

VSPC 2CL 24VDC

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com



Analogue signal/current loop (CL) protection includes the following signals:

- Signals from current loops (analogue measurements of sensors over long distances) 4 – 20 mA, 0 – 20 mA etc.
- Two-wire, three-wire and four-wire, without a common reference potential
- e.g. level indication signals from voltage sensors (analogue measurements of sensors over short distances) 0 – 10 V, PT 100 etc. ; e.g. temperature measurement
- Pluggable arrester, with 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 differences in potential
- Can be used in compliance with the IEC 62305 (D1, C1, C2 and C3) installation standard
- 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, $U_p(L/N-PE) < 800\text{ V}$
Order No.	8924470000
Type	VSPC 2CL 24VDC
GTIN (EAN)	4032248696109
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	45 g		

Temperatures

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

Probability of failure

SIL PAPER	SIL Paper	SIL in compliance with IEC 61508	3
MTTF	2,537 Years	SFF	95.67 %
λges	45	PFH in 1*10 ⁻⁹ per hour	1.95

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 μH

General data

Colour	orange	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 current loops	2

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 kADischarge current $I_{\max}$ (8/20 μ s) wire-wire 10 kADischarge 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 kAMax. continuous voltage, U_c (DC) 28 V

Overload - failure mode Modus 2

Protection level on output side Wire-PE 1 kV/ μ s, typically 450 VProtection level on output side Wire-wire 8/20 μ s, typically 45 VProtection level, U_p wire - PE 450 VPulse-reset capacity ≤ 30 ms

Rated voltage (DC) 24 V

Signal transmission properties (-3 dB) 2.3 MHz

Standards IEC 61643-21, HART-compatible

Surge current-carrying capacity C2 5 kA 8/20 μ sSurge current-carrying capacity D1 2.5 kA 10/350 μ sVolume resistance 2.20 Ω Discharge current $I_{\max}$ (8/20 μ s) wire-PE 2 x 10 kADischarge current I_n (8/20 μ s) GND-PE 2.5 kADischarge current I_n (8/20 μ s) wire-wire 2.5 kALightning test current, I_{imp} (10/350 μ s) GND-PE 2.5 kALightning test current, I_{imp} (10/350 μ s) wire-wire 2.5 kA

Number of poles 1

Protection level U_p (typ.) < 800 VProtection level on output side Wire-wire 1 kV/ μ s, typically 45 VProtection level, U_p GND - PE 800 VProtection level, U_p wire - wire 45 VRated current I_N 450 mA

Requirements category acc. to IEC 61643-21 C1, C2, C3, D1

Signalling contact No

Surge current-carrying capacity C1 < 1 kA 8/20 μ sSurge current-carrying capacity C3 100 A 10/1000 μ s

Voltage type DC

Further details of approvals

GOST certificate GOST-Zertifikat

Connection data

Type of connection Pluggable in VSPC BASE

Ratings IECEx/ATEX/cUL

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
Surge protection plug for use in connection with the base element VSPC BASE 2CL for two floating-ground driven paired cables. Two-stage protection circuit consisting of coarse protection, decoupling resistors and fine protection between the signal wires and coarse common mode voltage protection to earth. Mechanical identification of the plug to the base element according to the switching type and rated voltage. Optical identification of the protected plug based on the type of protected switching and the voltage level. Protected plug with coding pin and counter-profile for the base element. It is possible to mark the plug.	Surge protection plug for base element VSPC BASE 2CL, transverse voltage coarse and fine protection for two floating-ground powered paired cables, coarse common mode voltage protection to earth. Version: 24 V DC

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
UL File Number Search	UL Website
Certificate No. (UL)	E311081

Downloads

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

Creation date January 28, 2023 4:10:58 PM CET

Catalogue status 24.01.2023 / We reserve the right to make technical changes.

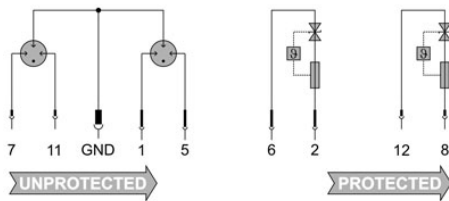
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Drawings

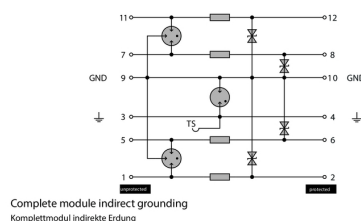
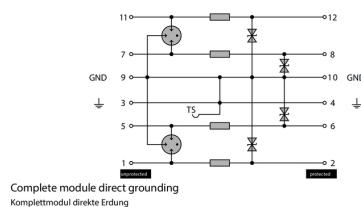
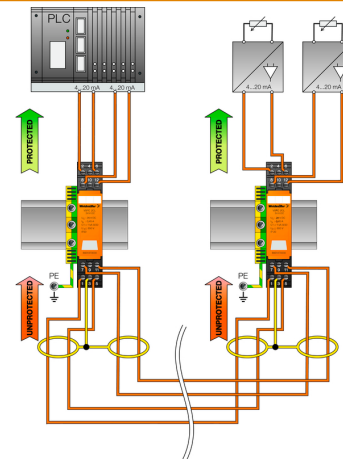
Electric symbol



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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Mating connector (fully pluggable)

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 2CL FG	Version
Order No.	8924270000	Surge protection, Flange-mounted housing, Flange-mounted housing
GTIN (EAN)	4032248695911	
Qty.	1 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 2CL	Version
Order No.	8924710000	Surge protection, Flange-mounted housing, Flange-mounted housing
GTIN (EAN)	4032248696352	
Qty.	1 pc(s).	

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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.	8951860000	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.	1854490000	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.	1317340000	Fastening element, Latches
GTIN (EAN)	4050118121179	
Qty.	100 pc(s).	

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www.weidmueller.com**Accessories****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 2CL	Version
Order No.	8924710000	Surge protection, Flange-mounted housing, Flange-mounted housing
GTIN (EAN)	4032248696352	
Qty.	1 pc(s).	