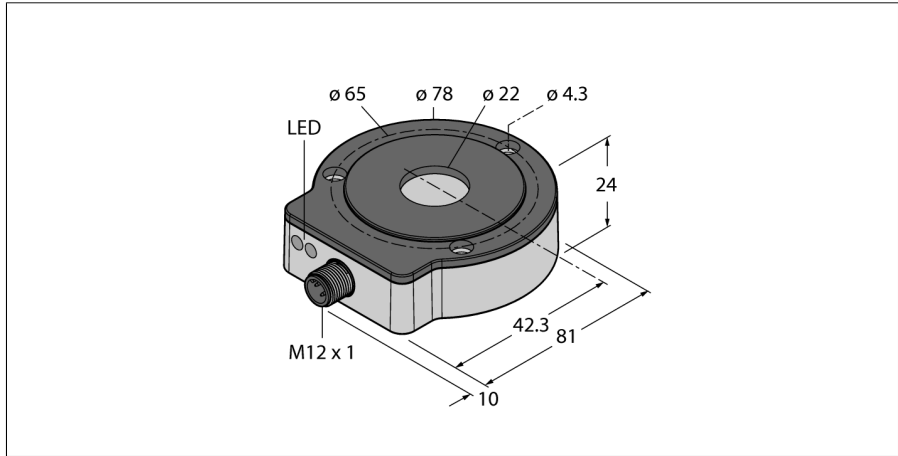


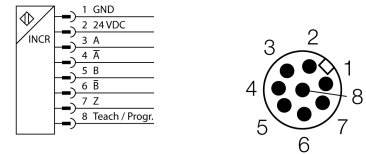
Contactless encoder
Ri360P0-EQR24M0-INCRX2-H1181



- Compact, rugged housing
- Active face, plastic PA12-GF30
- Housing, stainless steel V4A (1.4404)
- Status displayed via LED
- Immune to electromagnetic interference
- 1024 pulses per revolution (default)
- 360, 512, 1000, 1024, 2048, 2500, 3600, 4096, parametr. via Easy-Teach
- Free parametrization of the pulse number in the range from 1 to 5000 via PACTware™
- Position of z-track set via Easy-Teach
- Burst function, absolute angular position output incrementally per Easy-Teach pulse
- 10...30 VDC
- Male M12 x 1, 8-pin
- Push-pull A, B, Z, A (inverse), B (inverse)

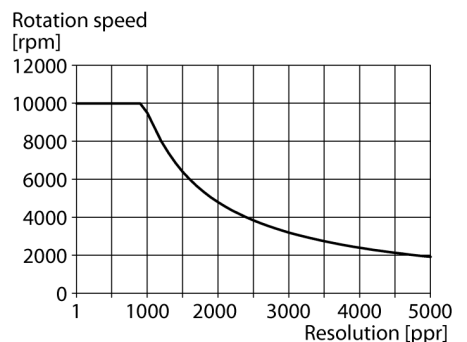
Type code	Ri360P0-EQR24M0-INCRX2-H1181
Ident no.	1590912
Max. Rotational Speed	10,000 rpm Determined with standardized construction, with a steel shaft Ø 20 mm, L = 50 mm and reducer Ø 20 mm
Starting torque shaft load (radial / axial)	not applicable, because of contactless measuring principle
Measuring range	0...360°
Repeatability	≤ 0.01 % of full scale
Linearity deviation	≤ 0.05 % f.s.
Temperature drift	≤ ± 0.003 % / K
Ambient temperature	-25...+85 °C
Operating voltage	10...30VDC
Residual ripple	≤ 10 % U _s
Rated insulation voltage	≤ 0.5 kV
Short-circuit protection	yes/ cyclic
Wire breakage / Reverse polarity protection	yes/ yes (voltage supply)
Output function	8-pin, Push-Pull/HTL
Output Type	incremental
Resolution, incremental	1024
Pulse frequency max.	200 kHz
Signal level high	min. U _s - 2 V
Signal level low	max. 2.0 V
Sample rate	1000 Hz
Current consumption	< 100 mA
Dimensions	81 x 78 x 24 mm
Shaft Type	Hollow shaft
Housing material	stainless-steel/plastic
Connection	male, M12 x 1
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; 3 x each; 3 axes
Continuous shock resistance (EN 60068-2-29)	40 g; 6 ms ½ sinus; each 4000 x; 3 axes
IP Rating	IP68 / IP69K
MTTF	138 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED green
Measuring range display	LED, yellow, yellow flashing
Included in delivery	Adapter sleeve MT-QR24

