

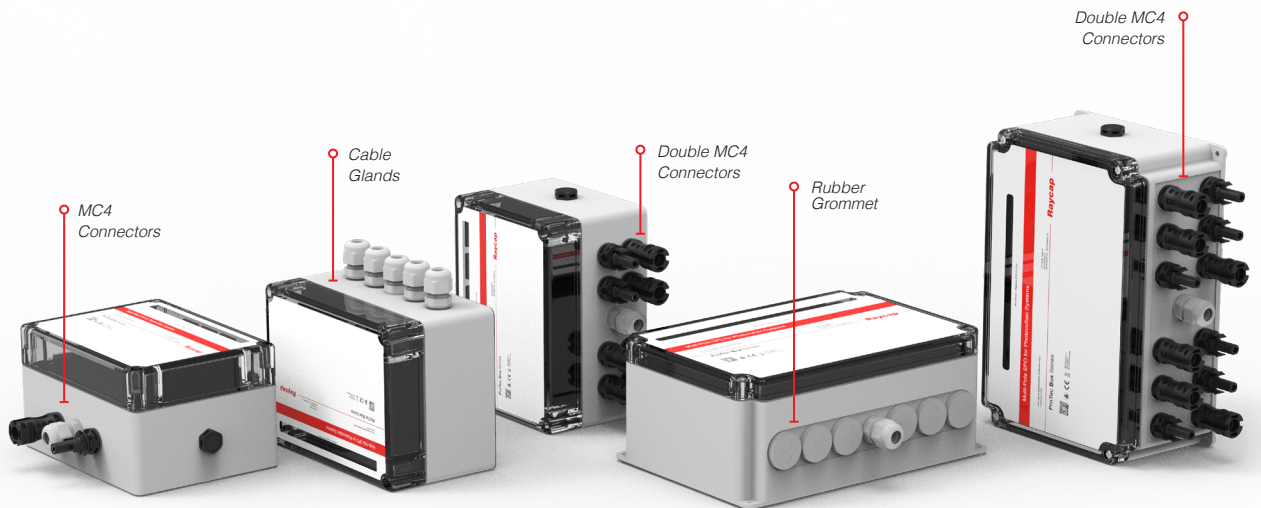
Enclosure with Multi-Pole SPD
for Photovoltaic Systems



Lightning and Overvoltage Protection
ProTec T1 PV 3Y, 5Y & 7Y Box
& ProTec T2 PV 3Y, 5Y & 7Y Box

Special features:

- Available for 1100 V and 1500 V PV systems
- 3Y, 5Y, 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
- Compliant with IEC 61643-31 PV surge protection device standard
- Quick on-wall installation of the DC side protection next to 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 enables the viewing of module failure status indicators.

PV Box T1



PV Box T2



More Product Information



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



Technical Data

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

1100

1500

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 [Rubber Grommet]	I_L	35 A	35 A
Response Time	t_A	< 25 ns	
Short Circuit Current Rating	I_{SCPV}	9 kA	
Number of Strings per MPPT		1	

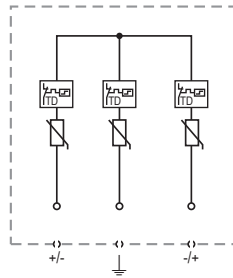
Mechanical & Environmental

Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]	
Permissible Humidity	RH	5%...95%	
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 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



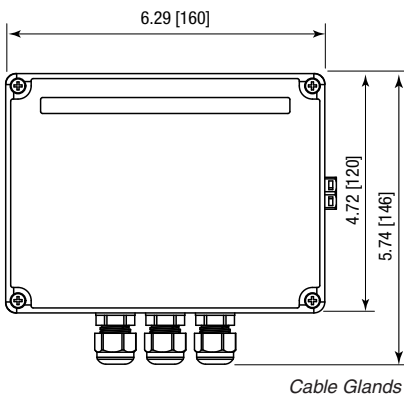
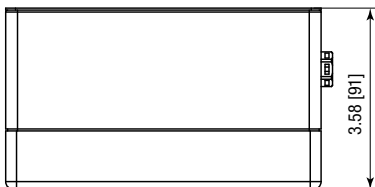
ProTec T2-xxxxPV-3Y-L(-RG)-Box

