

## VSPC VSPC 2SL 12VDC EX

**Weidmüller Interface GmbH & Co. KG**

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Germany

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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  $\mu$ s) and 2.5 kA (10/350  $\mu$ 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

|            |  |
|------------|--|
| Type       | VSPC 2SL 12VDC EX  |
| Order No.  | <a href="#">8953620000</a>   |
| Version    | Surge protection for instrumentation and control, 12 V, 250 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 |
| GTIN (EAN) | 4032248745777  |
| 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 | 47 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                               | 43  | MTTF | 2,665 Years |
| PFH in 1*10 <sup>-9</sup> per hour | 8.9 | SFF  | 79.3 %      |
| SIL in compliance with IEC 61508   | 2   |      |             |

**EX protection data**

|   |  |   |  |
|---|--|---|--|
| ATEX - dust labelling                               | II 1 D Ex ia IIIC T135 °C ...<br>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 ...<br>T85 °C Da |
| IECEx - gas labelling                               | II 1 G Ex ia IIC T4... T6 Ga               | Input power, max. P <sub>i</sub>                    | 3 W  |
| Input voltage, max. U <sub>i</sub>                  | 14 V                                       | Internal capacity, max. C <sub>i</sub>              | < 4 nF                                     |
| Internal inductance, max. L <sub>i</sub>            | 0 μH                                       | Temperature class T4/135°C (-40°C ...<br>+85°C) li  | 350 mA                                     |
| Temperature class T5/100°C (-40 °C ...<br>+75°C) li | 250 mA                                     | Temperature class T6/85 °C (-40 °C ...<br>+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 <sub>i</sub>       | 14 V |
| Internal capacity, max. C <sub>i</sub> | 4 nF | Internal inductance, max. L <sub>i</sub> | 0 μH |

**General data**

|                          |  |                           |                         |
|--------------------------|--|---------------------------|-------------------------|
| Colour                   | Light Blue                                       | Design                    | Terminal, Miscellaneous |
| Optical function display | No   | Protection degree         | IP20                    |
| Segment                  | Instrumentation and<br>Control                   | UL 94 flammability rating | V-0                     |
| Version                  | without warning function /<br>function indicator | protected binary signals  | 2                       |

**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 $I_{max}$ (8/20 $\mu$ s) GND-PE                  | 10 kA                 |
| Discharge current $I_{max}$ (8/20 $\mu$ s) wire-PE                | 10 kA  | Discharge current $I_{max}$ (8/20 $\mu$ s) wire-wire               | 10 kA                 |
| Discharge current $I_n$ (8/20 $\mu$ s) GND-PE                     | 2.5 kA   | Discharge current $I_n$ (8/20 $\mu$ s) wire-PE                     | 2.5 kA                |
| Discharge current $I_n$ (8/20 $\mu$ s) wire-wire                  | 2.5 kA   | Input voltage, max. $U_i$  | 14 V                  |
| Lightning test current, $I_{imp}$ (10/350 $\mu$ s) GND-PE         | 2.5 kA   | Lightning test current, $I_{imp}$ (10/350 $\mu$ s) Wire-PE         | 2.5 kA                |
| Lightning test current, $I_{imp}$ (10/350 $\mu$ s) wire-wire      | 2.5 kA   | Max. continuous voltage, $U_c$ (DC)                                | 14 V                  |
| Overload - failure mode   | Modus 2  | Protection level $U_p$ (typ.)                                      | < 200 V               |
| Protection level on output side Wire-PE 1kV/ $\mu$ s, typically   | 25 V   | Protection level on output side Wire-wire 1 kV/ $\mu$ s, typically | 20 V                  |
| Protection level on output side Wire-wire 8/20 $\mu$ s, typically | 45 V   | Protection level, $U_p$ GND - PE                                   | 450 V                 |
| Protection level, $U_p$ wire - PE                                 | 20 V   | Pulse-reset capacity   | 20 ms                 |
| Rated current $I_N$   | 250 mA   | Rated voltage (DC)   | 12 V                  |
| Requirements category acc. to IEC 61643-21                        | C1, C2, C3, D1   | Signal transmission properties (-3 dB)                             | 1.2 MHz               |
| 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 $\mu$ s   |
| Surge current-carrying capacity C2                                | 5 kA 8/20 $\mu$ s  | Surge current-carrying capacity C3                                 | 100 A 10/1000 $\mu$ s |
| Surge current-carrying capacity D1                                | 2.5 kA 10/350 $\mu$ s  | Voltage type   | DC                    |
| Volume resistance   | 4.7 $\Omega$   |  |                       |

**Further details of approvals**

GOST certificate GOST-Zertifikat

**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 | 27-13-08-11 |
| eClass 9.1 | 27-13-08-07 |            |             |

**Product information**

|                                 |   |
|---------------------------------|---|
| Descriptive text technical data | Order the associated VSPC base element with this. The dimension information provided refers to the complete module. |
| Instructions for accessories    | EMC Set: 1067470000 Marker: DEK 5   |

**Data sheet**

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**Technical data**

**Approvals**

Approvals



ROHS Conform

**Downloads**

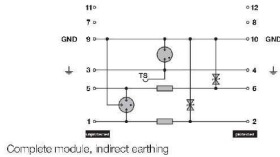
|   |   |
|---|---|
| Approval/Certificate/Document of Conformity | <a href="#">SIL Paper</a><br><a href="#">CE PAPER</a> |
| Brochure/Catalogue                          | <a href="#">CAT 4.4 ELECTR 16/17 EN</a>               |
| Engineering Data                            | <a href="#">EPLAN, WSCAD</a>                          |
| Engineering Data                            | <a href="#">STEP</a>                                  |
| User Documentation                          | <a href="#">Instruction sheet</a>                     |

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**Drawings**

**Electric symbol**



Circuit diagram

| Cate-<br>gory | Testing<br>pulse         | Surge<br>voltage                | Surge<br>current                 | Pulse | Type   |
|---------------|--------------------------|---------------------------------|----------------------------------|-------|--|
| C1            | Quick-<br>rising<br>edge | 0.5 - 2 kV<br>with<br>1.2/50 µs | 0.25 - 1 kA<br>mit<br>8/20 µs    | 300   | Surge<br>voltage<br>arrester                               |
| C2            | Quick-<br>rising<br>edge | 2 - 10 kV<br>with<br>1.2/50 µs  | 1 - 5 kA<br>mit<br>8/20 µs       | 10    | Surge<br>voltage<br>arrester                               |
| C3            | Quick-<br>rising<br>edge | ≥ 1 kV<br>with<br>1 kV/µs       | 10 - 100 A<br>mit<br>10/10000 µs | 300   | Surge<br>voltage<br>arrester                               |
| D1            | High<br>power            | ≥ 1 kV                          | 0.5 - 2.5 kA<br>mit 10/350<br>µs | 2     | Arrester for<br>lightning<br>current and<br>surge voltages |

Discharge capacity

