

**VSPC 2SL 48VAC 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 µs) and 2.5 kA (10/350 µs) 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, $U_p(L/N-PE) \leq 300 \text{ V}$
Order No.	<a href="#">8953640000</a>
Type	VSPC 2SL 48VAC EX
GTIN (EAN)	4032248745791
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	47 g		

## Temperatures

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

## Probability of failure

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

## Protection Ex - Data

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
Certificate No. (ATEX)	KEMA10ATEX0148X	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	Input power, max. P <sub>I</sub>	3 W
Input voltage, max. U <sub>i</sub>	75 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>	75 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	2

## 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 $I_{\max}$ (8/20μs) wire-PE	10 kA
Discharge current $I_n$ (8/20μs) GND-PE	2.5 kA
Discharge current $I_n$ (8/20μs) wire-wire	2.5 kA
Lightning test current, $I_{\text{imp}}$ (10/350 μs) GND-PE	2.5 kA
Lightning test current, $I_{\text{imp}}$ (10/350 μs) wire-wire	2.5 kA
Max. continuous voltage, $U_c$ (DC)	75 V
Overload - failure mode	Modus 2
Protection level on output side Wire-PE 1kV/μs, typically	85 V
Protection level on output side Wire-wire 8/20 μs, typically	80 V
Protection level, $U_p$ wire - PE	80 V
Rated current $I_N$	250 mA
Rated voltage (DC)	68 V
Signal transmission properties (-3 dB)	2.7 MHz
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 C2	5 kA 8/20 μs
Surge current-carrying capacity D1	2.5 kA 10/350 μs
Volume resistance	4.7 Ω

Discharge current $I_{\max}$ (8/20μs) GND-PE	10 kA
Discharge current $I_{\max}$ (8/20μs) wire-wire	10 kA
Discharge current $I_n$ (8/20μs) wire-PE	2.5 kA
Input voltage, max. $U_i$	75 V
Lightning test current, $I_{\text{imp}}$ (10/350 μs) Wire-PE	2.5 kA
Max. continuous voltage, $U_c$ (AC)	60 V
Number of poles	1
Protection level $U_p$ (typ.)	≤ 300 V
Protection level on output side Wire-wire 1 kV/μs, typically	80 V
Protection level, $U_p$ GND - PE	450 V
Pulse-reset capacity	≤ 60 ms
Rated voltage (AC)	48 V
Requirements category acc. to IEC 61643-21	C1, C2, C3, D1
Signalling contact	No
Surge current-carrying capacity C1	< 1 kA 8/20 μs
Surge current-carrying capacity C3	100 A 10/1000 μs
Voltage type	AC

## 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 IIIC 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 IIIC 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	ETIM 9.0	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	ECLASS 13.0	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 2SL FG for two 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. Version: 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 2SL FG, coarse and fine common mode voltage protection for two wires with a common signal ground for intrinsically safe signal cables EX ia. Version: 48 V AC</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
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## Downloads

Approval/Certificate/Document of Conformity	<a href="#">EG Baumusterprüfung / EC Type Examination</a> <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>
User Documentation	<a href="#">Beipackzettel / Instruction sheet</a> <a href="#">Beipackzettel ATEX / Instruction Sheet</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>
Brochures	

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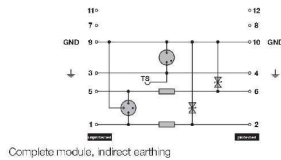
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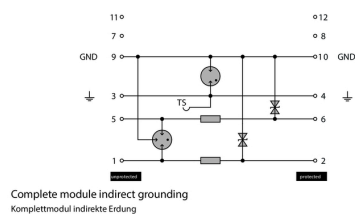
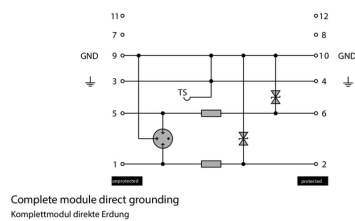
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**Drawings**
**Electric symbol**


Circuit diagram

Cate- gory	Testing pulse	Surge voltage	Surge current	Pulse Type
C1	Quick- rising edge	0.5 - 2 kV 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



Kompletmodul

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[www.weidmueller.com](http://www.weidmueller.com)**Accessories****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 pc(s).	

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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.	1,000 pc(s).	

## Retaining clip



The interlock mechanism on the VSPC Series pluggable arrester delivers extra reliability and an improved permanent contact under strong vibrating conditions.

## General ordering data

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

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## Accessories

## 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 µs) and 2.5 kA (10/350 µs) to PE. Suitable for unearthed signal circuits.

## General ordering data

Type	VSPC BASE 2SL FG EX	Version
Order No.	<a href="#">8951830000</a>	Surge protection, Flange-mounted housing, Flange-mounted housing
GTIN (EAN)	4032248743070	
Qty.	1 pc(s).	