



# RZN-03ZUS-KP0

RZN

CYLINDER SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

| Type          | part no. |
|---------------|----------|
| RZN-03ZUS-KP0 | 1117649  |

Other models and accessories → [www.sick.com/RZN](http://www.sick.com/RZN)



### Detailed technical data

#### Features

|                                    |                     |
|------------------------------------|---------------------|
| <b>Cylinder type</b>               | IMI Norgren slot    |
| <b>Cylinder types with adapter</b> | Round body cylinder |
| <b>Housing length</b>              | 29.5 mm             |
| <b>Switching output</b>            | Reed                |
| <b>Switching frequency</b>         | 400 Hz              |
| <b>Output function</b>             | NO                  |
| <b>Electrical wiring</b>           | AC/DC 2-wire        |
| <b>Enclosure rating</b>            | IP67 <sup>1)</sup>  |

<sup>1)</sup> According to EN 60529.

#### Mechanics/electronics

|                                         |                                                       |
|-----------------------------------------|-------------------------------------------------------|
| <b>Supply voltage</b>                   | 5 V AC/DC ... 30 V AC/DC                              |
| <b>Voltage drop</b>                     | ≤ 3.5 V                                               |
| <b>Continuous current I<sub>a</sub></b> | ≤ 100 mA <sup>1)</sup>                                |
| <b>Switching capacity</b>               | ≤ 10 W                                                |
| <b>Protection class</b>                 | III                                                   |
| <b>Response sensitivity, typ.</b>       | 3 mT                                                  |
| <b>Overrun distance, typ.</b>           | 10 mm                                                 |
| <b>Reproducibility</b>                  | ≤ 0.1 mT <sup>2)</sup>                                |
| <b>Status indicator LED</b>             | Yes                                                   |
| <b>Teach-in</b>                         | No                                                    |
| <b>Ambient operating temperature</b>    | -40 °C ... +80 °C                                     |
| <b>Shock and vibration resistance</b>   | 50 g, 11 ms / 10 ... 55 Hz, 1 mm                      |
| <b>EMC</b>                              | According to EN 60947-5-2                             |
| <b>Connection type</b>                  | Cable with connector M8, 3-pin, drag chain use, 0.3 m |
| <b>Connection type Detail</b>           |                                                       |

<sup>1)</sup> AC.

<sup>2)</sup> Supply voltage U<sub>B</sub> and constant ambient temperature T<sub>a</sub>.

|                       |                |                                                                                        |
|-----------------------|----------------|----------------------------------------------------------------------------------------|
| <b>Material</b>       | Cable diameter | Ø 2.9 mm                                                                               |
|                       | Bending radius | With fixed installation > 3 x cable diameter<br>For flexible use > 10 x cable diameter |
|                       | Torsion force  | ± 270° / 10 cm                                                                         |
|                       | Torsion cycles | > 2,000,000                                                                            |
|                       | Cable outlet   | Axial                                                                                  |
|                       | Housing        | Plastic                                                                                |
|                       | Cable          | PUR                                                                                    |
| <b>Items supplied</b> |                | 1 x mounting clip plugged in                                                           |

<sup>1)</sup> AC.

<sup>2)</sup> Supply voltage  $U_B$  and constant ambient temperature  $T_a$ .

### Safety-related parameters

|                                     |                                        |
|-------------------------------------|----------------------------------------|
| <b>MTTF<sub>D</sub></b>             | 23,876 years                           |
| <b>DC<sub>avg</sub></b>             | 0 %                                    |
| <b>T<sub>M</sub> (mission time)</b> | 20 years                               |
| <b>B<sub>10D</sub></b>              | 790,000 Switching cycles <sup>1)</sup> |

<sup>1)</sup> Only for devices containing electro-mechanical components. In this case, the MTTF<sub>D</sub> value of the entire device must be calculated from the given B<sub>10D</sub> value, the number of switching cycles and the given MTTF<sub>D</sub> value.

### Certificates

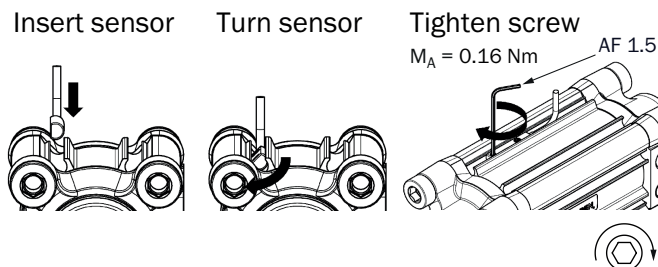
|                                           |   |
|-------------------------------------------|---|
| <b>EU declaration of conformity</b>       | ✓ |
| <b>UK declaration of conformity</b>       | ✓ |
| <b>ACMA declaration of conformity</b>     | ✓ |
| <b>Moroccan declaration of conformity</b> | ✓ |
| <b>China-RoHS</b>                         | ✓ |
| <b>cULus certificate</b>                  | ✓ |

