

VSPC 2CL 5VDC

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 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, UP(L/N-PE) <800 V |
| Order No. | 8924400000 |
| Type | VSPC 2CL 5VDC |
| GTIN (EAN) | 4032248696048 |
| 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 | 46 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 |
| 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 | 6.4 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) | 5 V | Rated current I _N | 450 mA |
| Protection level on output side Wire-wire | 12 V 1 kV/μs, typically | Protection level on output side Wire-PE | 450 V 1 kV/μs, typically |
| Protection level on output side Wire-wire | 12 V 8/20 μs, typically | Protection level, UP wire - wire | 12 V |
| Protection level, UP wire - PE | 450 V | Protection level UP (typ.) | <800 V |
| Voltage type | DC | Fuse protection | 0.5 A |
| Volume resistance | 2.20 Ω | Capacitance | 2.0 nF |
| Standards | IEC 61643-21, HART-compatible | Requirements category acc. to IEC 61643-21 | C1, C2, C3, D1 |
| Max. continuous voltage, U _c (DC) | 6.4 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) | 730 KHz |
| Lightning test current, limp (10/350 μs) Wire-PE | 2.5 kA | Overload - failure mode | Modus 2 |
| Discharge current I _{max} (8/20μs) GND-PE | 10 kA | Rated load current I _L | 450 mA |
| Discharge current I _n (8/20μs) wire-wire | 2.5 kA | Discharge current I _n (8/20μs) wire-PE | 2.5 kA |
| Discharge current I _{max} (8/20μs) wire-PE2 x | 10 kA | Discharge current I _{max} (8/20μs) wire-wire | 10 kA |
| Discharge current I _n (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 | | |

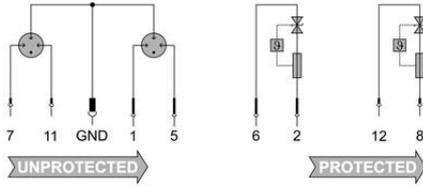
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Drawings

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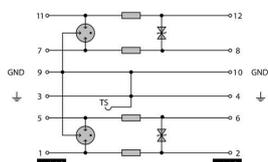
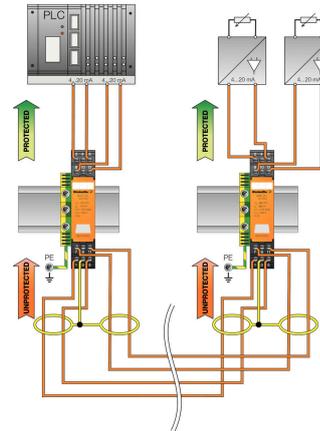
Electric symbol



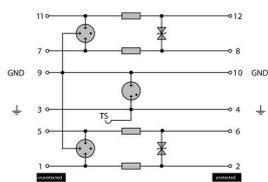
Circuit diagram

| 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



Complete module direct grounding
 Komplettschaltplan direkte Erdung



Complete module indirect grounding
 Komplettschaltplan indirekte Erdung

Komplettschaltplan

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Accessories

V-TEST testing device for VSPC



V-TEST

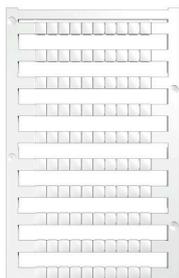
- Testing device for checking the protective function of the pluggable overvoltage protection PU I, PU II and VSPC series
- Device for implementing the IEC 62305 standard (regarding periodic testing)
- Easy-to-use device with integrated battery set for on-site measurements
- LCD results display
- Menu in two languages
- Including a protective bag and power supply
- User friendly navigation in German and English

The V-TEST is a compact, portable test instrument for the plug-in surge protectors VARITECTOR (VSPC) and the surge protectors for the power supply line PU I and PU II. Using this instrument Weidmüller overvoltage protectors can be tested for their protective function in line with the testing schedules laid down in IEC 62305-3 (DIN VDE 0185 part 3). In a display with background illumination, the test result is indicated with "OK" or "Not OK".

General ordering data

| | | |
|------------|----------------------------|--|
| Type | V-TEST | Version |
| Order No. | 8951860000 | Lightning and surge protection, Testing device |
| GTIN (EAN) | 4032248743100 | |
| Qty. | 1 ST | |

Plus



The Dekafix (DEK) marker is the universal marker for all conductor and plug-in connectors as well as for electronic sub-assemblies. The system is ideal for short number sequences and covers a wide range of ready-printed markers.

Strips for fast installation in only one work step. The printing is easy to read, rich in contrast and available in various widths.

- Large range of ready-to-use markers
 - Strips for fast installation
 - Terminal markers, suitable for all Weidmüller cable connectors
 - Available as blank MultiCard or with standard printing
- For custom printing: Please send us a file of our labeling software M-Print PRO or M-Print PRO Online (without installation) for your labeling specifications.

General ordering data

| | | |
|------------|----------------------------|---|
| Type | DEK 5/5 PLUS MC NE WS | Version |
| Order No. | 1854490000 | Dekafix, Terminal marker, 5 x 5 mm, Pitch in mm (P): 5.00 |
| GTIN (EAN) | 4032248393596 | Weidmueller, white |
| Qty. | 1000 ST | |

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Accessories

Direct earthing



Base element for the pluggable VSPC arrester, integrated PE foot in impedance-neutral VSPC BASE. Can safely discharge up to 20 kA (8/20 μ s) and 2.5 kA (10/350 μ s) to the PE.

General ordering data

| | | | |
|------------|----------------------------|--|--|
| Type | VSPC BASE 2CL | Version | |
| Order No. | 8924710000 | Surge protection, Flange-mounted housing, Flange-mounted housing | |
| GTIN (EAN) | 4032248696352 | | |
| Qty. | 1 ST | | |

Retaining clip



The interlock mechanism on the VSPC Series pluggable arrester delivers extra reliability and an improved permanent contact under strong vibrating conditions.

General ordering data

| | | | |
|------------|----------------------------|----------------------------|--|
| Type | VSPC LOCKING CLIP | Version | |
| Order No. | 1317340000 | Fastening element, Latches | |
| GTIN (EAN) | 4050118121179 | | |
| Qty. | 100 ST | | |

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Counterpart

Direct earthing



Base element for the pluggable VSPC arrester, integrated PE foot in impedance-neutral VSPC BASE. Can safely discharge up to 20 kA (8/20 μ s) and 2.5 kA (10/350 μ s) to the PE.

General ordering data

| | | | |
|------------|----------------------------|--|--|
| Type | VSPC BASE 2CL | Version | |
| Order No. | 8924710000 | Surge protection, Flange-mounted housing, Flange-mounted housing | |
| GTIN (EAN) | 4032248696352 | | |
| Qty. | 1 ST | | |

Indirect earthing / floating ground via sparkover gap, also suitable for EX ia applications



Base element for the pluggable VSPC arresters. Integrated PE foot in the base of the impedance-neutral VSPC BASE and floating earth PE connection (FG) via integrated sparkover gap, safely discharges up to 20 kA (8/20 μ s) and 2.5 kA (10/350 μ s) to PE. Suitable for unearthed signal circuits.

General ordering data

| | | | |
|------------|----------------------------|--|--|
| Type | VSPC BASE 2CL FG | Version | |
| Order No. | 8924270000 | Surge protection, Flange-mounted housing, Flange-mounted housing | |
| GTIN (EAN) | 4032248695911 | | |
| Qty. | 1 ST | | |