

VSPC 1CL 24VDC EX

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, without warning function / function indicator, $U_p(L/N-PE) < 800 \text{ V}$
Order No.	8953600000
Type	VSPC 1CL 24VDC EX
GTIN (EAN)	4032248745753
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
Width	17.8 mm	Width (inches)	0.701 inch
Net weight	47 g		

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	SCIP	71e97bb7-979f-4330-94c0-20c629b
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Protection Ex - Data

ATEX - dust labelling	II 1 D Ex ia IIC T135 °C ... T85 °C Da	ATEX - gas labelling	II 1 G Ex ia IIC T4... T6 Ga
Certificate No. (ATEX)	KEMA10ATEX0148X	IECEx - dust labelling	II 1 D Ex ia IIC T135 °C ... T85 °C Da
IECEx - gas labelling	II 1 G Ex ia IIC T4... T6 Ga	Input power, max. P _i	3 W
Input voltage, max. U _i	26 V	Internal capacity, max. C _i	< 4 nF
Internal inductance, max. L _i	0 μH	Temperature class T4/135°C (-40°C ... +85°C) li	350 mA
Temperature class T5/100°C (-40 °C ... +75°C) li	250 mA	Temperature class T6/85 °C (-40 °C ... +60°C) li	250 mA

CSA protection data

Gas group C	IIB	Gas group D	IIA
Gas groups A, B	IIC	Input voltage, max. U _i	26 V
Internal capacity, max. C _i	4 nF	Internal inductance, max. L _i	0 μH

General data

Colour	Light Blue	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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Rated data IEC / EN

Dielectric strength at FG against PE	≥ 500 V	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	Input voltage, max. U_i	26 V
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, U_c (DC)	26 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	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	350 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	No	Standards	IEC 61643-21, IEC 62305, DIN EN 60079-0:2009, DIN EN 60079-11:2007, DIN EN 60079-26:2007, DIN EN 61241-11:2006, 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	1 kA 10/350 μs
Voltage type	DC	Volume resistance	2.20 Ω

Further details of approvals

GOST certificate	GOST-Zertifikat
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Connection data

Type of connection	Pluggable in VSPC BASE
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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	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	cUL certificate	cUL Certificate

Classifications

ETIM 6.0	EC000943	ETIM 7.0	EC000943
ETIM 8.0	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	ECLASS 12.0	27-17-90-90

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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 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.	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: 24V DC

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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Approvals

Approvals



ROHS	Conform
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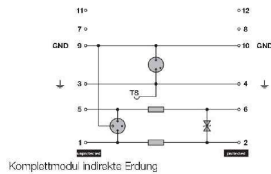
Downloads

Approval/Certificate/Document of Conformity	SIL Paper KEMA 10 ATEX 0148X EU_Konformitätserklärung / EU_Declaration_of_Conformity
Engineering Data	CAD data – STEP
Engineering Data	EPLAN, WSCAD
User Documentation	Beipackzettel / Instruction sheet
Catalogues	Catalogues in PDF-format
Brochures	

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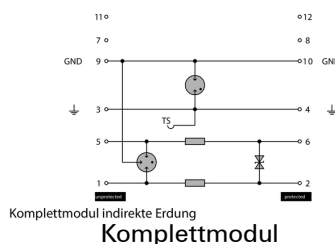
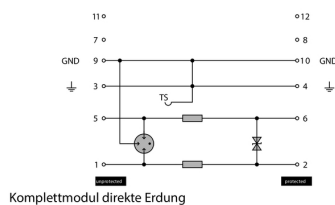
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Drawings
Electric symbol


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



Mouser Electronics

Authorized Distributor

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