

# Lightning/surge arrester type 1/2 - VAL-MB-T1/T2 1500DC-PV/2+V-FM - 2905640

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's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)




Lightning/surge arrester for 2-pos. isolated 1500 V DC voltage systems, for DIN rail mounting, with remote indication contact, temperature-monitored protective elements, status message on the module.

## Your advantages

- ✓ 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
- ✓ Compact design for space-saving installation

## Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 984423
GTIN	4046356984423

## Technical data

### Dimensions

Height	120 mm
Width	71.2 mm
Depth	65.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	4 Div.

### Ambient conditions

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 (above mean sea level))

# Lightning/surge arrester type 1/2 - VAL-MB-T1/T2 1500DC-PV/2+V-FM - 2905640

## Technical data

### Ambient conditions

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)

### General

IEC test classification	PV I / II
	PV T1 / T2
EN type	T1 / T2
IEC power supply system	DC
SPD failure behavior	OCM (Open-circuit mode)
Connection configuration	Y configuration
Installation location	Interior
Accessibility	Accessible
Installation location of the disconnect device	Internal
Mode of protection	(L+) - (L-)
	(L+) - PE
	(L-) - PE
Mounting type	DIN rail: 35 mm
Color	traffic grey A RAL 7042
Housing material	PA 6.6
Degree of pollution	2
Flammability rating according to UL 94	V-0
Type	DIN rail module, one-piece
Surge protection fault message	Optical, remote indicator contact

### Additional descriptions

Note	The product is also suitable for applications in PV systems with a max. short-circuit current $I_{SCPV} = 15 \text{ kA}$ (according to EN 50539-11:2013).
------	---

### Protective circuit DC voltage side (DC)

Maximum continuous operating voltage $U_{CPV}$	1500 V DC
Short-circuit current rating $I_{SCPV}$	2000 A
Continuous operating current $I_{CPV}$	< 100 $\mu\text{A}$
Rated load current $I_L$	50 A
Residual current $I_{PE}$	$\leq 100 \mu\text{A DC}$
	$\leq 50 \mu\text{A AC}$
Standby power consumption $P_C$	$\leq 150 \text{ mVA}$
Nominal discharge current (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/ $\Omega$

# Lightning/surge arrester type 1/2 - VAL-MB-T1/T2 1500DC-PV/2+V-FM - 2905640

## Technical data

### Protective circuit DC voltage side (DC)

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
Voltage protection level $U_p$	$\leq 4.5$ kV
Residual voltage $U_{res}$	$\leq 4.5$ kV (at $I_n$ )
	$\leq 3.3$ kV (at 3 kA)
	$\leq 3.6$ kV (at 6.25 kA)
	$\leq 3.8$ kV (at 10 kA)
	$\leq 4.2$ kV (at 15 kA)
	$\leq 5.4$ kV (at 40 kA)
Response time $t_A$	$\leq 25$ ns
Insulation resistance $R_{iso}$	$> 5$ G $\Omega$ (at 500 V DC)

### Indicator/remote signaling

Switching function	PDT 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 method	Screw connection
Screw thread	M2
Tightening torque	0.25 Nm
Stripping length	7 mm
Conductor cross section flexible	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section solid	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	28 ... 16

### 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>
Two conductors with the same cross section stranded, with ferrule and without plastic sleeve, minimum	2.5 mm <sup>2</sup>
Two conductors with the same cross section stranded, with ferrule and without plastic sleeve, maximum	10 mm <sup>2</sup>
Conductor cross section AWG	14 ... 2

### Standards and Regulations

Standards/regulations	EN 50539-11 2013
-----------------------	------------------

