

OVERVOLTAGE PROTECTION FOR PV SYSTEMS

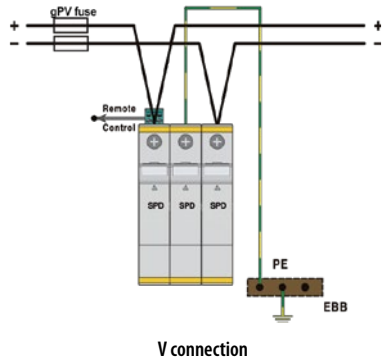
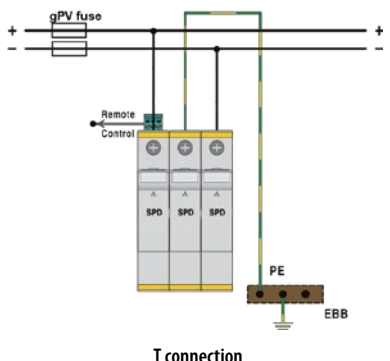
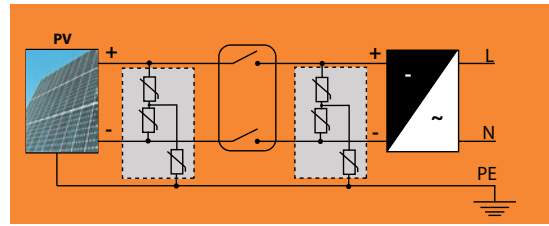
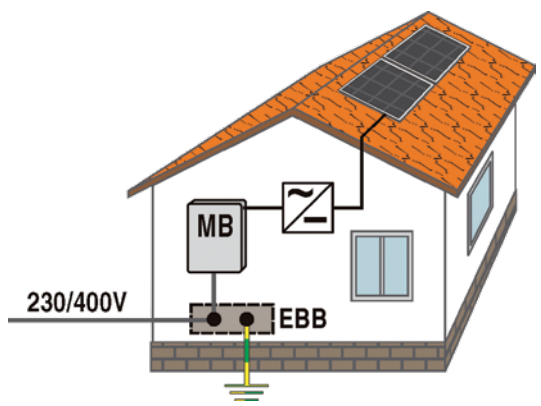


ETITEC (E)M T2 PV Y series of overvoltage surge protective devices has been developed to protect against indirect discharges and is intended to protect photovoltaic systems. The circuit topology consist of two (three) varistors stages each protected by a thermal disconnection device.

Location of Use: String box, Inverter
 Mode of Protection:(+) - PE, (-) - PE, (+) - (-)
 Surge Ratings: I_{Total} =up to 20 kA (8/20 μ s)
 I_{Total} =up to 50 kA (8/20 μ s)
 EN Category: Type 2
 Protective Elements: High Energy MOV
 Housing: Pluggable Design
 Compliance: IEC 61643-31:2018+A1:2014

- Advantages:**
- optical indication of faulty device (green ok, red false)
 - remote signalisation (RC version only)
 - DIN rail mounting (EN 60715)
 - high discharge currents and high degree of protection
 - MOV varistor is the protective element
 - metal snapper, new way of mounting on DINrail (easier, quicker)
 - modular design
 - IEC 61643-31:2018
 - RoHS compliant
 - connection up to 35mm2

ETITEC (E)M T2 PV Y for photovoltaic system on a building without External Lightning Protection



Note: If distance between string and inverter is less than 10 m, then you need only one ETITEC.

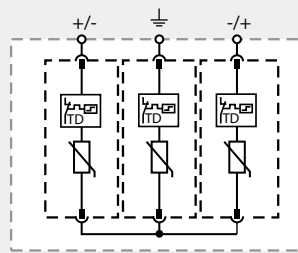
Difference between ETITEC M T2 PV and ETITEC EM T2 PV

ETITEC EM T2 PV is the economic version without module latching mechanism, easily distinguishable from ETITEC M T2 PV by the grey color of ETI logo on the device.

