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VAL-MB-T1/T2 1000DC-PV/2+V - Lightning/surge arrester type 1/2

2905639

https://www.phoenixcontact.com/gb/products/2905639

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Lightning current arrester/surge protective device for 2-pos. isolated and grounded 1,000 V DC PV systems, for DIN rail mounting, 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

Commercial data

Item number	2905639
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL1231
Product key	CL1231
Catalog page	Page 51 (C-4-2019)
GTIN	4046356984447
Weight per piece (including packing)	438.8 g
Weight per piece (excluding packing)	413.68 g
Customs tariff number	85363030
Country of origin	IN

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Technical data

Product properties

IEC test classification	PV I / II
	PV T1 / T2
EN type	T1 / T2
IEC power supply system	DC
Type	DIN rail module, one-piece
Product type	PV arrester
Product family	VALVETRAB MB
Installation location	Interior
Installation location of the disconnect device	Internal
Accessibility	Accessible
Connection configuration	Y configuration
SPD failure behavior	OCFM (Open-Circuit Failure Mode)
Surge protection fault message	optical

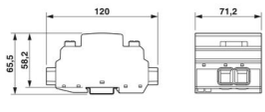
Insulation characteristics

Pollution degree	2

Connection data

Connection method	Screw connection
Screw thread	M5
Tightening torque	3 Nm
Stripping length	16 mm
Conductor cross section flexible	2.5 mm² ... 35 mm²
Conductor cross section AWG	14 ... 2

Dimensions

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

Material specifications

Color	gray (RAL 7042)
	gray (RAL 7042)
Flammability rating according to UL 94	V-0

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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
Residual current I_{PE}	≤ 70 µA DC
	≤ 500 µA AC
Standby power consumption P_C	≤ 70.00 mVA
Nominal discharge current I_n (8/20) µs	20 kA
Maximum discharge current I_{max} (8/20) µs	40 kA
Impulse discharge current (10/350) µs, charge	3.125 As
Impulse discharge current (10/350) µs, specific energy	9.77 kJ/Ω
Impulse discharge current (10/350) µs, peak value I_{imp}	6.25 kA
Total discharge current I_{total} (8/20) µs	40 kA
Total discharge current I_{total} (10/350) µs	12.5 kA
Voltage protection level U_p	≤ 3.3 kV
Residual voltage U_{res}	≤ 3.3 kV (at I_n)
	≤ 2.5 kV (at 3 kA)
	≤ 2.7 kV (at 6.25 kA)
	≤ 2.9 kV (at 10 kA)
	≤ 3.1 kV (at 15 kA)
	≤ 4 kV (at 40 kA)
Response time t_A	≤ 25 ns

PV protective circuit

Connection configuration	Y configuration
SPD failure behavior	OCFM (Open-Circuit Failure Mode)

Protective circuit DC voltage side (DC)

Open circuit voltage U_{OCSTC}	≤ 833 V DC
Maximum discharge current I_{max} (8/20) µs	40 kA
Response time t_A	≤ 25 ns
Impulse discharge current (10/350) µs, charge	3.125 As
Impulse discharge current (10/350) µs, specific energy	9.77 kJ/Ω

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Impulse discharge current (10/350) µs, peak value I_{imp}	6.25 kA
Total discharge current I_{total} (8/20) µs	40 kA
Total discharge current I_{total} (10/350) µs	12.5 kA
Insulation resistance R_{iso}	> 5 GΩ (at 500 V DC)
Nominal discharge current I_n (8/20) µs	20 kA
Rated load current I_L	50 A
Continuous operating current I_{CPV}	< 70 µA
Maximum continuous operating voltage U_{CPV}	1000 V DC
Short-circuit current rating I_{SCPV}	2000 A
Residual voltage U_{res}	≤ 3.3 kV (at I_n)
	≤ 2.5 kV (at 3 kA)
	≤ 2.7 kV (at 6.25 kA)
	≤ 2.9 kV (at 10 kA)
	≤ 3.1 kV (at 15 kA)
	≤ 4 kV (at 40 kA)
Residual current I_{PE}	≤ 70 µA DC
	≤ 500 µA AC
Voltage protection level U_p	≤ 3.3 kV
Standby power consumption P_C	≤ 70.00 mVA

Environmental and real-life conditions

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)
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

