

## VSPC VSPC 1CL 24VAC R

**Weidmüller Interface GmbH & Co. KG**  
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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  $\mu$ 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 1CL 24VAC R   |
| Order No.  | <a href="#">8951560000</a>   |
| Version    | Surge protection for instrumentation and control, 24 V, 34 V, 450 mA, IEC 61643-21 |
| GTIN (EAN) | 4032248742806  |
| 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 | 24.1 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**

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

**CSA protection data**

|                               |      |                                 |           |
|-------------------------------|------|---------------------------------|-----------|
| Gas group C                   | IIB  | Gas group D                     | IIA       |
| Gas groups A, B               | IIC  | Input voltage, max. $U_i$       | 39 V      |
| Internal capacity, max. $C_i$ | 1 nF | Internal inductance, max. $L_i$ | 0 $\mu$ H |

**General data**

|                          |   |                           |                         |
|--------------------------|---|---------------------------|-------------------------|
| Colour                   | Orange  | Design                    | Terminal, Miscellaneous |
| Optical function display | green = OK; red = arrester is defective - replace | Protection degree         | IP20                    |
| Segment                  | Instrumentation and Control                       | 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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|   |   |  |                       |
|---|---|--|-----------------------|
| 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                |
| Fuse  | 0.5 A   | 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, $U_c$ (AC)                               | 28 V  | Max. continuous voltage, $U_c$ (DC)                                | 40 V                  |
| Overload - failure mode   | Modus 2   | Protection level $U_p$ (typ.)                                      | < 800 V               |
| Protection level on output side Wire-PE 1kV/ $\mu$ s, typically   | 450 V   | Protection level on output side Wire-wire 1 kV/ $\mu$ s, typically | 60 V                  |
| Protection level on output side Wire-wire 8/20 $\mu$ s, typically | 60 V  | Protection level, $U_p$ GND - PE                                   | 650 V                 |
| Protection level, $U_p$ wire - PE                                 | 450 V   | Protection level, $U_p$ wire - wire                                | 60 V                  |
| Pulse-reset capacity  | $\leq$ 450 ms   | Rated current $I_N$  | 450 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)                             | 2.6 MHz               |
| Signalling contact  | $U_N$ 250 V AC 0.1 A 1CO at VSPC R with VSPC CONTROL UNIT | Standards  | IEC 61643-21          |
| 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  | AC  | Volume resistance  | 2.20 $\Omega$         |

**Further details of approvals**

GOST certificate GOST-Zertifikat

**Rated data UL**

Certificate No. (UL) E311081 UL certificate UL 497b Certificate

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

**Product information**

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

**Data sheet****VSPC  
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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>                     |

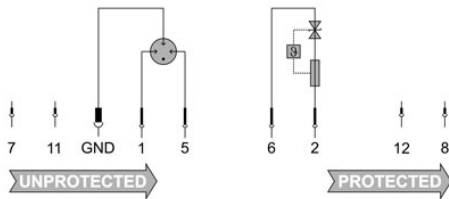
**Data sheet**

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

Discharge capacity

