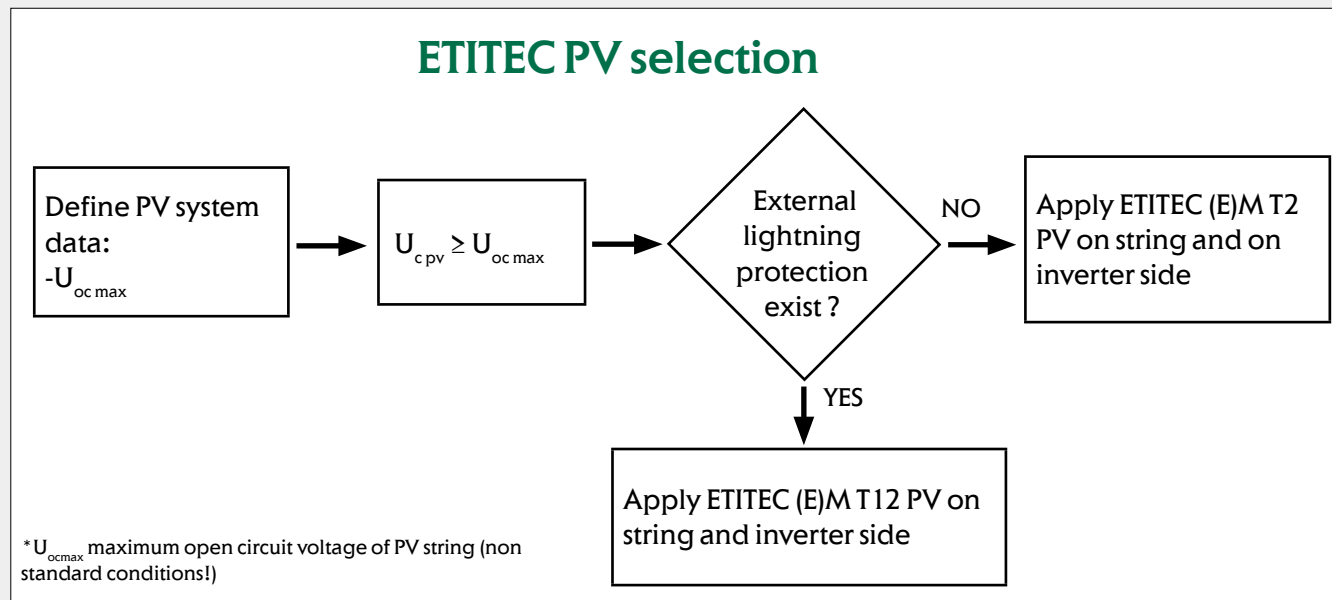


OVERVOLTAGE PROTECTION FOR PV SYSTEMS



ETITEC - Lightning and Surge Arresters

Overvoltage protection selection



ETITEC (E)M T12 PV Y series of overvoltage surge protective devices has been developed to protect against direct and indirect discharges and is intended to protect photovoltaic systems. The circuit topology consist of three varistors stages each protected by a thermal disconnection device.

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 DIN rail (easier, quicker)
- modular design
- RoHS compliant
- connection up to 35mm²

ETITEC M T12 PV

Location of Use: String box, Inverter
 Mode of Protection:(+) - PE, (-) - PE, (+) - (-)
 Surge Ratings: $I_{Total} = \text{up to } 12.5 \text{ kA (10/350 } \mu\text{s)}$
 $I_{Total} = \text{up to } 60 \text{ kA (8/20 } \mu\text{s)}$
 EN Category: Type 1+2
 Protective Elements: High Energy MOV
 Housing: Pluggable Design
 Compliance: IEC 61643-31:2018+A1:2014

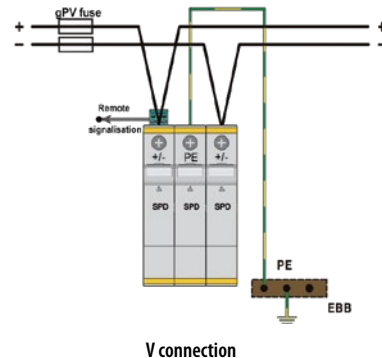
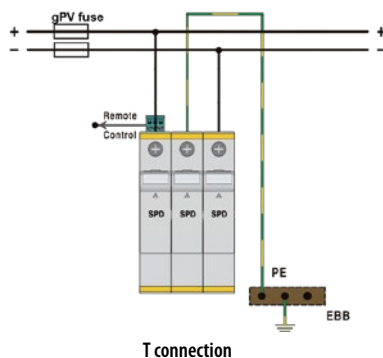
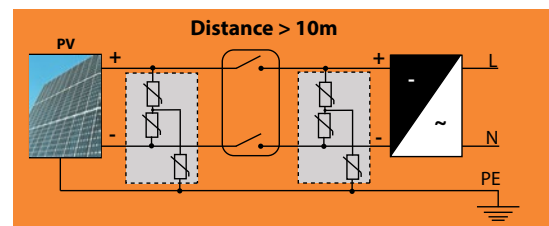
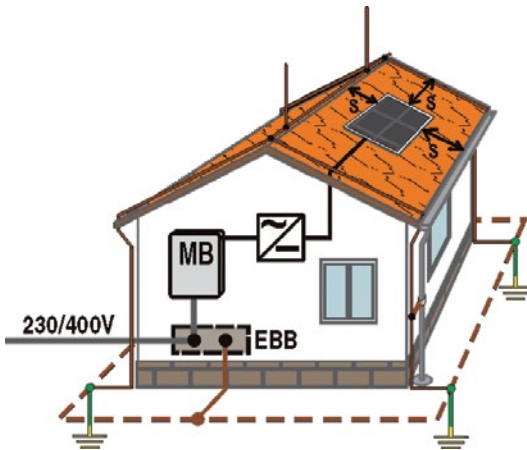
Suitable for green field installations (IEC/EN 61643-32)

