

Type 2 surge arrester - VAL-CP-1S-175 - 2859479

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Plug-in surge arrester for 1-phase power supply networks with separate N and PE (3-conductor system: L1, N, PE), with remote indication contact.

Why buy this product

- With or without floating remote indication contact
- Plugs can be checked with CHECKMASTER
- High continuous voltage of 175 V AC for 120 V AC networks with high voltage fluctuations
- Mechanical coding of all slots
- Optical, mechanical status indication for the individual arresters
- Disconnect device on each individual plug
- Type 2 consistent plug-in surge arresters
- Modular arrester blocks with ultra-narrow design
- Use of varistors that are free of leakage current



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 045476
Weight per Piece (excluding packing)	221.3 GRM
Country of origin	Germany

Technical data

Dimensions

Height	98 mm
Width	25.3 mm
Depth	71.5 mm
Horizontal pitch	1.4 Div.

Ambient conditions

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Ambient conditions

Degree of protection	IP20
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)	30g (half sinus / 11 ms / 3x ±X, ±Y, ±Z)
Vibration (operation)	5g (10 ... 500 Hz / 2.5 h / X, Y, Z)

General

Standards/specifications	IEC 61643-11 2011
	EN 61643-11 2012
IEC test classification	II
	T2
EN type	T2
IEC power supply system	TN-S
	TT
Number of ports	One
SPD design	Combination type
Mode of protection	L-N
	L-PE
	N-PE
Mounting type	DIN rail: 35 mm
Color	gray/blue
	black
Housing material	PBT-FR
Degree of pollution	2
Flammability rating according to UL 94	V-0
Type	DIN rail module, two-section, divisible
Number of positions	2
Surge protection fault message	Optical, remote indicator contact

Protective circuit

Nominal voltage U_N	120 V AC (TN-S)
	120 V AC (TT)
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous operating voltage U_C (L-N)	175 V AC
Maximum continuous operating voltage U_C (L-PE)	175 V AC
Maximum continuous voltage U_C (N-PE)	150 V AC
Rated load current I_L	40 A (Biconnect M4 fork-type cable lug 6 mm ²)
	63 A (TWIN ferrule 2 x 10 mm ²)
Residual current I_{PE}	≤ 1 μA

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Protective circuit

Nominal discharge current I_n (8/20) μ s (L-N)	20 kA
Nominal discharge current I_n (8/20) μ s (N-PE)	20 kA
Maximum discharge current I_{max} (8/20) μ s (L-N)	40 kA
Maximum discharge current I_{max} (8/20) μ s (N-PE)	40 kA
Follow current interrupt rating I_{fi} (N-PE)	100 A (150 V AC)
Short-circuit current rating I_{SCCR}	25 kA
Voltage protection level U_p (L-N)	≤ 0.85 kV
Voltage protection level U_p (L-PE)	≤ 1.3 kV
Voltage protection level U_p (N-PE)	≤ 0.95 kV
Residual voltage U_{res} (L-N)	≤ 0.85 kV (at I_n)
	≤ 0.75 kV (at 10 kA)
	≤ 0.65 kV (at 5 kA)
	≤ 0.63 kV (at 4 kA)
	≤ 0.57 kV (at 2 kA)
Residual voltage U_{res} (N-PE)	≤ 0.4 kV (at I_n)
	≤ 0.4 kV (at 10 kA)
	≤ 0.4 kV (at 5 kA)
	≤ 0.4 kV (at 4 kA)
	≤ 0.4 kV (at 2 kA)
Front of wave sparkover voltage at 6 kV (1.2/50) μ s (N-PE)	≤ 0.95 kV
TOV behavior at U_T (L-N)	240 V AC (5 s / withstand mode)
	240 V AC (120 min / safe failure mode)
TOV behavior at U_T (N-PE)	1200 V AC (200 ms / withstand mode)
Response time t_A (L-N)	≤ 25 ns
Response time t_A (N-PE)	≤ 100 ns
Max. backup fuse with branch wiring	315 A (gG)
Max. backup fuse with V-type through wiring	40 A (gG / Biconnect M4 fork-type cable lug, 6 mm ²)
	63 A (gG / TWIN ferrule 2x 10mm ²)

