

## VSPC VSPC 1CL 5VDC EX

**Weidmüller Interface GmbH & Co. KG**  
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Germany  
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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 5VDC EX
Order No.	<a href="#">8953660000</a>
Version	Surge protection for instrumentation and control, 5 V, 350 mA, IEC 61643-21, IEC 62305, DIN EN 60079-0:2009, DIN EN 60079-11:2007, DIN EN 60079-26:2007, DIN EN 61241-11:2006
GTIN (EAN)	4032248745814
Qty.	1 pc(s).

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

Width	17.8 mm	Width (inches)	0.701 inch
Height	90 mm	Height (inches)	3.543 inch
Depth	69 mm	Depth (inches)	2.717 inch
Net weight	46 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	1.95	SFF	95.67 %
SIL in compliance with IEC 61508	3		

**EX protection 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. P <sub>i</sub>	3 W
Input voltage, max. U <sub>i</sub>	6 V	Internal capacity, max. C <sub>i</sub>	< 4 nF
Internal inductance, max. L <sub>i</sub>	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 C	IIB	Gas group D	IIA
Gas groups A, B	IIC	Input voltage, max. U <sub>i</sub>	6 V
Internal capacity, max. C <sub>i</sub>	4 nF	Internal inductance, max. L <sub>i</sub>	0 μH

**General data**

Colour	Light Blue	Design	Terminal, Miscellaneous
Optical function display	No	Protection degree	IP20
Segment	Instrumentation and Control	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**

Dielectric strength at FG against PE	≥ 500 V	Discharge current $I_{max}$ (8/20 $\mu$ s) GND-PE	10 kA
Discharge current $I_{max}$ (8/20 $\mu$ s) wire-PE	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	Input voltage, max. $U_i$	6 V
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)	6.4 V
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	12 V
Protection level on output side Wire-wire 8/20 $\mu$ s, typically	12 V	Protection level, $U_p$ GND - PE	650 V
Protection level, $U_p$ wire - PE	450 V	Protection level, $U_p$ wire - wire	12 V
Pulse-reset capacity	20 ms	Rated current $I_N$	350 mA
Rated voltage (DC)	5 V	Requirements category acc. to IEC 61643-21	C1, C2, C3, D1
Signal transmission properties (-3 dB)	730 KHz	Standards	IEC 61643-21, IEC 62305, DIN EN 60079-0:2009, DIN EN 60079-11:2007, DIN EN 60079-26:2007, DIN EN 61241-11:2006
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	1 kA 10/350 $\mu$ s
Voltage type	DC	Volume resistance	2.20 $\Omega$

**Further details of approvals**

GOST certificate GOST-Zertifikat

**Ratings IECEx/ATEX/cUL**

ATEX certificate	ATEX Certificate	IEC Ex certificate	IECEX Zertifikat
Certificate No. (ATEX)	KEMA10ATEX0148X	cUL certificate	cUL Certificate

**Classifications**

ETIM 3.0	EC000943	ETIM 4.0	EC000381
ETIM 5.0	EC000943	ETIM 6.0	EC000943
UNSPSC	30-21-19-21	eClass 5.1	27-13-08-01
eClass 6.2	27-13-08-02	eClass 7.1	27-13-08-09
eClass 8.1	27-13-08-11	eClass 9.0	27-13-08-11
eClass 9.1	27-13-08-07		

**Product information**

Descriptive text technical data	The associated VSPC base element should be ordered with this. The dimension information provided refers to the complete module.
Instructions for accessories	EMC Set: 1067470000 Marker: DEK 5

**Data sheet**

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**Technical data**

**Approvals**

Approvals



ROHS Conform

**Downloads**

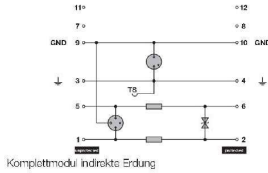
Approval/Certificate/Document of Conformity	<a href="#">SIL Paper</a> <a href="#">CE PAPER</a>
Brochure/Catalogue	<a href="#">CAT 4.4 ELECTR 16/17 EN</a>
Engineering Data	<a href="#">EPLAN, WSCAD</a>
Engineering Data	<a href="#">STEP</a>
User Documentation	<a href="#">Instruction sheet</a>

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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

