



## RSS16-D-ST8H

- Universal coding with RFID technology
- 1 x connector plug M12, 8-pole
- Series-wiring unlimited
- without latching
- Thermoplastic enclosure
- RFID-technology for needs-based protection against tampering
- 3 different directions of actuation
- Connection terminal or plug connection
- Suitable for series-wiring

## Data

### Approvals - Standards

|              |        |
|--------------|--------|
| Certificates | cULus  |
|              | TÜV    |
|              | IC     |
|              | FCC    |
|              | ANATEL |

### General data

|                                        |                                                                   |
|----------------------------------------|-------------------------------------------------------------------|
| Standards                              | EN IEC 60947-5-3                                                  |
| Coding                                 | Universal coding                                                  |
| Coding level according to EN ISO 14119 | Low                                                               |
| Working principle                      | RFID                                                              |
| Housing construction form              | Block                                                             |
| Installation conditions (mechanical)   | not flush                                                         |
| Sensor topology                        | Sensor for series wiring                                          |
| Housing material                       | Plastic, glass-fibre reinforced thermoplastic, self-extinguishing |
| Active area                            | Glass-fibre, reinforced thermoplastic                             |
| Reaction time, maximum                 | 100 ms                                                            |
| Duration of risk, maximum              | 200 ms                                                            |
| Gross weight                           | 160 g                                                             |

## General data - Features

|                                                          |     |
|----------------------------------------------------------|-----|
| Diagnostic output                                        | Yes |
| Short circuit detection                                  | Yes |
| Cross-circuit detection                                  | Yes |
| Series-wiring                                            | Yes |
| Safety functions                                         | Yes |
| Cascadable                                               | Yes |
| Integral system diagnostics, status                      | Yes |
| Number of LEDs                                           | 2   |
| Number of semi-conductor outputs with signaling function | 1   |
| Number of fail-safe digital outputs                      | 2   |

## Safety classification

|                                                            |                                   |
|------------------------------------------------------------|-----------------------------------|
| Standards                                                  | EN IEC 61508                      |
|                                                            | EN ISO 13849-1                    |
| Performance Level, up to                                   | e                                 |
| Category                                                   | 4                                 |
| PFH value                                                  | $6.30 \times 10^{-11} / \text{h}$ |
| PFD value                                                  | $1.50 \times 10^{-5}$             |
| Safety Integrity Level (SIL), suitable for applications in | 3                                 |
| Mission time                                               | 20 Year(s)                        |

## Mechanical data

|                                        |                             |
|----------------------------------------|-----------------------------|
| Actuating panels                       | from head                   |
|                                        | front side                  |
|                                        | rear                        |
| Active area                            | front side                  |
|                                        | cover-side                  |
|                                        | lateral                     |
| Mounting                               | 2 x M5, Cylinder head screw |
| Tightening torque of the fixing screws | 2 Nm                        |

## Mechanical data - Switching distances

|                          |       |
|--------------------------|-------|
| Switch distance, typical | 15 mm |
|--------------------------|-------|

### Mechanical data - Switching distances

|                                          |                                                        |
|------------------------------------------|--------------------------------------------------------|
| Assured switching distance "ON" Sao      | 12 mm                                                  |
| Assured switching distance "OFF" Sar     | 30 mm                                                  |
| Note (switching distance)                | All switching distances in accordance EN IEC 60947-5-3 |
| Hysteresis (Switching distance), maximum | 2 mm                                                   |
| Repeat accuracy R                        | 0.5 mm                                                 |

### Mechanical data - Connection technique

|                                   |                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------|
| Note (length of the sensor chain) | Cable length and cross-section change the voltage drop depending on the output current                     |
| Note (series-wiring)              | Unlimited number of devices, observe external line fusing, max. 31 devices in case of serial diagnostic SD |
| Cable entry                       | M12 (A-coding)                                                                                             |
| Termination                       | Connector M12, 8-pole                                                                                      |
| Cable section, minimum            | 0.25 mm <sup>2</sup>                                                                                       |
| Cable section, maximum            | 1.5 mm <sup>2</sup>                                                                                        |

### Mechanical data - Dimensions

|                  |       |
|------------------|-------|
| Length of sensor | 91 mm |
| Width of sensor  | 52 mm |
| Height of sensor | 30 mm |

### Ambient conditions

|                                                            |                |
|------------------------------------------------------------|----------------|
| IP Degree of protection                                    | IP66           |
|                                                            | IP67           |
|                                                            | IP65           |
| Ambient temperature                                        | -28 ... +70 °C |
| Storage and transport temperature                          | -28 ... +85 °C |
| Relative humidity, maximum                                 | 93 %           |
| Note (Relative humidity)                                   | non-condensing |
|                                                            | non-icing      |
| Resistance to shock                                        | 30 g / 11 ms   |
| Permissible installation altitude above sea level, maximum | 2,000 m        |

