

VSPC 1CL 12VDC

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, 12 V, 450 mA, IEC 61643-21, HART-compatible
Order No.	8924450000
Type	VSPC 1CL 12VDC
GTIN (EAN)	4032248696086
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
Net weight	41 g	Width	17.8 mm
Width (inches)	0.701 inch		

Temperatures

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

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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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	15 V
Internal capacity, max. C _i	1 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	1

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) 15 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 25 VProtection level, U_p wire - PE 450 VPulse-reset capacity ≤ 20 ms

Rated voltage (DC) 12 V

Signal transmission properties (-3 dB) 1.7 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 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 25 VProtection level, U_p GND - PE 650 VProtection level, U_p wire - wire 25 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
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

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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 1CL 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. 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 1 CL, transverse voltage coarse and fine protection for one floating-ground powered paired cable, coarse common mode voltage protection to earth. Version: 12 V DC

Approvals

Approvals



ROHS	Conform
UL File Number Search	E311081

Downloads

Approval/Certificate/Document of Conformity	SIL Paper CE PAPER
Engineering Data	STEP
Engineering Data	EPLAN, WSCAD
User Documentation	Instruction sheet

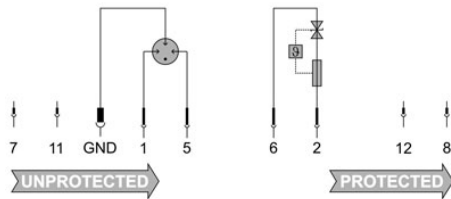
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Drawings

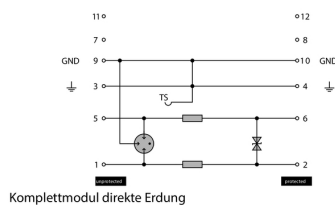
Electric symbol



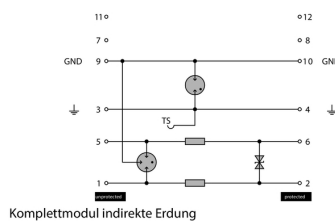
Circuit diagram

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 direkte Erdung



Komplettmodul indirekte Erdung

Komplettmodul