

VSPC

VSPC 1CL 12VDC EX

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 16

D-32758 Detmold

Germany

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Fax: +49 5231 14-292083

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

Type	VSPC 1CL 12VDC EX
Order No.	8953590000
Version	Surge protection for instrumentation and control, 12 V, 350 mA, 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
GTIN (EAN)	4032248745746
Qty.	1 pc(s).

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Technical data
Dimensions and weights

Width	17.8 mm	Width (inches)	0.701 inch
Height	90 mm	Height (inches)	3.543 inch
Depth	69 mm	Depth (inches)	2.717 inch
Net weight	45 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

λ_{ges}	45	MTTF	2,537 Years
PFH in $1 \cdot 10^{-9}$ per hour	1.95	SFF	95.67 %
SIL in compliance with IEC 61508	3		

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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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	14 V	Internal capacity, max. C_i	< 4 nF
Internal inductance, max. L_i	0 μ H	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	14 V
Internal capacity, max. C_i	4 nF	Internal inductance, max. L_i	0 μ H

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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Technical data
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	14 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)	14 V
Overload - failure mode	Modus 2	Protection level U_p (typ.)	< 800 V
Protection level on output side Wire-PE	1 kV/μs, typically	Protection level on output side Wire-wire	1 kV/μs, typically
Protection level on output side Wire-wire	8/20 μs, typically	Protection level, U_p GND - PE	650 V
Protection level, U_p wire - PE	450 V	Protection level, U_p wire - wire	25 V
Pulse-reset capacity	≤ 20 ms	Rated current I_N	350 mA
Rated voltage (DC)	12 V	Requirements category acc. to IEC 61643-21	C1, C2, C3, D1
Signal transmission properties (-3 dB)	1.7 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, 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 certificate	ATEX Certificate	IEC Ex certificate	IECEX Zertifikat
Certificate No. (ATEX)	KEMA10ATEX0148X	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		

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Technical data

Approvals

Approvals



ROHS

Conform

Downloads

Approval/Certificate/Document of
Conformity

[SIL Paper](#)
[Declaration of Conformity](#)
[Declaration of Conformity](#)
[Declaration of Conformity](#)

Brochure/Catalogue

[CAT 4.4 ELECTR 16/17 EN](#)

Engineering Data

[EPLAN_WSCAD](#)

Engineering Data

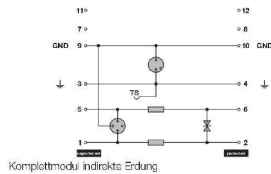
[STEP](#)

User Documentation

[Instruction sheet](#)

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Drawings
Electric symbol


Circuit diagram

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

