

**VSPC 2CL 24VDC R****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://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, with warning function / function indicator, $U_P(L/N-PE) < 800$ V |
| Order No.  | <a href="#">8951480000</a>                                                                                          |
| Type       | VSPC 2CL 24VDC R                                                                                                    |
| GTIN (EAN) | 4032248742721                                                                                                       |
| Qty.       | 1 pc(s).                                                                                                            |

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**Technical data****Dimensions and weights**

|            |         |                 |            |
|------------|---------|-----------------|------------|
| Depth      | 69 mm   | Depth (inches)  | 2.717 inch |
| Height     | 98 mm   | Height (inches) | 3.858 inch |
| Width      | 17.8 mm | Width (inches)  | 0.701 inch |
| Net weight | 47 g    |                 |            |

**Temperatures**

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

**Probability of failure**

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

**Rated data UL**

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

**CSA protection data**

|                               |      |                                 |           |
|-------------------------------|------|---------------------------------|-----------|
| Gas group C                   | IIB  | Gas group D                     | IIA       |
| Gas groups A, B               | IIC  | Input voltage, max. $U_i$       | 28 V      |
| Internal capacity, max. $C_i$ | 2 nF | Internal inductance, max. $L_i$ | 0 $\mu$ H |

**General data**

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

**Insulation coordination acc. to EN 50178**

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

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## Technical data

### Rated data IEC / EN

|                                                                   |                               |                                                                     |                                                           |
|-------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------|
| Discharge current $I_{\max}$ (8/20 $\mu$ s) GND-PE                | 10 kA                         | Discharge current $I_{\max}$ (8/20 $\mu$ s) wire-PE                 | 2 x 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, $I_{\text{imp}}$ (10/350 $\mu$ s) GND-PE    | 2.5 kA                                                    |
| Lightning test current, $I_{\text{imp}}$ (10/350 $\mu$ s) Wire-PE | 2.5 kA                        | Lightning test current, $I_{\text{imp}}$ (10/350 $\mu$ s) wire-wire | 2.5 kA                                                    |
| Max. continuous voltage, $U_c$ (DC)                               | 28 V                          | Number of poles                                                     | 1                                                         |
| 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  | 45 V                                                      |
| Protection level on output side Wire-wire 8/20 $\mu$ s, typically | 45 V                          | Protection level, $U_p$ GND - PE                                    | 800 V                                                     |
| Protection level, $U_p$ wire - PE                                 | 450 V                         | Protection level, $U_p$ wire - wire                                 | 45 V                                                      |
| Pulse-reset capacity                                              | $\leq 30$ ms                  | Rated current $I_N$                                                 | 450 mA                                                    |
| Rated voltage (DC)                                                | 24 V                          | Requirements category acc. to IEC 61643-21                          | C1, C2, C3, D1                                            |
| Signal transmission properties (-3 dB)                            | 2.3 MHz                       | Signalling contact                                                  | $U_N$ 250 V AC 0.1 A 1CO at VSPC R with VSPC control unit |
| Standards                                                         | IEC 61643-21, HART-compatible | 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                                                 | 2.20 $\Omega$                 |                                                                     |                                                           |

### Further details of approvals

|                  |                 |
|------------------|-----------------|
| GOST certificate | GOST-Zertifikat |
|------------------|-----------------|

### Connection data

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

### Electrical data

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

### Ratings IECEx/ATEX/cUL

|                 |                 |
|-----------------|-----------------|
| cUL certificate | cUL Certificate |
|-----------------|-----------------|

### Guarantee

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

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## Technical data

## Classifications

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC000943    | ETIM 7.0    | EC000943    |
| ETIM 8.0    | EC000943    | ETIM 9.0    | EC000943    |
| ETIM 10.0   | EC000943    | ECLASS 9.0  | 27-13-08-07 |
| ECLASS 9.1  | 27-13-08-07 | ECLASS 10.0 | 27-13-08-07 |
| ECLASS 11.0 | 27-13-08-07 | ECLASS 12.0 | 27-17-90-90 |
| ECLASS 13.0 | 27-17-90-90 | ECLASS 14.0 | 27-17-90-90 |
| ECLASS 15.0 | 27-17-90-90 |             |             |

## Tender specification sheets

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                     |                                                                                                                                                                                                                                                                                                        |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Long specification | Surge protection plug for use in connection with the base element VSPC BASE 2CL R for two floating-ground driven paired cables with integrated status display and remote monitoring option. Two-stage protection circuit consisting of coarse protection, decoupling resistors and fine protection between the signal wires and coarse common mode voltage protection to earth. Mechanical identification of the plug to the base element according to the switching type and rated voltage. Optical identification of the protected plug based on the type of protected switching and the voltage level. Protected plug with coding pin and counter-profile for the base element. It is possible to mark the plug. | Short specification | Surge protection plug for base element VSPC BASE 2CL R with integrated status indicator and remote monitoring option, transverse voltage coarse and fine protection for two floating-ground powered paired cables and alert function, coarse common mode voltage protection to earth. Version: 24 V DC |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Environmental Product Compliance

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

## 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. |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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[www.weidmueller.com](http://www.weidmueller.com)**Technical data****Approvals**

