

**VSPC 1CL 24VDC****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://www.weidmueller.com)

Analogue signal/current loop (CL) protection includes the following signals:

- Signals from current loops (analogue measurements of sensors over long distances) 4 – 20 mA, 0 – 20 mA etc.
- Two-wire, three-wire and four-wire, without a common reference potential
- e.g. level indication signals from voltage sensors (analogue measurements of sensors over short distances) 0 – 10 V, PT 100 etc.; e.g. temperature measurement
- Pluggable arrester, with interruption-free and impedance-neutral plug-in and pull-out
- Can be tested with the V-TEST testing device
- Version with floating-earth PE connection used to avoid differences in potential
- Can be used in compliance with the IEC 62305 (D1, C1, C2 and C3) installation standard
- Integrated PE foot safely discharges up to 20 kA (8/20 µs) and 2.5 kA (10/350 µs) to the PE
- Colour coding of the voltage levels for fast identification on the panel
- Safety function through coding elements for different voltage levels

**General ordering data**

Version	Surge protection for instrumentation and control, without warning function / function indicator, $U_p(L/N-PE) < 800\text{ V}$
Order No.	<a href="#">8924480000</a>
Type	VSPC 1CL 24VDC
GTIN (EAN)	4032248696116
Qty.	1 pc(s).

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**Technical data****Dimensions and weights**

Depth	69 mm	Depth (inches)	2.717 inch
Height	90 mm	Height (inches)	3.543 inch
Width	17.8 mm	Width (inches)	0.701 inch
Net weight	41 g		

**Temperatures**

Storage temperature	-40 °C...80 °C	Operating temperature	-40 °C...70
Humidity	5...96 %		

**Probability of failure**

SIL in compliance with IEC 61508	3	MTTF	2,537 a
SFF	95.67 %	λges	45
PFH in 1*10 <sup>-9</sup> per hour	1.95		

**Rated data UL**

Certificate No. (UL)	E311081	UL certificate	UL 497b Certificate
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**CSA protection data**

Gas group C	IIB	Gas group D	IIA
Gas groups A, B	IIC	Input voltage, max. U <sub>i</sub>	28 V
Internal capacity, max. C <sub>i</sub>	1 nF	Internal inductance, max. L <sub>i</sub>	0 μH

**General data**

Colour	orange	Design	Terminal, miscellaneous
Optical function display	No	Protection degree	IP20
Segment	Measurement - Monitoring - Setting	UL 94 flammability rating	V-0
Version	without warning function / function indicator	protected current loops	1

**Insulation coordination acc. to EN 50178**

Pollution severity	2	Surge voltage category	III
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## Technical data

## Rated data IEC / EN

Discharge current $I_{\max}$ (8/20 $\mu$ s) GND-PE	10 kA
Discharge current $I_{\max}$ (8/20 $\mu$ s) wire-wire	10 kA
Discharge current $I_n$ (8/20 $\mu$ s) wire-PE	2.5 kA
Fuse	0.5 A
Lightning test current, $I_{\text{imp}}$ (10/350 $\mu$ s) Wire-PE	2.5 kA
Max. continuous voltage, $U_c$ (DC)	28 V
Overload - failure mode	Modus 2
Protection level on output side Wire-PE 1kV/ $\mu$ s, typically	450 V
Protection level on output side Wire-wire 8/20 $\mu$ s, typically	45 V
Protection level, $U_p$ wire - PE	450 V
Pulse-reset capacity	$\leq 30$ ms
Rated voltage (DC)	24 V
Signal transmission properties (-3 dB)	2.4 MHz
Standards	IEC 61643-21, HART-compatible
Surge current-carrying capacity C2	5 kA 8/20 $\mu$ s
Surge current-carrying capacity D1	2.5 kA 10/350 $\mu$ s
Volume resistance	2.20 $\Omega$

