

VSPC 2SL 48VAC EX

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com



Binary signal (SL – Symmetrical Load) protection includes the following signals:

- Switching signals with and without a common reference potential e.g. 5 V – 24V – 60 V
- Two-conductor systems usually involve a common reference potential of binary sensors, actuators and indicators such as limit switches, buttons, position sensors, photoelectric barriers, contactors, solenoid valves, indicator lamps, etc.
- Pluggable arrester, for 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 interference currents resulting from differences in potential
- For use in compliance with the IEC 62305 and IEC 61643-22 installation standards (D1, C1, C2 and C3)
- 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, $U_p(L/N-PE) \leq 300$ V |
| Order No. | 8953640000 |
| Type | VSPC 2SL 48VAC EX |
| GTIN (EAN) | 4032248745791 |
| Qty. | 1 pc(s). |

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Technical data

Dimensions and weights

| | | | |
|------------|---------|-----------------|------------|
| Depth | 69 mm | Depth (inches) | 2.717 inch |
| Height | 90 mm | Height (inches) | 3.543 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 PAPER | SIL PAPER | SIL in compliance with IEC 61508 | 2 |
| MTTF | 2,665 Years | SFF | 79.3 % |
| λ_{ges} | 43 | PFH in $1 \cdot 10^{-9}$ per hour | 8.9 |

Environmental Product Compliance

| | |
|------------|----------------|
| REACH SVHC | Lead 7439-92-1 |
|------------|----------------|

Protection Ex - Data

| | | | |
|---|--|---|--|
| ATEX - dust labelling | II 1 D Ex ia IIIC T135 °C ... T85 °C Da | ATEX - gas labelling | II 1 G Ex ia IIC T4... T6 Ga |
| Certificate No. (ATEX) | KEMA10ATEX0148X | IECEx - dust labelling | II 1 D Ex ia IIIC T135 °C ... T85 °C Da |
| IECEx - gas labelling | II 1 G Ex ia IIC T4... T6 Ga | Input power, max. P_i | 3 W |
| Input voltage, max. U_i | 75 V | Internal capacity, max. C_i | < 4 nF |
| Internal inductance, max. L_i | 0 μ H | Temperature class T4/135°C (-40°C ... +85°C) li | 350 mA |
| Temperature class T5/100°C (-40 °C ... +75°C) li | 250 mA | Temperature class T6/85 °C (-40 °C ... +60°C) li | 250 mA |

CSA protection data

| | | | |
|-------------------------------|------|---------------------------------|-----------|
| Gas group C | IIB | Gas group D | IIA |
| Gas groups A, B | IIC | Input voltage, max. U_i | 75 V |
| Internal capacity, max. C_i | 4 nF | Internal inductance, max. L_i | 0 μ H |

General data

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

Insulation coordination acc. to EN 50178

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

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Technical data

Rated data IEC / EN

| | | | |
|---|--|--|-----------------------|
| Dielectric strength at FG against PE | ≥ 500 V | Discharge current I_{max} (8/20 μ s) GND-PE | 10 kA |
| Discharge current I_{max} (8/20 μ s) wire-PE | 10 kA | Discharge current I_{max} (8/20 μ s) wire-wire | 10 kA |
| Discharge current I_n (8/20 μ s) GND-PE | 2.5 kA | Discharge current I_n (8/20 μ s) wire-PE | 2.5 kA |
| Discharge current I_n (8/20 μ s) wire-wire | 2.5 kA | Input voltage, max. U_i | 75 V |
| Lightning test current, I_{imp} (10/350 μ s) GND-PE | 2.5 kA | Lightning test current, I_{imp} (10/350 μ s) Wire-PE | 2.5 kA |
| Lightning test current, I_{imp} (10/350 μ s) wire-wire | 2.5 kA | Max. continuous voltage, U_c (AC) | 60 V |
| Max. continuous voltage, U_c (DC) | 75 V | Number of poles | 1 |
| Overload - failure mode | Modus 2 | Protection level U_p (typ.) | ≤ 300 V |
| Protection level on output side Wire-PE 1kV/ μ s, typically | 85 V | Protection level on output side Wire-wire 1 kV/ μ s, typically | 80 V |
| Protection level on output side Wire-wire 8/20 μ s, typically | 80 V | Protection level, U_p GND - PE | 450 V |
| Protection level, U_p wire - PE | 80 V | Pulse-reset capacity | ≤ 60 ms |
| Rated current I_N | 250 mA | Rated voltage (AC) | 48 V |
| Rated voltage (DC) | 68 V | Requirements category acc. to IEC 61643-21 | C1, C2, C3, D1 |
| Signal transmission properties (-3 dB) | 2.7 MHz | Signalling contact | No |
| Standards | IEC 61643-21, IEC 62305, DIN EN 60079-0:2009, DIN EN 60079-11:2007, DIN EN 60079-26:2007, DIN EN 61241-11:2006 | Surge current-carrying capacity C1 | < 1 kA 8/20 μ s |
| Surge current-carrying capacity C2 | 5 kA 8/20 μ s | Surge current-carrying capacity C3 | 100 A 10/1000 μ s |
| Surge current-carrying capacity D1 | 2.5 kA 10/350 μ s | Voltage type | AC |
| Volume resistance | 4.7 Ω | | |

