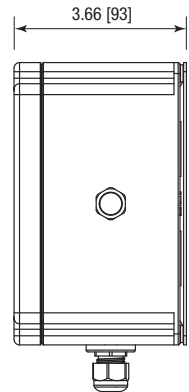


Order Information

Order Code	1100	1500
ProTec Box T2-xxxxPV-5Y-L-RG	515 938	-
ProTec Box T2-xxxxPV-5Y-L-RG	-	515 939

Dimensions & Packaging

inches [mm]



Complete Unit

ProTec Box T2-xxxxPV-5Y(-L)(-RG)		1100	1500
Single Unit Weight	pounds [grams]	2.800 [1270]	2.888 [1310]
Packaging Dimensions (H x W x L)		4.1 x 8.7 x 10.8" [105 x 220 x 275 mm]	
Minimum Package Quantity		1 Unit	

Box with Multi-Pole SPD for Photovoltaic Systems

ProTec T2 PV-3Y-L(-x)MC-Box

Class II • Type 2



Location of Use: Photovoltaic Systems
 Mode of Protection: (+)-PE, (-)-PE, (+)-(-)
 IEC/EN Category: Class II, Type 2
 Housing: IP 67 Enclosure
 Compliance: EN 61643-31:2019
 IEC 61643-31:2018



Technical Data

ProTec T2-xxxxPV-3Y-L-2MC-Box

1100

1500

EN Electrical

Maximum Continuous Operating Voltage (DC)	U_{OPV}	1100V	1500V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA	15 kA
Total Discharge Current (8/20 μ s)	I_{total}	40 kA	40 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	40 kA	40 kA
Voltage Protection Level	U_p	< 4.2 kV	< 4.8 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}	9 kA	9 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 / MC4 Connectors	
Wire Insulation Outer Diameter	(min)	.15" [4 mm] (stranded, flexible)	
	(max)	.31" [8 mm] (stranded, flexible)	
Conductor Cross Section Grounding [Cable Gland]	(min)	24 AWG [0.2 mm ²] (stranded, flexible)	
	(max)	5 AWG [16 mm ²] (stranded, flexible)	
Degree of Protection		IP 67	
Thermal Protection		Yes	
Operating State / Fault Indication		Green Flag / Not Green Flag	
Housing Material		Polycarbonate with Semi-transparent	
Mounting		Wall - Indoor/Outdoor	

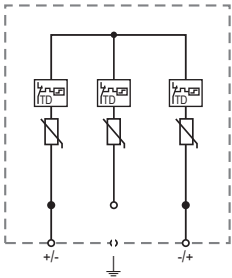
Internal Configuration

Legend

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

⏏ Terminal for PE/G Conductor

TD Thermal Disconnect

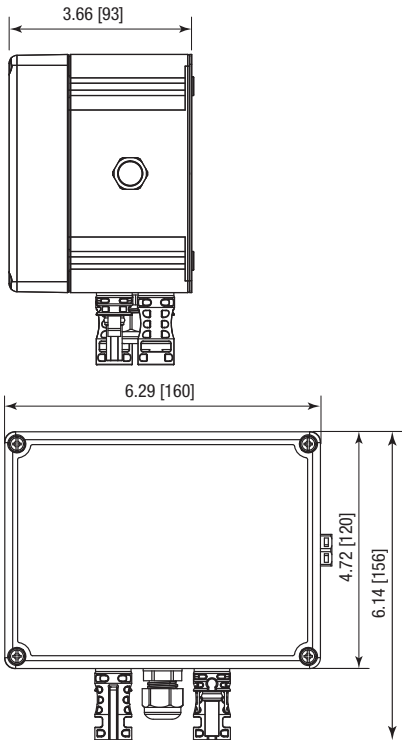


Order Information

Order Code	1100	1500
ProTec T2-xxxxPV-3Y-L-2MC-Box	515 654	515 656

Dimensions & Packaging

inches [mm]



Complete Unit

ProTec T2-xxxxPV-3Y-L-2MC-Box

Single Unit Weight	pounds [grams]	1.80 [821]	1.86 [848]
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	

Box with Multi-Pole SPD for Photovoltaic Systems

ProTec T2 PV-5Y-L-2MC-Box

Class II • Type 2



Location of Use: Photovoltaic Systems
 Mode of Protection: (+)-PE, (-)-PE, (+)-(-)
 IEC/EN Category: Class II, Type 2
 Housing: IP 67 Enclosure
 Compliance: EN 61643-31:2019
 IEC 61643-31:2018



