Type 2 surge arrester - VAL-MS 600DC-PV/2+V - 2800642

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Surge arrester for 2-pos. isolated 600 V DC voltage systems, for DIN rail mounting, 3-pos. base element, three plug-in temperature-monitored protective elements, status message on each plug.

Why buy this product

- 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
- 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
GTIN	4 046356 614979
Weight per Piece (excluding packing)	314.2 g
Custom tariff number	85363010
Country of origin	Germany

Technical data

Dimensions

Height	90 mm
Width	53.4 mm
Depth	65.5 mm
Horizontal pitch	3 Div.

Ambient conditions

Degree of protection	IP20 (only when all terminal points are used)

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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
	PV T2
Number of ports	One
SPD failure behavior	OCM (Open-circuit mode)
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	PA 6.6-FR
	PBT-FR
Pollution degree	2
Distance between live and grounded parts	8 mm
Inflammability class according to UL 94	V-0
Type	DIN rail module, two-section, divisible
Surge protection fault message	optical

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.

Protective circuit DC voltage side (DC)

Maximum continuous operating voltage U_{CPV}	800 V DC
Open circuit voltage U_{OCSTC}	≤ 670 V DC
Short-circuit current rating I_{SCPV}	1000 A
Continuous operating current I_{CPV}	20 µA
Rated load current I_L	80 A
Residual current I_{PE}	≤ 20 µA DC
	≤ 300 µA AC
Standby power consumption P_C	≤ 20 mVA
Nominal discharge current I_n (8/20) µs (L+) - (L-)	15 kA

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Protective circuit DC voltage side (DC)

Nominal discharge current I_n (8/20) µs (L+) - PE	15 kA
Nominal discharge current I_n (8/20) µs (L-) - PE	15 kA
Maximum discharge current I_{max} (8/20) µs (L+) - (L-)	40 kA
Maximum discharge current I_{max} (8/20) µs (L+) - PE	40 kA
Maximum discharge current I_{max} (8/20) µs (L-) - PE	40 kA
Total discharge current I_{Total} (8/20) µs	40 kA
Voltage protection level U_p (L+) - (L-)	≤ 2.7 kV
Voltage protection level U_p (L+) - PE	≤ 2.7 kV
Voltage protection level U_p (L-) - PE	≤ 2.7 kV
Residual voltage U_{res} (L+) - (L-)	≤ 2.7 kV (at I_n)
	≤ 2.2 kV (at 5 kA)
	≤ 2.5 kV (at 10 kA)
	≤ 2.9 kV (at 20 kA)
	≤ 3.4 kV (at 30 kA)
	≤ 3.8 kV (at 40 kA)
Residual voltage U_{res} (L+) - PE	≤ 2.7 kV (at I_n)
	≤ 2.2 kV (at 5 kA)
	≤ 2.5 kV (at 10 kA)
	≤ 2.9 kV (at 20 kA)
	≤ 3.4 kV (at 30 kA)
	≤ 3.8 kV (at 40 kA)
Residual voltage U_{res} (L-) - PE	≤ 2.7 kV (at I_n)
	≤ 2.2 kV (at 5 kA)
	≤ 2.5 kV (at 10 kA)
	≤ 2.9 kV (at 20 kA)
	≤ 3.4 kV (at 30 kA)
	≤ 3.8 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 GΩ (at 500 V DC)

Connection data

Connection method	Screw connection
Conductor cross section flexible min.	1.5 mm²
Conductor cross section flexible max.	25 mm²
Conductor cross section solid min.	1.5 mm²
Conductor cross section solid max.	35 mm²
AWG conductor cross section	15 ... 2
	10 ... 2 (UL)

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Technical data

Connection data

Screw thread	M5
Tightening torque	4.5 Nm
	30 lb_f-in. (UL)
Stripping length	16 mm
Connection method	Biconnect terminal blocks
Conductor cross section flexible min.	1.5 mm²
Conductor cross section flexible max.	16 mm²
Screw thread	M5

UL specifications

UL class	Type 4 SPD for Type 2 photovoltaic applications
Maximum continuous operating voltage MCOV (L+) - (L-)	800 V DC
Maximum continuous operating voltage MCOV (L+) - G	800 V DC
Maximum continuous operating voltage MCOV (L-) - G	800 V DC
Nom. voltage	670 V AC
Mode of protection	(L+) - (L-)
	(L+) - G
	(L-) - G
Power distribution system	1
Voltage protection rating VPR (L+) - (L-)	2.5 kV
Voltage protection rating VPR (L+) - G	2.5 kV
Voltage protection rating VPR (L-) -G	2.5 kV
Nominal discharge current I_n (L+) - (L-)	20 kA
Nominal discharge current I_n (L+) - G	20 kA
Nominal discharge current I_n (L-) - G	20 kA

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
eCl@ss 7.0	27130805

ETIM

ETIM 3.0	EC000941
ETIM 4.0	EC000941
ETIM 5.0	EC000941

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Classifications

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 / EAC / cULus Recognized

Ex Approvals

Approvals submitted

Approval details

UL Recognized

KEMA-KEUR

cUL Recognized

EAC

cULus Recognized

Accessories

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Accessories

Bridge

Wiring bridge - MPB F200X16/ 1GS - 2818339

Wiring bridge flexible, diameter 16 mm², with a fork-type cable lug on one side, length: 200 mm

Wiring bridge - MPB F400X16/ 1GS - 2818342

Wiring bridge flexible, diameter 16 mm², with a fork-type cable lug on one side, length: 400 mm

Wiring bridge - MPB F600X16/ 1GS - 2818355

Wiring bridge flexible, diameter: 16 mm², with a fork-type cable lug on one side, length: 600 mm

Device marking

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128

Zack marker strip, Strip, white, unlabeled, can be labeled with: Plotter, Mounting type: Snap into tall marker groove, for terminal block width: 18 mm, Lettering field: 18 x 5 mm

Labeled device marker

Marker for terminal blocks - ZBN 18,LGS:ERDE - 2749589

Marker for terminal blocks, Strip, white, labeled, Horizontal: Grounding symbol, Mounting type: Snap into tall marker groove, for terminal block width: 18 mm, Lettering field: 18 x 5 mm

Spare parts

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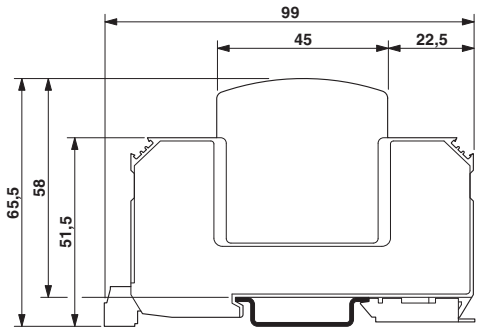
Accessories

Type 2 surge protection plug - VAL-MS 600DC-PV-ST - 2800623

Replacement plug for PV arrester combinations from the VAL-MS 600DC-PV-... product range

Drawings

Dimensional drawing



The illustration shows the dimensional drawing for a version with remote indicator contact

Circuit diagram