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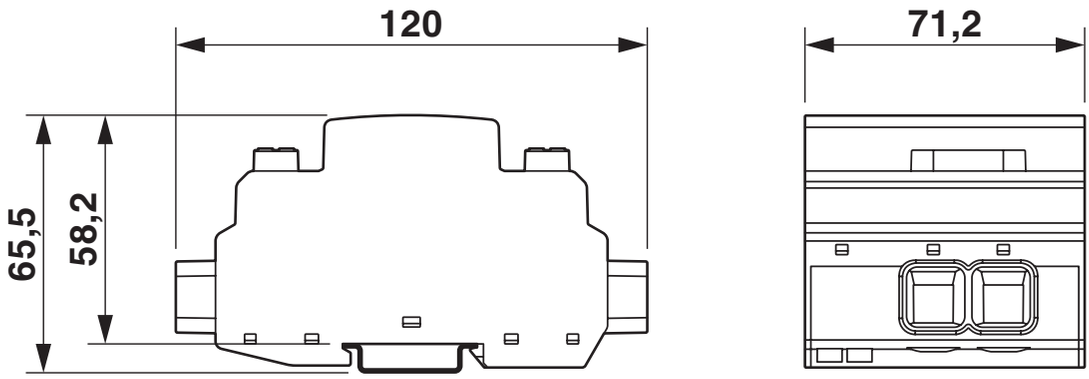
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Drawings

Dimensional drawing



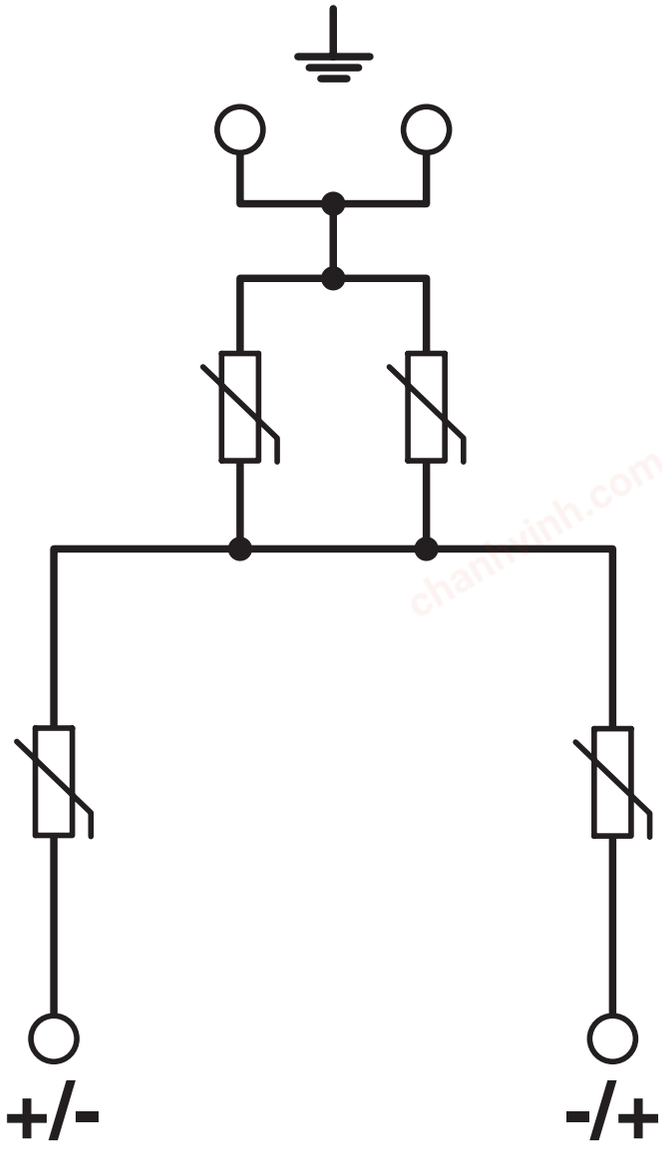
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Circuit diagram



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Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/gb/products/2905639

IECEE CB Scheme
Approval ID: NL-81007

CCA
Approval ID: NTR-NL 7938

KEMA-KEUR
Approval ID: 71-127691

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Classifications

ECLASS

ECLASS-11.0	27130802
ECLASS-13.0	27171401

ETIM

ETIM 9.0	EC000381

UNSPSC

UNSPSC 21.0	39121600

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Environmental product compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

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Accessories

ATP-QTTCB - Partition plate

3206238

https://www.phoenixcontact.com/gb/products/3206238

Partition plate, depth: 54 mm, width: 2 mm, height: 102 mm, color: gray



X-PEN 0,35 - Marker pen

0811228

https://www.phoenixcontact.com/gb/products/0811228

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



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SZK PZ2 VDE - Screwdriver

1206463

https://www.phoenixcontact.com/gb/products/1206463



Screwdriver, PZ crosshead, VDE insulated, size: PZ 2 x 100 mm, 2-component grip, with non-slip grip

SZS 0,4X2,5 VDE - Screwdriver

1205037

https://www.phoenixcontact.com/gb/products/1205037



Screwdriver, slot-headed, VDE insulated, size: 0.4 x 2.5 x 80 mm, 2-component grip, with non-slip grip

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