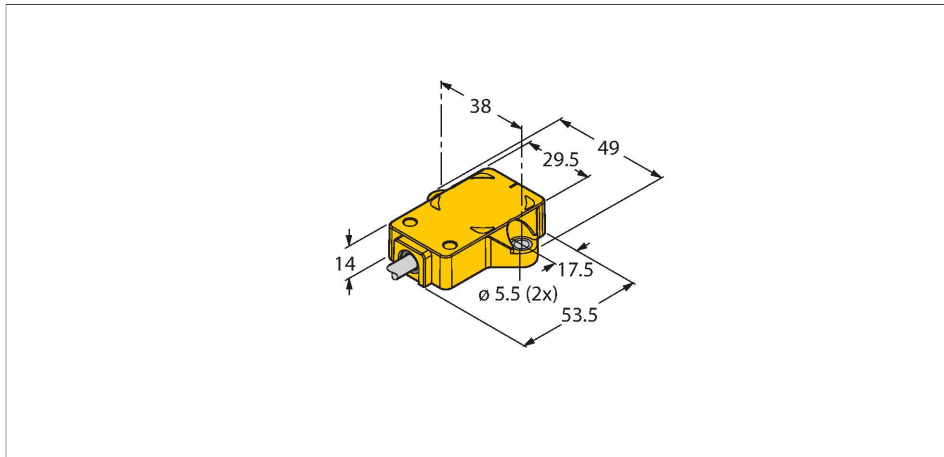


# RI360P2-QR14-ESG25X2

## Inductive Angle Sensor

### Premium Line



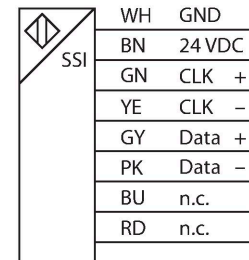
### Features

- Rectangular, plastic
- Many mounting possibilities
- P2-Ri-QR14 included in delivery
- Measuring range displayed via LED
- Immune to electromagnetic interference
- Resolution, 16-bit
- 15...30 VDC
- Cable connection, 8-pin
- SSI output
- 25 bit, Gray-coded
- 62.5 kHz ... 1 MHz

### Technical data

Type	RI360P2-QR14-ESG25X2
ID	1590827
Measuring principle	Inductive
<b>General data</b>	
Starting torque shaft load (radial / axial)	Not applicable because of contactless measuring principle
Resolution	16 bit
Measuring range	0...360 °
Nominal distance	1.5 mm
Repeat accuracy	≤ 0.025 % of full scale
Linearity deviation	≤ 0.3 % f.s.
Temperature drift	≤ ± 0.001 % / K
Output type	Absolute singleturn
<b>Electrical data</b>	
Operating voltage	15...30 VDC
Residual ripple	≤ 10 % U <sub>ss</sub>
Isolation test voltage	≤ 0.5 kV
Short-circuit protection	yes
Wire breakage/Reverse polarity protection	yes / yes (voltage supply)
Communication protocol	SSi
Output function	8-pin, 25 Bit, Gray coded
Process data area	Bit 0 ... Bit 15

### Wiring diagram



### Functional principle

The measuring principle of inductive angle sensors is based on oscillation circuit coupling between the positioning element and the sensor, whereby an output signal is provided proportional to the angle of the positioning element. The rugged sensors are wear and maintenance-free, thanks to the contactless operating principle. They convince through their excellent repeatability, resolution and linearity within a broad temperature range. The innovative technology ensures a high immunity to electromagnetic DC and AC fields.

