

## VSPC 1CL PW 24V EX

**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 16

D-32758 Detmold

Germany

Fon: +49 5231 14-0

Fax: +49 5231 14-292083

www.weidmueller.com



Analogue signal / CL (current loop) protection includes the following signals:

- Signals from current loops (analogue measurements of transmitters over long distances) 4-20 mA, 0-20 mA, etc.
- Two-wire, three-wire and four-wire, without a common reference potential
- for example: fill-level measurement signals from voltage transmitters (analogue measurements of transmitters over short distances) 0-10 V, PT 100 etc.; for example: temperature measurements
- Pluggable arrester, with no-interrupt and impedance-neutral plug-in and pull-out
- Can be tested with the V-TEST testing device
- Space-saving design for 2 analogue signals
- Version with floating-earth PE connection used to avoid differences in voltage 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 PE
- Quick identification in the electrical cabinet with coloured labelling of the voltage levels
- Coding element for the different voltage levels provides safety

### General ordering data

Order No.	<a href="#">8953610000</a>
Type	VSPC 1CL PW 24V EX
Version	Surge protection for instrumentation and control, without warning function / function indicator
GTIN (EAN)	4032248745760
Qty.	1 pc(s).

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## Technical data

### Dimensions and weights

Width	17.8 mm	Height	90 mm
Depth	69 mm	Net weight	50 g

### Temperatures

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

### Probability of failure

$\lambda_{ges}$	45	MTTF	2,537 Years
PFH in $1 \cdot 10^{-9}$ per hour	1.95	SFF	95.67 %
SIL in compliance with IEC 61508	3		

### General data

Colour	Light Blue	Optical function display	For Class III protection, green = OK; red = arrester is defective - replace
Protection degree	IP 20	Segment	Instrumentation and Control
UL 94 flammability rating	V-0		

### Insulation coordination acc. to EN 50178

Pollution severity	2	Surge voltage category	III
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### Interference voltage

Protection level on output side Wire-wire 1 kV/ $\mu$ s, typically	60 V	Protection level on output side Wire-wire 8/20 $\mu$ s, typically	60 V
Protection level on output side Wire-PE 1kV/ $\mu$ s, typically	450 V	Protection level on output side Wire-PE 8/20 $\mu$ s, typically	650 V

### Protection level

Protection level, $U_p$ GND - PE	450 V	Protection level, $U_p$ wire - PE	450 V
Protection level, $U_p$ wire - wire	40 V		

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**Technical data****technical data**

Rated voltage (AC)	34 V	Rated voltage (DC)	24 V
Rated current	350 mA	Rated voltage (DC), max.	38 V
Max. continuous voltage, U <sub>c</sub> (AC)	27 V	Max. continuous voltage, U <sub>c</sub> (DC)	28 V
Discharge current I <sub>n</sub> (8/20µs) wire-wire	2.5 kA	Discharge current I <sub>max</sub> (8/20µs) wire-wire	10 kA
Discharge current I <sub>n</sub> (8/20µs) wire-PE	2.5 kA	Discharge current I <sub>n</sub> (8/20µs) GND-PE	2.5 kA
Discharge current I <sub>max</sub> (8/20µs) GND-PE	10 kA	Discharge current I <sub>max</sub> (8/20µs) wire-PE	10 kA
Combined pulse U <sub>OC</sub>	6 kV	Protection level U <sub>p</sub> (typ.)	< 650 V
Protection level on output side Wire-wire		Protection level on output side Wire-PE	
8/20 µs, typically	60 V	8/20 µs, typically	650 V
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	Colour	Light Blue
Humidity	5...96 %	Requirements category acc. to IEC 61643-21	C1, C2, C3, D1
Lightning test current I <sub>imp</sub> (10/350 µs)	2.5 kA	Lightning test current I <sub>imp</sub> (10/350 µs) [L-PE]	2.5 kA
Lightning test current I <sub>imp</sub> (10/350 µs) [N-PE]	2.5 kA	Volume resistance	2.20 Ω
Residual voltage, U <sub>p</sub> typical	800 V	Dielectric strength at FG against PE	≥ 500 V
Overload - failure mode	Modus 2		

**EX protection data**

Certificate No. (ATEX)	KEMA10ATEX0148X	Input power, max. P <sub>I</sub>	3 W
Internal capacitance, 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		

**Further details of approvals**

GOST certificate GOST-Zertifikat

**Rated data UL**

UL certificate UL 497b Certificate

**Ratings IECEx/ATEX**

ATEX certificate	ATEX Certificate	Certificate No. (ATEX)	KEMA10ATEX0148X
IEC Ex certificate	IECEx Zertifikat		

**Classifications**

ETIM 3.0	EC000943	UNSPSC	30-21-19-21
eClass 4.1	27-13-08-01	eClass 5.1	27-13-08-01
eClass 6.2	27-13-08-02	eClass 7.1	27-13-08-02

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**Technical data****Approvals**

Approvals



ROHS

Conform

**Probability of failure**

SIL PAPER

[SIL Paper](#)**Downloads**

Package insert

[Instruction Sheet](#)

Declaration of Conformity

[K346\\_07\\_10.pdf](#)

EPLAN

[8953610000.ema](#)

Selection matrix

[Preference selection VSPC](#)

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**Drawings**

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)**

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



Base element for the pluggable VSPC arresters. Integrated PE foot in impedance-neutral VSPC BASE and floating-earth PE connection (FG) via a built-in **sparkover gap**. Can safely discharge up to 20 kA (8/20 µs) and 2.5 kA (10/350 µs) to the PE. Suitable for unearthed signal circuits.

**General ordering data**

Order No.	Type	Version	GTIN (EAN)	Qty.
<a href="#">1105700000</a>	VSPC BASE 1CL PW FG	Surge protection for instrumentation and control	4032248881055	1 pc(s).