Wiring diagram

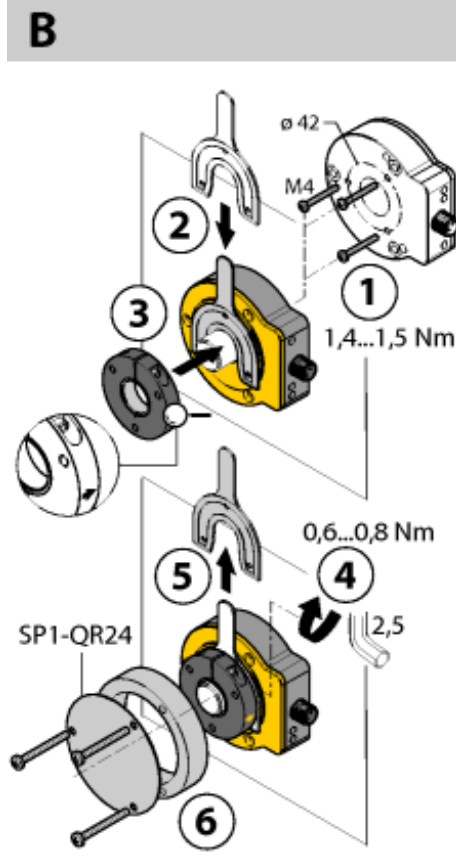
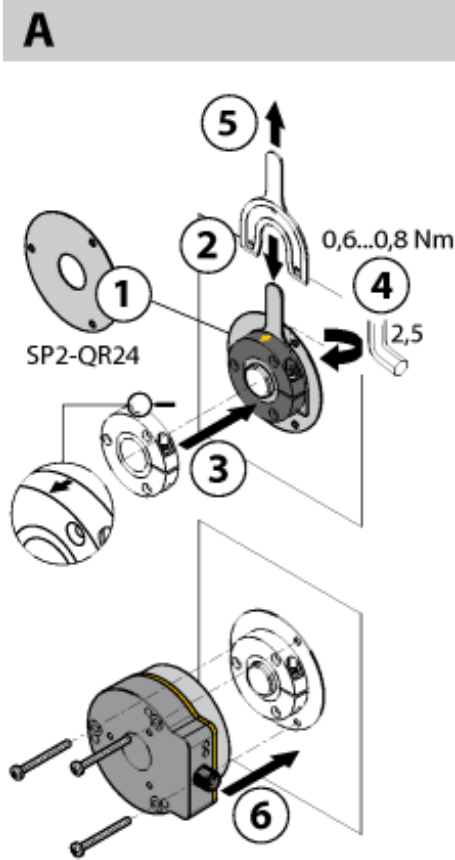


Functional principle

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.



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Extensive range of mounting accessories for easy adaptation to many different shaft diameters. Based on the functional principle of RLC coupling, the sensor operates absolutely wear-free and is immune to magnetized metal splinters and other interference fields. Wrong installation is hardly possible.

The adjacent figure shows the two separate units, sensor and positioning element.

Mounting option A:

First, interconnect positioning element and rotatable shaft. Then place the encoder above the rotating part in such a way that you get a tight and protected unit.