Discharge current $I_{\max}$ (8/20 $\mu$ s) wire-PE	10 kA
Discharge current $I_n$ (8/20 $\mu$ s) GND-PE	2.5 kA
Discharge current $I_n$ (8/20 $\mu$ s) wire-wire	2.5 kA
Lightning test current, $I_{\text{imp}}$ (10/350 $\mu$ s) GND-PE	2.5 kA
Lightning test current, $I_{\text{imp}}$ (10/350 $\mu$ s) wire-wire	2.5 kA
Number of poles	1
Protection level $U_p$ (typ.)	< 800 V
Protection level on output side Wire-wire 1 kV/ $\mu$ s, typically	45 V
Protection level, $U_p$ GND - PE	650 V
Protection level, $U_p$ wire - wire	45 V
Rated current $I_N$	450 mA
Requirements category acc. to IEC 61643-21	C1, C2, C3, D1
Signalling contact	No
Surge current-carrying capacity C1	< 1 kA 8/20 $\mu$ s
Surge current-carrying capacity C3	100 A 10/1000 $\mu$ s
Voltage type	DC

## Further details of approvals

GOST certificate	GOST-Zertifikat
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## Connection data

Type of connection	Pluggable in VSPC BASE
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## Ratings IECEx/ATEX/cUL

cUL certificate	cUL Certificate
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## Classifications

ETIM 6.0	EC000943	ETIM 7.0	EC000943
ETIM 8.0	EC000943	ETIM 9.0	EC000943
ECLASS 9.0	27-13-08-07	ECLASS 9.1	27-13-08-07
ECLASS 10.0	27-13-08-07	ECLASS 11.0	27-13-08-07
ECLASS 12.0	27-17-90-90	ECLASS 13.0	27-17-90-90

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## Technical data

## Tender specification sheets

## Long specification

Surge protection plug for use in connection with the base element VSPC BASE 1CL for one floating-ground driven paired cable. Two-stage protection circuit consisting of coarse protection, decoupling resistors and fine protection between the signal wires and coarse common mode voltage protection to earth. Mechanical identification of the plug to the base element according to the switching type and rated voltage. Optical identification of the protected plug based on the type of protected switching and the voltage level. Protected plug with coding pin and counter-profile for the base element. It is possible to mark the plug.

## Short specification

Surge protection plug for base element VSPC BASE 1 CL, transverse voltage coarse and fine protection for one floating-ground powered paired cable, coarse common mode voltage protection to earth. Version: 24 V DC

## Environmental Product Compliance

REACH SVHC

Lead 7439-92-1

SCIP

71e97bb7-979f-4330-94c0-20c629bb05e3

## Important note

## Product information

Mode 2: State where the voltage-limiting part of the SPD was short-circuited due to a very low impedance within the SPD. The line is inoperable, but the measuring equipment is still protected by means of a short-circuit.

## Approvals

## Approvals



ROHS

Conform

UL File Number Search

UL Website

Certificate No. (UL)

E311081

## Downloads

Approval/Certificate/Document of Conformity

[SIL Paper](#)  
[EU Konformitätserklärung / EU Declaration of Conformity](#)

Engineering Data

[CAD data – STEP](#)

User Documentation

[Beipackzettel / Instruction sheet](#)

Catalogues

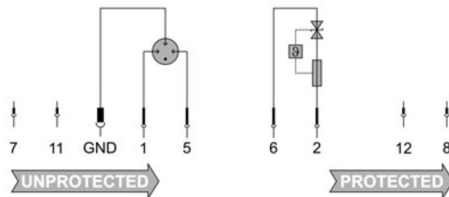
[Catalogues in PDF-format](#)

Brochures

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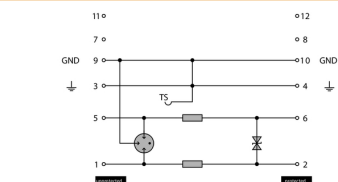
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**Drawings**
**Electric symbol**


