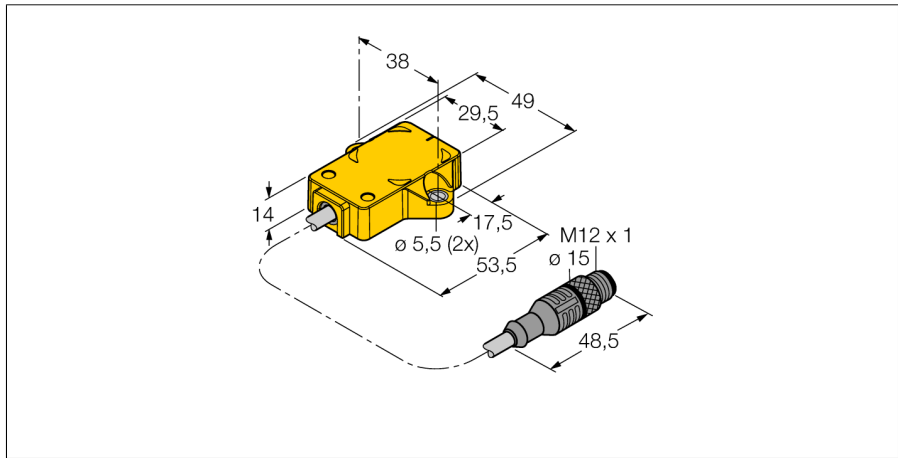


Inductive angle sensor with analog output

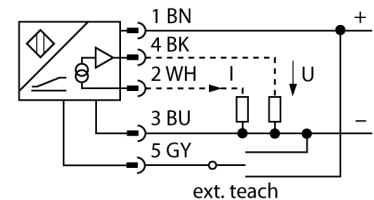
Ri360P2-QR14-ELiU5X2-0,3-RS5



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

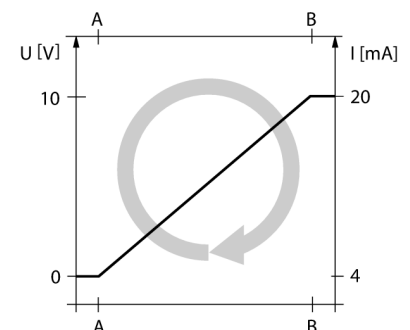
Type	Ri360P2-QR14-ELiU5X2-0,3-RS5
Ident-No.	1590859
Resolution	12 bit
Measuring range	0...360°
Linearity deviation	≤ 0.3 % of full scale
Temperature drift	≤ ± 0.01 % / K
Ambient temperature	-25...+70 °C
Operating voltage	15...30VDC
Residual ripple	≤ 10 % U _s
Rated insulation voltage	≤ 0.5 kV
Short-circuit protection	yes
Wire breakage / Reverse polarity protection	yes/ complete
Output function	4-wire, Analog output
Voltage output	0...10V
Current output	4...20mA
Load resistance voltage output	≥ 4.7 kΩ
Load resistance current output	≤ 0.4 kΩ
Sample rate	800 Hz
Current consumption	< 100 mA
Design	rectangular, QR14
Dimensions	53.5x 49x 14 mm
Housing material	Plastic, PBT-GF30-V0
Connection	Cable with connector, M12 x 1
Cable quality	5.2 mm, Lif9YH-11YH, PUR, 0.3 m Flame retardant acc. to VDE 0472, part 804B
Cable cross section	5 x 0.34 mm ²
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
MTTF	138 years acc. to SN 29500 (Ed. 99) 40 °C
Operating voltage	LED green
Measuring range display	Multifunction LED, green
Included in scope of supply	Positioning element P2-Ri-QR14

Wiring diagram



Functional principle

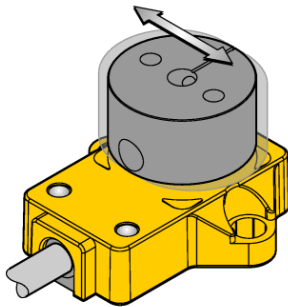
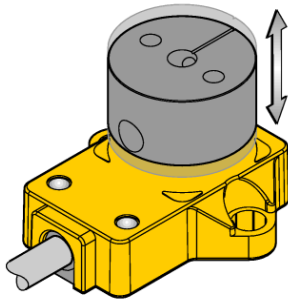
The measuring principle of rotary position sensors is based on oscillation circuit coupling between the transducer and the sensor, whereby an output signal is provided proportional to the angle of the positioning element. Owing to the non-contact principle, the robust sensors are maintenance and wear-free and they excel in terms of optimum repeatability, resolution and linearity within a broad temperature range. Thanks to the innovative technology, electromagnetic interferences have no influence on the measured signal.



**Inductive angle sensor
with analog output
Ri360P2-QR14-ELiU5X2-0,3-RS5**

TURCK
works

Industrial
Automation



Flexibility provided through adapter pins

Extensive range of mounting accessories to adapt the shaft diameter to all applications.

LED function

Operating voltage

green: Voltage applied

Measuring range

green: Positioning element in the measuring range

green flashing: Positioning element is in the measuring range, lower signal quality (e.g. distance too large)

off: Positioning element is outside the measuring range

Functional safety through inductive measuring principle

Based on the functional principle of oscillation circuit coupling, the sensor operates absolutely wear-free and is immune to magnetized metal splinters and other interferences.

Owing to the differential analysis, the output signal remains almost unchanged, even if the position of the positioning element deviates from the ideal axis of rotation.

**Inductive angle sensor
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Teach cable

Individual (teaching with positioning element)

Jumper between teach input Pin 5 (GY)	Gnd Pin 3 (BU)	Ub Pin 1 (BN)	LED
2 seconds	start value	end value	status LED flashes, after 2 sec. steady
10 seconds	CCW rotation, then return to last preset value	CW rotation, then return to last preset value	after 10 sec. LED fast flashing for 2 sec.
15 seconds	-	default setting (360°, CW)	after 15 sec. power and status LED alternately flashing

Preset mode (teaching without positioning element)

Jumper between teach input Pin 5 (GY)	Gnd Pin 3 (BU)	Ub Pin 1 (BN)	LED
2 seconds	activate preset mode	activate preset mode	status LED steady, after 2 sec. flashing
10 seconds	CCW rotation, then return to last preset value	CW rotation, then return to last preset value	after 10 sec. LED fast flashing for 2 sec.
15 seconds	-	default setting (360°, CW)	after 15 sec. power and status LED alternately flashing
Angular range	Gnd Pin 3 (BU)	Ub Pin 1 (BN)	Status LED
30 °	press once	-	flashes once
45 °	press twice	-	flashes twice
60 °	press three times	-	flashes three times
90°	-	press once	flashes once
180 °	-	press twice	flashes twice
270 °	-	press three times	flashes three times
360 °	-	press four times	flashes four times

**Inductive angle sensor
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Accessories

Type code	Ident-No.		Dimension drawing
P1-Ri-QR14	1590812	Positioning element for inductive angle sensors	
P2-Ri-QR14	1590819	Positioning element for inductive angle sensors	
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	Distanzhülsen zur rückwärtigen Montage von Ri-QR14, 2 Stück pro Verpackung	
TX1-Q20L60	6967114	Teach adapter for inductive linear position and angle sensors	