Order Information

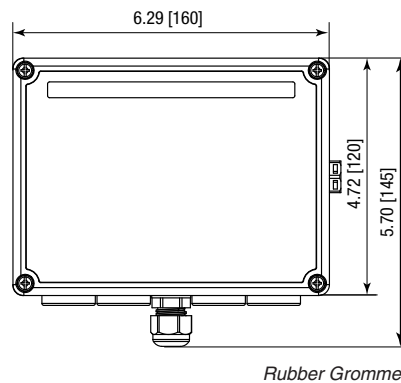
Order Code	1100	1500
ProTec T2-xxxxPV-3Y-L-Box (Cable Gland)	515 546	515 548
ProTec T2-xxxxPV-3Y-L-RG-Box (Rubber Grommet)	515 646	515 648

Abmessungen & Verpackung

inches [mm]



Cable Glands



Rubber Grommet

Complete Unit

ProTec T2-xxxxPV-3Y-L-Box	1100	1500	
Single Unit Weight	pounds [grams]	1.55 [705]	1.53 [694]
ProTec T2-xxxxPV-3Y-L-RG-Box			
Single Unit Weight	pounds [grams]	1.73 [787]	1.79 [814]
Packaging Dimensions (H x W x L)	4.06 x 6.29 x 7.87" [103 x 160 x 200 mm]		
Minimum Package Quantity	1 Unit		

Information contained in this document is subject to change at any time without notice.



Box with Multi-Pole SPD for Photovoltaic Systems

ProTec T2 PV-5Y-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: Up to IP 67 Enclosure
 Compliance: EN 61643-31:2019
 IEC 61643-31:2018

Technical Data

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

1100

1500

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 [Rubber Grommet]	I_L	35 A	35 A
Response Time	t_A	< 25 ns	
Short Circuit Current Rating	I_{SCPV}	9 kA	
Number of Strings per MPPT		2	

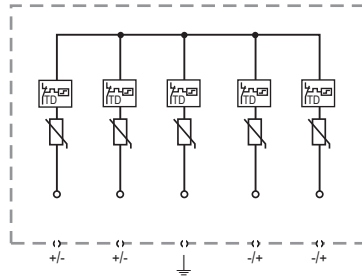
Mechanical & Environmental

Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]	
Permissible Humidity	RH	5%...95%	
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 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



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

Order Information

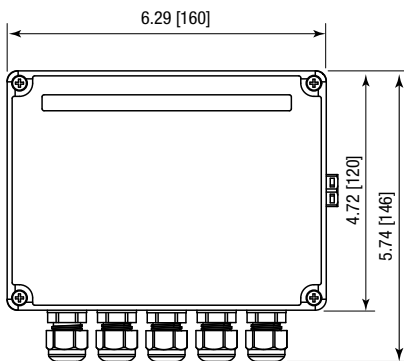
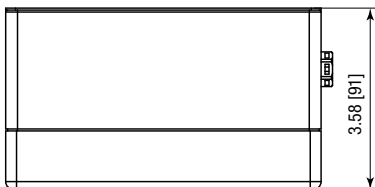
Order Code	1100	1500
ProTec T2-xxxxPV-5Y-L-Box (Cable Gland)	515 545	515 547
ProTec T2-xxxxPV-5Y-L-RG-Box (Rubber Grommet)	515 645	515 647

