

# VAL-MB-T1/T2 600DC-PV/2+V-FM - Lightning/surge arrester type 1/2



2906292

<https://www.phoenixcontact.com/us/products/2906292>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Lightning current arrester/surge protective device for 2-pos. isolated and grounded 600 V DC PV systems, for DIN rail mounting, with remote indication contact, temperature-monitored protective elements, status message on the module.

## Your advantages

- Space-saving installation, thanks to the compact design
- Double terminal block for safe and easy equipotential bonding connection
- Screw shafts with raised domes to ensure safe working
- Main connections with extended insertion funnels for increased resistance to creepage
- Visual display for checking the status directly on the device
- Plug-in signal connection for remote status signaling

## Commercial data

Item number	2906292
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	CL1231
GTIN	4055626063003
Weight per piece (including packing)	427.3 g
Weight per piece (excluding packing)	321.45 g
Country of origin	IN

# VAL-MB-T1/T2 600DC-PV/2+V-FM - Lightning/surge arrester type 1/2



2906292

<https://www.phoenixcontact.com/us/products/2906292>

## Technical data

### Product properties

Product type	PV arrester
Product family	VALVETRAB MB
IEC test classification	PV I / II PV T1 / T2
EN type	T1 / T2
IEC power supply system	DC
Type	DIN rail module, one-piece
Environment	Indoor
Installation location of the disconnect device	Internal
Accessibility	Accessible
Connection configuration	Y configuration
End-of-life mode	OCFM (Open-Circuit Failure Mode)
Surge protection fault message	Optical, remote indicator contact
Number of ports	One

### Insulation characteristics

Pollution degree	2
------------------	---

### Electrical properties

#### Indicator/remote signaling

Connection name	Remote fault indicator contact
Switching function	Changeover contact
Operating voltage	5 V AC ... 250 V AC 5 V DC ... 30 V DC
Operating current	5 mA AC ... 1.5 A AC 5 mA DC ... 1 A DC

### Connection data

Connection method	Screw connection
Screw thread	M5
Tightening torque	3 Nm
Stripping length	16 mm
Conductor cross-section flexible	2.5 mm <sup>2</sup> ... 35 mm <sup>2</sup>
Conductor cross-section AWG	14 ... 2

#### Remote fault indicator contact

Connection method	Screw connection
Screw thread	M2
Tightening torque	0.25 Nm

# VAL-MB-T1/T2 600DC-PV/2+V-FM - Lightning/surge arrester type 1/2




2906292

<https://www.phoenixcontact.com/us/products/2906292>

Stripping length	7 mm
Conductor cross-section flexible	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section rigid	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section AWG	28 ... 16

## Dimensions

Dimensional drawing	
Width	71.2 mm
Height	120 mm
Depth	65.5 mm
Horizontal pitch	4 Div.

## Material specifications

Color	gray (RAL 7042)
Flammability rating according to UL 94	V-0
Insulating material	PA 6.6 PBT
Housing material	PA 6.6

## Mechanical properties

### Mechanical data

Open side panel	No
-----------------	----

## Protective circuit

Mode of protection	(L+) - (L-) (L+) - PE (L-) - PE
Direction of action	(L+)-PE & (L-)-PE & (L+)-(L-)
Rated load current $I_L$	50 A
Protective conductor current $I_{PE}$	$\leq 45 \mu\text{A DC}$ $\leq 420 \mu\text{A AC}$
Standby power consumption $P_C$	$\leq 36 \text{ mVA}$
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$	20 kA
Maximum discharge current $I_{max}$ (8/20) $\mu\text{s}$	40 kA
Impulse discharge current (10/350) $\mu\text{s}$ , charge	3.125 As
Impulse discharge current (10/350) $\mu\text{s}$ , specific energy	9.77 kJ/ $\Omega$
Impulse discharge current (10/350) $\mu\text{s}$ , peak value $I_{imp}$	6.25 kA
Total discharge current $I_{Total}$ (8/20) $\mu\text{s}$	40 kA
Total discharge current $I_{Total}$ (10/350) $\mu\text{s}$	12.5 kA

# VAL-MB-T1/T2 600DC-PV/2+V-FM - Lightning/surge arrester type 1/2



2906292

<https://www.phoenixcontact.com/us/products/2906292>

Voltage protection level $U_p$	$\leq 2.9$ kV
Residual voltage $U_{res}$	$\leq 2.9$ kV (at $I_n$ )
	$\leq 2.1$ kV (at 3 kA)
	$\leq 2.4$ kV (at 6.25 kA)
	$\leq 2.5$ kV (at 10 kA)
	$\leq 2.8$ kV (at 15 kA)
	$\leq 3.6$ kV (at 40 kA)
Response time $t_A$	$\leq 25$ ns

