

**VSPC RS485 2CH R****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://www.weidmueller.com)**Data surge protection**

- for RS 422 and RS 485 signal
- suitable as transient surge protection for fast data signals

**General ordering data**

|            |   |
|------------|---|
| Version    | Surge protection for instrumentation and control, with warning function / function indicator, U <sub>p</sub> (L/N-PE) 250 V |
| Order No.  | <a href="#">8951670000</a>  |
| Type       | VSPC RS485 2CH R  |
| GTIN (EAN) | 4032248742912   |
| 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 |
| Humidity            | 5...96 %       |                       |             |

## Probability of failure

|                                    |         |      |         |
|------------------------------------|---------|------|---------|
| SIL in compliance with IEC 61508   | 3       | MTTF | 1,266 a |
| SFF                                | 93.35 % | λges | 90.2    |
| PFH in 1*10 <sup>-9</sup> per hour | 6       |      |         |

## 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 <sub>i</sub>       | 6.4 V |
| Internal capacity, max. C <sub>i</sub> | 11 nF | Internal inductance, max. L <sub>i</sub> | 0 μH  |

## General data

|                          |   |                           |                         |
|--------------------------|---|---------------------------|-------------------------|
| Colour                   | orange  | Design                    | Terminal, miscellaneous |
| Optical function display | green = OK; red = arrester is defective - replace | Protection degree         | IP20                    |
| Segment                  | Measurement - Monitoring - Setting                | UL 94 flammability rating | V-0                     |
| Version                  | with warning function / function indicator        |                           |                         |

## Insulation coordination acc. to EN 50178

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

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## 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  |
| Insertion loss   | 113.7 MHz             | Lightning test current, $I_{\text{imp}}$ (10/350 $\mu$ s) GND-PE    | 0.2 kA  |
| Lightning test current, $I_{\text{imp}}$ (10/350 $\mu$ s) Wire-PE  | 2 x 0.2 kA            | Lightning test current, $I_{\text{imp}}$ (10/350 $\mu$ s) wire-wire | 0.2 kA  |
| Max. continuous voltage, $U_c$ (AC)                                | 5 V                   | Max. continuous voltage, $U_c$ (DC)                                 | 6.4 V   |
| Number of poles  | 1                     | Overload - failure mode   | Modus 2   |
| Protection level $U_p$ (typ.)                                      | 250 V                 | Protection level on output side Wire-PE 1kV/ $\mu$ s, typically     | 10 V  |
| Protection level on output side Wire-wire 1 kV/ $\mu$ s, typically | 10 V                  | Protection level on output side Wire-wire 8/20 $\mu$ s, typically   | 15 V  |
| Protection level, $U_p$ GND - PE                                   | 500 V                 | Protection level, $U_p$ wire - PE                                   | 35 V  |
| Protection level, $U_p$ wire - wire                                | 15 V                  | Pulse-reset capacity  | $\leq 20$ ms  |
| Rated current $I_N$  | 450 mA                | Rated voltage (AC)  | 5 V   |
| Rated voltage (DC)   | 5 V                   | Requirements category acc. to IEC 61643-21                          | C1, C2, C3, D1  |
| Signal transmission properties (-3 dB)                             | 113.6 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/DC   |
| Volume resistance  | 2.20 $\Omega$         |   |   |

## Further details of approvals

GOST certificate GOST-Zertifikat

## Connection data

Type of connection Pluggable in VSPC BASE

## Ratings IECEx/ATEX/cUL

cUL certificate cUL Certificate

## Classifications

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC000943    | ETIM 7.0    | EC000943    |
| ETIM 8.0    | EC000943    | ETIM 9.0    | 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 |

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## Technical data

## Tender specification sheets

## Long specification

Surge protection plug for use in connection with the base element VSPC BASE 2CL for two floating-ground driven signal cables and ground, e.g. for bus systems. Two-stage protection circuit consisting of coarse protection, decoupling resistors and fine protection between the signal wires and additional coarse common mode voltage protection to earth as well as an integrated status display and remote monitoring option. Mechanical identification of the plug to the base element according to the switching type and rated voltage. 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, transverse voltage coarse and fine protection for two floating-ground powered IT signal cables, coarse common mode voltage protection to earth. Version: 5V DC With optional remote monitoring.

## Environmental Product Compliance

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.

## Approvals

## Approvals



ROHS

Conform

UL File Number Search

UL Website

Certificate No. (UL)

E311081

## Downloads

Approval/Certificate/Document of Conformity

[SIL Paper](#)  
[EU Konformitätserklärung / EU Declaration of Conformity](#)

Engineering Data

[CAD data – STEP](#)

User Documentation

[Beipackzettel / Instruction sheet](#)

Catalogues

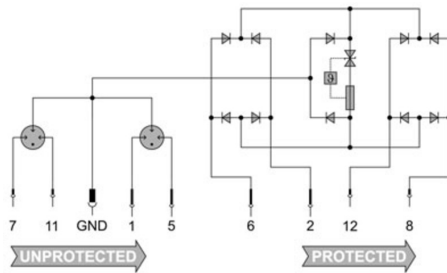
[Catalogues in PDF-format](#)

Brochures

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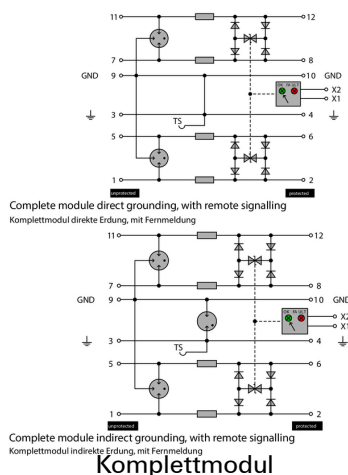
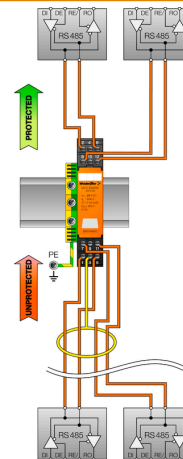
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**Drawings****Electric symbol**

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



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## Accessories

### 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 |
| GTIN (EAN) | 4032248793488              | function / function indicator                                  |
| Qty.       | 1 pc(s).                   |  |

### 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).               |   |

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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).                   |  |

## 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 µs) and 2.5 kA (10/350 µs) to PE. Suitable for unearthed signal circuits.

## General ordering data

|            |                            |  |
|------------|----------------------------|--|
| Type       | VSPC BASE 2CL FG R         | Version  |
| Order No.  | <a href="#">8951720000</a> | Surge protection, Flange-mounted housing, Flange-mounted housing |
| GTIN (EAN) | 4032248742967              |  |
| Qty.       | 1 pc(s).                   |  |

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## 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).                 |                            |

### 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).                   |  |