

## VSPC 1CL 12VDC EX

Weidmüller Interface GmbH &amp; Co. KG

Klingenbergsstraße 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
Order No.	8953590000
Type	VSPC 1CL 12VDC EX
GTIN (EAN)	4032248745746
Qty.	1 items

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## Technical data

## Approvals

Approvals



CSAEX



IECEx



RoHS

Conform

## Dimensions and weights

Depth	69 mm
Height	90 mm
Width	17.8 mm
Net weight	45 g

Depth (inches)	2.7165 inch
Height (inches)	3.5433 inch
Width (inches)	0.7008 inch

## Temperatures

Storage temperature	-40 °C...80 °C
Operating temperature	-40 °C...70 °C

Ambient temperature	-40 °C...70 °C
Humidity	5...96 %

## Probability of failure

SIL in compliance with IEC 61508	3
SFF	95.67 %
PFH in 1*10-9 per hour	1.95

MTTF	2537 a
λges	45

## 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
Certificate No. (ATEX)	KEMA10ATEX0148X
IECEx - gas labelling	II 1 G Ex ia IIC T4... T6 Ga
Internal capacity, max. Cl	<4 nF
Temperature class T4/135°C (-40°C ... +85°C) li	350 mA
Temperature class T6/85 °C (-40 °C ... +60°C) li	250 mA

ATEX - gas labelling	II 1 G Ex ia IIC T4... T6 Ga
IECEx - dust labelling	II 1 D Ex ia IIIC T135 °C ... T85 °C Da
Input power, max. PI	3 W
Internal inductance, max. LI	0 µH
Temperature class T5/100°C (-40 °C ... +75°C) li	250 mA

## CSA protection data

Gas group D	IIA
Gas group C	IIB
Internal capacity, max. Cl	4 nF

Gas groups A, B	IIC
Internal inductance, max. LI	0 µH

## General data

Optical function display	No
Version	without warning function / function indicator

Segment	Measurement - Monitoring - Setting
UL 94 flammability rating	V-0

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## Technical data

Colour	Light Blue	Protection degree	IP20
protected current loops	1		

## 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 voltage (DC)	12 V
Rated current IN	350 mA	Protection level on output side Wire-wire	25 V 1 kV/μs, typically
Protection level on output side Wire-PE	450 V 1kV/μs, typically	Protection level on output side Wire-wire	25 V 8/20 μs, typically
Volume resistance	2.20 Ω	Dielectric strength at FG against PE	≥ 500 V
Lightning test current, limp (10/350 μs)	2.5 kA wire-wire	Surge current-carrying capacity D1	1 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)	2.5 kA GND-PE	Pulse-reset capacity	≤ 20 ms
Signal transmission properties (-3 dB)	1.7 MHz	Lightning test current, limp (10/350 μs)	2.5 kA Wire-PE
Overload - failure mode	Modus 2	Discharge current Imax (8/20μs) GND-PE	10 kA
Rated load current IL	350 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)
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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	Marking EN 60079	Ex ec nC IIC T4 Gc
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.		
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## 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		

## Tender specification sheets

Long specification	Surge protection plug for use in connection with the base element VSPC BASE 1CL FG for one floating-ground driven paired cable. 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 suitable for use in intrinsically-safe Ex ia circuits. 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 1CL FG, transverse voltage coarse and fine protection of one floating-ground powered paired cable, suitable for use in intrinsically-safe Ex ia circuits, coarse common mode voltage protection to earth. Version: 12V DC
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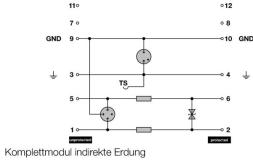
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## Drawings

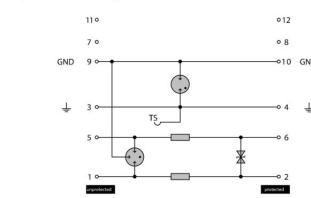
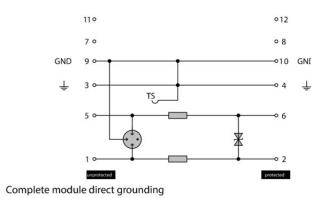
## Electric symbol



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



Komplettmodul

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## Accessories

## V-TEST testing device for VSPC



## V-TEST

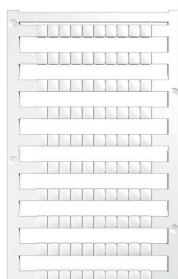
- Testing device for checking the protective function of the pluggable overvoltage protection PU I, PU II and VSPC series
- Device for implementing the IEC 62305 standard (regarding periodic testing)
- Easy-to-use device with integrated battery set for on-site measurements
- LCD results display
- Menu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

## General ordering data

Type	VSPC BASE 1CL FG EX	Version
Order No.	<a href="#">8951810000</a>	Surge protection, Flange-mounted housing, Flange-mounted housing
GTIN (EAN)	4032248743056	
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****Indirect earthing / floating ground via sparkover gap, also suitable for EX ia applications**

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**General ordering data**

Type	VSPC BASE 1CL FG EX	Version
Order No.	<a href="#">8951810000</a>	Surge protection, Flange-mounted housing, Flange-mounted housing
GTIN (EAN)	4032248743056	
Qty.	1 ST	