## PV protective circuit

Connection configuration	Y configuration
End-of-life mode	OCFM (Open-Circuit Failure Mode)

## Protective circuit DC voltage side (DC)

Maximum continuous operating voltage $U_{CPV}$	800 V DC
Short-circuit current rating $I_{SCPV}$	2000 A
Open-circuit voltage $U_{OCSTC}$	$\leq 667$ V DC
Maximum discharge current $I_{max}$ (8/20) $\mu$ s	40 kA
Response time $t_A$	$\leq 25$ ns
Impulse discharge current (10/350) $\mu$ s, charge	3.125 As
Impulse discharge current (10/350) $\mu$ s, specific energy	9.77 kJ/ $\Omega$
Impulse discharge current (10/350) $\mu$ s, peak value $I_{imp}$	6.25 kA
Total discharge current $I_{Total}$ (8/20) $\mu$ s	40 kA
Total discharge current $I_{Total}$ (10/350) $\mu$ s	12.5 kA
Insulation resistance $R_{iso}$	$> 5$ G $\Omega$ (at 500 V DC)
Nominal discharge current $I_n$ (8/20) $\mu$ s	20 kA
Rated load current $I_L$	50 A
Continuous operating current $I_{CPV}$	$< 45$ $\mu$ A
Maximum continuous operating voltage $U_{CPV}$	800 V DC
Short-circuit current rating $I_{SCPV}$	2000 A
Residual voltage $U_{res}$	$\leq 2.9$ kV (at $I_n$ )
	$\leq 2.1$ kV (at 3 kA)
	$\leq 2.4$ kV (at 6.25 kA)
	$\leq 2.5$ kV (at 10 kA)
	$\leq 2.8$ kV (at 15 kA)
	$\leq 3.6$ kV (at 40 kA)
Protective conductor current $I_{PE}$	$\leq 45$ $\mu$ A DC
	$\leq 420$ $\mu$ A AC
Voltage protection level $U_p$	$\leq 2.9$ kV
Standby power consumption $P_C$	$\leq 36$ mVA

## Environmental and real-life conditions

### Ambient conditions

# VAL-MB-T1/T2 600DC-PV/2+V-FM - Lightning/surge arrester type 1/2



2906292

<https://www.phoenixcontact.com/us/products/2906292>

Degree of protection	IP20 (only when all terminal points are used)
Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 6000 m (amsl)
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	50g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)	5g (5 - 500 Hz/2.5 h/X, Y, Z)

## Standards and regulations

Standards/specifications	EN 61643-31
Note	2019
Standards/specifications	IEC 61643-31
Note	2018

