VSPC
VSPC 1CL 24VDC R

Weidmüller Interface GmbH & Co. KG
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Germany
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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

Type	VSPC 1CL 24VDC R
Order No.	8951550000
Version	Surge protection for instrumentation and control, 24 V, 450 mA, IEC 61643-21, HART-compatible
GTIN (EAN)	4032248742790
Qty.	1 pc(s).

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Technical data

Dimensions and weights

Width	17.8 mm	Width (inches)	0.701 inch
Height	98 mm	Height (inches)	3.858 inch
Depth	69 mm	Depth (inches)	2.717 inch
Net weight	42 g		

Temperatures

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

Probability of failure

λges	45	MTTF	2,537 Years
PFH in $1*10^{-9}$ per hour	3.7	SFF	95.27 %
SIL in compliance with IEC 61508	3		

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	28 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	green = OK; red = arrester is defective - replace	Protection degree	IP20
Segment	Measurement - Monitoring - Setting	UL 94 flammability rating	V-0
Version	with 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)	28 V	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	45 V	Protection level on output side Wire-wire 8/20 µs, typically	45 V
Protection level, U_P GND - PE	650 V	Protection level, U_P wire - PE	450 V
Protection level, U_P wire - wire	45 V	Pulse-reset capacity	≤ 30 ms
Rated current I_N	450 mA	Rated voltage (DC)	24 V
Requirements category acc. to IEC 61643-21	C1, C2, C3, D1	Signal transmission properties (-3 dB)	2.4 MHz
Signalling contact	U_N 250 V AC 0.1 A 1CO at VSPC R with VSPC control unit	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 3.0	EC000943	ETIM 4.0	EC000381
ETIM 5.0	EC000943	ETIM 6.0	EC000943
UNSPSC	30-21-19-21	eClass 5.1	27-13-08-01
eClass 6.2	27-13-08-02	eClass 7.1	27-13-08-09
eClass 8.1	27-13-08-11	eClass 9.0	27-13-08-07
eClass 9.1	27-13-08-07		

Approvals

Approvals	
ROHS	Conform

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Technical data

Downloads

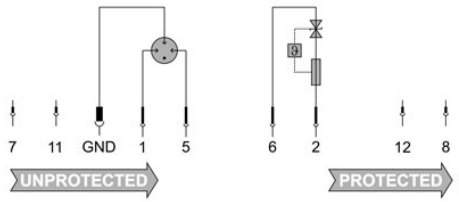
Approval/Certificate/Document of Conformity	SIL Paper CE PAPER
Brochure/Catalogue	CAT 4.4 ELECTR 16/17 EN
Engineering Data	EPLAN, WSCAD
Engineering Data	STEP
User Documentation	Instruction sheet

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Drawings

Electric symbol

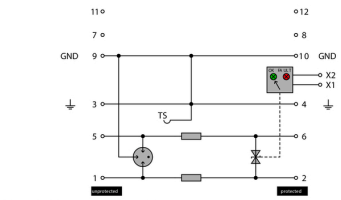


Circuit diagram

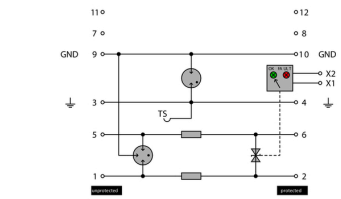
Category	Testing pulse	Surge voltage	Surge current	Pulse	Type
C1	Quick-rising edge	0.5 - 2 kV with 1.2/50 µs	0.25 - 1 kA mit 8/20 µs	300	Surge voltage arrester
C2	Quick-rising edge	2 - 10 kV with 1.2/50 µs	1 - 5 kA mit 8/20 µs	10	Surge voltage arrester
C3	Quick-rising edge	≥ 1 kV with 1 kV/µs	10 - 100 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, mit Fernmeldung



Komplettmodul indirekte Erdung, mit Fernmeldung

Komplettmodul