ETITEC EM T12 PV

Location of Use: String box, Inverter
 Mode of Protection:(+) - PE, (-) - PE, (+) - (-)
 Surge Ratings: $I_{Total} = \text{up to } 6.25 \text{ kA (10/350 } \mu\text{s)}$
 $I_{Total} = \text{up to } 65 \text{ kA (8/20 } \mu\text{s)}$
 EN Category: Type 1, Type 2
 Protective Elements: High Energy MOV
 Housing: Pluggable Design
 Compliance: IEC 61643-31:2018+A1:2014

Suitable for roof installations (IEC/EN 61643-32)

ETITEC (E)M T12 PV Y for photovoltaic system on a building with External Lightning Protection



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



ETITEC M T12 PV

Type	Code No.	Max PV voltage U_{cpv} [V DC]	I_{scpv} [kA]	I_{total} (10/350) [kA]	I_{imp} [kA]	I_n [kA]	Weight [g]	Packaging [pcs]
ETITEC M T12 PV 1100/12,5 Y	002440511	1100	11	12,5	6,25	20	453	1/5
ETITEC M T12 PV 1100/12,5 Y RC	002440512	1100	11	12,5	6,25	20	462	1/5
ETITEC M T12 PV 1500/12,5 Y	002440513	1500	30	12,5	6,25	20	488	1/5
ETITEC M T12 PV 1500/12,5 Y RC	002440514	1500	30	12,5	6,25	20	497	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. MT12 PV 550/12,5	002440519	ETITEC M T12 PV 1100/12,5 Y (RC)	71	1/28
MOD. MT12 PV 550/6,25*	002440520	ETITEC M T12 PV 1100/12,5 Y (RC)	127	1/28
MOD. MT12 PV 750/10	002440521	ETITEC M T12 PV 1500/10 Y (RC)	87	1/28
MOD. MT12 PV 750/5*	002440522	ETITEC M T12 PV 1500/10 Y (RC)	130	1/28

*left or right module (Y connection)

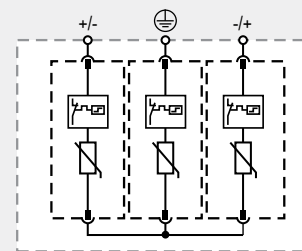
Due to serial connection of modules (Y topology), U_{cpv} voltage of single module is 1/2 of total U_{cpv} between each pole

Technical data

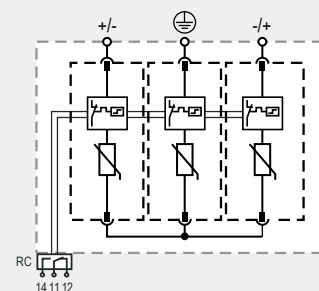
Type	ETITEC M T12 PV 1100/12,5 Y	ETITEC M T12 PV 1500/12,5 Y
	T1,T2 / I,II / B,C	
Maximum Continuous Operating DC Voltage UCPV	1100 V	1500V
Nominal Discharge Current (8/20 μ s) In	20 kA	20 kA
Total Discharge Current (8/20 μ s) ITotal	50 kA	60 kA
Impulse Discharge Current (10/350)	6,25 kA	5 kA
Total Discharge Current (10/350 μ s) ITotal	12,5 kA	10 kA
Specific Energy W/R	9,77 kJ/ Ω	9,77 kJ/ Ω
Charge	3,125 As	2,5 As
Voltage Protection Level Up	< 3,8 kV	< 4,5 kV
Response Time tA	< 25 ns	
Number of Ports	1	
Thermal Protection	✓	
Short-Circuit Current Rating SCCR ISCPV	11 kA	
Operating Temperature Range Ta	- 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 Mmax	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 Mmax	0,25 Nm	
Standards	IEC 61643-31:2018+A1:2014	



ETITEC M T12 PV 1500/12,5 Y



ETITEC M T12 PV ... Y



ETITEC M T12 PV ... Y RC

