

# Type 2 surge protection device - VAL-CP-1S-350/O - 2881036

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Pluggable type 2 arrester (surge arrester) for 1-phase current supply networks with separate N and PE (3-conductor system: L1, N, PE). Overall width: 24 mm.

## Why buy this product

- With or without floating remote indication contact
- Plugs can be checked with CHECKMASTER
- High continuous voltage of 350 V AC for 230/400 V AC networks with high voltage fluctuations
- Type 2 consistent plug-in surge arresters
- Mechanical keying of all slots
- Use of varistors that are free of leakage current
- Optical, mechanical status indication for the individual arresters
- Modular arrester blocks with ultra-narrow design
- Disconnect device on each individual plug



## Key commercial data

Packing unit	0
Minimum order quantity	1
Catalog page	Page 33 (TT-2011)
GTIN	 4 046356 049252
Custom tariff number	85363030
Country of origin	GERMANY

## Technical data

### Standards

IEC power supply system	TT
IEC power supply system	TN-S
Housing material	PBT
Inflammability class according to UL 94	V0
Color	gray
Standards for air and creepage distances	DIN VDE 0110-1
Standards for air and creepage distances	IEC 60664-1

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### Technical data

#### Standards

Standards for air and creepage distances	IEC 61643-1
Surge voltage category	III
Pollution degree	2
Degree of protection	IP20
Mounting type	DIN rail: 35 mm
Design	DIN rail module, two-section, divisible
Number of positions	2
Ambient temperature (operation)	-40 °C ... 80 °C
Message: Surge protection fault	Optical
Direction of action	1L-N & N-PE
Width	25.3 mm
Height	89.8 mm
Depth	70 mm

#### Protective circuit

IEC category	II
IEC category	T2
EN type	T2
Nominal voltage UN	240 V AC (230/400 V AC ... 240/415 V AC)
Nominal voltage UN	415 V AC (L-L)
Arrester rated voltage UC (L-N)	350 V AC
Arrester rated voltage UC (N-PE)	264 V AC
UT (TOV-proof)	415 V AC (5 sec.)
UT (TOV-proof)	1200 V AC (200 ms / N-PE)
Nominal frequency fN	50 Hz
Nominal frequency fN	60 Hz
Nominal load current IL	40 A (biconnect, 6 mm <sup>2</sup> )
Nominal load current IL	63 A (2 x 10 mm <sup>2</sup> )
Ground conductor current IPE	≤ 1 µA
Standby power consumption PC	≤ 3.5 mW
Power consumption without load Pc	≤ 3.5 mW
Max. discharge surge current I <sub>max</sub> (8/20) µs	40 kA
Max. discharge surge current I <sub>max</sub> (8/20) µs maximum (L-N)	40 kA
Max. discharge surge current I <sub>max</sub> (8/20) µs maximum (N-PE)	40 kA
Nominal discharge surge current I <sub>n</sub> (8/20) µs (L-N)	20 kA
Nominal discharge surge current I <sub>n</sub> (8/20) µs (N-PE)	20 kA
Impulse operate voltage at 6 kV (1.2/50)µs (N-PE)	≤ 1.5 kV
Protection level UP (L-N)	≤ 1.4 kV
Protection level UP (N-PE)	≤ 1.5 kV
Residual voltage (L-N)	≤ 1.4 kV (at I <sub>n</sub> )
Residual voltage (L-N)	≤ 1.2 kV (at 10 kA)
Residual voltage (L-N)	≤ 1.1 kV (at 5 kA)
Residual voltage (L-N)	≤ 1 kV (at 3 kA)

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### Technical data

#### Protective circuit

Residual voltage (L-PE)	≤ 1.6 kV (at In)
Residual voltage (L-PE)	≤ 1.3 kV (at 10 kA)
Residual voltage (L-PE)	≤ 1.2 kV (at 5 kA)
Residual voltage (L-PE)	≤ 1.1 kV (at 3 kA)
Residual voltage (N-PE)	≤ 0.5 kV (at In)
Residual voltage (N-PE)	≤ 0.3 kV (at 10 kA)
Residual voltage (N-PE)	≤ 0.25 kV (at 5 kA)
Residual voltage (N-PE)	≤ 0.2 kV (at 3 kA)
Clamping voltage ringwave (L-N)	≤ 1.2 kV (category C3 20 kV/10 kA)
Clamping voltage ringwave (L-N)	≤ 1.1 kV (category C2 10 kV/5 kA)
Clamping voltage ringwave (L-N)	≤ 1 kV (category B3/C1 6 kV/3 kA)
Clamping voltage ringwave (L-PE)	≤ 1.3 kV (category C3 20 kV/10 kA)
Clamping voltage ringwave (L-PE)	≤ 1.2 kV (category C2 10 kV/5 kA)
Clamping voltage ringwave (L-PE)	≤ 1.1 kV (category B3/C1 6 kV/3 kA)
Clamping voltage ringwave (N-PE)	≤ 1.5 kV (category C3 20 kV/10 kA)
Clamping voltage ringwave (N-PE)	≤ 1.4 kV (category C2 10 kV/5 kA)
Clamping voltage ringwave (N-PE)	≤ 1.2 kV (category B3/C1 6 kV/3 kA)
Response time (L-N)	≤ 25 ns
Response time (L-PE)	≤ 100 ns
Response time (N-PE)	≤ 100 ns
Max. required backup fuse with branch wiring	125 A (gL/gG)
Max. required backup fuse with V-type through wiring	40 A (gL/gG)
Short-circuit resistance IP with max. backup fuse (effective)	25 kA
Follow current quenching capacity If (N-PE)	100 A

