

VSPC 2SL 24VDC R**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

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, with warning function / function indicator, $U_P(L/N-PE) < 200$ V
Order No.	8951630000
Type	VSPC 2SL 24VDC R
GTIN (EAN)	4032248742875
Qty.	1 pc(s).

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Technical data**Dimensions and weights**

Depth	69 mm	Depth (inches)	2.717 inch
Height	98 mm	Height (inches)	3.858 inch
Width	17.8 mm	Width (inches)	0.701 inch
Net weight	45 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	86.02 %	λ_{ges}	43
PFH in $1 \cdot 10^{-9}$ per hour	10.7		

Rated data UL

Certificate No. (UL)	E311081	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_i	28 V
Internal capacity, max. C_i	2 nF	Internal inductance, max. L_i	0 μ H

General data

Number of poles	1	Protection degree	IP20
Colour	orange		

Insulation coordination acc. to EN 50178

Pollution severity	2	Surge voltage category	III
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Technical data

Rated data IEC / EN

Discharge current $I_{\max}$ (8/20 μ s) GND-PE	10 kA
Discharge current $I_{\max}$ (8/20 μ s) wire-wire	10 kA
Discharge current I_n (8/20 μ s) wire-PE	2.5 kA
Fuse	0.5 A
Lightning test current, I_{imp} (10/350 μ s) Wire-PE	2.5 kA
Max. continuous voltage, U_c (DC)	28 V
Overload - failure mode	Modus 2
Protection level on output side Wire-PE 1 kV/ μ s, typically	40 V
Protection level on output side Wire-wire 8/20 μ s, typically	80 V
Protection level, U_p wire - PE	40 V
Rated current I_N	300 mA
Requirements category acc. to IEC 61643-21	C1, C2, C3, D1
Signalling contact	U_N 250 V AC 0.1 A 1CO at VSPC R with VSPC control unit
Surge current-carrying capacity C1	<1 kA 8/20 μ s
Surge current-carrying capacity C3	100 A 10/1000 μ s
Voltage type	DC

Discharge current $I_{\max}$ (8/20 μ s) wire-PE	10 kA
Discharge current I_n (8/20 μ s) GND-PE	2.5 kA
Discharge current I_n (8/20 μ s) wire-wire	2.5 kA
Lightning test current, I_{imp} (10/350 μ s) GND-PE	2.5 kA
Lightning test current, I_{imp} (10/350 μ s) wire-wire	2.5 kA
Number of poles	1
Protection level U_p (typ.)	<200 V
Protection level on output side Wire-wire 1 kV/ μ s, typically	80 V
Protection level, U_p GND - PE	450 V
Pulse-reset capacity	≤ 30 ms
Rated voltage (DC)	24 V
Signal transmission properties (-3 dB)	2.7 MHz
Standards	IEC 61643-21
Surge current-carrying capacity C2	5 kA 8/20 μ s
Surge current-carrying capacity D1	2.5 kA 10/350 μ s
Volume resistance	4.7 Ω

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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Electrical data

Voltage type	DC
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Ratings IECEx/ATEX/cUL

cUL certificate	cUL Certificate
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Guarantee

Time interval	5 years
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Classifications

ETIM 6.0	EC000943	ETIM 7.0	EC000943
ETIM 8.0	EC000943	ETIM 9.0	EC000943
ETIM 10.0	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	ECLASS 14.0	27-17-90-90
ECLASS 15.0	27-17-90-90		

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Technical data

Tender specification sheets

Long specification

Surge protection plug for use in connection with the base element VSPC BASE 2SL R for two wires with a common ground and with integrated status display and remote monitoring option. 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. 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.

Short specification

Surge protection plug for base element VSPC BASE 2SL R, with integrated status display and remote monitoring option. Coarse and fine common mode voltage protection for two wires with a common ground. Version: 24 V DC

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

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



Approvals MAMID	https://mdcop.weidmueller.com/mediadelivery/rendition/900_319222/-T1z1mm-S800/ https://mdcop.weidmueller.com/mediadelivery/rendition/900_319227/-T1z1mm-S800/ https://mdcop.weidmueller.com/mediadelivery/rendition/900_319238/-T1z1mm-S800/ https://mdcop.weidmueller.com/mediadelivery/rendition/900_319261/-T1z1mm-S800/
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ROHS	Conform
UL File Number Search	UL Website
Certificate No. (UL)	E311081

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Technical data

Downloads

Approval/Certificate/Document of Conformity	SIL Paper EU_Konformitätserklärung / EU_Declaration_of_Conformity
Engineering Data	CAD data – STEP
User Documentation	Beipackzettel / Instruction sheet
Catalogues	Catalogues in PDF-format
Brochures	

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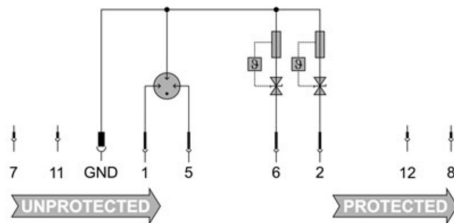
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Drawings

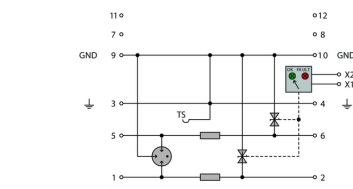
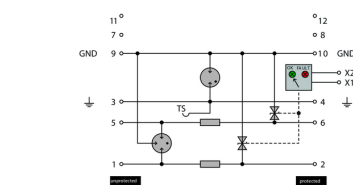
Electric symbol



Circuit diagram

Cate- gory	Testing pulse	Surge voltage	Surge current	Pulse Type
C1	Quick- rising edge	0.5 - 2 kV 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, with remote signalling
Komplettmodul direkte Erdung, mit FernmeldungComplete module indirect grounding, with remote signalling
Komplettmodul indirekte Erdung, mit Fernmeldung

Komplettmodul

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www.weidmueller.com**Accessories****Supply and alert unit for VSPC R arresters**

- Signalling module for all VSPCs with status indicator
- Signalling of cable breaks / signal interruptions
- Power supply of 20 to 31 V DC
- No-voltage changeover contact
- Function display with red/green LED
- Functional alerts with different signal types.

General ordering data

Type	VSPC CONTROL UNIT 24VDC	Version
Order No.	8972270000	Surge protection for instrumentation and control, with warning
GTIN (EAN)	4032248793488	function / function indicator
Qty.	1 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.	1317340000	Fastening element, Latches
GTIN (EAN)	4050118121179	
Qty.	100 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.	1854490000	Dekafix, Terminal marker, 5 x 5 mm, Pitch in mm (P): 5.00
GTIN (EAN)	4032248393596	Weidmueller, white
Qty.	1,000 pc(s).	

Direct earthing



Base element for the pluggable VSPC arrester, integrated PE foot in impedance-neutral VSPC BASE. Can safely discharge up to 20 kA (8/20 µs) and 2.5 kA (10/350 µs) to the PE.

General ordering data

Type	VSPC BASE 2SL R	Version
Order No.	8951770000	Surge protection, Flange-mounted housing, Flange-mounted housing
GTIN (EAN)	4032248743018	
Qty.	1 pc(s).	

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Accessories

Cross-connections



Cross-connection between the VSPC signal contacts can be installed quickly. Cross-connections can be individually separated for the alert function with maximum 10 VSPC R.

General ordering data

Type	QB 17,8/2
Order No.	1309470000
GTIN (EAN)	4050118111934
Qty.	90 pc(s).

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.	8951860000	Lightning and surge protection, Testing device
GTIN (EAN)	4032248743100	
Qty.	1 pc(s).	