

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 μ A
Rated load current I_L	80 A
Residual current I_{PE}	≤ 20 μ A DC
	≤ 250 μ A 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

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

Ex Approvals

Approvals submitted

Approval details

UL Recognized 

KEMA-KEUR 

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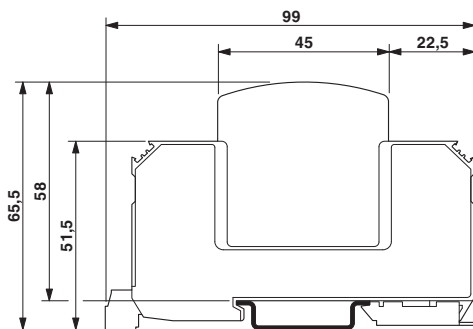
Approvals

cUL Recognized 

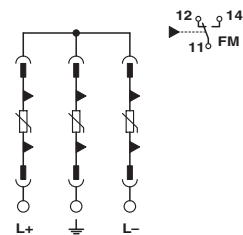
cULus Recognized 

Drawings

Dimensioned drawing



Circuit diagram



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