

## VSPC 2SL 12VDC 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
Order No.	<a href="#">8953620000</a>
Type	VSPC 2SL 12VDC EX
GTIN (EAN)	4032248745777
Qty.	1 items

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## Technical data

### Approvals

Approvals



ROHS Conform

### Dimensions and weights

Width	17.8 mm	Width (inches)	0.7008 inch
Net weight	24 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	2665 a
SFF	79.3 %	λges	43
PFH in 1*10 <sup>-9</sup> per hour	8.9		

### Environmental Product Compliance

RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	7a, 7cl
REACH SVHC	Lead 7439-92-1
SCIP	71e97bb7-979f-4330-94c0-20c629bb05e3

### 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. PI	3 W
Internal capacity, max. CI	<4 nF	Internal inductance, max. LI	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 D	IIA	Gas groups A, B	IIC
Gas group C	IIB	Internal inductance, max. LI	0 µH
Internal capacity, max. CI	4 nF		

### General data

Optical function display	No	Segment	Measurement - Monitoring - Setting
Version	without warning function / function indicator	Colour	Light Blue
Protection degree	IP20	protected binary signals	2

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## Technical data

### Insulation coordination acc. to EN 50178

Surge voltage category	III	Pollution severity	2
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### Rated data IEC / EN

Number of poles	1	Rated current I <sub>N</sub>	250 mA
Protection level on output side Wire-wire 20 V 1 kV/μs, typically		Protection level on output side Wire-PE 1kV/μs, typically	25 V
Protection level on output side Wire-wire 45 V 8/20 μs, typically		Volume resistance	4.7 Ω
Dielectric strength at FG against PE	≥ 500 V	Lightning test current, I <sub>imp</sub> (10/350 μs) wire-wire	2.5 kA
Surge current-carrying capacity D1	2.5 kA 10/350 μs	Surge current-carrying capacity C1	<1 kA 8/20 μs
Surge current-carrying capacity C3	100 A 10/1000 μs	Lightning test current, I <sub>imp</sub> (10/350 μs) GND-PE	2.5 kA
Pulse-reset capacity	≤ 20 ms	Signal transmission properties (-3 dB)	1.2 MHz
Lightning test current, I <sub>imp</sub> (10/350 μs) Wire-PE	2.5 kA	Overload - failure mode	Modus 2
Discharge current I <sub>max</sub> (8/20μs) GND-PE	10 kA	Rated load current I <sub>L</sub>	250 mA
Discharge current I <sub>n</sub> (8/20μs) wire-wire	2.5 kA	Discharge current I <sub>max</sub> (8/20μs) wire-PE	10 kA
Discharge current I <sub>max</sub> (8/20μs) wire-wire	10 kA	Discharge current I <sub>n</sub> (8/20μs) GND-PE	2.5 kA
Surge current-carrying capacity C2	5 kA 8/20 μs		

### Further details of approvals

GOST certificate	GOST-Zertifikat - PDF/7950_n1-n4.pdf (application/pdf)
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### Connection data

Type of connection	Pluggable in VSPC BASE
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### General data

Number of poles	1	Protection degree	IP20
Colour	Light Blue		

### 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 - PDF/IECEXCertificateDEK.pdf (application/pdf)	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 - pdf/VSPC.PDF (application/pdf)

### Guarantee

Time interval	5 years
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**Technical data****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.

**Classifications**

ETIM 8.0	EC000943	ETIM 9.0	EC000943
ETIM 10.0	EC000943	ECLASS 14.0	27-17-15-02
ECLASS 15.0	27-17-15-02		

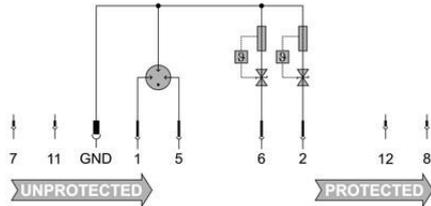
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**Drawings**

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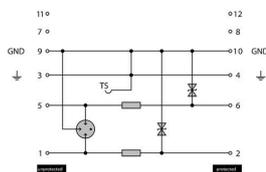
**Electric symbol**



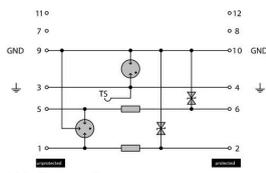
Circuit diagram

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



Complete module direct grounding  
 Kompletต์modul direkte Erdung



Complete module indirect grounding  
 Kompletต์modul indirekte Erdung

Kompletต์modul

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## Accessories

### V-TEST testing device for VSPC



#### V-TEST

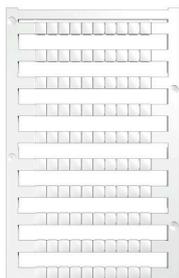
- Testing device for checking the protective function of the pluggable overvoltage protection PU I, PU II and VSPC series
- Device for implementing the IEC 62305 standard (regarding periodic testing)
- Easy-to-use device with integrated battery set for on-site measurements
- LCD results display
- Menu 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 ST		

### 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.	1000 ST		

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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 ST		

### 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 ST		

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## Counterpart

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### 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 ST		