#### Connection, protective circuit

Connection method	Screw connection
Connection type IN	Biconnect screw terminal block
Connection type OUT	Biconnect screw terminal block
Connection method	Biconnect terminal block
Screw thread	M5
Tightening torque	4.5 Nm
Stripping length	16 mm
Conductor cross section stranded min.	2.5 mm <sup>2</sup>
Conductor cross section stranded max.	16 mm <sup>2</sup>
Conductor cross section solid min.	2.5 mm <sup>2</sup>
Conductor cross section solid max.	25 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	12
Conductor cross section AWG/kcmil max	4

#### Standards

Standards/regulations	IEC 61643-1 2005
Standards/regulations	DIN EN 61643-11 2002
Standards/regulations	DIN EN 61643-11/A11 2007

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## Technical data

### Standards

Standards/regulations	IEEE C62.1 / C62.34 / C62.45
Standards/regulations	UL 1449

## Classifications

### eclass

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 2.0	EC000941
ETIM 3.0	EC000941
ETIM 4.0	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 / GOST / GL / IECCEB Scheme / cULus Recognized

#### Ex Approvals

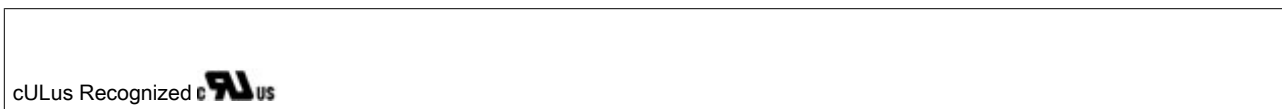
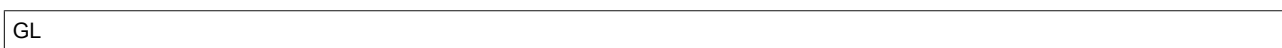
#### Approvals submitted

### Approval details

UL Recognized
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# Type 2 surge protection device - VAL-CP-1S-350/O - 2881036

## Approvals



## Accessories

### Accessories

### Bridges

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



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

### Marking

Zack Marker strip, flat - ZBF 12:UNBEDRUCKT - 0809735



Zack Marker strip, flat, Strip, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Snap into flat marker groove, For terminal block width: 12 mm, Lettering field: 5.15 x 12.15 mm

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### Accessories

Marker pen - X-PEN 0,35 - 0811228



Marker pen without ink cartridge, for manual labeling of markers, labeling extremely wipe-proof, line thickness 0.35 mm

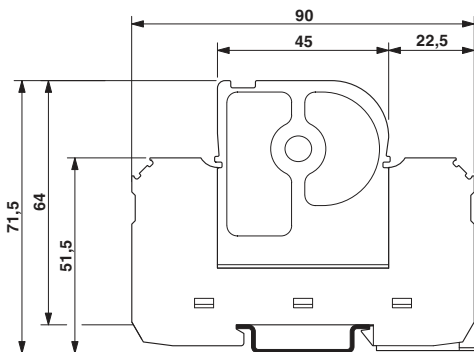
Flat zack marker sheet - ZBFM 5/WH:UNBEDRUCKT - 0803595



Flat zack marker sheet, Sheet, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Snap into flat marker groove, For terminal block width: 5.2 mm, Lettering field: 5 x 4.5 mm

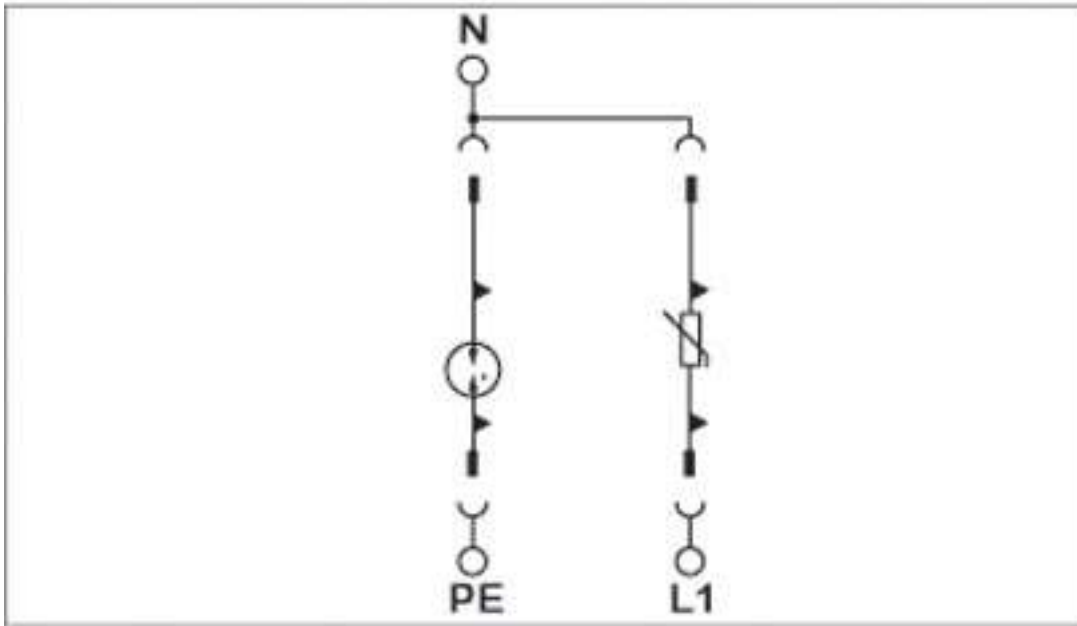
### Drawings

Dimensioned drawing



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Circuit diagram



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