# Lightning/surge arrester type 1/2 - VAL-MB-T1/T2 1500DC-PV/2+V-FM - 2905640

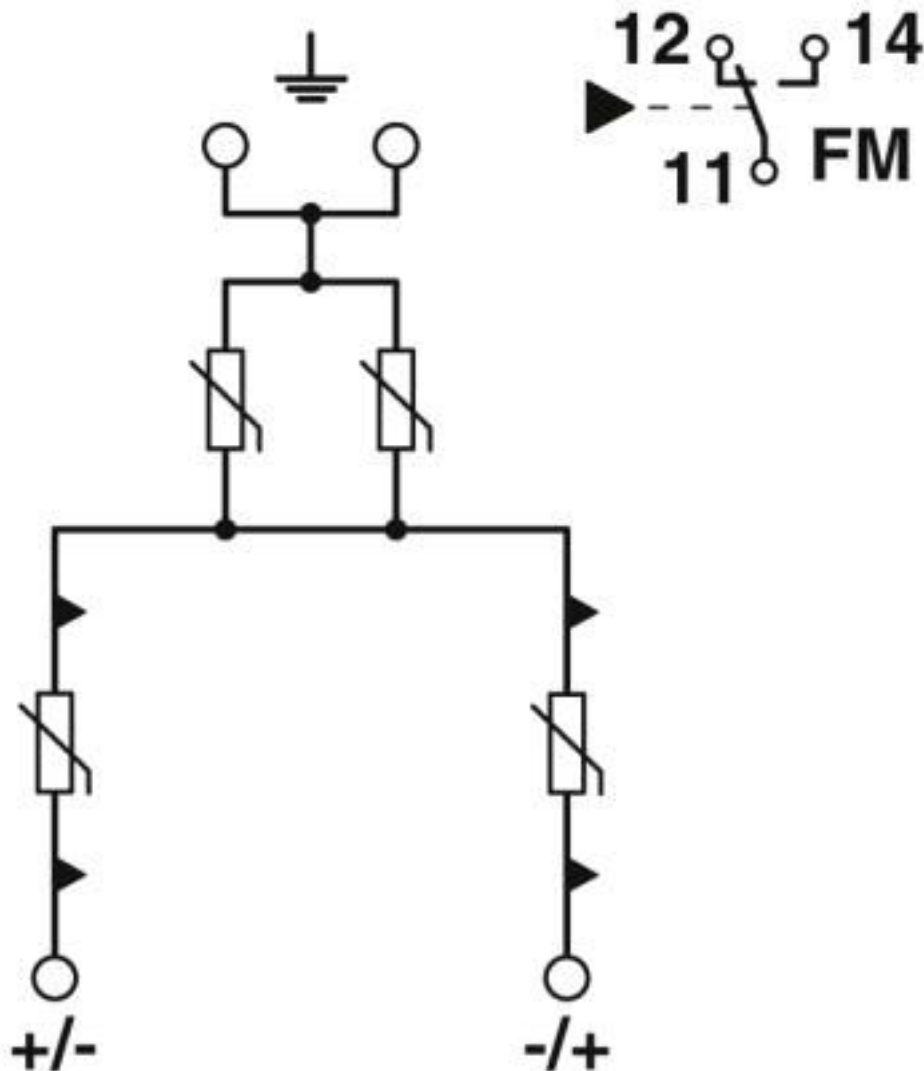
## Technical data

### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

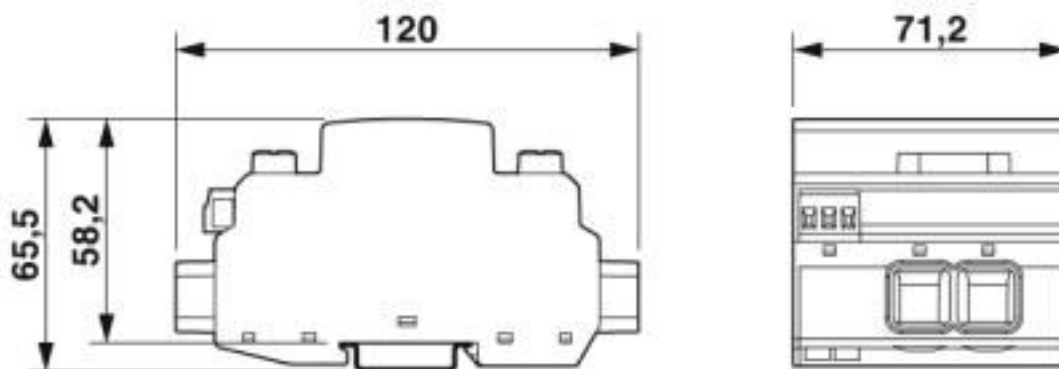
## Drawings

Circuit diagram



# Lightning/surge arrester type 1/2 - VAL-MB-T1/T2 1500DC-PV/2+V-FM - 2905640

Dimensional drawing



## Classifications

### eCl@ss

eCl@ss 10.0.1	27130802
eCl@ss 4.0	27130800
eCl@ss 4.1	27130800
eCl@ss 5.0	27130800
eCl@ss 5.1	27130800
eCl@ss 6.0	27130800
eCl@ss 7.0	27130802
eCl@ss 8.0	27130802
eCl@ss 9.0	27130802

### ETIM

ETIM 3.0	EC000941
ETIM 4.0	EC000381
ETIM 5.0	EC000381
ETIM 6.0	EC000381
ETIM 7.0	EC000381

### UNSPSC

UNSPSC 13.2	39121620
UNSPSC 18.0	39121620
UNSPSC 19.0	39121620
UNSPSC 20.0	39121620
UNSPSC 21.0	39121620

## Approvals

### Approvals

# Lightning/surge arrester type 1/2 - VAL-MB-T1/T2 1500DC-PV/2+V-FM - 2905640

## Approvals

Approvals

CCA / KEMA-KEUR

---

Ex Approvals

---

## Approval details

CCA	NTR-NL 7422
-----	-------------

KEMA-KEUR		<a href="http://www.dekra-certification.com">http://www.dekra-certification.com</a>	2181728.01
-----------	---	---	------------

## Accessories

Accessories

Marker pen

