

Type 2 surge protection device - VAL-MS 1000DC-PV/2+V-FM - 2800627

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Surge arrester for 2-pos. isolated 1000 V DC voltage systems, for DIN rail mounting, 3-pos. base element with remote indication contact, three plug-in temperature-monitored protective elements, status message on each plug.

Product Features

- ✓ Increased safety, thanks to compliance with standard EN 50539-11
- ✓ Reliable contact, thanks to integrated rotating latch
- ✓ Easy replacement, thanks to plug-in arresters
- ✓ Optimum inverter protection, thanks to low protection level
- ✓ Efficient replacement of defective plugs, thanks to visual status indicator
- ✓ Optimized maintenance planning, thanks to remote signaling
- ✓ Protection against mismatching, thanks to keyed plugs and base elements
- ✓ Always the right arrester, thanks to universal type 1/type 2 protective components



Key commercial data

Packing unit	1 pc
Weight per Piece (excluding packing)	360.0 GRM
Custom tariff number	85363030
Country of origin	Germany

Technical data

Dimensions

Height	99 mm
Width	53.4 mm
Depth	65.5 mm
Horizontal pitch	3 Div.

Ambient conditions

Degree of protection	IP20
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Technical data

Ambient conditions

Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Altitude	≤ 2000 m (amsl (above mean sea level))
Permissible humidity (operation)	5 % ... 95 %
Shock (operation)	60g (Half sine/11 ms/3x #X#Y#Z)
Vibration (operation)	7,5g (5-500 Hz/2.5 h/XYZ)

General

Standards/specifications	EN 50539-11 2013
IEC test classification	PV T2
Number of ports	One
SPD failure behavior	Open circuit mode (OCM)
Connection configuration	Y configuration
SPD design	Voltage-limiting type
Installation location	Inside
Accessibility	Accessible
Installation location of the disconnect device	Internal
Mounting type	DIN rail: 35 mm
Color	jet black RAL 9005
Housing material	PBT / PA
Pollution degree	2
Distance between live and grounded parts	8 mm
Inflammability class according to UL 94	V-0
Surge protection fault message	Optical, remote indicator contact

Additional descriptions

Note	The device is intended for touch proof installation in a housing. Ensure that there is a gap of at least 8 mm between the active and grounded parts in the connection area.
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Protective circuit DC voltage side (DC)

Maximum continuous operating voltage U_{CPV}	1170 V DC
Open circuit voltage U_{OCSTC}	≤ 970 V DC
Short-circuit current rating I_{SCPV}	300 A
Continuous operating current I_{CPV}	< 20 μA
Rated load current I_L	80 A
Residual current I_{PE}	≤ 20 μA DC
	≤ 250 μA AC
Standby power consumption P_C	≤ 25 mVA

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Protective circuit DC voltage side (DC)

Nominal discharge current I_n (8/20) μ s (L+) - (L-)	15 kA
Nominal discharge current I_n (8/20) μ s (L+) - PE	15 kA
Nominal discharge current I_n (8/20) μ s (L-) - PE	15 kA
Maximum discharge current I_{max} (8/20) μ s (L+) - (L-)	40 kA
Maximum discharge current I_{max} (8/20) μ s (L+) - PE	40 kA
Maximum discharge current I_{max} (8/20) μ s (L-) - PE	40 kA
Total discharge current I_{Total} (8/20) μ s	40 kA
Voltage protection level U_p (L+) - (L-)	≤ 3.7 kV
Voltage protection level U_p (L+) - PE	≤ 3.7 kV
Voltage protection level U_p (L-) - PE	≤ 3.7 kV
Residual voltage U_{res} (L+) - (L-)	≤ 3.7 kV (at I_n)
	≤ 3.1 kV (at 5 kA)
	≤ 3.5 kV (at 10 kA)
	≤ 4 kV (at 20 kA)
	≤ 4.6 kV (at 30 kA)
	≤ 5 kV (at 40 kA)
Residual voltage U_{res} (L+) - PE	≤ 3.7 kV (at I_n)
	≤ 3.1 kV (at 5 kA)
	≤ 3.5 kV (at 10 kA)
	≤ 4 kV (at 20 kA)
	≤ 4.6 kV (at 30 kA)
	≤ 5 kV (at 40 kA)
Residual voltage U_{res} (L-) - PE	≤ 3.7 kV (at I_n)
	≤ 3.1 kV (at 5 kA)
	≤ 3.5 kV (at 10 kA)
	≤ 4 kV (at 20 kA)
	≤ 4.6 kV (at 30 kA)
	≤ 5 kV (at 40 kA)
Response time t_A (L+) - (L-)	≤ 25 ns
Response time t_A (L+) - PE	≤ 25 ns
Response time t_A (L-) - PE	≤ 25 ns
Insulation resistance R_{iso}	> 5 G Ω (at 500 V DC)
Max. required backup fuse with branch wiring	Not required
Recommended backup fuse maximum	Not required

Indicator/remote signaling

Switching function	PDT, 1-pos.
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Indicator/remote signaling

Operating voltage	5 V AC ... 250 V AC
	30 V DC
Operating current	5 mA AC ... 1.5 A AC
	1.5 A DC
Connection method	MC 1,5/3
Screw thread	M2
Tightening torque	0.25 Nm
	2 lb in ... 4 lb in
Stripping length	7 mm
Conductor cross section stranded min.	0.14 mm ²
Conductor cross section stranded max.	1.5 mm ²
Conductor cross section solid min.	0.14 mm ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section AWG/kcmil min.	30
Conductor cross section AWG/kcmil max	16

Connection data

Connection method	Screw connection
Conductor cross section stranded min.	1.5 mm ²
Conductor cross section stranded max.	25 mm ²
Conductor cross section solid min.	1.5 mm ²
Conductor cross section solid max.	35 mm ²
Screw thread	M5
Tightening torque	4.5 Nm
Stripping length	16 mm
Connection method	Biconnect terminal blocks
Conductor cross section stranded min.	1.5 mm ²
Conductor cross section stranded max.	16 mm ²
Screw thread	M6

Classifications

eCl@ss

eCl@ss 4.0	27140201
eCl@ss 4.1	27130801
eCl@ss 5.0	27130801
eCl@ss 5.1	27130801
eCl@ss 6.0	27130805

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Classifications

eCl@ss

eCl@ss 7.0	27130805
eCl@ss 8.0	27130805

ETIM

ETIM 3.0	EC000941
ETIM 4.0	EC000941
ETIM 5.0	EC000941

UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620

Approvals

Approvals

Approvals

UL Recognized / KEMA-KEUR / cUL Recognized / cULus Recognized

Ex Approvals

Approvals submitted

Approval details

UL Recognized

KEMA-KEUR

Type 2 surge protection device - VAL-MS 1000DC-PV/2+V-FM - 2800627

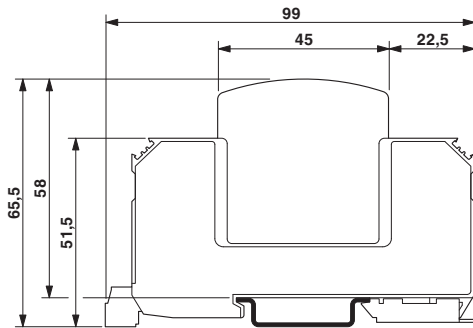
Approvals

cUL Recognized

cULus Recognized

Drawings

Dimensioned drawing



Circuit diagram

