

QR series



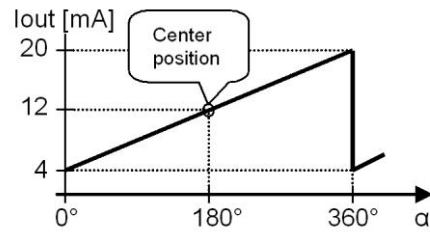
QR40EMN-360HB-IK
Absolute rotary encoder (contactless)
Output 4 - 20 mA
Supply voltage 10 - 30V dc
Measuring range 360°



General specifications v20150316	
Housing	Quadro40: PBT black
Dimensions	40x40x17 mm
Mounting	2x stainless M4x25 mm screws
Ingress Protection (IEC 60529)	IP67
Weight	approx 50 gr (excl. Cable)
Magnet type	11,2 x 5,5 x 8 mm Neodymium/N35/nickel coated/remanention 1,2 T
Magnet distance to sensor	d = 0,1 to 3 mm
Max magnet misalignment	± 0,25 mm off axis for minimum non-linearity
Direction of magnetization	Axial in 8 mm (N marked with red dot)
Supply voltage	10 - 30V dc
Polarity protection	Yes
Current consumption	≤ 50 mA (excluding output signal)
Operating temperature	-25 to 85°C
Storage temperature	-40 to 85°C
Measuring range	360°
Programmable center position	Yes (12 mA / 180°)
Accuracy	
Resolution	12 bit f.s. (min step 0,088°)
Max offset error	± 0,3° (after centering)
Non linearity	< ± 1,4° (in magnet alignment range)
Repeatability	0,12°
Response time	< 10 ms
Max speed	15 rpm
Output signal	4 - 20 mA
Short circuit protection	Yes (max 10 s)
Output load resistor	Rload ≤ 50°Vs - 250 [Ω] (Eg: Vs = 24 V: Rload ≤ 950 Ω)
Connection	Cable 2 m PVC/PVC Liyy, black Ø 4,6 mm, wires: 4x0,25 mm² Sensor colors (static usage)
Wire coding	Brown + Supply voltage Black Output Blue Gnd White Center input

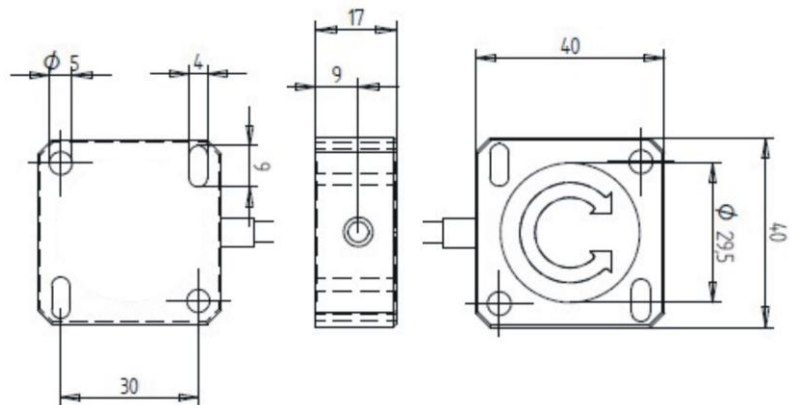
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Transfer characteristic



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Dimensions (indicative only)



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Centering

Centering will store the current angle position as new center position into permanent memory. Centering can only be done in the 1st min. after power up, or within the 1st min. after centering. To perform a centering action the center input should be unconnected during power up, then connect the center input to ground for more than $\frac{1}{2}$ sec. to activate centering. Centering is used to correct mechanical offsets.

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Magnet drawn in $\alpha=0^\circ$ position.

While rotating the magnet clockwise α increases.

The magnet's north pole (N) is indicated with a red dot on the magnet.

Magnet position