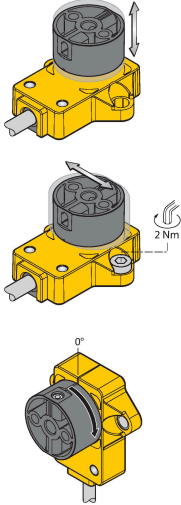
RI360P2-QR14-ESG25X2 | 11/29/2022 09-32 | technical changes reserved

## Technical data

Diagnostic bits	Bit 22: Positioning element is in the measuring range, lower signal quality (e.g. distance too large) Bit 23: Positioning element is outside the measuring range
Sample rate	500 Hz
Current consumption	< 100 mA
<b>Mechanical data</b>	
Design	Rectangular, QR14
Dimensions	53.5 x 49 x 14 mm
Flange type	Flange without mounting element
Shaft Type	Blind hole shaft
Shaft diameter D [mm]	6 6.35
Housing material	Plastic, PBT-GF30-V0
Electrical connection	Cable
Cable quality	2 m
<b>Environmental conditions</b>	
Ambient temperature	-25...+70 °C
Vibration resistance	55 Hz (1 mm)
Vibration resistance (EN 60068-2-6)	20 g; 10...3000 Hz; 50 cycles; 3 axes
Shock resistance (EN 60068-2-27)	100 g; 11 ms ½ sine; 3 × each; 3 axes
Continuous shock resistance (EN 60068-2-29)	40 g; 6 ms ½ sine; 4000 × each; 3 axes
Protection class	IP68 IP69K
MTTF	138 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED, Green
Measuring range display	multifunction LED, green green flashing
Included in delivery	positioning element P2-Ri-QR14; for technical details see data sheet

## Mounting instructions

### Mounting instructions/Description



A broad range of accessories allows the device to be mounted in many different ways. Based on the functional principle of RLC coupling, the sensor is immune to magnetized metal splinters and other interferences.

LED indicates measuring range

green steady:

Positioning element is in the measuring range

yellow steady:  
Positioning element has reached the end of the measuring range. This is indicated by a lower signal quality, see status bit 22.

yellow flashing:

Positioning element is outside the detection range, see status bit 23

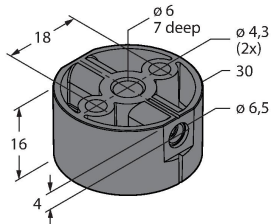
off:

Positioning element is outside the programmed measuring range (only with teachable versions)

## Accessories

### P1-RI-QR14

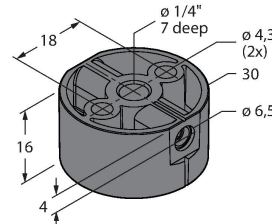
1590812



Positioning element for angle sensors RI-QR14, for  $\varnothing$  6 mm shafts

### P2-RI-QR14

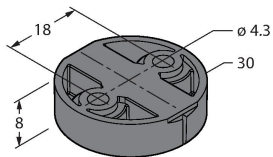
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Positioning element for angle sensors RI-QR14, for  $\varnothing$  6.35 mm shafts

### P3-RI-QR14

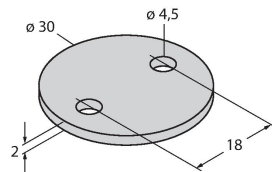
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Positioning element for angle sensors RI-QR14, flat design, using shield plate SP1-QR14 is recommended

### SP1-QR14

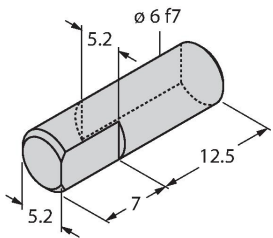
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Shield plate  $\varnothing$  30 mm, aluminium

### HSA-M6-QR14

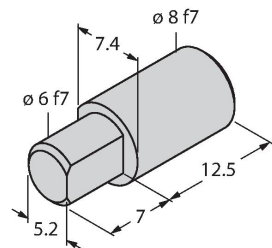
6901051



Adapter for RI-QR14 specific positioning elements, hollow on solid shaft,  $\varnothing$  6 mm

### HSA-M8-QR14

6901052



Adapter for RI-QR14 specific positioning elements, hollow on solid shaft,  $\varnothing$  8 mm

DS-RI-QR14

1590814

Spacer sleeves for rear mounting of  
RI-QR14, 2 pcs. per bag