VSPC 1CL 5VDC

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, 5 V, 450 mA, IEC 61643-21, HART-compatible
Order No.	8924420000
Type	VSPC 1CL 5VDC
GTIN (EAN)	4032248696055
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	39 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

Rated data UL

Certificate No. (UL)	E311081	UL certificate	UL 497b Certificate

CSA protection data

Gas group C	IIB	Gas group D	IIA
Gas groups A, B	IIC	Input voltage, max. U_i	6.4 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} (8/20µs) GND-PE	10 kA	Discharge current I_{max} (8/20µs) wire-PE	10 kA
Discharge current I_{max} (8/20µs) wire-wire	10 kA	Discharge current I_n (8/20µs) GND-PE	2.5 kA
Discharge current I_n (8/20µs) wire-PE	2.5 kA	Discharge current I_n (8/20µs) wire-wire	2.5 kA
Fuse	0.5 A	Lightning test current, I_{imp} (10/350 µs) GND-PE	2.5 kA
Lightning test current, I_{imp} (10/350 µs) Wire–PE	2.5 kA	Lightning test current, I_{imp} (10/350 µs) wire-wire	2.5 kA
Max. continuous voltage, Uc (DC)	6.4 V	Number of poles	1
Overload - failure mode	Modus 2	Protection level U_P (typ.)	< 800 V
Protection level on output side Wire-PE 1kV/µs, typically	450 V	Protection level on output side Wire-wire 1 kV/µs, typically	12 V
Protection level on output side Wire-wire 8/20 µs, typically	12 V	Protection level, U_P GND - PE	650 V
Protection level, U_P wire - PE	450 V	Protection level, U_P wire - wire	12 V
Pulse-reset capacity	≤ 20 ms	Rated current I_N	450 mA
Rated voltage (DC)	5 V	Requirements category acc. to IEC 61643-21	C1, C2, C3, D1
Signal transmission properties (-3 dB)	730 KHz	Signalling contact	No
Standards	IEC 61643-21, HART-compatible	Surge current-carrying capacity C1	< 1 kA 8/20 µs
Surge current-carrying capacity C2	5 kA 8/20 µs	Surge current-carrying capacity C3	100 A 10/1000 µs
Surge current-carrying capacity D1	2.5 kA 10/350 µs	Voltage type	DC
Volume resistance	2.20 Ω		

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	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.	Short specification	Surge protection plug for base element VSPC BASE 1 CL FG, transverse voltage coarse and fine protection for one floating-ground powered paired cable, coarse common mode voltage protection to earth. Version: 5 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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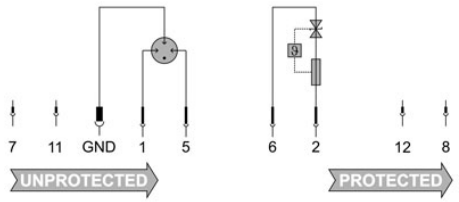
Drawings

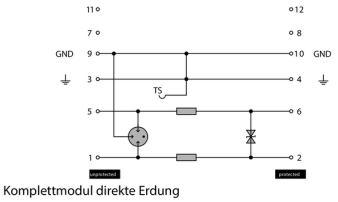
Electric symbol



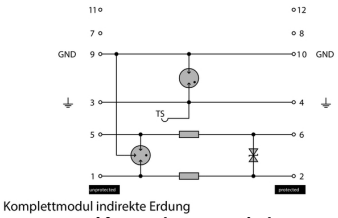
Circuit diagram

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 direkte Erdung



Komplettmodul indirekte Erdung

Komplettmodul