



## SRB-E-232ST

- **STOP 0 / 1 Function**
- **2 Safety outputs STOP 0**
- **Drop-out delay 0 ... 30**
- **1 oder 2-channel control**
- **3 safety contacts STOP 1**

### Data

#### Ordering data

|                               |               |
|-------------------------------|---------------|
|                               | SRB-E-232ST   |
|                               | 103014308     |
| EAN (European Article Number) | 4030661500270 |
| eCl@ss number, Version 9.0    | 27-37-18-19   |

#### Approval - Standards

TÜV  
cULus  
EAC

#### General data

|                                      |                                                  |
|--------------------------------------|--------------------------------------------------|
|                                      | SRB-E-232ST                                      |
|                                      | IEC 61508                                        |
|                                      | IEC/EN 60204-1                                   |
|                                      | ISO 13849-1                                      |
|                                      | EN 60947-5-1                                     |
|                                      | IEC/EN 62061                                     |
| Enclosure material                   | Glass-fibre reinforced thermoplastic, ventilated |
| Material of the contacts, electrical | Ag-Ni, self-cleaning, positive drive             |
| Gross weight                         | 170 g                                            |

#### General data - Features

|                         |     |
|-------------------------|-----|
| Stop-Category           | 1   |
| Wire breakage detection | Yes |

|                                         |     |
|-----------------------------------------|-----|
| Short-circuit recognition               | Yes |
| Removable Terminals                     | Yes |
| Start input                             | Yes |
| Feedback circuit                        | Yes |
| Automatic reset function                | Yes |
| Reset edge detection                    | Yes |
| Earth connection detection              | Yes |
| Integral System Diagnostics, status     | Yes |
| Integral System Diagnostics, error code | Yes |
| Number of auxiliary contacts            | 1   |
| Number of LEDs                          | 6   |
| Number of openers                       | 2   |
| Number of shutters                      | 1   |
| Number of Safety contacts, STOP 1       | 3   |
| Number of fail-safe outputs, Stop 0     | 2   |
| Number of signalling outputs            | 1   |

### Safety appraisal

ISO 13849-1  
IEC 62061  
IEC 61508

### Safety appraisal - Relay outputs

|                                              |                          |
|----------------------------------------------|--------------------------|
| Performance Level, up to                     | e                        |
| Control category to EN13849                  | 4                        |
| Diagnostic Coverage (DC) Level               | ≥ 99 %                   |
| PFH-value                                    | $1.25 \times 10^{-8}$ /h |
| PFD value                                    | $5.30 \times 10^{-5}$    |
| Safety Integrity Level (SIL), applicable for | 3                        |
| Mission time                                 | 20 Year(s)               |
| Common Cause Failure (CCF), minimum          | 65                       |

### Safety appraisal - Fail-safe digital outputs

|                                              |                          |
|----------------------------------------------|--------------------------|
| Performance level, up to                     | e                        |
| Control category to EN13849                  | 4                        |
| PFH-value                                    | $2.66 \times 10^{-9}$ /h |
| PFD value                                    | $2.42 \times 10^{-5}$    |
| Safety Integrity Level (SIL), applicable for | 3                        |
| Mission time                                 | 20 Year(s)               |

### Mechanical data

|          |                                          |
|----------|------------------------------------------|
| Mounting | Snaps onto standard DIN rail to EN 60715 |
|----------|------------------------------------------|

|                          |                       |
|--------------------------|-----------------------|
| Mechanical life, minimum | 10,000,000 Operations |
|--------------------------|-----------------------|

#### Mechanical data - Connection technique

|                            |                                                               |
|----------------------------|---------------------------------------------------------------|
| Terminal Connector         | Screw connection, plug-in<br>rigid or flexible                |
| Terminal designations      | IEC/EN 60947-1<br>0.25 mm <sup>2</sup><br>2.5 mm <sup>2</sup> |
| Tightening torque of Clips | 0.5 Nm                                                        |

#### Mechanical data - Dimensions

|        |         |
|--------|---------|
| Width  | 22.5 mm |
| Height | 98 mm   |
| Depth  | 115 mm  |

