

# Lightning/surge arrester type 1/2 - VAL-MB-T1/T2 1500DC-PV/2+V - 2905641

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Lightning/surge arrester for 2-pos. isolated 1500 V DC voltage systems, for DIN rail mounting, 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
- ✓ Compact design for space-saving installation

## Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 984393
GTIN	4046356984393
Weight per Piece (excluding packing)	488.610 g
Custom tariff number	85354000
Country of origin	Germany

## 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

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## Technical data

### Ambient conditions

Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 6000 m (amsl (above mean sea level))
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

### 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).
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### 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 $I_{PE}$	≤ 100 $\mu\text{A}$ DC
	≤ 540 $\mu\text{A}$ AC
Standby power consumption $P_C$	≤ 150 mVA
Nominal discharge current (8/20) $\mu\text{s}$	20 kA
Maximum discharge current $I_{max}$ (8/20) $\mu\text{s}$	40 kA

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### Protective circuit DC voltage side (DC)

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
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)

### 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>
2 conductors with same cross section, stranded, ferrules without plastic sleeve, min.	2.5 mm <sup>2</sup>
2 conductors with same cross section, stranded, ferrules without plastic sleeve, max.	10 mm <sup>2</sup>
Conductor cross section AWG	14 ... 2

### Standards and Regulations

Standards/regulations	EN 50539-11 2013
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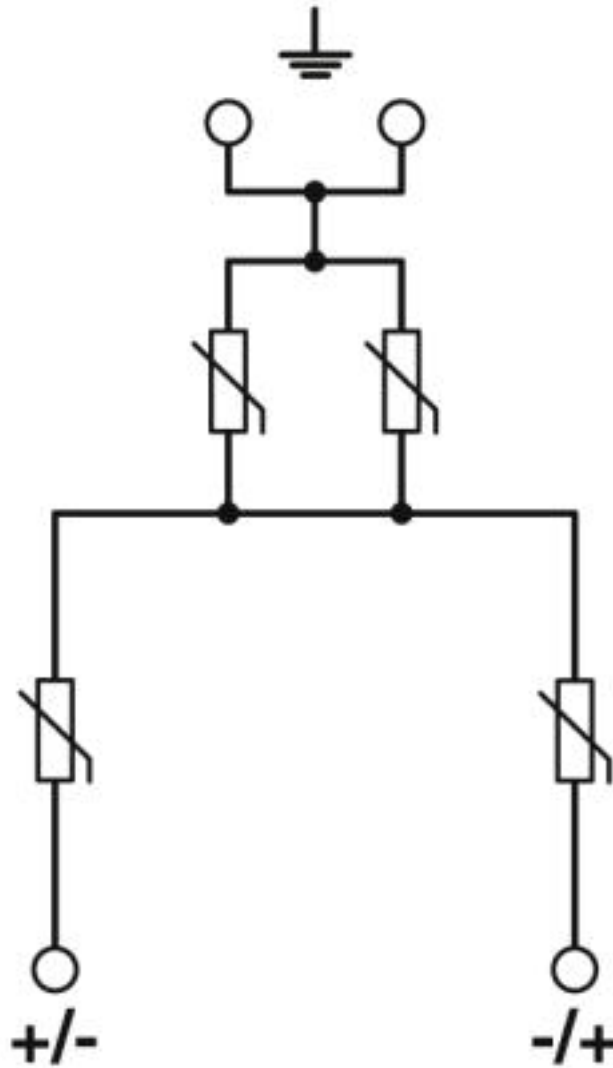
### Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

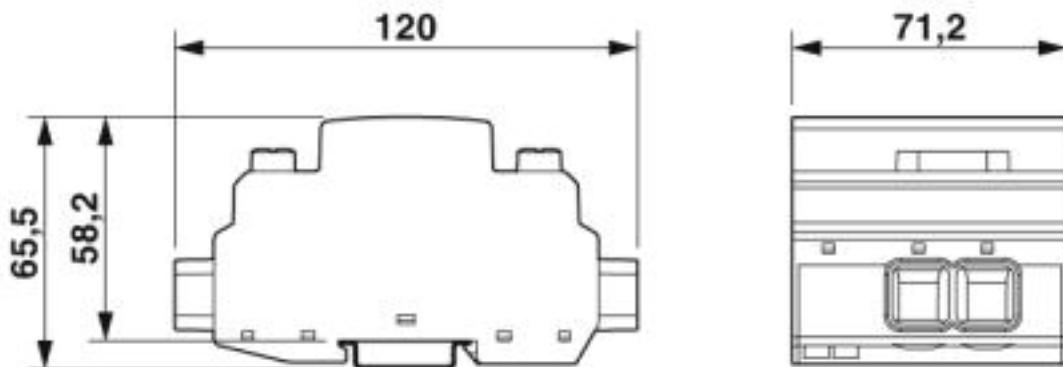
## Drawings

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Circuit diagram



Dimensional drawing



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## Classifications

### eCl@ss

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

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#### Approvals

CCA / KEMA-KEUR

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#### Ex Approvals

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### Approval details

CCA	NTR-NL 7422
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KEMA-KEUR		<a href="http://www.dekra-certification.com">http://www.dekra-certification.com</a>	2181728.01
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## Lightning/surge arrester type 1/2 - VAL-MB-T1/T2 1500DC-PV/2+V - 2905641

### 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