

VSPC 2CL 24VAC R

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 μ s) and 2.5 kA (10/350 μ 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, with warning function / function indicator, UP(L/N-PE) <800 V
Order No.	1093400000
Type	VSPC 2CL 24VAC R
GTIN (EAN)	4032248864317
Qty.	1 ST

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Technical data

Approvals

Approvals



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

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	46 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	3	MTTF	2537 a
SFF	95.27 %	λges	45
PFH in 1*10 ⁻⁹ per hour	3.7		

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

Rated data UL

Certificate No. (UL)	E311081	UL certificate	UL 497b Certificate - PDF/ E311081VOL1SEC2.pdf (application/pdf)
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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	2 nF	Input voltage, max. Ui	39 V

General data

Optical function display	green = OK; red = arrester is defective - replace	Segment	Measurement - Monitoring - Setting
Version	with warning function / function indicator	Design	Terminal, miscellaneous
UL 94 flammability rating	V-0	Colour	orange
Protection degree	IP20	protected current loops	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

Signalling contact	UN 250 V AC 0.1 A 1CO at VSPC R with VSPC control unit	Rated voltage (AC)	24 V
Rated voltage (DC)	24 V	Rated current I _N	450 mA
Protection level on output side Wire-wire	60 V	Protection level on output side Wire-PE	450 V
1 kV/μs, typically		1 kV/μs, typically	
Protection level on output side Wire-wire	60 V	Protection level, UP wire - wire	60 V
8/20 μs, typically			
Protection level, UP wire - PE	450 V	Protection level UP (typ.)	<800 V
Voltage type	AC	Fuse	0.5 A
Volume resistance	2.20 Ω	Capacitance	2.0 nF
Standards	IEC 61643-21, HART- compatible	Requirements category acc. to IEC	C1, C2, C3, D1 61643-21
Max. continuous voltage, U _c (AC)	28 V	Max. continuous voltage, U _c (DC)	40 V
Lightning test current, I _{imp} (10/350 μs) wire-wire	2.5 kA	Surge current-carrying capacity D1	2.5 kA 10/350 μs
Protection level, UP GND - PE	800 V	Surge current-carrying capacity C1	<1 kA 8/20 μs
Surge current-carrying capacity C3	100 A 10/1000 μs	Lightning test current, I _{imp} (10/350 μs) GND-PE	2.5 kA
Pulse-reset capacity	≤ 450 ms	Signal transmission properties (-3 dB)	2.7 MHz
Lightning test current, I _{imp} (10/350 μs) Wire-PE	2.5 kA	Overload - failure mode	Modus 2
Discharge current I _{max} (8/20μs) GND- PE	10 kA	Discharge current I _n (8/20μs) wire-wire	2.5 kA
Discharge current I _n (8/20μs) wire-PE	2.5 kA	Discharge current I _{max} (8/20μs) wire-PE2 x	10 kA
Discharge current I _{max} (8/20μs) wire- wire	10 kA	Discharge current I _n (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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Electrical data

Voltage type	AC
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General data

Protection degree	IP20	Colour	orange
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Ratings IECEx/ATEX/cUL

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

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 7.0	EC000943	ETIM 8.0	EC000943
ETIM 9.0	EC000943	ETIM 10.0	EC000943
ECLASS 12.0	27-17-15-01	ECLASS 13.0	27-17-15-01
ECLASS 14.0	27-17-15-01	ECLASS 15.0	27-17-15-01

Tender specification sheets

Long specification	Surge protection plug for use in connection with the base element VSPC BASE 2CL R for two floating-ground driven paired cables with integrated status display and remote monitoring option. 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.	Short specification	Surge protection plug for base element VSPC BASE 2CL R with integrated status indicator and remote monitoring option, transverse voltage coarse and fine protection for two floating-ground powered paired cables and alert function, coarse common mode voltage protection to earth. Version: 24 V AC
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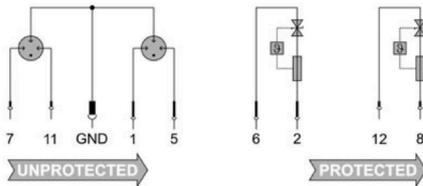
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Drawings

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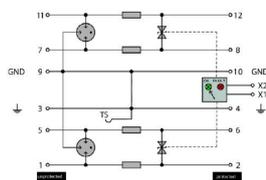
Electric symbol



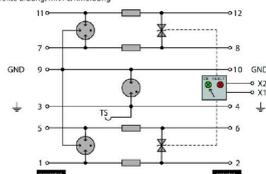
Circuit diagram

Category	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
 Kompletzmodul direkte Erdung, mit Fernmeldung



Complete module indirect grounding, with remote signalling
 Kompletzmodul indirekte Erdung, mit Fernmeldung

Komplettmodul

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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 ST		

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		

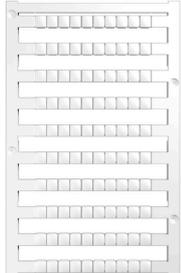
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Accessories

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.	1000 ST		

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 R	Version	
Order No.	8951710000		Surge protection, Flange-mounted housing, Flange-mounted housing
GTIN (EAN)	4032248742950		
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.

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Accessories

General ordering data

Type	VSPC LOCKING CLIP	Version	
Order No.	1317340000	Fastening element, Latches	
GTIN (EAN)	4050118121179		
Qty.	100 ST		

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	Version	
Order No.	1309470000		
GTIN (EAN)	4050118111934		
Qty.	90 ST		

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Counterpart

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 μ s) and 2.5 kA (10/350 μ s) to the PE.

General ordering data

Type	VSPC BASE 2CL R	Version	
Order No.	8951710000	Surge protection, Flange-mounted housing, Flange-mounted housing	
GTIN (EAN)	4032248742950		
Qty.	1 ST		

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

General ordering data

Type	VSPC BASE 2CL FG R	Version	
Order No.	8951720000	Surge protection, Flange-mounted housing, Flange-mounted housing	
GTIN (EAN)	4032248742967		
Qty.	1 ST		