Approvals



|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Approvals MAMID       | <a href="https://mdcop.weidmueller.com/mediadelivery/rendition/900_319222/-T1z1mm-S800/">https://mdcop.weidmueller.com/mediadelivery/rendition/900_319222/-T1z1mm-S800/</a> <a href="https://mdcop.weidmueller.com/mediadelivery/rendition/900_319227/-T1z1mm-S800/">https://mdcop.weidmueller.com/mediadelivery/rendition/900_319227/-T1z1mm-S800/</a> <a href="https://mdcop.weidmueller.com/mediadelivery/rendition/900_319238/-T1z1mm-S800/">https://mdcop.weidmueller.com/mediadelivery/rendition/900_319238/-T1z1mm-S800/</a> <a href="https://mdcop.weidmueller.com/mediadelivery/rendition/900_319261/-T1z1mm-S800/">https://mdcop.weidmueller.com/mediadelivery/rendition/900_319261/-T1z1mm-S800/</a> |
| ROHS                  | Conform                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| UL File Number Search | UL Website                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Certificate No. (UL)  | E311081                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

**Downloads**

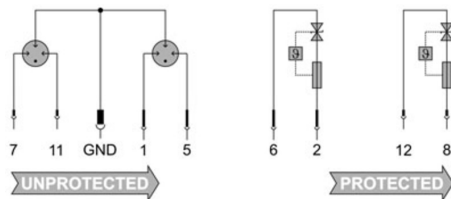
|                                             |                                                                                                      |
|---------------------------------------------|------------------------------------------------------------------------------------------------------|
| Approval/Certificate/Document of Conformity | <a href="#">SIL Paper</a><br><a href="#">EU Konformitätserklärung / EU Declaration of Conformity</a> |
| Engineering Data                            | <a href="#">CAD data – STEP</a>                                                                      |
| Technical Documentation                     | <a href="#">VSPC 2CL 5VDC R</a>                                                                      |
| User Documentation                          | <a href="#">Beipackzettel / Instruction sheet</a>                                                    |
| Catalogues                                  | <a href="#">Catalogues in PDF-format</a>                                                             |
| Brochures                                   |                                                                                                      |

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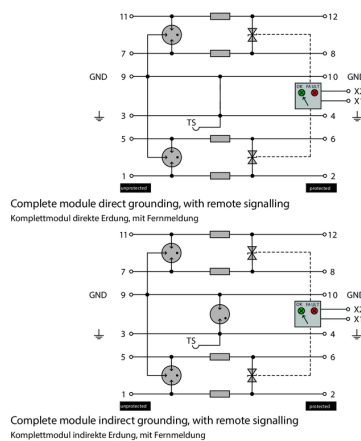
Germany

[www.weidmueller.com](http://www.weidmueller.com)
**Drawings**
**Electric symbol**


Circuit diagram

| Cate-<br>gory | Testing<br>pulse         | Surge<br>voltage                | Surge<br>current                 | Pulse<br>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<br>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<br>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<br>Surge<br>voltage<br>arrester                             |
| D1            | High<br>power            | ≥ 1 kV                          | 0.5 - 2.5 kA<br>mit 10/350<br>µs | 2<br>Arrester for<br>lightning<br>current and<br>surge voltages |

Discharge capacity



Kompletmodul

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[www.weidmueller.com](http://www.weidmueller.com)**Accessories****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.  | <a href="#">1317340000</a> | Fastening element, Latches |
| GTIN (EAN) | 4050118121179              |                            |
| Qty.       | 100 pc(s).                 |                            |

**Cross-connections**

Cross-connection between the VSPC signal contacts can be installed quickly. Cross-connections can be individually separated for the alert function with maximum 10 VSPC R.

**General ordering data**

|            |                            |
|------------|----------------------------|
| Type       | QB 17,8/2                  |
| Order No.  | <a href="#">1309470000</a> |
| GTIN (EAN) | 4050118111934              |
| Qty.       | 90 pc(s).                  |

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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 µs) and 2.5 kA (10/350 µs) to the PE.

### General ordering data

|            |                            |                                                                  |
|------------|----------------------------|------------------------------------------------------------------|
| Type       | VSPC BASE 2CL R            | Version                                                          |
| Order No.  | <a href="#">8951710000</a> | Surge protection, Flange-mounted housing, Flange-mounted housing |
| GTIN (EAN) | 4032248742950              |                                                                  |
| Qty.       | 1 pc(s).                   |                                                                  |

### Supply and alert unit for VSPC R arresters



- Signalling module for all VSPCs with status indicator
- Signalling of cable breaks / signal interruptions
- Power supply of 20 to 31 V DC
- No-voltage changeover contact
- Function display with red/green LED
- Functional alerts with different signal types.

### General ordering data

|            |                            |                                                                                              |
|------------|----------------------------|----------------------------------------------------------------------------------------------|
| Type       | VSPC CONTROL UNIT 24VDC    | Version                                                                                      |
| Order No.  | <a href="#">8972270000</a> | Surge protection for instrumentation and control, with warning function / function indicator |
| GTIN (EAN) | 4032248793488              |                                                                                              |
| Qty.       | 1 pc(s).                   |                                                                                              |

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[www.weidmueller.com](http://www.weidmueller.com)**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.  | <a href="#">8951860000</a> | Lightning and surge protection, Testing device |
| GTIN (EAN) | 4032248743100              |                                                |
| Qty.       | 1 pc(s).                   |                                                |

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[www.weidmueller.com](http://www.weidmueller.com)**Accessories****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.  | <a href="#">1854490000</a> | Dekafix, Terminal marker, 5 x 5 mm, Pitch in mm (P): 5.00 |
| GTIN (EAN) | 4032248393596              | Weidmueller, white                                        |
| Qty.       | 1,000 pc(s).               |                                                           |