

## VSPC 2CL 12VDC 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, $U_P(L/N-PE) < 800$ V
Order No.	<a href="#">8951470000</a>
Type	VSPC 2CL 12VDC R
GTIN (EAN)	4032248742714
Qty.	1 pc(s).

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## Technical data

### Dimensions and weights

Depth	69 mm	Depth (inches)	2.717 inch
Height	98 mm	Height (inches)	3.858 inch
Width	17.8 mm	Width (inches)	0.701 inch
Net weight	47 g		

### Temperatures

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

### Probability of failure

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

### 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>	2 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	2

### Insulation coordination acc. to EN 50178

Pollution severity	2	Surge voltage category	III
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### 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-PE	2 x 10 kA
Discharge current $I_{max}$ (8/20 $\mu$ s) wire-wire	10 kA	Discharge current $I_n$ (8/20 $\mu$ s) GND-PE	2.5 kA
Discharge current $I_n$ (8/20 $\mu$ s) wire-PE	2.5 kA	Discharge current $I_n$ (8/20 $\mu$ s) wire-wire	2.5 kA
Fuse	0.5 A	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
Max. continuous voltage, $U_c$ (DC)	15 V	Number of poles	1
Overload - failure mode	Modus 2	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	800 V
Protection level, $U_p$ wire - PE	450 V	Protection level, $U_p$ wire - wire	25 V
Pulse-reset capacity	$\leq$ 20 ms	Rated current $I_N$	450 mA
Rated voltage (DC)	12 V	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
Standards	IEC 61643-21, HART-compatible	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	Voltage type	DC
Volume resistance	2.20 $\Omega$		

### Further details of approvals

GOST certificate GOST-Zertifikat

### Connection data

Type of connection Pluggable in VSPC BASE

### Ratings IECEx/ATEX/cUL

cUL certificate cUL Certificate

### Classifications

ETIM 6.0	EC000943	ETIM 7.0	EC000943
ETIM 8.0	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

**Data sheet**

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**Technical data**

**Tender specification sheets**

Long specification		Short specification
	<p>Surge protection plug for use in connection with the base element VSPC BASE 2CL R for two floating-ground driven paired cables with integrated status display and remote monitoring option. 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.</p>	<p>Surge protection plug for base element VSPC BASE 2CL R with integrated status indicator and remote monitoring option, transverse voltage coarse and fine protection for two floating-ground powered paired cables and alert function, coarse common mode voltage protection to earth. Version: 12 V DC</p>

**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.
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**Approvals**

Approvals	    
ROHS	Conform
UL File Number Search	UL Website
Certificate No. (UL)	E311081

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Approval/Certificate/Document of Conformity	<a href="#">SIL Paper</a> <a href="#">EU Konformitätserklärung / EU Declaration of Conformity</a>
Engineering Data	<a href="#">CAD data – STEP</a>
Engineering Data	<a href="#">WSCAD</a>
User Documentation	<a href="#">Beipackzettel / Instruction sheet</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>
Brochures	

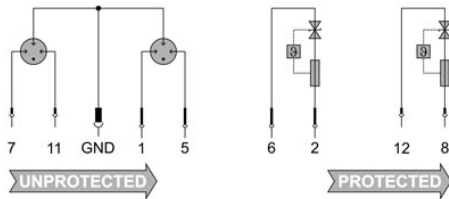
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**Drawings**

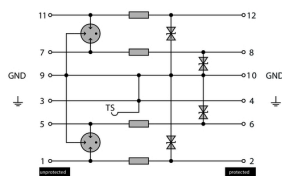
**Electric symbol**



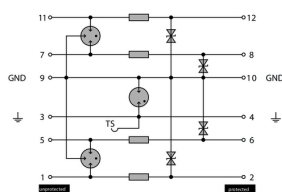
Circuit diagram

Cate- gory	Testing pulse	Surge voltage	Surge current	Pulse	Type
C1	Quick- rising edge	0.5 - 2 kV 1.2/50 µs	0.25 - 1 kA mit 8/20 µs	300	Surge voltage arrester
C2	Quick- rising edge	2 - 10 kV 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  
 Kompletmodul direkte Erdung



Complete module indirect grounding  
 Kompletmodul indirekte Erdung

**Kompletmodul**