### Classifications

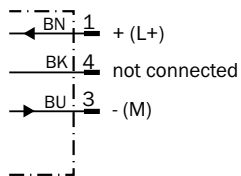
|                     |          |
|---------------------|----------|
| <b>ECLASS 5.0</b>   | 27270104 |
| <b>ECLASS 5.1.4</b> | 27270104 |
| <b>ECLASS 6.0</b>   | 27270104 |
| <b>ECLASS 6.2</b>   | 27270104 |
| <b>ECLASS 7.0</b>   | 27270104 |
| <b>ECLASS 8.0</b>   | 27270104 |
| <b>ECLASS 8.1</b>   | 27270104 |
| <b>ECLASS 9.0</b>   | 27270104 |
| <b>ECLASS 10.0</b>  | 27270104 |
| <b>ECLASS 11.0</b>  | 27270104 |
| <b>ECLASS 12.0</b>  | 27274301 |
| <b>ETIM 5.0</b>     | EC002544 |
| <b>ETIM 6.0</b>     | EC002544 |
| <b>ETIM 7.0</b>     | EC002544 |

|                       |          |
|-----------------------|----------|
| <b>ETIM 8.0</b>       | EC002544 |
| <b>UNSPSC 16.0901</b> | 39122230 |

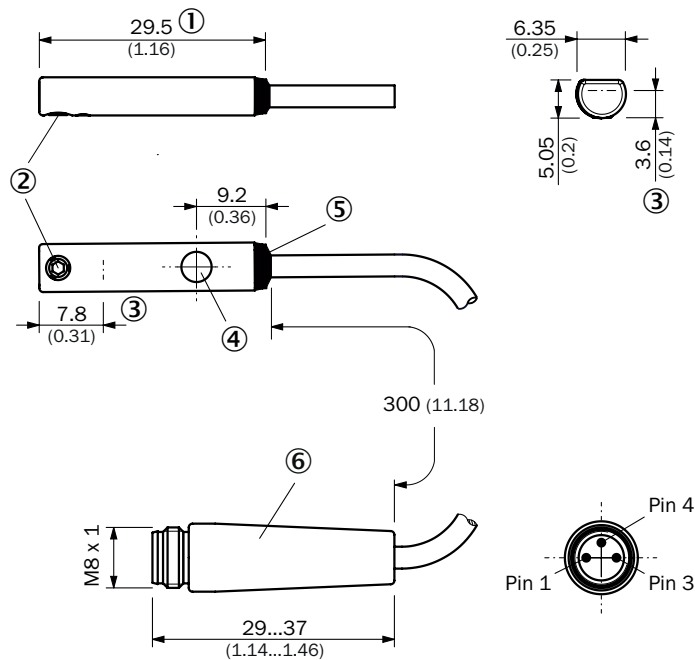
## Installation note



## Connection diagram Cd-246



## Dimensional drawing Cable with connector M8



Dimensions in mm (inch)

① housing

② Fixing screw M3; width across 1.5 mm

- ③ Position sensor element
- ④ Display LED
- ⑤ Delo-Duopox sleeve
- ⑥ Connection

### Recommended accessories

Other models and accessories → [www.sick.com/RZN](http://www.sick.com/RZN)