Technical Data

ProTec T2-xxxxPV-5Y-L-2MC-Box

1100

1500

EN Electrical

Maximum Continuous Operating Voltage (DC)	U_{OPV}	1100V	1500V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA	15 kA
Total Discharge Current (8/20 μ s)	I_{total}	40 kA	40 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	40 kA	40 kA
Voltage Protection Level	U_p	< 4.2 kV	< 4.8 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}	9 kA	9 kA
Number of Strings per MPPT		2	

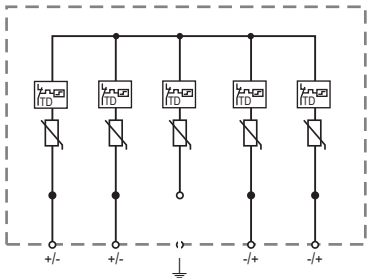
Mechanical & Environmental

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 / MC4 Connectors	
Wire Insulation Outer Diameter	(min)	.15" [4 mm] (stranded, flexible)	
	(max)	.31" [8 mm] (stranded, flexible)	
Conductor Cross Section Grounding [Cable Gland]	(min)	24 AWG [0.2 mm ²] (stranded, flexible)	
	(max)	5 AWG [16 mm ²] (stranded, flexible)	
Degree of Protection		IP 67	
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

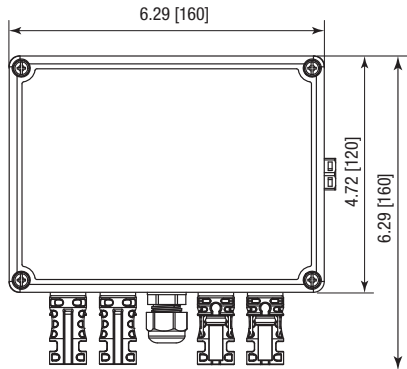
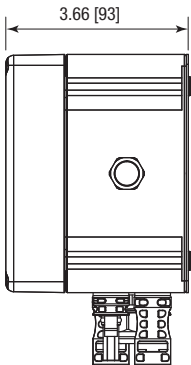


Order Information

Order Code	1100	1500
ProTec T2-xxxxPV-5Y-L-2MC-Box	515 653	515 655

Dimensions & Packaging

inches [mm]



Complete Unit

ProTec T2-xxxxPV-5Y-L-2MC-Box

Single Unit Weight	pounds [grams]	2.21 [1003]	2.26 [1029]
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	

Box with Multi-Pole SPD for Photovoltaic Systems

ProTec Box T2 7Y RG & 2MC4

Class II • Type 2



Location of Use: Photovoltaic Systems
 Mode of Protection: (+)-PE, (-)-PE, (+)-(-)
 IEC/EN Category: Class II, Type 2
 Housing: Up to IP 67 Enclosure
 Compliance: EN 61643-31:2019
 IEC 61643-31:2018



Technical Data

ProTec Box T2-xxxxPV-7Y(-L)(-RG)(-2MC4)

1100

1500

EN Electrical

Maximum Continuous Operating Voltage (DC)	U_{OPV}	1100V	1500V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA	15 kA
Total Discharge Current (8/20 μ s)	I_{total}	40 kA	40 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	40 kA	40 kA
Voltage Protection Level [Rubber Grommet]	U_p	4200V	4800V
Voltage Protection Level [Double MC Connector]	U_p	4200V	5200V
Rated Load Current [Rubber Grommet]	I_L	45 A	45 A
Response Time	t_A	< 25 ns	< 25 ns
Overvoltage Category		III	III
Short Circuit Current Rating	I_{SCPV}	9 kA	9 kA
Number of Strings per MPPT		3	

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 / MC4	
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 ²] (stranded, flexible)	
	(max)	5 AWG [16 mm ²] (stranded, flexible)	
2 Conductors with Same Cross Section and Twin Ferrule [Rubber Grommet]	(min)	20 AWG [0.5 mm ²] (stranded, flexible)	
	(max)	9 AWG [6 mm ²] (stranded, flexible)	
Degree of Protection [Double MC4 / Rubber Grommet]		IP 67/IP 65	
Thermal Protection		Yes	
Operating State / Fault Indication		Green Flag / Not Green Flag	
Housing Material		Polycarbonate with Semi-transparent	
Mounting		Wall - Indoor/Outdoor	