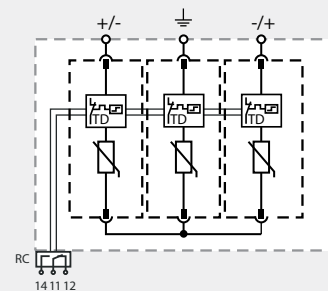
Technical data				
Type	ETITEC M T2 PV 250/20 Y	ETITEC M T2 PV 600/20 Y	ETITEC M T2 PV 1100/20 Y	ETITEC M T2 PV 1500/20 Y
	T2 / II / C			
Maximum Continuous Operating DC Voltage U_{CPV}	250 V	600 V	1100 V	1500 V
Nominal Discharge Current (8/20 μ s) I_n	20 kA			
Maximum Discharge Current (8/20 μ s) I_{max}	50 kA		40 kA	30 kA
Total Discharge Current I_{total}	50 kA		40 kA	
Voltage Protection Level U_p	1 kV	2 kV	< 3,8 kV	< 5 kV
Response Time t_A	< 25 ns			
Number of Ports	1			
Thermal Protection	✓			
Short-Circuit Current Rating I_{SCPV}	11 kA			
Operating Temperature Range T_a	-40°C ... +85°C			
Permissible Operating Humidity RH	5% - 95%			
Altitude (max)	4000 m			
Operating State / Fault Indication	Green Flag / Not Green Flag			
Conductor Cross Section (max)	35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)			
Terminal Screw Torque M_{max}	max. 4,5 Nm			
Mounting	35 mm DIN Rail, EN 60715			
Degree Of Protection	IP20			
Housing Material	Thermoplastic: Extinguishing Degree UL 94 V-0			
Size	3 modules			
Remote contacts - type ...RC				
Contacts ratings	AC: 250V/1A; 125V/1A; DC: 48V/0,5A, 24V/0,5A, 12V/0,5A			
Terminal cross section	Max. 1,5 mm ²			
Terminal Screw Torque M_{max}	0,25 Nm			
Standards	IEC 61643-31:2018+A1:2014			

Legend

- +/-, -/+ Terminal for +/-, -/+ Conductor
- ⊥ Terminal for PE /G Conductor
- RC Remote Contacts Optional
- TD Thermal Disconnecter



ETITEC M T2 PV ... Y

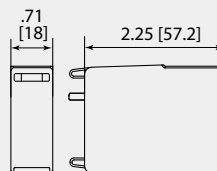


ETITEC M T2 PV ... Y RC

Plug Internal Configuration



Spare Plug



ETITEC EM T2 PV						
Type	Code No.	Max PV voltage U_{CPV} [V DC]	I_{SCPV} [kA]	I_n/I_{max} [kA]	Weight [g]	Packaging [pcs]
ETITEC EM T2 PV 1100/20 Y	002440623	1100	9	20/40	329	1/5
ETITEC EM T2 PV 1100/20 Y RC	002440624	1100	9	20/40	333	1/5
ETITEC EM T2 PV 1500/15 Y	002440625	1500	9	15/40	358	1/5
ETITEC EM T2 PV 1500/15 Y RC	002440626	1500	9	15/40	363	1/5

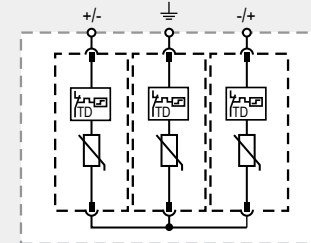
*RC - remote contact for remote signalisation of bad module (to be replaced)

Spare (replacement) modules				
Type	Code No.	Compatible with	Weight [g]	Packaging [pcs]
MOD. EM T2 PV 550/20	002440627	ETITEC EM T2 PV 1100/20 Y (RC)	60	1/12
MOD. EM T2 PV 750/20	002440628	ETITEC EM T2 PV 1500/20 Y (RC)	71	1/12

