

VSPC VSPC 2SL 24VDC R

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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

| | |
|------------|--|
| Type | VSPC 2SL 24VDC R |
| Order No. | 8951630000 |
| Version | Surge protection for instrumentation and control, 24 V, 300 mA, IEC 61643-21 |
| GTIN (EAN) | 4032248742875 |
| Qty. | 1 pc(s). |

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Technical data**Dimensions and weights**

| | | | |
|------------|---------|-----------------|------------|
| Width | 17.8 mm | Width (inches) | 0.701 inch |
| Height | 98 mm | Height (inches) | 3.858 inch |
| Depth | 69 mm | Depth (inches) | 2.717 inch |
| Net weight | 45 g | | |

Temperatures

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

Probability of failure

| | | | |
|-----------------------------------|------|------|-------------|
| λ_{ges} | 43 | MTTF | 2,665 Years |
| PFH in $1 \cdot 10^{-9}$ per hour | 10.7 | SFF | 86.02 % |
| SIL in compliance with IEC 61508 | 2 | | |

Environmental Product Compliance

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

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 μ H |

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 | 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**

| | | | |
|--|---|---|-----------------------|
| Rated voltage (DC) | 24 V | Voltage type | DC |
| Max. continuous voltage, U_c (DC) | 28 V | Discharge current I_n (8/20 μ s) GND-PE | 2.5 kA |
| Discharge current I_{max} (8/20 μ s) GND-PE | 10 kA | Discharge current I_n (8/20 μ s) wire-PE | 2.5 kA |
| Discharge current I_{max} (8/20 μ s) wire-PE | 10 kA | Discharge current I_n (8/20 μ s) wire-wire | 2.5 kA |
| Discharge current I_{max} (8/20 μ s) wire-wire | 10 kA | 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 |
| Fuse | 0.5 A | Standards | IEC 61643-21 |
| Protection level U_p (typ.) | < 200 V | Protection level on output side Wire-PE 1kV/ μ s, typically | 40 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 | 40 V |
| Number of poles | 1 | Overload - failure mode | Modus 2 |
| Pulse-reset capacity | \leq 30 ms | Rated current I_N | 300 mA |
| Requirements category acc. to IEC 61643-21 | C1, C2, C3, D1 | Signal transmission properties (-3 dB) | 2.7 MHz |
| Signalling contact | U_N 250 V AC 0.1 A 1CO at VSPC R with VSPC control unit | 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 | Volume resistance | 4.7 Ω |

Further details of approvals

GOST certificate GOST-Zertifikat

Connection data

Type of connection Pluggable in VSPC BASE

Classifications

| | | | |
|-------------|-------------|------------|-------------|
| ETIM 6.0 | EC000943 | ETIM 7.0 | EC000943 |
| eClass 9.0 | 27-13-08-07 | eClass 9.1 | 27-13-08-07 |
| eClass 10.0 | 27-13-08-07 | UNSPSC | 30-21-19-21 |

Approvals

Approvals



ROHS Conform

Downloads

| | |
|---|---|
| Approval/Certificate/Document of Conformity | SIL Paper CE PAPER |
| Brochure/Catalogue | CAT 4.4 ELECTR 16/17 EN |
| Engineering Data | EPLAN, WSCAD |
| Engineering Data | STEP |
| User Documentation | Instruction sheet |

Creation date August 9, 2020 1:04:09 PM CEST

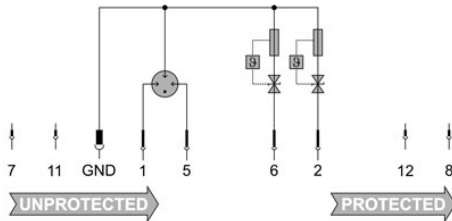
Catalogue status 24.07.2020 / We reserve the right to make technical changes.

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Drawings

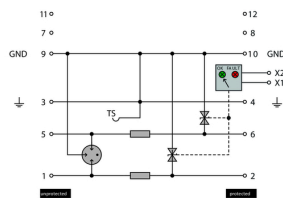
Electric symbol



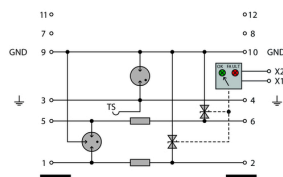
Circuit diagram

| Cate- gory | Testing pulse | Surge voltage | Surge current | Pulse | Type |
|------------|-------------------|---------------------------|----------------------------------|-------|---|
| C1 | Quick-rising edge | 0.5 - 2 kV 1.2/50 µs | 0.25 - 1 kA mit 8/20 µs | 300 | Surge voltage arrester |
| C2 | Quick-rising edge | 2 - 10 kV 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 direkte Erdung, mit Fernmeldung



Komplettmodul indirekte Erdung, mit Fernmeldung
Komplettmodul