Data sheet

# VSPC 2CL 12VDC

**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 |
| Order No. | 8924440000 |
| Type | VSPC 2CL 12VDC |
| GTIN (EAN) | 4032248696079 |
| Qty. | 1 items |

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# Technical data

### Approvals

| | |
|---|---|
| Approvals | |
| ROHS | Conform |
| UL File Number Search | UL Website |
| Certificate No. (UL) | E311081 |

### Dimensions and weights

| | | | |
|---|---|---|---|
| Depth | 69 mm | Depth (inches) | 2.7165 inch |
| Height | 90 mm | Height (inches) | 3.5433 inch |
| Width | 17.8 mm | Width (inches) | 0.7008 inch |
| Net weight | 45 g | | |

### Temperatures

| | | | |
|---|---|---|---|
| Storage temperature | -40 °C...80 °C | Ambient temperature | -40 °C...70 °C |
| Operating temperature | -40 °C...70 °C | Humidity | 5...96 % |

### Probability of failure

| | | | |
|---|---|---|---|
| SIL in compliance with IEC 61508 | 3 | MTTF | 2537 a |
| SFF | 95.67 % | λges | 45 |
| PFH in 1*10-9 per hour | 1.95 | | |

### Environmental Product Compliance

| | |
|---|---|
| RoHS Compliance Status | Compliant with exemption |
| RoHS Exemption (if applicable/known) | 7a, 7cI |
| REACH SVHC | Lead 7439-92-1 |
| SCIP | 71e97bb7-979f-4330-94c0-20c629bb05e3 |

### Rated data UL

| | | | |
|---|---|---|---|
| Certificate No. (UL) | E311081 | UL certificate | UL 497b Certificate - PDF/ E311081VOL1SEC2.pdf (application/pdf) |

### CSA protection data

| | | | |
|---|---|---|---|
| Gas group D | IIA | Gas groups A, B | IIC |
| Gas group C | IIB | Internal inductance, max. LI | 0 µH |
| Internal capacity, max. CI | 2 nF | Input voltage, max. Ui | 15 V |

### General data

| | | | |
|---|---|---|---|
| Optical function display | No | Segment | Measurement - Monitoring - Setting |
| Version | without warning function / function indicator | Design | Terminal, miscellaneous |
| UL 94 flammability rating | V-0 | Colour | orange |
| Protection degree | IP20 | protected current loops | 2 |

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## Technical data

### Insulation coordination acc. to EN 50178

| | | | |
|---|---|---|---|
| Surge voltage category | III | Pollution severity | 2 |

### Rated data IEC / EN

| | | | |
|---|---|---|---|
| Number of poles | 1 | Signalling contact | No |
| Rated voltage (DC) | 12 V | Rated current IN | 450 mA |
| Protection level on output side Wire-wire 1 kV/µs, typically | 25 V | Protection level on output side Wire-PE 1kV/µs, typically | 450 V |
| Protection level on output side Wire-wire 8/20 µs, typically | 25 V | Protection level, UP wire - wire | 25 V |
| Protection level, UP wire - PE | 450 V | Voltage type | DC |
| Fuse protection | 0.5 A | Volume resistance | 2.20 Ω |
| Frequency range, max. | 730 kHz | Standards | IEC 61643-21, HART-compatible |
| Requirements category acc. to IEC 61643-21 | C1, C2, C3, D1 | Max. continuous voltage, Uc (DC) | 15 V |
| Lightning test current, limp (10/350 µs) wire-wire | 2.5 kA | Surge current-carrying capacity D1 | 2.5 kA 10/350 µs |
| Surge current-carrying capacity C1 | <1 kA 8/20 µs | Surge current-carrying capacity C3 | 100 A 10/1000 µs |
| Lightning test current, limp (10/350 µs) GND-PE | 2.5 kA | Pulse-reset capacity | ≤ 20 ms |
| Signal transmission properties (-3 dB) | 1.7 MHz | Lightning test current, limp (10/350 µs) Wire-PE | 2.5 kA |
| Overload - failure mode | Modus 2 | Discharge current Imax (8/20µs) GND-PE | 10 kA |
| Rated load current IL | 450 mA | Discharge current In (8/20µs) wire-wire | 2.5 kA |
| Discharge current In (8/20µs) wire-PE | 2.5 kA | Discharge current Imax (8/20µs) wire-PE | 2 x 10 kA |
| Discharge current Imax (8/20µs) wire-wire | 10 kA | Discharge current In (8/20µs) GND-PE | 2.5 kA |
| Surge current-carrying capacity C2 | 5 kA 8/20 µs | | |

### Further details of approvals

| | |
|---|---|
| GOST certificate | GOST-Zertifikat - PDF/7950_n1-n4.pdf (application/pdf) |

### Connection data

| | |
|---|---|
| Type of connection | Pluggable in VSPC BASE |

### Electrical data

| | |
|---|---|
| Voltage type | DC |

### General data

| | | | |
|---|---|---|---|
| Number of poles | 1 | Protection degree | IP20 |
| Colour | orange | | |

### Ratings IECEx/ATEX/cUL

| | |
|---|---|
| cUL certificate | cUL Certificate - pdf/ VSPC.PDF (application/ pdf) |

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## Technical data

### Guarantee

| | |
|---|---|
| Time interval | 5 years |

### 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. |

### Classifications

| | | | |
|---|---|---|---|
| ETIM 8.0 | EC000943 | ETIM 9.0 | EC000943 |
| ETIM 10.0 | EC000943 | ECLASS 14.0 | 27-17-15-01 |
| ECLASS 15.0 | 27-17-15-01 | | |

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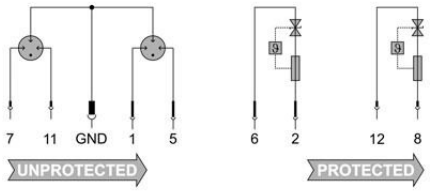
## Drawings

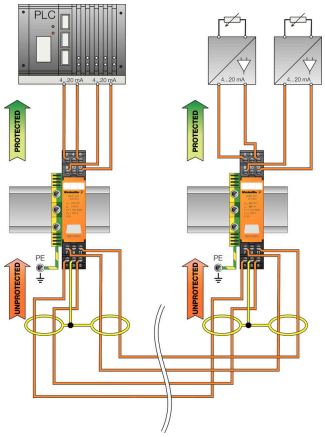
### Electric symbol

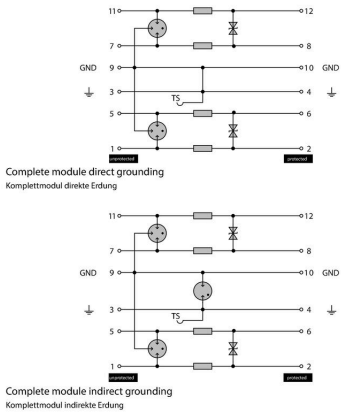



Circuit diagram

| Category | 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


Komplettmodul