

## VSPC 1CL 24VDC EX

**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  $\mu$ s) and 2.5 kA (10/350  $\mu$ s) 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
Order No.	<a href="#">895360000</a>
Type	VSPC 1CL 24VDC EX
GTIN (EAN)	4032248745753
Qty.	1 items

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## Technical data

### Approvals

Approvals



ROHS Conform

### Dimensions and weights

Width	17.8 mm	Width (inches)	0.7008 inch
Net weight	47 g		

### Temperatures

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

### Probability of failure

SIL in compliance with IEC 61508	3	MTTF	2537 a
SFF	95.67 %	λges	45
PFH in 1*10 <sup>-9</sup> per hour	1.95		

### Environmental Product Compliance

RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	7a, 7cl
REACH SVHC	Lead 7439-92-1
SCIP	71e97bb7-979f-4330-94c0-20c629bb05e3

### Protection Ex - Data

ATEX - dust labelling	II 1 D Ex ia IIIC T135 °C ... T85 °C Da	ATEX - gas labelling	II 1 G Ex ia IIC T4... T6 Ga
Certificate No. (ATEX)	KEMA10ATEX0148X	IECEx - dust labelling	II 1 D Ex ia IIIC T135 °C ... T85 °C Da
IECEx - gas labelling	II 1 G Ex ia IIC T4... T6 Ga	Input power, max. PI	3 W
Internal capacity, max. CI	<4 nF	Internal inductance, max. LI	0 µH
Temperature class T4/135°C (-40°C ... +85°C) li	350 mA	Temperature class T5/100°C (-40 °C ... +75°C) li	250 mA
Temperature class T6/85 °C (-40 °C ... +60°C) li	250 mA		

### CSA protection data

Gas group D	IIA	Gas groups A, B	IIC
Gas group C	IIB	Internal inductance, max. LI	0 µH
Internal capacity, max. CI	4 nF		

### General data

Optical function display	No	Segment	Measurement - Monitoring - Setting
Version	without warning function / function indicator	Colour	Light Blue
Protection degree	IP20	protected current loops	1

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## Technical data

### Insulation coordination acc. to EN 50178

Surge voltage category	III	Pollution severity	2
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### Rated data IEC / EN

Number of poles	1	Rated current I <sub>N</sub>	350 mA
Protection level on output side Wire-wire 45 V 1 kV/μs, typically		Protection level on output side Wire-PE 1 kV/μs, typically	450 V
Protection level on output side Wire-wire 45 V 8/20 μs, typically		Volume resistance	2.20 Ω
Dielectric strength at FG against PE	≥ 500 V	Lightning test current, I <sub>imp</sub> (10/350 μs) wire-wire	2.5 kA
Surge current-carrying capacity D1	1 kA 10/350 μs	Surge current-carrying capacity C1	<1 kA 8/20 μs
Surge current-carrying capacity C3	100 A 10/1000 μs	Lightning test current, I <sub>imp</sub> (10/350 μs) GND-PE	2.5 kA
Pulse-reset capacity	≤ 30 ms	Signal transmission properties (-3 dB)	2.4 MHz
Lightning test current, I <sub>imp</sub> (10/350 μs) Wire-PE	2.5 kA	Overload - failure mode	Modus 2
Discharge current I <sub>max</sub> (8/20μs) GND-PE	10 kA	Rated load current I <sub>L</sub>	350 mA
Discharge current I <sub>n</sub> (8/20μs) wire-wire	2.5 kA	Discharge current I <sub>max</sub> (8/20μs) wire-PE	10 kA
Discharge current I <sub>max</sub> (8/20μs) wire-wire	10 kA	Discharge current I <sub>n</sub> (8/20μs) GND-PE	2.5 kA
Surge current-carrying capacity C2	5 kA 8/20 μs		

### Further details of approvals

GOST certificate	GOST-Zertifikat - PDF/7950_n1-n4.pdf (application/pdf)
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### Connection data

Type of connection	Pluggable in VSPC BASE
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### General data

Number of poles	1	Protection degree	IP20
Colour	Light Blue		

### Ratings IECEx/ATEX/cUL

ATEX - dust labelling	II 1 D Ex ia IIIC T135 °C ... T85 °C Da	ATEX - gas labelling	II 1 G Ex ia IIC T4... T6 Ga
ATEX certificate	ATEX Certificate	Certificate No. (ATEX)	KEMA10ATEX0148X
IEC Ex certificate	IECEX Zertifikat - PDF/IECEXCertificateDEK.pdf (application/pdf)	IECEX - dust labelling	II 1 D Ex ia IIIC T135 °C ... T85 °C Da
IECEX - gas labelling	II 1 G Ex ia IIC T4... T6 Ga	cUL certificate	cUL Certificate - pdf/VSPC.PDF (application/pdf)

### Guarantee

Time interval	5 years
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## Technical data

### 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.

### Classifications

ETIM 8.0	EC000943	ETIM 9.0	EC000943
ETIM 10.0	EC000943	ECLASS 14.0	27-17-15-02
ECLASS 15.0	27-17-15-02		

### Tender specification sheets

Long specification	Surge protection plug for use in connection with the base element VSPC BASE 1CL FG 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 suitable for use in intrinsically-safe Ex ia circuits. 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 1CL FG, transverse voltage coarse and fine protection of one floating-ground powered paired cable, suitable for use in intrinsically-safe Ex ia circuits, coarse common mode voltage protection to earth. Version: 24V DC
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**Drawings**

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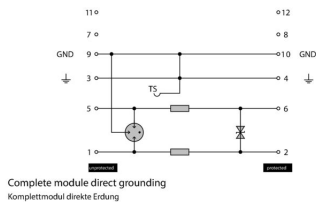
**Electric symbol**



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



Komplettmodul

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## Accessories

### 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 ST		

### 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.	1000 ST		

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## Accessories

### Indirect earthing / floating ground via sparkover gap, also suitable for EX ia applications



Base element for the pluggable VSPC arresters. Integrated PE foot in the base of the impedance-neutral VSPC BASE and floating earth PE connection (FG) via integrated sparkover gap, safely discharges up to 20 kA (8/20  $\mu$ s) and 2.5 kA (10/350  $\mu$ s) to PE. Suitable for unearthed signal circuits.

### General ordering data

Type	VSPC BASE 1CL FG EX	Version	
Order No.	<a href="#">8951810000</a>	Surge protection, Flange-mounted housing, Flange-mounted housing	
GTIN (EAN)	4032248743056		
Qty.	1 ST		

### 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 ST		

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## Counterpart

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Order No.	<a href="#">8951810000</a>	Surge protection, Flange-mounted housing, Flange-mounted housing	
GTIN (EAN)	4032248743056		
Qty.	1 ST		