

## VSPC VSPC 1CL 12VDC R

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 26  
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Germany  
Fon: +49 5231 14-0  
Fax: +49 5231 14-292083  
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

Type	VSPC 1CL 12VDC R
Order No.	<a href="#">8951540000</a>
Version	Surge protection for instrumentation and control, 12 V, 450 mA, IEC 61643-21, HART-compatible
GTIN (EAN)	4032248742783
Qty.	1 pc(s).

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

Width	17.8 mm	Width (inches)	0.701 inch
Height	98 mm	Height (inches)	3.858 inch
Depth	69 mm	Depth (inches)	2.717 inch
Net weight	42 g		

**Temperatures**

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

**Probability of failure**

λges	45	MTTF	2,537 Years
PFH in 1*10 <sup>-9</sup> per hour	3.7	SFF	95.27 %
SIL in compliance with IEC 61508	3		

**Environmental Product Compliance**

REACH SVHC	Lead 7439-92-1
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**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>	15 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	green = OK; red = arrester is defective - replace	Protection degree	IP20
Segment	Measurement - Monitoring - Setting	UL 94 flammability rating	V-0
Version	with 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**

Rated voltage (DC)	12 V	Voltage type	DC
Max. continuous voltage, $U_c$ (DC)	15 V	Discharge current $I_n$ (8/20 $\mu$ s) GND-PE	2.5 kA
Discharge current $I_{max}$ (8/20 $\mu$ s) GND-PE	10 kA	Discharge current $I_n$ (8/20 $\mu$ s) wire-PE	2.5 kA
Discharge current $I_{max}$ (8/20 $\mu$ s) wire-PE	10 kA	Discharge current $I_n$ (8/20 $\mu$ s) wire-wire	2.5 kA
Discharge current $I_{max}$ (8/20 $\mu$ s) wire-wire	10 kA	Lightning test current, $I_{imp}$ (10/350 $\mu$ s) GND-PE	2.5 kA
Lightning test current, $I_{imp}$ (10/350 $\mu$ s) Wire-PE	2.5 kA	Lightning test current, $I_{imp}$ (10/350 $\mu$ s) wire-wire	2.5 kA
Fuse	0.5 A	Standards	IEC 61643-21, HART-compatible
Protection level $U_p$ (typ.)	< 800 V	Protection level on output side Wire-PE 1kV/ $\mu$ s, typically	450 V
Protection level on output side Wire-wire 1 kV/ $\mu$ s, typically	25 V	Protection level on output side Wire-wire 8/20 $\mu$ s, typically	25 V
Protection level, $U_p$ GND - PE	650 V	Protection level, $U_p$ wire - PE	450 V
Number of poles	1	Overload - failure mode	Modus 2
Protection level, $U_p$ wire - wire	25 V	Pulse-reset capacity	$\leq$ 20 ms
Rated current $I_N$	450 mA	Requirements category acc. to IEC 61643-21	C1, C2, C3, D1
Signal transmission properties (-3 dB)	1.7 MHz	Signalling contact	$U_N$ 250 V AC 0.1 A 1CO at VSPC R with VSPC control unit
Surge current-carrying capacity C1	< 1 kA 8/20 $\mu$ s	Surge current-carrying capacity C2	5 kA 8/20 $\mu$ s
Surge current-carrying capacity C3	100 A 10/1000 $\mu$ s	Surge current-carrying capacity D1	2.5 kA 10/350 $\mu$ s
Volume resistance	2.20 $\Omega$		

**Further details of approvals**

GOST certificate GOST-Zertifikat

**Connection data**

Type of connection Pluggable in VSPC BASE

**Classifications**

ETIM 6.0	EC000943	ETIM 7.0	EC000943
eClass 9.0	27-13-08-07	eClass 9.1	27-13-08-07
eClass 10.0	27-13-08-07	UNSPSC	30-21-19-21

**Approvals**

Approvals



ROHS Conform

**Data sheet****VSPC**  
**VSPC 1CL 12VDC R****Weidmüller Interface GmbH & Co. KG**  
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Approval/Certificate/Document of Conformity	<a href="#">SIL Paper</a> <a href="#">CE PAPER</a>
Brochure/Catalogue	<a href="#">CAT 4.4 ELECTR 16/17 EN</a>
Engineering Data	<a href="#">EPLAN, WSCAD</a>
Engineering Data	<a href="#">STEP</a>
User Documentation	<a href="#">Instruction sheet</a>

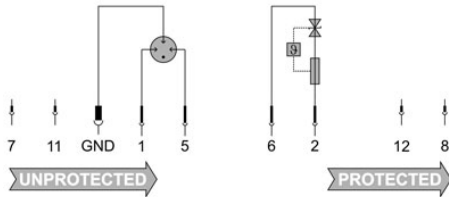
**Data sheet**

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**Drawings**

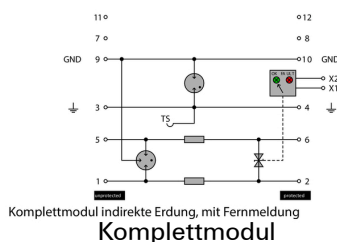
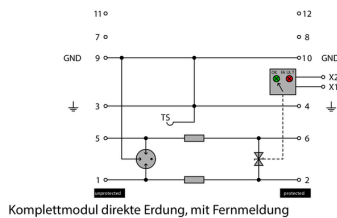
**Electric symbol**



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



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### Mating connector (fully pluggable)

#### 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 R	Version
Order No.	<a href="#">8951730000</a>	Surge protection, Flange-mounted housing, 450 mA, IEC 61643-21,
GTIN (EAN)	4032248742974	IEC 62305, DIN EN 60079-0:2009, DIN EN 60079-11:2007, DIN EN
Qty.	1 pc(s).	60079-26:2007, DIN EN 61241-11:2006

#### 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 R	Version
Order No.	<a href="#">8951740000</a>	Surge protection, Flange-mounted housing, 450 mA, IEC 61643-21,
GTIN (EAN)	4032248742981	IEC 62305, DIN EN 60079-0:2009, DIN EN 60079-11:2007, DIN EN
Qty.	1 pc(s).	60079-26:2007, DIN EN 61241-11:2006

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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 R	Version
Order No.	<a href="#">8951730000</a>	Surge protection, Flange-mounted housing, 450 mA, IEC 61643-21,
GTIN (EAN)	4032248742974	IEC 62305, DIN EN 60079-0:2009, DIN EN 60079-11:2007, DIN EN
Qty.	1 pc(s).	60079-26:2007, DIN EN 61241-11:2006

**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
GTIN (EAN)	4050118121179	
Qty.	100 pc(s).	

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## Accessories

### Supply and alert unit for VSPC R arresters



- Signalling module for all VSPCs with status indicator
- Signalling of cable breaks / signal interruptions
- Power supply of 20 to 31 V DC
- No-voltage changeover contact
- Function display with red/green LED
- Functional alerts with different signal types.

### General ordering data

Type	VSPC CONTROL UNIT 24VDC	Version
Order No.	<a href="#">8972270000</a>	Surge protection for instrumentation and control, 24 V, 50 mA, DIN
GTIN (EAN)	4032248793488	EN 50178
Qty.	1 pc(s).	

### V-TEST testing device: for the VSPC, PU I and PU II series



### 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**
**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).		