

# VAL-MB-T2 1000DC-PV/2+V - Type 2 surge arrester



2905645

<https://www.phoenixcontact.com/us/products/2905645>

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.



Surge arrester for 2-pos. isolated 1000 V DC voltage systems, for DIN rail mounting, temperature-monitored protective elements, status message on the module.

The figure shows the VAL-MB-T1/T2  
1500DC-PV/2+V version

## 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	2905645
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	CL1341
GTIN	4046356984249
Weight per piece (including packing)	413.68 g
Weight per piece (excluding packing)	413.68 g
Country of origin	DE

# VAL-MB-T2 1000DC-PV/2+V - Type 2 surge arrester



2905645

<https://www.phoenixcontact.com/us/products/2905645>

## Technical data

### Product properties

Product type	PV arrester
Product family	VALVETRAB MB
IEC test classification	PV T2
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	OCM (Open-Circuit Failure Mode)
Surge protection fault message	optical
Number of ports	One

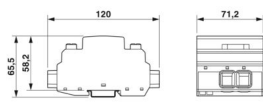
### Insulation characteristics

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 mm <sup>2</sup> ... 35 mm <sup>2</sup>
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

Flammability rating according to UL 94	V-0
Insulating material	PA 6.6 PBT
Housing material	PA 6.6

### Protective circuit

	(L+) - (L-)
--	-------------

# VAL-MB-T2 1000DC-PV/2+V - Type 2 surge arrester



2905645

<https://www.phoenixcontact.com/us/products/2905645>

Mode of protection	(L+) - PE
	(L-) - PE
Direction of action	(L+)-PE & (L-)-PE & (L+)-(L-)
Rated load current $I_L$	50 A
Protective conductor current $I_{PE}$	$\leq 50 \mu\text{A DC}$
	$\leq 400 \mu\text{A AC}$
Standby power consumption $P_C$	$\leq 50 \text{ mVA}$
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$	20 kA
Maximum discharge current $I_{max}$ (8/20) $\mu\text{s}$	40 kA
Total discharge current $I_{Total}$ (8/20) $\mu\text{s}$	40 kA
Voltage protection level $U_p$	$\leq 3.3 \text{ kV}$
Residual voltage $U_{res}$	$\leq 3.3 \text{ kV}$ (at $I_n$ )
	$\leq 2.5 \text{ kV}$ (at 3 kA)
	$\leq 2.7 \text{ kV}$ (at 6.25 kA)
	$\leq 2.9 \text{ kV}$ (at 10 kA)
	$\leq 3.1 \text{ kV}$ (at 15 kA)
	$\leq 4 \text{ kV}$ (at 40 kA)
Response time $t_A$	$\leq 25 \text{ ns}$

## PV protective circuit

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

## Protective circuit DC voltage side (DC)

Maximum continuous operating voltage $U_{CPV}$	1000 V DC
Short-circuit current rating $I_{SCPV}$	2000 A
Open-circuit voltage $U_{OCSTC}$	$\leq 833 \text{ V DC}$
Maximum discharge current $I_{max}$ (8/20) $\mu\text{s}$	40 kA
Response time $t_A$	$\leq 25 \text{ ns}$
Total discharge current $I_{Total}$ (8/20) $\mu\text{s}$	40 kA
Insulation resistance $R_{iso}$	$> 5 \text{ G}\Omega$ (at 500 V DC)
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$	20 kA
Rated load current $I_L$	50 A
Continuous operating current $I_{CPV}$	$< 50 \mu\text{A}$
Maximum continuous operating voltage $U_{CPV}$	1000 V DC
Short-circuit current rating $I_{SCPV}$	2000 A
Residual voltage $U_{res}$	$\leq 3.3 \text{ kV}$ (at $I_n$ )
	$\leq 2.5 \text{ kV}$ (at 3 kA)
	$\leq 2.7 \text{ kV}$ (at 6.25 kA)
	$\leq 2.9 \text{ kV}$ (at 10 kA)
	$\leq 3.1 \text{ kV}$ (at 15 kA)
	$\leq 4 \text{ kV}$ (at 40 kA)
Protective conductor current $I_{PE}$	$\leq 50 \mu\text{A DC}$
	$\leq 400 \mu\text{A AC}$
Voltage protection level $U_p$	$\leq 3.3 \text{ kV}$