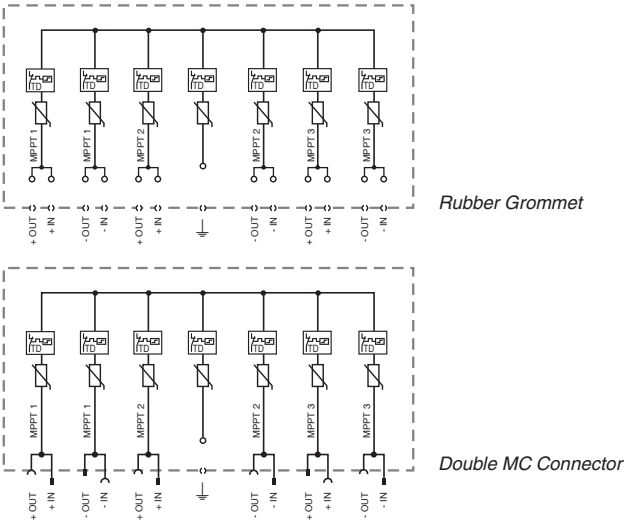
Internal Configuration

Legend

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

⏏ Terminal for PE/G Conductor

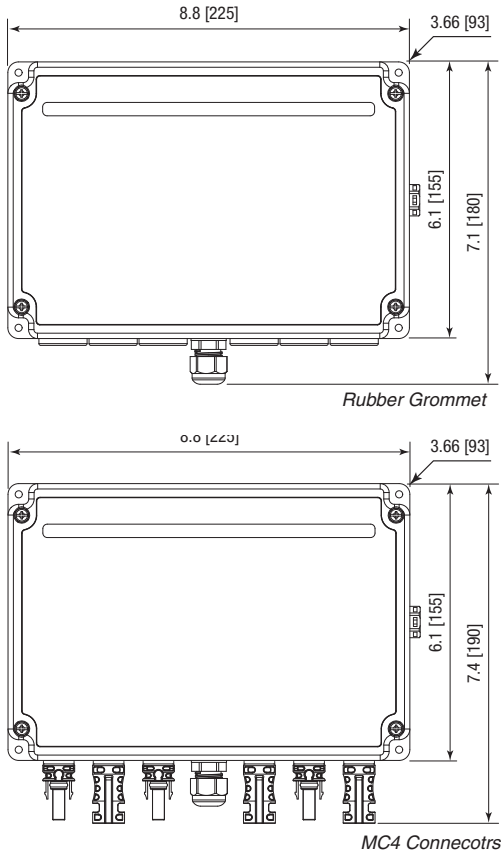
TD Thermal Disconnect



Order Information

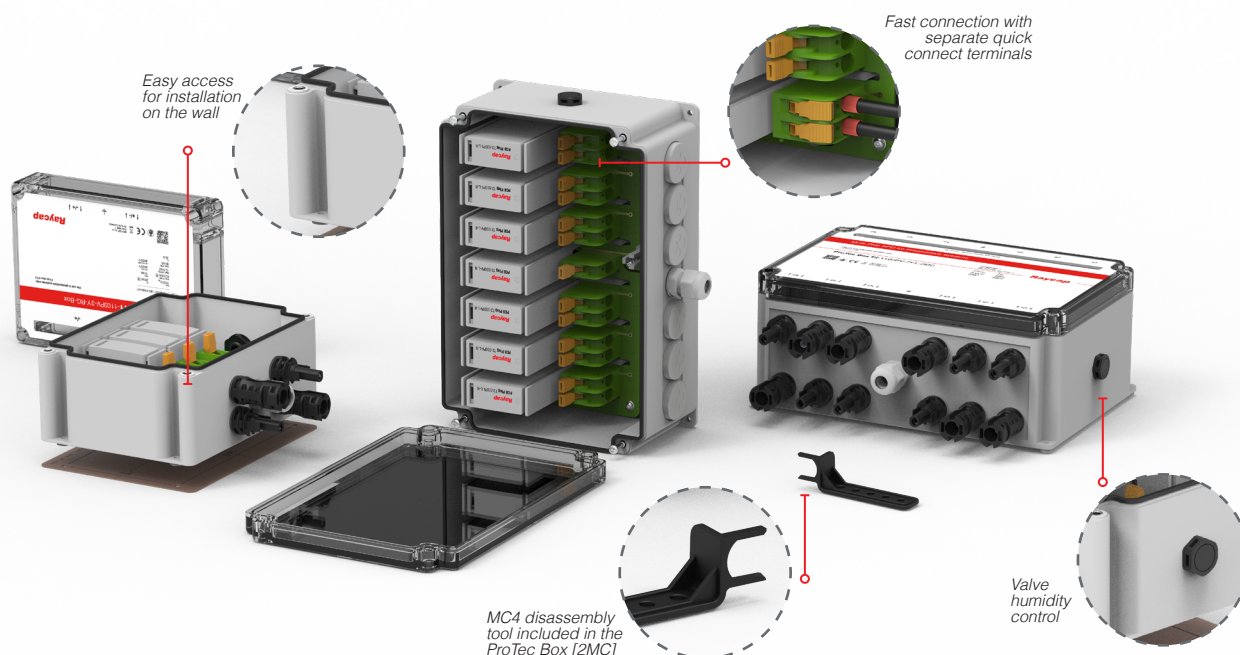
Order Code	1100	1500
ProTec Box T2-xxxxPV-7Y-L-RG (Rubber Grommet)	515 865	-
ProTec Box T2-xxxxPV-7Y-L-RG (Rubber Grommet)	-	515 866
ProTec Box T2-xxxxPV-7Y-L-2MC4 (Double MC4)	515 852	-
ProTec Box T2-xxxxPV-7Y-L-2MC4 (Double MC4)	-	515 853