Abmessungen & Verpackung

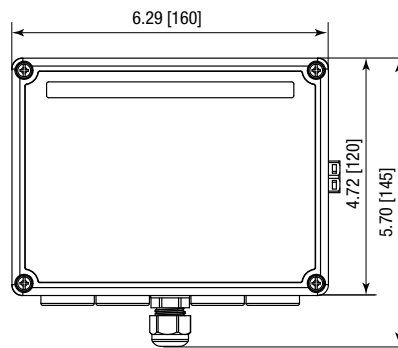
inches [mm]

Complete Unit

ProTec T2-xxxxPV-5Y-L-Box		1100	1500
Single Unit Weight	pounds [grams]	1.96 [890]	1.91 [869]
ProTec T2-xxxxPV-5Y-L-RG-Box		1100	1500
Single Unit Weight	pounds [grams]	2.13 [969]	2.19 [995]
Packaging Dimensions (H x W x L)		4.06 x 6.29 x 7.87" [103 x 160 x 200 mm]	
Minimum Package Quantity		1 Unit	



Cable Glands



Rubber Grommet

Information contained in this document is subject to change at any time without notice.



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



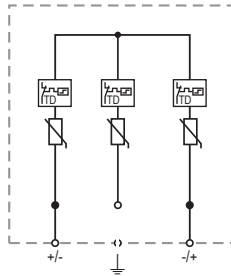
Technical Data

ProTec T2-xxxxPV-3Y-L(-x)MC-Box		1100	1500
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 [2MC]	I_L	35 A	35 A
Response Time	t_A	< 25 ns	
Short Circuit Current Rating	I_{SCPV}	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%	
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



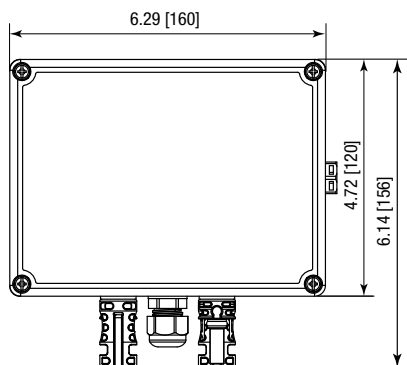
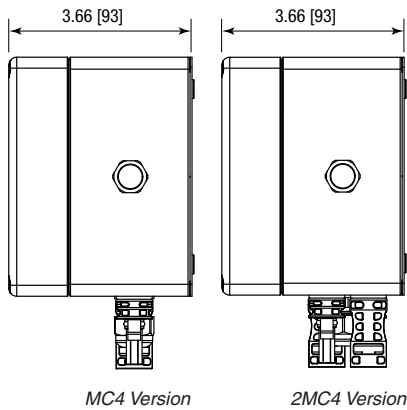
ProTec T2-xxxxPV-3Y-L(-x)MC-Box

Order Information

Order Code	1100	1500
ProTec T2-xxxxPV-3Y-L-MC-Box	515 550	515 552
ProTec T2-xxxxPV-3Y-L-2MC-Box	515 654	515 656

Abmessungen & Verpackung

inches [mm]



Complete Unit

ProTec T2-xxxxPV-3Y-L-MC-Box		1100	1500
Single Unit Weight	pounds [grams]	1.55 [705]	1.53 [694]
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)		4.06 x 6.29 x 7.87" [103 x 160 x 200 mm]	
Minimum Package Quantity		1 Unit	

Information contained in this document is subject to change at any time without notice.



Box with Multi-Pole SPD for Photovoltaic Systems
ProTec T2 PV-5Y-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-5Y-L(-x)MC-Box

1100

1500

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 [2MC]	I_L	35 A	35 A
Response Time	t_A	< 25 ns	
Short Circuit Current Rating	I_{SCPV}	9 kA	
Number of Strings per MPPT		2	

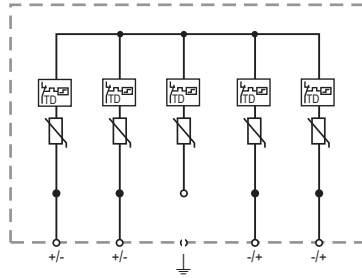
Mechanical & Environmental

Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]	
Permissible Humidity	RH	5%...95%	
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