### Ambient conditions - Insulation values

|                             |        |
|-----------------------------|--------|
| Rated insulation voltage Ui | 32 VDC |
|-----------------------------|--------|

### Ambient conditions - Insulation values

|                                      |        |
|--------------------------------------|--------|
| Rated impulse withstand voltage Uimp | 0.8 kV |
| Overvoltage category                 | III    |
| Degree of pollution                  | 3      |

### Electrical data

|                                      |                      |
|--------------------------------------|----------------------|
| Operating voltage                    | 24 VDC -15 % / +10 % |
| Operating current, minimum           | 0.5 mA               |
| No-load supply current I0, typical   | 100 mA               |
| Rated operating voltage              | 24 VDC               |
| Operating current                    | 2,100 mA             |
| Required rated short-circuit current | 100 A                |
| Time to readiness, maximum           | 2,000 ms             |
| Switching frequency, maximum         | 1 Hz                 |

### Electrical data - Safety digital inputs

|                                          |      |
|------------------------------------------|------|
| Current consumption of the safety inputs | 5 mA |
|------------------------------------------|------|

### Electrical data - Safety digital outputs

|                                             |          |
|---------------------------------------------|----------|
| Rated operating current (safety outputs)    | 1,000 mA |
| Output current, (fail-safe output), maximum | 1 A      |
| Design of control elements                  | p-type   |
| Voltage drop Ud, maximum                    | 1 V      |
| Leakage current Ir, maximum                 | 0.5 mA   |
| Voltage, Utilisation category DC-12         | 24 VDC   |
| Current, Utilisation category DC-12         | 1 A      |
| Voltage, Utilisation category DC-13         | 24 VDC   |
| Current, Utilisation category DC-13         | 1 A      |

### Electrical data - Diagnostic outputs

|                                     |        |
|-------------------------------------|--------|
| Operating current                   | 50 mA  |
| Design of control elements          | p-type |
| Voltage drop Ud, maximum            | 2 V    |
| Voltage, Utilisation category DC-12 | 24 VDC |
| Current, Utilisation category DC-12 | 0.05 A |

## Electrical data - Diagnostic outputs

|                                     |        |
|-------------------------------------|--------|
| Voltage, Utilisation category DC-13 | 24 VDC |
| Current, Utilisation category DC-13 | 0.05 A |

## Electrical data - Electromagnetic compatibility (EMC)

|                       |               |
|-----------------------|---------------|
| Interfering radiation | IEC 61000-6-4 |
|-----------------------|---------------|

## Status indication

|                                         |                                 |
|-----------------------------------------|---------------------------------|
| Note (LED switching conditions display) | LED green: Supply voltage       |
|                                         | Multi-coloured LED: Green, Red  |
|                                         | LED red: Fault                  |
|                                         | LED yellow: Operating condition |

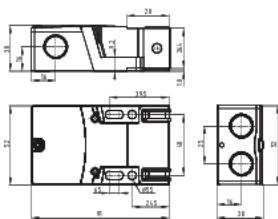
## Pictures

### Product picture (catalogue individual photo)



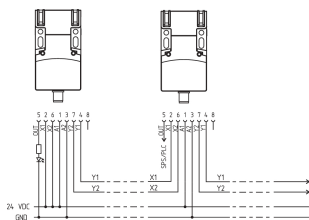
ID: krss1f02  
[| 952.28 KB | .jpg | 1000 x 2114 Pixel](#)  
[| 34.1 KB | .jpg | 165 x 350 Pixel](#)  
[| 123.33 KB | .png | 210 x 444 Pixel](#)

### Dimensional drawing basic component



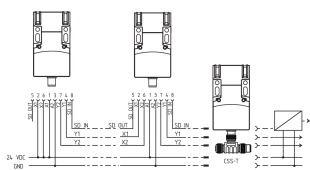
ID: krss1g01  
[| 141.14 KB | .jpg | 1000 x 762 Pixel](#)  
[| 4.73 KB | .png | 210 x 160 Pixel](#)

### Wiring example



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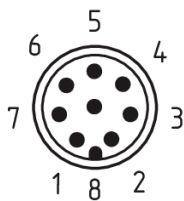
## Wiring example



ID: krss1l03

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## Contact arrangement



ID: km12-k8b

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[| 5.26 KB | .png | 209 x 248 Pixel](#)

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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