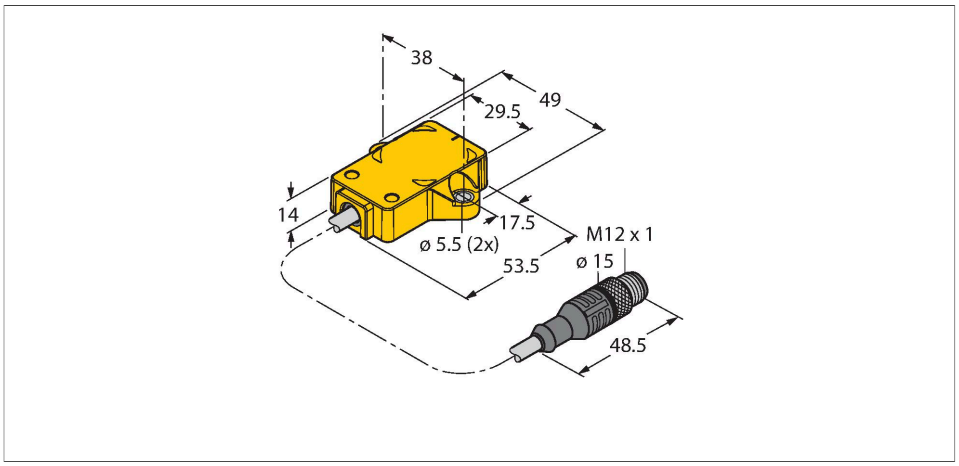
RI45P2-QR14-LIU5X2-0.3-RS4
Inductive Angle Sensor – With Analog Output
Premium Line



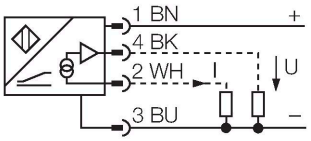
Features

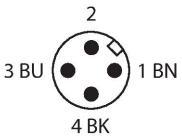
- Rectangular, plastic
- Many mounting possibilities
- P2-Ri-QR14 included in delivery
- Measuring range displayed via LED
- Immune to electromagnetic interference
- Resolution, 12-bit
- 4-wire, 15…30 VDC
- Analog output
- 0…10 V and 4…20 mA
- Cable with male end M12 x 1

Technical data

Type	RI45P2-QR14-LIU5X2-0.3-RS4
Ident. no.	1590834
Measuring principle	**Inductive**
Starting torque shaft load (radial / axial)	Not applicable because of contactless measuring principle
Resolution	0.09°
Measuring range	0…45 °
Nominal distance	1.5 mm
Linearity deviation	≤ 0.3 %f.s.
Temperature drift	≤ ± 0.01 % / K
Ambient temperature	-25…+70 °C
Operating voltage	15…30 VDC
Residual ripple	≤ 10 % U_{ss}
Isolation test voltage	≤ 0.5 kV
Short-circuit protection	yes
Wire breakage/Reverse polarity protection	yes / yes (voltage supply)
Output type	Absolute singleturn
Output function	4-wire, Analog output
Voltage output	0…10 V
Current output	4…20 mA
Load resistance voltage output	≥ 4.7 kΩ
Load resistance, current output	≤ 0.4 kΩ
Sample rate	500 Hz

Wiring diagram



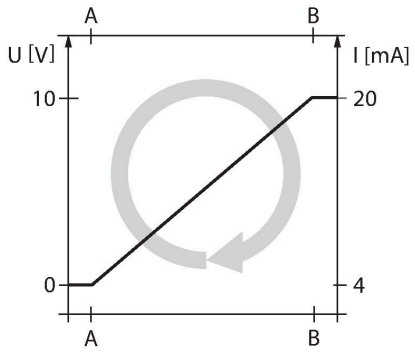


Functional principle

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.

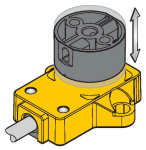
Technical data

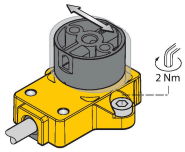
Current consumption	< 100 mA
Design	Rectangular, QR14
Dimensions	53.5 x 49 x 14 mm
Flange type	Flange without mounting element
Shaft Type	Blind hole shaft
Shaft diameter D [mm]	6 6.35
Housing material	Plastic, PBT-GF30-V0
Electrical connection	Cable with connector, M12 × 1
Cable quality	Ø 5.2 mm, Gray, LifYY, PVC, 0.3 m
Core cross-section	4 x 0.34 mm^2
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 sinus; each 3x; 3 axes
Continuous shock resistance (EN 60068-2-29)	40 g; 6 ms ½ sinus; each 4000 x; 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

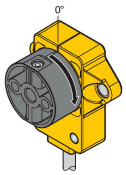


Mounting instructions

Mounting instructions/Description

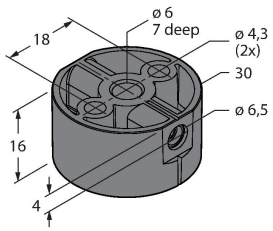






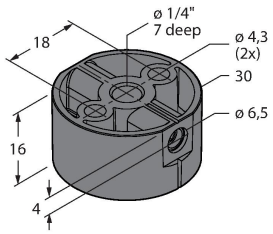
Accessories

P1-RI-QR14	1590812



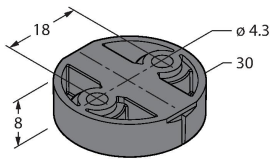
Positioning element for angle sensors RI-QR14, for Ø 6 mm shafts

P2-RI-QR14	1590819



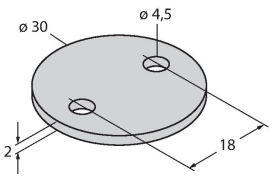
Positioning element for angle sensors RI-QR14, for Ø 6.35 mm shafts

P3-RI-QR14	1590865



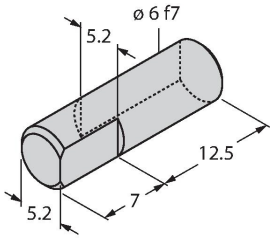
Positioning element for angle sensors RI-QR14, flat design, using shield plate SP1-QR14 is recommended

SP1-QR14	1590873



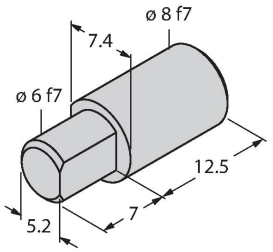
Shield plate Ø 30 mm, aluminium

HSA-M6-QR14	6901051



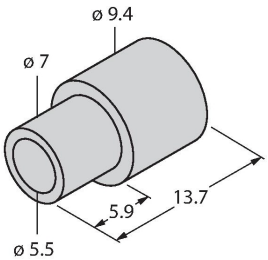
Adapter for RI-QR14 specific positioning elements, hollow on solid shaft, Ø 6 mm

HSA-M8-QR14	6901052



Adapter for RI-QR14 specific positioning elements, hollow on solid shaft, Ø 8 mm

DS-RI-QR14	1590814



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