#### Ambient conditions

|                                            |                                                 |
|--------------------------------------------|-------------------------------------------------|
|                                            | IP40<br>IP54<br>IP20                            |
| Ambient temperature, minimum               | -25 °C                                          |
| Ambient temperature, maximum               | +60 °C                                          |
| Storage and transport temperature, minimum | -40 °C                                          |
| Storage and transport temperature, maximum | +85 °C                                          |
| Resistance to vibrations to EN 60068-2-6   | 10 ... 55 Hz, Amplitude 0.35 mm<br>30 g / 11 ms |

#### Ambient conditions - Insulation value

|                                                       |                    |
|-------------------------------------------------------|--------------------|
| Rated impulse withstand voltage, relay output         | 4 kV               |
| Rated impulse withstand voltage, semiconductor output | 0.8 kV<br>III<br>2 |

#### Electrical data

|                                                      |                                            |
|------------------------------------------------------|--------------------------------------------|
| Rated operating voltage                              | 24 VDC -20%/+20%, residual ripple max. 10% |
| Rated AC voltage for controls at DC minimum          | 19.2 VDC                                   |
| Rated control voltage at DC, maximum                 | 28.8 VDC                                   |
| Electrical power consumption                         | 3 W                                        |
| Contact resistance, maximum                          | 0.1 Ω                                      |
| Note (Contact resistance)                            | in new state                               |
| Drop-out delay in case of power failure, typically   | 10 ms                                      |
| Drop-out delay in case of emergency, typically       | 10 ms                                      |
| Pull-in delay at automatic start, maximum, typically | 150 ms                                     |

|                                   |        |
|-----------------------------------|--------|
| Pull-in delay at RESET, typically | 150 ms |
| Switching frequency, maximum      | 0.3 Hz |

#### Electrical data - Fail-safe digital outputs

|                                    |        |
|------------------------------------|--------|
| Voltage drop $U_d$ , maximum       | 0.5 V  |
| Current leakage                    | 1 mA   |
| Voltage, Utilisation category DC12 | 24 VDC |
| Current, Utilisation category DC12 | 2 A    |
| Voltage, Utilisation category DC13 | 24 VDC |
| Current, Utilisation category DC13 | 2 A    |

#### Electrical data - Safe relay outputs

|                                     |         |
|-------------------------------------|---------|
| Voltage, Utilisation category, AC15 | 230 VAC |
| Current, Utilisation category, AC15 | 4 A     |
| Voltage, Utilisation category, DC13 | 24 VDC  |
| Current, Utilisation category, DC13 | 4 A     |
| Switching capacity, minimum         | 10 VDC  |
| Switching capacity, minimum         | 10 mA   |
| Switching capacity, maximum         | 250 VAC |
| Switching capacity, maximum         | 6 A     |

#### Electrical data - Digital inputs

|                                |             |
|--------------------------------|-------------|
| Conduction resistance, maximum | 40 $\Omega$ |
|--------------------------------|-------------|

#### Electrical data - Digital Output

|                                    |        |
|------------------------------------|--------|
| Voltage, Utilisation category DC12 | 24 VDC |
| Current, Utilisation category DC12 | 0.1 A  |

#### Electrical data - Relay outputs (auxiliary contacts)

|                             |        |
|-----------------------------|--------|
| Switching capacity, maximum | 24 VDC |
| Switching capacity, maximum | 1 A    |

#### Electrical data - Electromagnetic compatibility (EMC)

|            |               |
|------------|---------------|
| EMC rating | EMC-Directive |
|------------|---------------|

#### Other data

Note (applications)

Safety sensor  
Guard system  
hinged safety guard  
Emergency-Stop button  
Pull-wire emergency stop switches  
Safety light curtain  
Safety light barriers

## Pictures

### Photo/Product/Catalogue



ID: ksr2f33

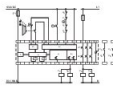
| 1,0 MB | .jpg | 281.869 x 655.814 mm - 799 x 1859

Pixel - 72 dpi

| 125,1 kB | .png | 74.083 x 172.156 mm - 210 x 488

Pixel - 72 dpi

### Graphic/Product/Wiring



ID: ksrbel08

| 127,3 kB | .jpg | 352.778 x 248.356 mm - 1000 x 704

Pixel - 72 dpi

K.A. Schmersal GmbH & Co. KG, Möddinghofe 3, D-42279 Wuppertal

The details and data referred to have been carefully checked. Images may diverge from original. Further technical data can be found in the manual. Technical amendments and errors possible.

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