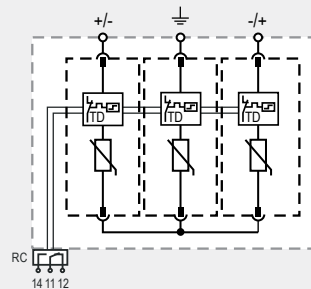
Type	ETITEC EM T2 PV 1100/20 Y		ETITEC EM T2 PV 1500/15 Y	
	T2 / II / C			
Maximum Continuous Operating DC Voltage U_{CPV}	1100 V		1500V	
Nominal Discharge Current (8/20 μ s) I_n	20 kA		15 kA	
Maximum Discharge Current (8/20 μ s) I_{max}	40 kA		40 kA	
Total Discharge Current I_{total}	40 kA		40 kA	
Voltage Protection Level U_p	(+)-(-)	< 4,2 kV	< 4,8 kV	
	(+)/()-PE	< 4,2 kV	< 4,8 kV	
Response Time t_x	< 25 ns			
Thermal Protection	✓			
Number of Ports	1			
Short-Circuit Current Rating I_{SCPV}	9 kA			
Maximum Permitted DC Voltage V_{pVDC}	1000V		1500V	
Voltage Protection Rating VPR	2500V		3000V	
Short-Circuit Current Rating SCCR	50kA		65kA	
Operating Temperature Range T_o	- 40°C ... +85°C			
Permissible Operating Humidity RH	5% - 95%			
Altitude (max)	2000 m			
Operating State / Fault Indication	Green Flag / Not Green Flag			
Conductor Cross Section (max)	35 mm ² (Solid) / 25 mm ² (Stranded)			
Terminal Screw Torque M_{max}	max. 4,5 Nm			
Mounting	35 mm DIN Rail, EN 60715			
Degree Of Protection	IP20			
Housing Material	Thermoplastic: Extinguishing Degree UL 94 V-0			
Size	3 modules			
Remote contacts - type ...RC				
Contacts ratings	AC: 250V/1A, 120V/1A; DC: 48V/0,5A, 24V/0,5A, 12V/0,5A			
Terminal cross section	Max. 1,5 mm ²			
Terminal Screw Torque M_{max}	0,25 Nm			
Standards	IEC 61643-31:2018+A1:2014			



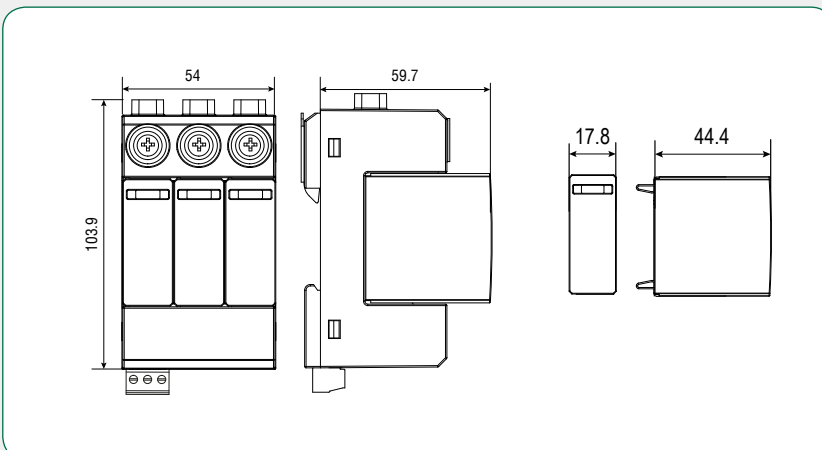
ETITEC EM T2 PV 1500/15 Y



ETITEC EM T2 PV ... Y



ETITEC EM T2 PV ... Y RC



Overvoltage protection