Further details of approvals

GOST certificate GOST-Zertifikat

Connection data

Type of connection Pluggable in VSPC BASE

Ratings IECEx/ATEX/cUL

| | | | |
|-----------------------|---|------------------------|---|
| ATEX - dust labelling | II 1 D Ex ia IIIC T135 °C ... T85 °C Da | ATEX - gas labelling | II 1 G Ex ia IIC T4... T6 Ga |
| ATEX certificate | ATEX Certificate | Certificate No. (ATEX) | KEMA10ATEX0148X |
| IEC Ex certificate | IECEX Zertifikat | IECEX - dust labelling | II 1 D Ex ia IIIC T135 °C ... T85 °C Da |
| IECEX - gas labelling | II 1 G Ex ia IIC T4... T6 Ga | cUL certificate | cUL Certificate |

Classifications

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

Creation date January 30, 2022 11:13:05 AM CET

Catalogue status 14.01.2022 / We reserve the right to make technical changes.

3

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Technical data

Tender specification sheets

| Long specification | | Short specification |
|--------------------|---|--|
| | <p>Surge protection plug for use in connection with the base element VSPC BASE 2SL FG for two wires with a common ground. Two-stage protection circuit in the plug consisting of coarse protection, decoupling resistors and fine protection between the signal wires and the signal ground/ground/earth. Suitable for intrinsically safe powered signal cables EX ia. Version: 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. Optical identification of the protected plug based on the type of protected switching and the voltage level. It is possible to mark the plug.</p> | <p>Surge protection plugs for base element VSPC BASE 2SL FG, coarse and fine common mode voltage protection for two wires with a common signal ground for intrinsically safe signal cables EX ia. Version: 48 V AC</p> |

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

Downloads

| | |
|---|--|
| Approval/Certificate/Document of Conformity | SIL Paper KEMA 10 ATEX 0148X EU_Konformitätserklärung / EU_Declaration_of_Conformity |
| Engineering Data | CAD data – STEP |
| Engineering Data | EPLAN, WSCAD |
| User Documentation | Beipackzettel / Instruction sheet |
| Catalogues | Catalogues in PDF-format |
| Brochures | |

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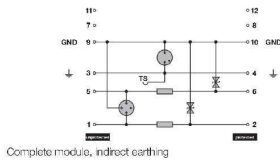
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Drawings

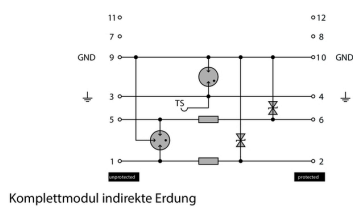
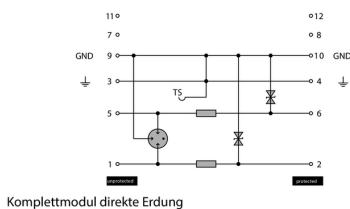
Electric symbol



Circuit diagram

| Cate- gory | 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

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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. | 1317340000 | Fastening element, Latches |
| GTIN (EAN) | 4050118121179 | |
| Qty. | 100 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 2SL FG EX | Version |
| Order No. | 8951830000 | Surge protection, Flange-mounted housing, Flange-mounted housing |
| GTIN (EAN) | 4032248743070 | |
| Qty. | 1 pc(s). | |

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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. | 1854490000 | 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

V-TEST testing device: for the VSPC, PU I and PU II series



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 pc(s). | | |

Mouser Electronics

Authorized Distributor

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