Mounting option B:

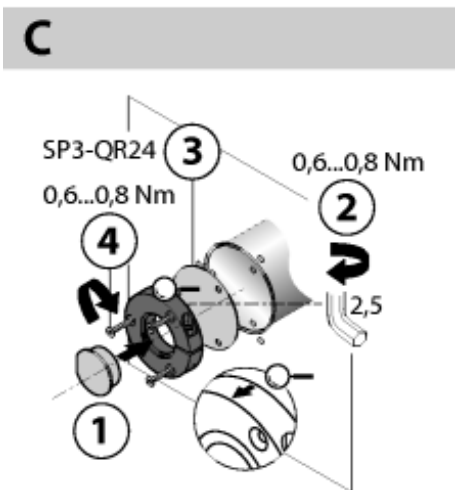
Push the encoder on the back site of the shaft and fasten it to the machine. Then clamp the positioning element to the shaft with the bracket.

Mounting option C:

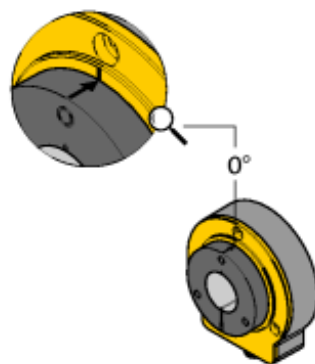
If the positioning element is to be screwed on a rotating machine part and not on a shaft, install first the dummy plug RA8-QR24. Then tie up the bracket. Screw on the encoder via the three bores.

The separately arranged sensor and positioning element inhibit that compensating currents or damaging mechanical loads are transmitted via the shaft to the sensor. In addition, the encoder remains tight and highly protected during its entire lifespan.

The accessories enclosed in the delivery help to mount encoder and positioning element at an optimal distance from each other. LEDs indicate the switching status. Optionally, you can use the shields which are included in the accessories to increase the allowed distance between positioning element and sensor.



Default: 0°



Status display via LED

green steady:

Sensor is operative

yellow steady:

Positioning element has reached the end of the measuring range. This is indicated by a weaker signal.

yellow flashing:

Positioning element is outside the measuring range.

off:

Positioning element is in the measuring range

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Individual parametrization (teaching with positioning element)

Jumper between teach input Pin 8	Gnd Pin 1	Ub Pin 2	LED
2 s	z-track zero point teaching	single trigger of the burst function	status LED flashes then turns steady after 2 s
10 s	CCW rotation direction	CW rotation direction	after 10 s status LED flashes fast for 2 s
15 s	-	factory setting (z-track, CW)	after 15 s power and status LED alternate

Preset Programming Mode (teaching without positioning element)

Jumper between teach input Pin 8	Gnd Pin 1	Ub Pin 2	LED
2 s	resolution setting mode active for 10 s	resolution setting mode active for 10 s	status LED steady, flashes after 2 s as long as selection mode is active
360 pulses / 360°	start value		1 x flashing
512 pulses / 360°	press once		2 x flashing
1000 pulses / 360°	press twice		3 x flashing
1024 pulses / 360°	press three times		4 x flashing
2048 pulses / 360°	press four times		5 x flashing
2500 pulses / 360°		start value	1 x flashing
3600 pulses / 360°		press once	2 x flashing
4096 pulses / 360°		press twice	3 x flashing
5000 pulses / 360°		press three times	4 x flashing

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Accessories

Type code	Ident no.	Description	Design
PE1-EQR24	1590966	Positioning element without adapter sleeve	
RA1-EQR24	1593019	Stainless steel adapter sleeve, for Ø 20 mm shafts	
RA3-EQR24	1593020	Stainless steel adapter sleeve, for Ø 12 mm shafts	
M5-QR24	1590965	Plastic protecting ring, for inductive encoders Ri-QR24	
TX2-Q20L60	6967117	Teach adapter for inductive encoders with 8-pin male M12 x 1, for simple programming via Easy Teach	

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Accessories

Type code	Ident no.	Description	Design
RKC8.302T-1,5-RSC4T/ TX320	6625003	Adapter cable to connect sensor to USB-2-IOL-0002 parametrizing unit; female M12, straight, 8-pin on male M12, straight, 3-pin; cable length: 1.5 m; sheath material: PUR, sheath color: black, cULus approved; RoHS conform; protection class IP67	
RKC8T-2/TXL	6625142	Connection cable, female M12, straight, 8-pin, cable length: 2 m, sheath material: PUR, black; cULus approval; other cable lengths and qualities available, see www.turck.com	