Data sheet

VSPC 4SL 12VDC EX

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, without warning function / function indicator
Order No.	1161170000
Type	VSPC 4SL 12VDC EX
GTIN (EAN)	4032248950027
Qty.	1 items

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Technical data

Approvals

Approvals	CSAEX IECEx ATEX - KEMA
ROHS	Conform

Dimensions and weights

Depth	69 mm	Depth (inches)	2.7165 inch
Height	98 mm	Height (inches)	3.8583 inch
Width	17.8 mm	Width (inches)	0.7008 inch
Net weight	52 g		

Temperatures

Storage temperature	-40 °C...80 °C	Ambient temperature	-40 °C...70 °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*10-9 per hour	8.9		

Environmental Product Compliance

RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	7a, 7cI
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) Ii	350 mA	Temperature class T5/100°C (-40 ° C ... +75°C) Ii	250 mA
Temperature class T6/85 °C (-40 °C ... +60°C) Ii	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

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Technical data

Protection degree	IP20	protected binary signals	4

Insulation coordination acc. to EN 50178

Surge voltage category	III	Pollution severity	2

Rated data IEC / EN

Number of poles	2	Rated current IN	300 mA
Protection level on output side Wire-wire 1 kV/µs, typically	45 V	Protection level on output side Wire-PE 1kV/µs, typically	25 V
Protection level on output side Wire-wire 8/20 µs, typically	45 V	Protection level, UP wire - wire	45 V
Voltage type	DC	Volume resistance	4.7 Ω
Frequency range, max.	1.2 MHz	Standards	IEC 61643-21, IEC 62305
Dielectric strength at FG against PE	≥ 500 V	Requirements category acc. to IEC 61643-21	C1, C3, C2
Lightning test current, limp (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, limp (10/350 µs) GND-PE	2.5 kA	Pulse-reset capacity	≤ 20 ms
Signal transmission properties (-3 dB)	1.2 MHz	Lightning test current, limp (10/350 µs) Wire-PE	2.5 kA
Overload - failure mode	Modus 2	Discharge current Imax (8/20µs) GND-PE	10 kA
Rated load current IL	300 mA	Discharge current In (8/20µs) wire-wire	2.5 kA
Discharge current Imax (8/20µs) wire-PE	10 kA	Discharge current Imax (8/20µs) wire-wire	10 kA
Discharge current In (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)

Connection data

Type of connection	Pluggable in VSPC BASE

Electrical data

Voltage type	DC

General data

Number of poles	2	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	Marking EN 60079	Ex ec nC IIC T4 Gc

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Technical data

cUL certificate	cUL Certificate - pdf/ VSPC.PDF (application/ pdf)		

Guarantee

Time interval	5 years

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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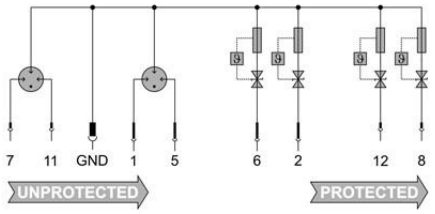
Drawings

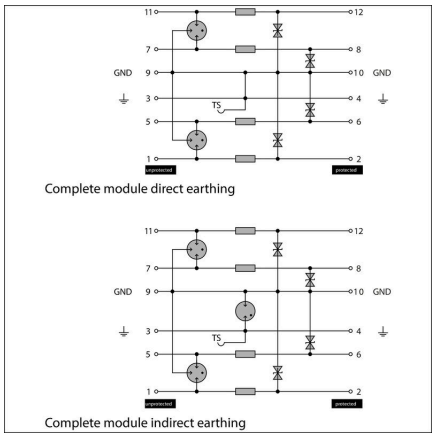
Electric symbol



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



Komplettmodul

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Accessories

V-TEST testing device for VSPC

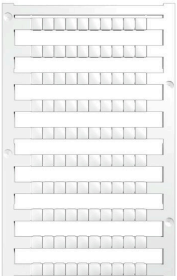
V-TEST
- Testing device for checking the protective function of the pluggable overvoltage protection PU I, PU II and VSPC series
- Device for implementing the IEC 62305 standard (regarding periodic testing)
- Easy-to-use device with integrated battery set for on-site measurements
- LCD results display
- 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.	8951860000	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.	1854490000	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

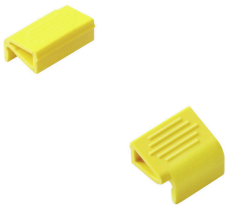
Indirect earthing / floating ground via sparkover gap, also suitable for EX ia applications

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 4SL FG EX	Version
Order No.	8951840000	Surge protection, Flange-mounted housing, Flange-mounted housing
GTIN (EAN)	4032248743087	
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.	1317340000	Fastening element, Latches
GTIN (EAN)	4050118121179	
Qty.	100 ST	

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Counterpart

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Order No.	8951840000	Surge protection, Flange-mounted housing, Flange-mounted housing
GTIN (EAN)	4032248743087	
Qty.	1 ST	