Dimensions & Packaging



Complete Unit			
ProTec Box T2-xxxxPV-7Y(-L)-(-RG)			
		1100	1500
Single Unit Weight	pounds [grams]	3.073 [1394]	3.197 [1450]
ProTec Box T2-xxxxPV-7Y(-L)-(-2MC4)			
Single Unit Weight	pounds [grams]	3.029 [1374]	3.153 [1430]
Packaging Dimensions (H x W x L)		4.1 x 8.7 x 10.8" [105 x 220 x 275mm]	
Minimum Package Quantity		1 Unit	

ProTec PV Box Series Product Selector



Technical Features		Classification	Product Name	Order Code
RUBBER GROMMETS	- T and V connection - Quick connect terminals on PCB - IP65 ingress protection	1 MPPT [3Y]	TYPE 1 ProTec T1-1100PV-3Y-RG-Box	515 649
			ProTec T1-1500PV-3Y-S-RG-Box	515 651
		TYPE 2	ProTec T2-1100PV-3Y-L-RG-Box	515 646
			ProTec T2-1500PV-3Y-L-RG-Box	515 648
		TYPE 1	ProTec Box T1-1100PV-5Y-RG	515 936
			ProTec Box T1-1500PV-5Y-S-RG	515 937
	- V connection - Fast installation - Connectors on PCB preconnected to MC4 - IP67 ingress protection	2 MPPT [5Y]	TYPE 2 ProTec Box T2-1100PV-5Y-L-RG	515 938
			ProTec Box T2-1500PV-5Y-L-RG	515 939
		TYPE 1	ProTec Box T1-1100PV-7Y-RG	515 863
			ProTec Box T1-1500PV-7Y-S-RG	515 864
		TYPE 2	ProTec Box T2-1100PV-7Y-L-RG	515 865
			ProTec Box T2-1500PV-7Y-L-RG	515 866
DOUBLE MC4 CONNECTORS	- V connection - Fast installation - Connectors on PCB preconnected to MC4 - IP67 ingress protection	1 MPPT [3Y]	TYPE 1 ProTec T1-1100PV-3Y-2MC-Box	515 657
			ProTec T1-1500PV-3Y-S-2MC-Box	515 659
		TYPE 2	ProTec T2-1100PV-3Y-L-2MC-Box	515 654
			ProTec T2-1500PV-3Y-L-2MC-Box	515 656
		TYPE 1	ProTec T1-1100PV-5Y-2MC-Box	515 658
			ProTec T1-1500PV-5Y-S-2MC-Box	515 660
	- V connection - Fast installation - Connectors on PCB preconnected to MC4 - IP67 ingress protection	2 MPPT [5Y]	TYPE 2 ProTec T2-1100PV-5Y-L-2MC-Box	515 653
			ProTec T2-1500PV-5Y-L-2MC-Box	515 655
		TYPE 1	ProTec Box T1-1100PV-7Y-2MC4	515 850
			ProTec Box T1-1500PV-7Y-S-2MC4	515 851
		TYPE 2	ProTec Box T2-1100PV-7Y-L-2MC4	515 852
			ProTec Box T2-1500PV-7Y-L-2MC4	515 853