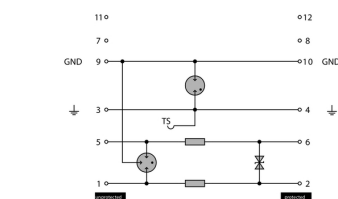
Circuit diagram

Cate- gory	Testing pulse	Surge voltage	Surge current	Pulse Type
C1	Quick- rising edge	0.5 - 2 kV with 1.2/50 µs	0.25 - 1 kA mit 8/20 µs	300 Surge voltage arrester
C2	Quick- rising edge	2 - 10 kV with 1.2/50 µs	1 - 5 kA mit 8/20 µs	10 Surge voltage arrester
C3	Quick- rising edge	≥ 1 kV with 1 kV/µs	10 - 100 A mit 10/10000 µs	300 Surge voltage arrester
D1	High power	≥ 1 kV	0.5 - 2.5 kA mit 10/350 µs	2 Arrester for lightning current and surge voltages

Discharge capacity



Complete module direct grounding  
 Komplettmodul direkte Erdung



Complete module indirect grounding  
 Komplettmodul indirekte Erdung

Komplettmodul

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## Accessories

### Direct earthing



Base element for the pluggable VSPC arrester, integrated PE foot in impedance-neutral VSPC BASE. Can safely discharge up to 20 kA (8/20  $\mu$ s) and 2.5 kA (10/350  $\mu$ s) to the PE.

### General ordering data

Type	VSPC BASE 1CL	Version
Order No.	<a href="#">8924730000</a>	Surge protection, Flange-mounted housing, Flange-mounted housing
GTIN (EAN)	4032248696376	
Qty.	1 pc(s).	

### V-TEST testing device for VSPC



#### V-TEST

- Testing device for checking the protective function of the pluggable overvoltage protection PU I, PU II and VSPC series
- Device for implementing the IEC 62305 standard (regarding periodic testing)
- Easy-to-use device with integrated battery set for on-site measurements
- LCD results display
- Menu in two languages
- Including a protective bag and power supply
- User friendly navigation in German and English

The V-TEST is a compact, portable test instrument for the plug-in surge protectors VARITECTOR (VSPC) and the surge protectors for the power supply line PU I and PU II. Using this instrument Weidmüller overvoltage protectors can be tested for their protective function in line with the testing schedules laid down in IEC 62305-3 (DIN VDE 0185 part 3). In a display with background illumination, the test result is indicated with "OK" or "Not OK".

### General ordering data

Type	V-TEST	Version
Order No.	<a href="#">8951860000</a>	Lightning and surge protection, Testing device
GTIN (EAN)	4032248743100	
Qty.	1 pc(s).	

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## Accessories

## Retaining clip



The interlock mechanism on the VSPC Series pluggable arrester delivers extra reliability and an improved permanent contact under strong vibrating conditions.

## General ordering data

Type	VSPC LOCKING CLIP	Version
Order No.	<a href="#">1317340000</a>	Fastening element, Latches
GTIN (EAN)	4050118121179	
Qty.	100 pc(s).	

## Plus



The Dekafix (DEK) marker is the universal marker for all conductor and plug-in connectors as well as for electronic sub-assemblies. The system is ideal for short number sequences and covers a wide range of ready-printed markers.

Strips for fast installation in only one work step. The printing is easy to read, rich in contrast and available in various widths.

- Large range of ready-to-use markers
- Strips for fast installation
- Terminal markers, suitable for all Weidmüller cable connectors
- Available as blank MultiCard or with standard printing

**For custom printing:** Please send us a file of our labeling software M-Print PRO or M-Print PRO Online (without installation) for your labeling specifications.

## General ordering data

Type	DEK 5/5 PLUS MC NE WS	Version
Order No.	<a href="#">1854490000</a>	Dekafix, Terminal marker, 5 x 5 mm, Pitch in mm (P): 5.00
GTIN (EAN)	4032248393596	Weidmueller, white
Qty.	1,000 pc(s).	