## Mounting

Mounting type	DIN rail: 35 mm
---------------	-----------------

# VAL-MB-T1/T2 600DC-PV/2+V-FM - Lightning/surge arrester type 1/2

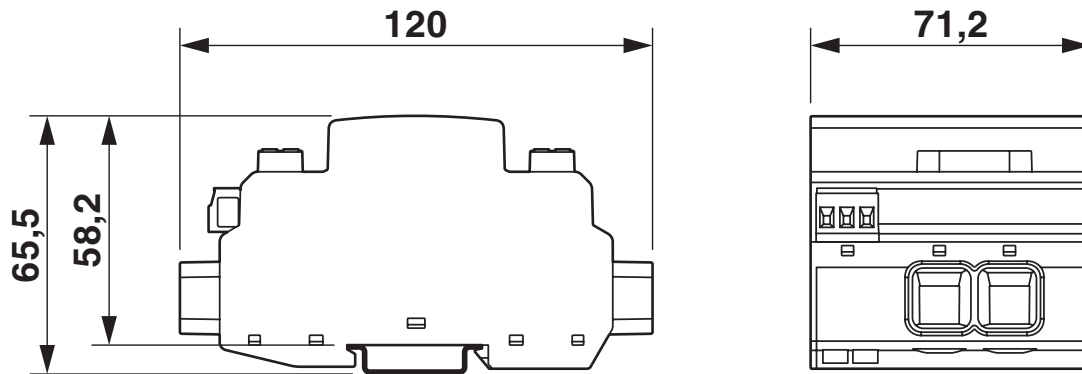


2906292

<https://www.phoenixcontact.com/us/products/2906292>

## Drawings

Dimensional drawing



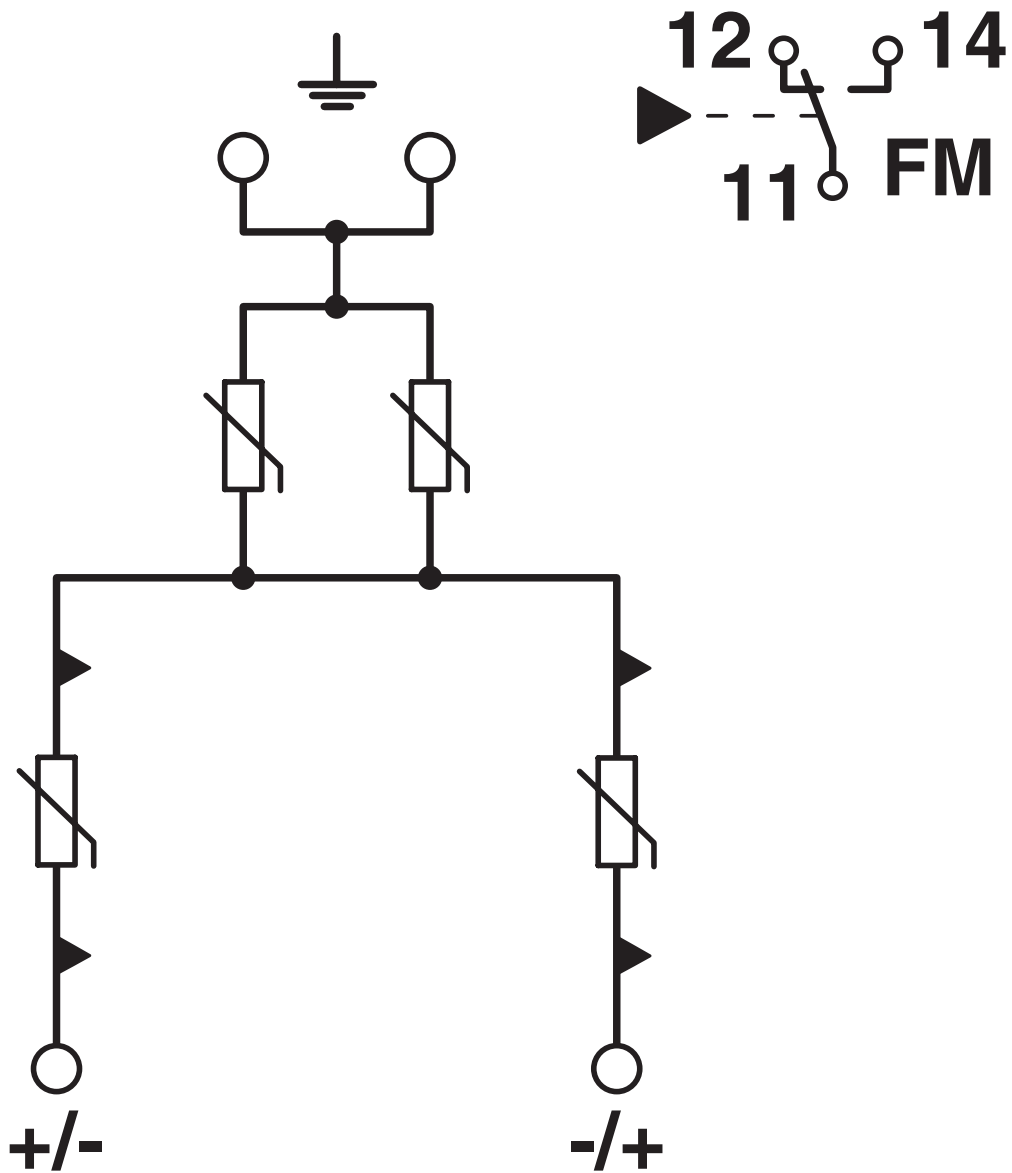
# VAL-MB-T1/T2 600DC-PV/2+V-FM - Lightning/surge arrester type 1/2



2906292

<https://www.phoenixcontact.com/us/products/2906292>

Circuit diagram



# VAL-MB-T1/T2 600DC-PV/2+V-FM - Lightning/surge arrester type 1/2



2906292

<https://www.phoenixcontact.com/us/products/2906292>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2906292>



**IECEE CB Scheme**

Approval ID: NL-81007

**CCA**

Approval ID: NTR-NL 7938



**KEMA-KEUR**

Approval ID: 71-127691

# VAL-MB-T1/T2 600DC-PV/2+V-FM - Lightning/surge arrester type 1/2



2906292

<https://www.phoenixcontact.com/us/products/2906292>

## Classifications

### ECLASS

ECLASS-13.0	27171401
ECLASS-15.0	27171401

### ETIM

ETIM 10.0	EC000381
-----------	----------

### UNSPSC

UNSPSC 21.0	39121600
-------------	----------

# VAL-MB-T1/T2 600DC-PV/2+V-FM - Lightning/surge arrester type 1/2



2906292

<https://www.phoenixcontact.com/us/products/2906292>

## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
---	--------------------

### China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

### EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
-------------------------------------	----------------------------

Phoenix Contact 2026 © - all rights reserved  
<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)