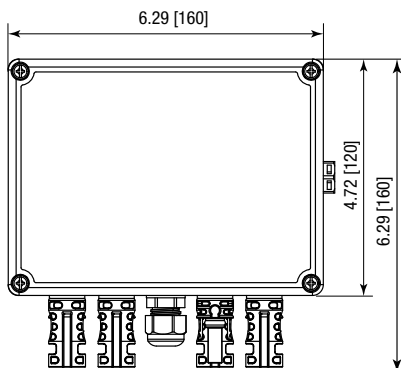
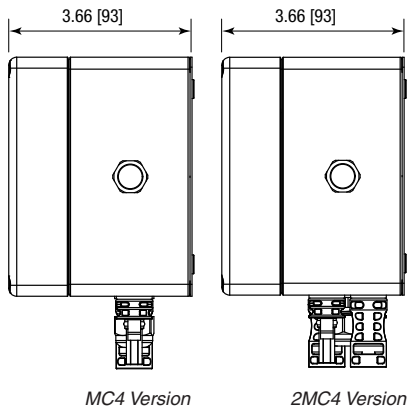
ProTec T2-xxxxPV-5Y-L(-x)MC-Box

Order Information

Order Code	1100	1500
ProTec T2-xxxxPV-5Y-L-MC-Box	515 549	515 551
ProTec T2-xxxxPV-5Y-L-2MC-Box	515 653	515 655

Abmessungen & Verpackung

inches [mm]



Complete Unit

ProTec T2-xxxxPV-5Y-L-MC-Box		1100	1500
Single Unit Weight	pounds [grams]	1.96 [890]	1.91 [869]
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)		4.06 x 6.29 x 7.87" [103 x 160 x 200 mm]	
Minimum Package Quantity		1 Unit	

Information contained in this document is subject to change at any time without notice.



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

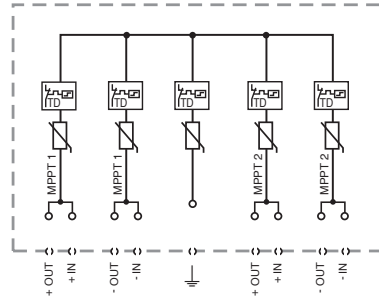
Technical Data

ProTec Box T2-xxxxPV-5Y(-L)(-RG)		1100	1500
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 [Rubber Grommet]	I_L	45 A	45 A
Response Time	t_A	< 25 ns	< 25 ns
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%	
Altitude		13123 ft [4000m]	
Type of Cable Entry		Cable Gland / Rubber Grommet	
Wire Insulation Outer Diameter	(min)	.15" [4 mm] (stranded, flexible)	
	(max)	.31" [8mm] (stranded, flexible)	
Conductor Cross Section [Cable Gland]	(min)	24 AWG [0.2mm ²] (stranded, flexible)	
	(max)	5 AWG [16mm ²] (stranded, flexible)	
2 Conductors with Same Cross Section and Twin Ferrule [Rubber Grommet]	(min)	20 AWG [0.5mm ²] (stranded, flexible)	
	(max)	9 AWG [6mm 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



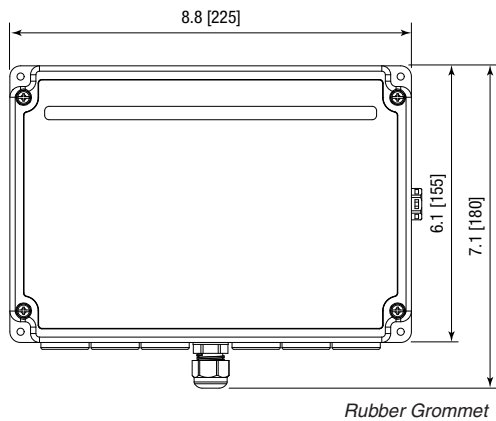
ProTec Box T2-xxxxPV-5Y(-S)(-RG)

