

## VSPC 2CL 5VDC R

**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, with warning function / function indicator, UP(L/N-PE) <800 V
Order No.	<a href="#">8951460000</a>
Type	VSPC 2CL 5VDC R
GTIN (EAN)	4032248742509
Qty.	1 items

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## Technical data

## Approvals

Approvals



ROHS Conform

UL File Number Search [UL Website](#)

Certificate No. (UL) E311081

## Dimensions and weights

Depth	69 mm	Depth (inches)	2.7165 inch
Height	98 mm	Height (inches)	3.8583 inch
Width	17.8 mm	Width (inches)	0.7008 inch
Net weight	47 g		

## Temperatures

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

## Probability of failure

SIL in compliance with IEC 61508	3	MTTF	2537 a
SFF	95.27 %	λges	45
PFH in 1*10 <sup>-9</sup> per hour	3.7		

## 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

## Rated data UL

Certificate No. (UL)	E311081	UL certificate	UL 497b Certificate - PDF/ E311081VOL1SEC2.pdf (application/pdf)
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## 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	2 nF	Input voltage, max. Ui	6.4 V

## General data

Optical function display	green = OK; red = arrester is defective - replace	Segment	Measurement - Monitoring - Setting
Version	with warning function / function indicator	Design	Terminal, miscellaneous
UL 94 flammability rating	V-0	Colour	orange
Protection degree	IP20	protected current loops	2

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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	Signalling contact	250 V 1A 1CO
Rated voltage (DC)	5 V	Rated current I <sub>N</sub>	450 mA
Protection level on output side Wire-wire	12 V	Protection level on output side Wire-PE	450 V
1 kV/μs, typically		1 kV/μs, typically	
Protection level on output side Wire-wire	12 V	Protection level, UP wire - wire	12 V
8/20 μs, typically			
Protection level, UP wire - PE	450 V	Protection level UP (typ.)	<800 V
Voltage type	DC	Fuse protection	0.5 A
Volume resistance	2.20 Ω	Standards	HART-compatible, IEC 61643-21
Requirements category acc. to IEC 61643-21	C1, C2, C3, D1	Max. continuous voltage, U <sub>c</sub> (DC)	6.4 V
Lightning test current, limp (10/350 μs) wire-wire	2.5 kA	Surge current-carrying capacity D1	2.5 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, limp (10/350 μs) GND-PE	2.5 kA	Pulse-reset capacity	≤ 20 ms
Signal transmission properties (-3 dB)	730 KHz	Lightning test current, limp (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>	450 mA	Discharge current I <sub>n</sub> (8/20μs) wire-wire	2.5 kA
Discharge current I <sub>n</sub> (8/20μs) wire-PE	2.5 kA	Discharge current I <sub>max</sub> (8/20μs) wire-PE2 x 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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### Electrical data

Voltage type	DC
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### General data

Number of poles	1	Protection degree	IP20
Colour	orange		

### Ratings IECEx/ATEX/cUL

cUL certificate	cUL Certificate - pdf/ VSPC.PDF (application/pdf)
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**Technical data****Guarantee**

Time interval 5 years

**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	27-17-15-01
ECLASS 15.0	27-17-15-01		

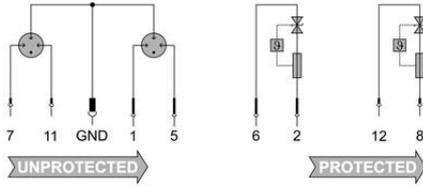
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Drawings

www.weidmueller.com

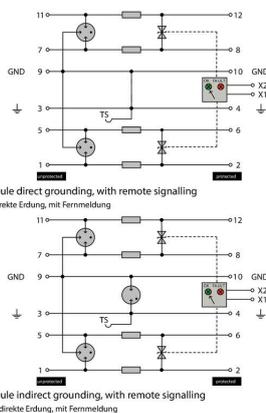
Electric symbol



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 mit 10/350 µs	0.5 - 2.5 kA 2 µs	2	Arrester for lightning current and surge voltages

Discharge capacity



Komplettmodul

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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, with warning
GTIN (EAN)	4032248793488		function / function indicator
Qty.	1 ST		

### 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		

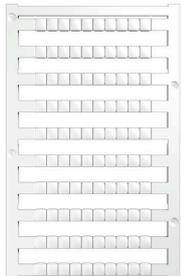
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## Accessories

### 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.	1000 ST		

### 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 2CL R	Version	
Order No.	<a href="#">8951710000</a>		Surge protection, Flange-mounted housing, Flange-mounted housing
GTIN (EAN)	4032248742950		
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.

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## Accessories

### General ordering data

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

### Cross-connections



Cross-connection between the VSPC signal contacts can be installed quickly. Cross-connections can be individually separated for the alert function with maximum 10 VSPC R.

### General ordering data

Type	QB 17,8/2	Version	
Order No.	<a href="#">1309470000</a>		
GTIN (EAN)	4050118111934		
Qty.	90 ST		

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## Counterpart

### 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 2CL R	Version	
Order No.	<a href="#">8951710000</a>	Surge protection, Flange-mounted housing, Flange-mounted housing	
GTIN (EAN)	4032248742950		
Qty.	1 ST		

### 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 2CL FG R	Version	
Order No.	<a href="#">8951720000</a>	Surge protection, Flange-mounted housing, Flange-mounted housing	
GTIN (EAN)	4032248742967		
Qty.	1 ST		