Marker pen - X-PEN 0,35 - 0811228



Marker pen without ink cartridge, for manual labeling of markers, labeling extremely wipe-proof, line thickness 0.35 mm

---

Phoenix Contact 2020 © - all rights reserved  
<http://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Surge Suppressors](#) category:*

*Click to view products by [Phoenix Contact](#) manufacturer:*

Other Similar products are found below :

[GUS1](#) [GUS12](#) [BSPM1A600D600LVR](#) [2800521](#) [29-2053](#) [GUS11](#) [GUS2](#) [GUS3](#) [GUS4](#) [30460](#) [SRA64C060X](#) [PC642C015](#) [1810-15-A3](#)  
[2713175](#) [4B06B-EC1-150LF](#) [SRA6LC](#) [BPMA75D100LV](#) [CX06M](#) [CCTV1](#) [GUS13](#) [GUS14](#) [GUS5](#) [GUS6](#) [VAL-MS 320/3+0-FM](#) [VAL-US-](#)  
[120/40/1+1-FM](#) [VAL-US-120/65/1+1-FM](#) [VAL-US-480D/30/3+0-FM](#) [VAL-US-120/40/1+0-FM](#) [STCHSP121BT1RU](#) [LP-BFDN-CW](#) [LP-](#)  
[STRL-NFF](#) [LP-STRL-DFE](#) [GUS22](#) [0804111](#) [5053609](#) [5053201](#) [SPD2-150-1P0](#) [SPD2-550-1P0](#) [6720005416](#) [6720005417](#) [1-2191595-2](#)  
[STC-CAT6-P0E-I](#) [SPD2-350-1P0](#) [FLT-CP-350-ST](#) [TTC-6P-3-HF-F-M-12DC-UT-I](#) [SMTPA200](#) [2800989](#) [2906776](#) [2906810](#) [2906847](#)