

## VSPC 4SL 24VDC EX

**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://www.weidmueller.com)



Binary signal (SL – Symmetrical Load) protection includes the following signals:

- Switching signals with and without a common reference potential e.g. 5 V – 24V – 60 V
- Two-conductor systems usually involve a common reference potential of binary sensors, actuators and indicators such as limit switches, buttons, position sensors, photoelectric barriers, contactors, solenoid valves, indicator lamps, etc.
- Pluggable arrester, for 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 interference currents resulting from differences in potential
- For use in compliance with the IEC 62305 and IEC 61643-22 installation standards (D1, C1, C2 and C3)
- 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, without warning function / function indicator, $U_p(L/N-PE)$ 250 V
Order No.	<a href="#">1161190000</a>
Type	VSPC 4SL 24VDC EX
GTIN (EAN)	4032248950034
Qty.	1 pc(s).

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

Depth	69 mm	Depth (inches)	2.717 inch
Height	90 mm	Height (inches)	3.543 inch
Width	17.8 mm	Width (inches)	0.701 inch
Net weight	51 g		

**Temperatures**

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

**Probability of failure**

SIL PAPER	SIL PAPER	SIL in compliance with IEC 61508	2
MTTF	2,665 Years	SFF	79.3 %
λges	43	PFH in 1*10 <sup>-9</sup> per hour	8.9

**Environmental Product Compliance**

REACH SVHC	Lead 7439-92-1
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**Protection Ex - 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>	26 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

**Rated data UL**

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>	26 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	Measurement - Monitoring - Setting	UL 94 flammability rating	V-0
Version	without warning function / function indicator	protected binary signals	4

**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. $U_i$	26 V
Lightning test current, $I_{\text{imp}}$ (10/350 $\mu$ s) GND-PE	2.5 kA	Lightning test current, $I_{\text{imp}}$ (10/350 $\mu$ s) Wire-PE	2.5 kA
Lightning test current, $I_{\text{imp}}$ (10/350 $\mu$ s) wire-wire	2.5 kA	Max. continuous voltage, $U_c$ (DC)	26 V
Number of poles	2	Overload - failure mode	Modus 2
Protection level $U_p$ (typ.)	250 V	Protection level on output side Wire-PE 1kV/ $\mu$ s, typically	40 V
Protection level on output side Wire-wire 1 kV/ $\mu$ s, typically	80 V	Protection level on output side Wire-wire 8/20 $\mu$ s, typically	80 V
Protection level, $U_p$ GND - PE	60 V	Protection level, $U_p$ wire - PE	60 V
Protection level, $U_p$ wire - wire	80 V	Pulse-reset capacity	≤ 30 ms
Rated current $I_N$	300 mA	Rated voltage (DC)	24 V
Requirements category acc. to IEC 61643-21	C1, C2, C3, D1	Signal transmission properties (-3 dB)	4 MHz
Signalling contact	No	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	2.5 kA 10/350 $\mu$ s
Voltage type	DC	Volume resistance	4.7 $\Omega$

### Further details of approvals

GOST certificate	GOST-Zertifikat
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### Connection data

Type of connection	Pluggable in VSPC BASE
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### Ratings IECEx/ATEX/cUL

ATEX - dust labelling	II 1 D Ex ia IIC T135 °C ... T85 °C Da	ATEX - gas labelling	II 1 G Ex ia IIC T4... T6 Ga
ATEX certificate	ATEX Certificate	Certificate No. (ATEX)	KEMA10ATEX0148X
IEC Ex certificate	IECEX Zertifikat	IECEX - dust labelling	II 1 D Ex ia IIC T135 °C ... T85 °C Da
IECEX - gas labelling	II 1 G Ex ia IIC T4... T6 Ga	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

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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 4SL FG for four wires with a common ground. Two-stage protection circuit in the plug consisting of coarse protection, decoupling resistors and fine protection between the signal wires and the signal ground/ground/earth. Suitable for intrinsically safe powered signal cables EX ia. Mechanical identification of the plug to the base element according to the switching type and rated voltage. Protected plug with coding pin and counter-profile for the base element. Optical identification of the protected plug based on the type of protected switching and the voltage level. It is possible to mark the plug.</p>	<p>Surge protection plugs for base element VSPC BASE 4SL FG, coarse and fine common mode voltage protection for four wires with a common signal ground for intrinsically safe signal cables EX ia. Version: 24 V AC</p>

**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

**Downloads**

Approval/Certificate/Document of Conformity	<a href="#">SIL Paper</a> <a href="#">KEMA 10 ATEX 0148X</a> <a href="#">EU_Konformitätserklärung / EU_Declaration_of_Conformity</a>
Engineering Data	<a href="#">CAD data – STEP</a>
Engineering Data	<a href="#">EPLAN, WSCAD</a>
User Documentation	<a href="#">Beipackzettel / Instruction sheet</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>
Brochures	

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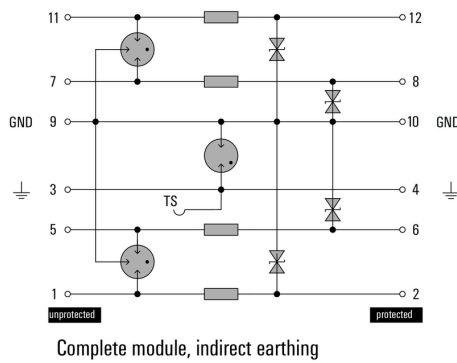
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**Drawings**

**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 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