# VAL-MB-T2 1000DC-PV/2+V - Type 2 surge arrester



2905645

<https://www.phoenixcontact.com/us/products/2905645>

Standby power consumption $P_C$	$\leq 50$ 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	$\leq 6000$ m (amsl)
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	50g (Half-sine / 11 ms / 3x $\pm X$ , $\pm Y$ , $\pm Z$ )
Vibration (operation)	5g (5 - 500 Hz/2.5 h/X, Y, Z)

## Standards and regulations

Standards/specifications	EN 50539-11
Note	2013

## Mounting

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

# VAL-MB-T2 1000DC-PV/2+V - Type 2 surge arrester

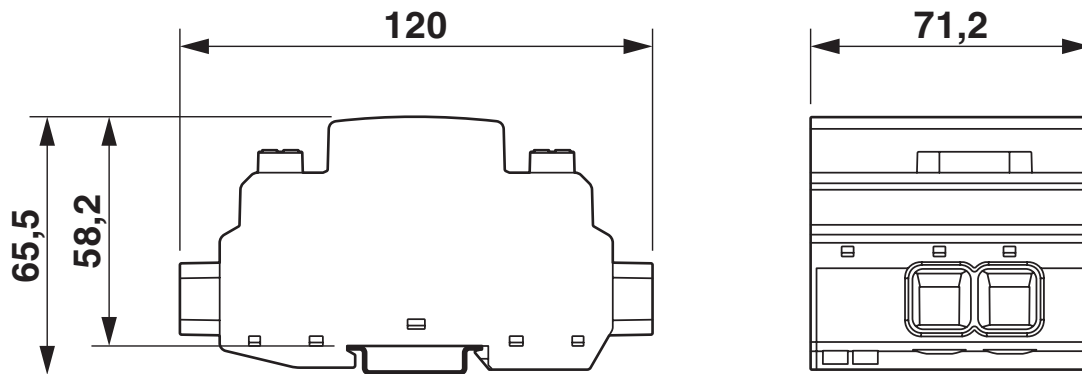


2905645

<https://www.phoenixcontact.com/us/products/2905645>

## Drawings

Dimensional drawing



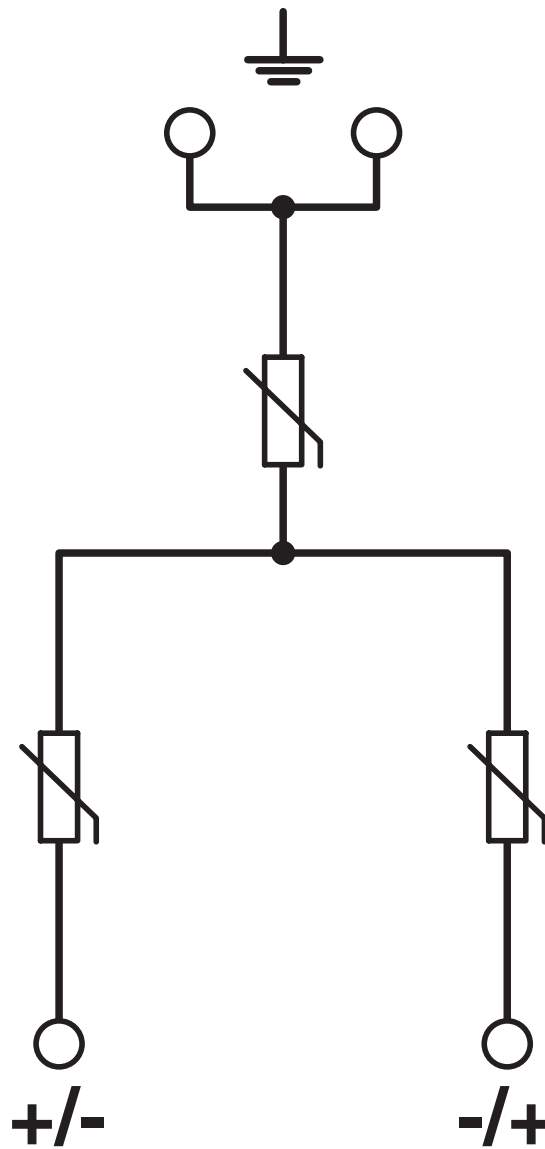
# VAL-MB-T2 1000DC-PV/2+V - Type 2 surge arrester

2905645

<https://www.phoenixcontact.com/us/products/2905645>



Circuit diagram



# VAL-MB-T2 1000DC-PV/2+V - Type 2 surge arrester



2905645

<https://www.phoenixcontact.com/us/products/2905645>

## Environmental product compliance

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)