|                                                                                     | Brief description                                                                                                                                                                                                                                                                                                      | Type        | part no. |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------|
| Mounting systems                                                                    |                                                                                                                                                                                                                                                                                                                        |             |          |
|    | <ul style="list-style-type: none"> <li>• <b>Description:</b> Mounting clip for round body cylinder, clamping range 9.2 mm to 10 mm, for piston rod diameter of 8 mm</li> <li>• <b>Material:</b> Plastic</li> <li>• <b>Details:</b> Plastic</li> <li>• <b>Items supplied:</b> Mounting hardware included</li> </ul>     | BEF-S-R1-08 | 7902337  |
|    | <ul style="list-style-type: none"> <li>• <b>Description:</b> Mounting clip for round body cylinder, clamping range 10.9 mm to 12 mm, for piston rod diameter of 10 mm</li> <li>• <b>Material:</b> Plastic</li> <li>• <b>Details:</b> Plastic</li> <li>• <b>Items supplied:</b> Mounting hardware included</li> </ul>   | BEF-S-R1-10 | 7901753  |
|   | <ul style="list-style-type: none"> <li>• <b>Description:</b> Mounting clip for round body cylinder, clamping range 12.9 mm to 41 mm, for piston rod diameter of 12 mm</li> <li>• <b>Material:</b> Plastic</li> <li>• <b>Details:</b> Plastic</li> <li>• <b>Items supplied:</b> Mounting hardware included</li> </ul>   | BEF-S-R1-12 | 7901754  |
|  | <ul style="list-style-type: none"> <li>• <b>Description:</b> Mounting clip for round body cylinder, clamping range 16.9 mm to 18 mm, for piston rod diameter of 16 mm</li> <li>• <b>Material:</b> Plastic</li> <li>• <b>Details:</b> Plastic</li> <li>• <b>Items supplied:</b> Mounting hardware included</li> </ul>   | BEF-S-R1-16 | 7901755  |
|  | <ul style="list-style-type: none"> <li>• <b>Description:</b> Mounting clip for round body cylinder, clamping range 21 mm to 22 mm, for piston rod diameter of 20 mm</li> <li>• <b>Material:</b> Plastic</li> <li>• <b>Details:</b> Plastic</li> <li>• <b>Items supplied:</b> Mounting hardware included</li> </ul>     | BEF-S-R1-20 | 7901756  |
|  | <ul style="list-style-type: none"> <li>• <b>Description:</b> Mounting clip for round body cylinder, clamping range 26.1 mm to 27.2 mm, for piston rod diameter of 25 mm</li> <li>• <b>Material:</b> Plastic</li> <li>• <b>Details:</b> Plastic</li> <li>• <b>Items supplied:</b> Mounting hardware included</li> </ul> | BEF-S-R1-25 | 7901757  |
|  | <ul style="list-style-type: none"> <li>• <b>Description:</b> Mounting clip for round body cylinder, clamping range 33 mm to 35 mm, for piston rod diameter of 32 mm</li> <li>• <b>Material:</b> Plastic</li> <li>• <b>Details:</b> Plastic</li> <li>• <b>Items supplied:</b> Mounting hardware included</li> </ul>     | BEF-S-R1-32 | 7901758  |
|  | <ul style="list-style-type: none"> <li>• <b>Description:</b> Mounting clip for round body cylinder, clamping range 41.4 mm to 42.5 mm, for piston rod diameter of 40 mm</li> <li>• <b>Material:</b> Plastic</li> <li>• <b>Details:</b> Plastic</li> <li>• <b>Items supplied:</b> Mounting hardware included</li> </ul> | BEF-S-R1-40 | 7901759  |

|                                                                                     | Brief description                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Type               | part no. |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|
| connectors and cables                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |          |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 3-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 2 m, 3-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul> | YF8U13-020UA1XLEAX | 2094782  |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 3-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 2 m, 3-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>                                                      | YF8U13-020VA1XLEAX | 2095860  |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 3-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 3 m, 3-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul> | YF8U13-030UA1XLEAX | 2094787  |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 3-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 3-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul> | YF8U13-050UA1XLEAX | 2094788  |
|    | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 3-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 3-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>                                                      | YF8U13-050VA1XLEAX | 2095884  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 3-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 2 m, 3-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>   | YG8U13-020UA1XLEAX | 2094794  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 3-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 2 m, 3-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>                                                        | YG8U13-020VA1XLEAX | 2096165  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 3-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 3-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> </ul>                                                                                                                                | YG8U13-050VA1XLEAX | 2096166  |

|                                                                                                                                                                     | Brief description                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Type               | part no. |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|
|   | <ul style="list-style-type: none"> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> <li>• <b>Connection type head A:</b> Male connector, M8, 3-pin, straight, A-coded</li> <li>• <b>Description:</b> Unshielded</li> <li>• <b>Connection systems:</b> Screw-type terminals</li> <li>• <b>Permitted cross-section:</b> 0.14 mm² ... 0.5 mm²</li> </ul>                                                                                                          | STE-0803-G         | 6037322  |
|                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M8, 3-pin, straight, A-coded</li> <li>• <b>Description:</b> Unshielded</li> <li>• <b>Connection systems:</b> Screw-type terminals</li> <li>• <b>Permitted cross-section:</b> 0.14 mm² ... 0.5 mm²</li> </ul>                                                                                                                                                                                  | DOS-0803-G         | 7902077  |
|                                                                                    | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M8, 3-pin, angled, A-coded</li> <li>• <b>Description:</b> Unshielded</li> <li>• <b>Connection systems:</b> Solder connection</li> <li>• <b>Permitted cross-section:</b> ≤ 0.25 mm²</li> </ul>                                                                                                                                                                                                 | DOS-0803-W         | 7902078  |
|                                                                                    | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M8, 3-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 0.6 m, 3-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul> | YG8U13-C60UA1XLEAX | 2145889  |
|                                                                                    | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M8, 3-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 3 m, 3-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>   | YG8U13-030UA1XLEAX | 2145891  |
|                                                                                   | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M8, 3-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 0.6 m, 3-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>                                                    | YF8U13-C60VA1XLEAX | 2146368  |



## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)