Indicator/remote signaling

Connection name	Remote fault indicator contact
Switching function	PDT contact
Operating voltage	5 V AC ... 250 V AC
	125 V DC (200 mA DC)
Operating current	5 mA AC ... 1 A AC
	1 A DC (30 V DC)
Connection method	Pluggable screw connection
Screw thread	M2
Tightening torque	0.25 Nm
Stripping length	7 mm

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Indicator/remote signaling

Conductor cross section flexible	0.14 mm ² ... 1.5 mm ²
Conductor cross section solid	0.14 mm ² ... 1.5 mm ²
Conductor cross section AWG	28 ... 16

Connection data

Connection method	Screw connection
Conductor cross section flexible	2.5 mm ² ... 16 mm ²
Conductor cross section solid	2.5 mm ² ... 25 mm ²
Conductor cross section AWG	12 ... 4
Screw thread	M5
Tightening torque	4.5 Nm
Stripping length	16 mm

UL specifications

SPD Type	4CA
Maximum continuous operating voltage MCOV (L-N)	175 V AC
Maximum continuous operating voltage MCOV (L-G)	175 V AC
Maximum continuous operating voltage MCOV (N-G)	150 V AC
Nom. voltage	120 V AC
Mode of protection	L-N
	L-G
	N-G
Power distribution system	1
Nominal frequency	50/60 Hz
Measured limiting voltage MLV (L-N)	1510 V
Measured limiting voltage MLV (L-G)	1630 V
Measured limiting voltage MLV (N-G)	560 V
Nominal discharge current I _n (L-N)	20 kA
Nominal discharge current I _n (L-G)	20 kA
Nominal discharge current I _n (N-G)	20 kA
Follow current (N-G)	200 A (150 V AC)

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

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Classifications

eCl@ss

eCl@ss 8.0	27130805
eCl@ss 9.0	27130805

ETIM

ETIM 2.0	EC000941
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 / IECEE CB Scheme / CCA / EAC / cULus Recognized

Ex Approvals

Approvals submitted

Approval details

UL Recognized

KEMA-KEUR

cUL Recognized

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Approvals

IECEE CB Scheme

CCA

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Accessories

Accessories

Bridge

Wiring bridge - MPB SET VAL-CP-3S - 2880684



Wiring bridge set, consisting of three flexible bridges 15 cm black, 1 bridge 27 cm blue.

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

Feed-through terminal block

Feed-through terminal block - DK-BIC-35 - 2749880



Feed-through terminal block for VAL and FLT applications

Labeled device marker

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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

Marker pen

Marker pen - B-STIFT - 1051993



Marker pen, for manual labeling of unprinted ZACK strips, smear-proof and waterproof, line thickness 0.5 mm

Spare parts

Type 2 surge protection plug - VAL-CP-175-ST - 2859628



Replacement plug for VAL-CP surge arrester with high-capacity varistor free of leakage current.

Type 2 surge protection plug - VAL-CP-N/PE-175-ST - 2859709

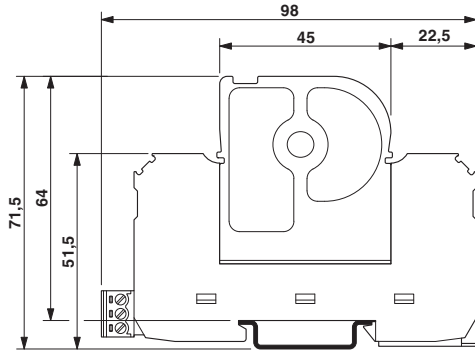


Replacement plug for VAL-CP surge arrester with N-PE spark gap.

Drawings

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Dimensional drawing



Circuit diagram