Order Information

Order Code	1100	1500
ProTec Box T2-xxxxPV-5Y-L-RG (Rubber Grommet)	515 938	-
ProTec Box T2-xxxxPV-5Y-L-RG (Rubber Grommet)	-	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)	15.1 x 17.7 x 21.6" [385 x 450 x 550 mm]		
Minimum Package Quantity	1 Unit		

Information contained in this document is subject to change at any time without notice.



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

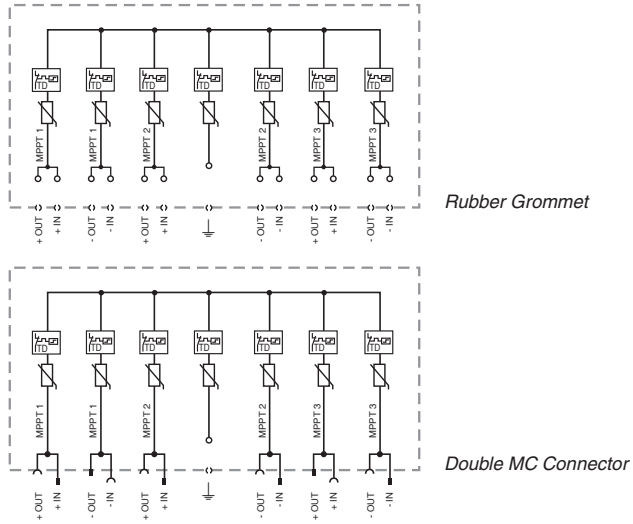
Technical Data

ProTec Box T2-xxxxPV-7Y(-L)(-RG)(-2MC4)		1100	1500
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
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%	
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" [8mm] (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)	
Wire Insulation Outer Diameter [Double MC4]	(min)	.15" [4 mm] (stranded, flexible)	
	(max)	.31" [8mm] (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



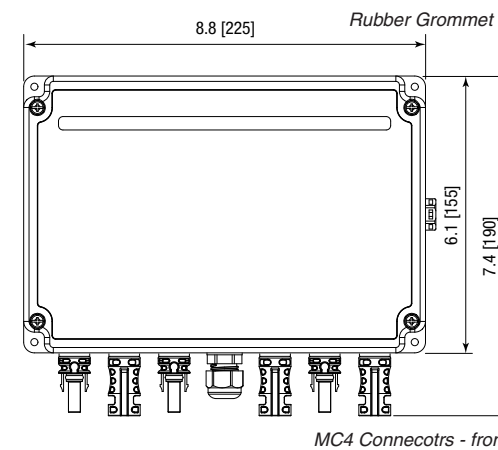
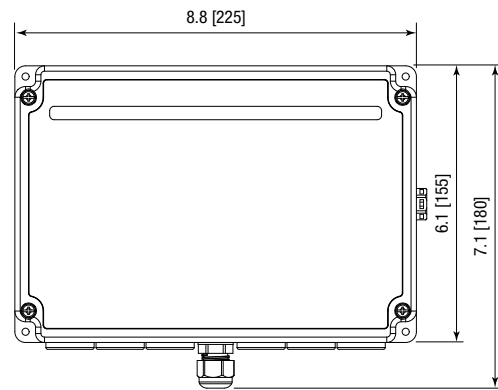
ProTec Box T2-xxxxPV-7Y(-S)(-RG)(-2MC4)

Order Information

Order Code	1100	1500
ProTec Box T2-xxxxPV-7Y-L (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

Abmessungen & Verpackung

inches [mm]



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)		15.1 x 17.7 x 21.6" [385 x 450 x 550 mm]	
Minimum Package Quantity		1 Unit	

