

VSPC 4SL 24VAC EX

Weidmüller Interfaces GmbH & Co. KG

Postfach 3030

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Binary signal (SL – Symmetrical Load) protection includes the following signals:

- Switching signals with and without a common reference potential e.g. 5 V – 24V – 60 V
- Two-conductor systems usually involve a common reference potential of binary sensors, actuators and indicators such as limit switches, buttons, position sensors, photoelectric barriers, contactors, solenoid valves, indicator lamps, etc.
- Pluggable arrester, for 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 interference currents resulting from differences in potential
- For use in compliance with the IEC 62305 and IEC 61643-22 installation standards (D1, C1, C2 and C3)
- Integrated PE foot safely discharges up to 20 kA (8/20 μ s) and 2.5 kA (10/350 μ s) 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, $U_p(L/N-PE)$ 250 V
Order No.	1161180000
Type	VSPC 4SL 24VAC EX
GTIN (EAN)	4032248950119
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	53 g		

Temperatures

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

Probability of failure

SIL in compliance with IEC 61508	2	MTTF	2,665 Years
SFF	79.3 %	λges	43
PFH in 1*10 ⁻⁹ per hour	8.9		

Protection Ex - Data

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
Certificate No. (ATEX)	KEMA10ATEX0148X	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	Input power, max. P _I	3 W
Input voltage, max. U _i	38 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	38 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 binary signals	4

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} (8/20 μ s) GND-PE	10 kA
Discharge current I_{\max} (8/20 μ s) wire-PE	10 kA	Discharge current I_{\max} (8/20 μ s) wire-wire	10 kA
Discharge current I_n (8/20 μ s) GND-PE	2.5 kA	Discharge current I_n (8/20 μ s) wire-PE	2.5 kA
Discharge current I_n (8/20 μ s) wire-wire	2.5 kA	Input voltage, max. U_i	38 V
Lightning test current, I_{imp} (10/350 μ s) GND-PE	2.5 kA	Lightning test current, I_{imp} (10/350 μ s) Wire-PE	2.5 kA
Lightning test current, I_{imp} (10/350 μ s) wire-wire	2.5 kA	Max. continuous voltage, U_c (AC)	28 V
Max. continuous voltage, U_c (DC)	38 V	Number of poles	2
Overload - failure mode	Modus 2	Protection level U_p (typ.)	250 V
Protection level on output side Wire-PE 1kV/ μ s, typically	60 V	Protection level on output side Wire-wire 1 kV/ μ s, typically	110 V
Protection level on output side Wire-wire 8/20 μ s, typically	80 V	Protection level, U_p GND - PE	60 V
Protection level, U_p wire - PE	60 V	Protection level, U_p wire - wire	80 V
Pulse-reset capacity	≤ 30 ms	Rated current I_N	300 mA
Rated voltage (AC)	24 V	Rated voltage (DC)	34 V
Requirements category acc. to IEC 61643-21	C1, C2, C3, D1	Signal transmission properties (-3 dB)	2.7 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
Surge current-carrying capacity C1	< 1 kA 8/20 μ s	Surge current-carrying capacity C2	5 kA 8/20 μ s
Surge current-carrying capacity C3	100 A 10/1000 μ s	Surge current-carrying capacity D1	2.5 kA 10/350 μ s
Voltage type	AC	Volume resistance	4.7 Ω

Further details of approvals

GOST certificate GOST-Zertifikat

Connection data

Type of connection Pluggable in VSPC BASE

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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Catalogue status 18.02.2023 / We reserve the right to make technical changes.

3

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Tender specification sheets

Long specification	Surge protection plug for use in connection with the base element VSPC BASE 4SL FG for four floating-ground driven, intrinsically safe signal cables EX ia. Two-stage protection consisting of coarse and fine protection between all signal cables as well as coarse common mode voltage protection to signal ground/earth. Mechanical identification of the plug to the base element according to the switching type and rated voltage. Protected plug with coding pin and counter-profile for the base element. Optical identification of the protected plug based on the type of protected switching and the voltage level. It is possible to mark the plug.	Short specification	Surge protection plug for base element VSPC BASE 4SL FG, transverse voltage coarse and fine protection for four floating-ground powered, intrinsically safe signal cables EX ia, coarse common mode voltage protection to earth. Version: 24 V AC
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
SCIP	71e97bb7-979f-4330-94c0-20c629bb05e3

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	WSCAD
User Documentation	Beipackzettel / Instruction sheet
Catalogues	Catalogues in PDF-format
Brochures	

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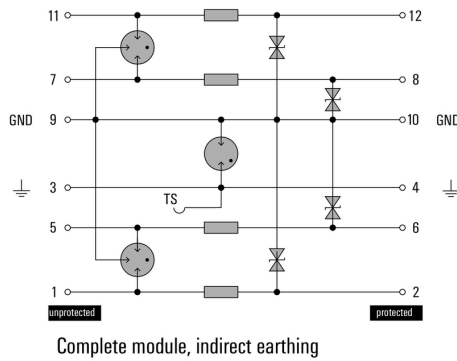
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Drawings

Electric symbol



Circuit diagram

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

