

Special features

- Potentiometric measuring principle with conductive plastic resistance track and integrated signal amplifier
- Redundant design for safety relevant applications available
- Extremely rugged construction with stainless steel shaft and housing out of sea-water proof aluminum
- Long lifetime
- High resolution combined with good linearity
- Available in various versions (see ordering specifications). Customized versions on request



Electrical data

Function angle single/redundant (see ordering specification)	145° ±0.5°	334° ±0.5°
Linear measuring range (symmetric to electrical center)	±60°	±160°
Current consumption	20 mA (without external loads)	
Absolute linearity related to 360°	≤ ±0.4 %	≤ ±0.7 %
Micro linearity	≤ ±0.1 %	
Signal deviation output A to B (for redundant versions)	≤ ±2 %	

Electrical data of output

Output (see ordering specifications)	0 ... 5 V	4 ... 20 mA
Supply voltage (nominal +24 VDC)	+10...+30VDC	+19...+30VDC
Output current	≤ 2 mA	-
Output voltage	≥ 100 mV	-
Working resistance	-	≤ 300 Ω
Center output	2,5 V	12 mA
Output signal gradient at 70° function angle	5 V / 70°	16 mA / 70°
Output signal gradient at 145° function angle	5 V / 145°	16 mA / 145°
Output signal gradient at 334° function angle	5 V / 334°	16 mA / 334°

Environmental properties

Protection class (ISO 20653) housing/cable inlet	IP6K6K / IP6K8 (1m;12h) / IP6K9K with factory-mounted cable
Protection class (ISO 20653) shaft inlet	IP6K7
Operating and storage temperature range	-40 °C to +85 °C
Oscillation resistance	5 ... 2000 Hz, A _{MAX} = 0,75 mm, a _{MAX} = 20 g
Bump resistance	50 g / 11 ms

Mechanical data

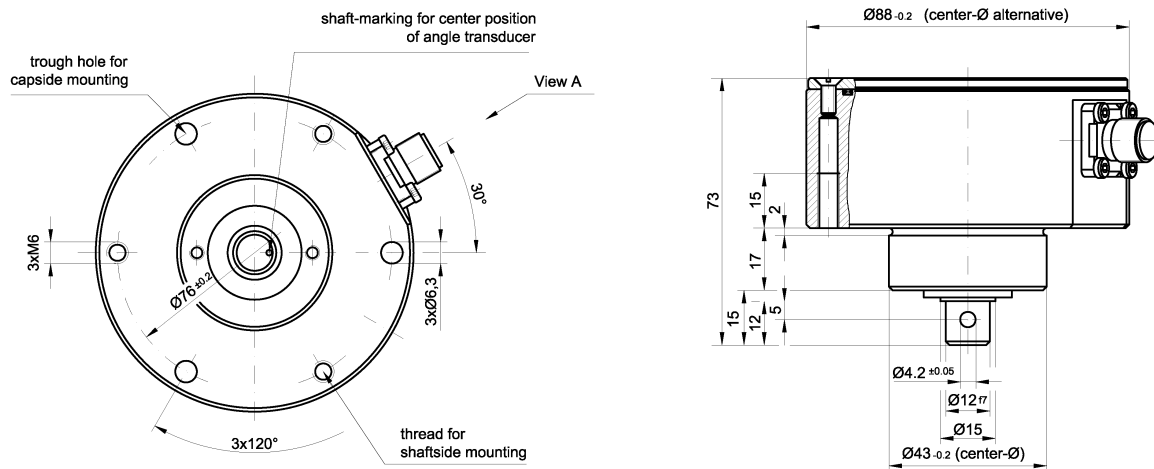
Shaft diameter	12 mm
Maximum axial load	70 N
Maximum radial load	250 N
Maximum torque	5 Nm
Lifetime	50 x 10 ⁶ movements inside function angle
Jittering test (2° amplitude around center, 100 Hz)	50 x 10 ⁶ cycles
Mechanical function angle	360° continuous (< 1000 times)
Corrosion protection Shaft: Housing:	Stainless steel Anodized sea-water proof aluminum alloy.
Electrical connection for flexible laying (see ordering specifications, detailed data on request)	Highly flexible, shielded PUR special cable, minimum bending radius 100 mm, temperature range -30 °C ... +80 °C, weather-proof and UV-proof

Ordering Specifications

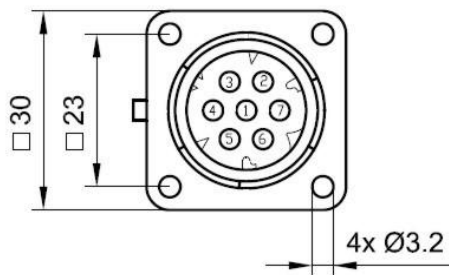
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We will gladly develop customized angle transducer (e.g. stainless steel housing, other cable length, special levers, output signal).

Dimensional drawings

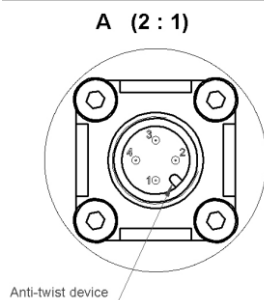


Connector DIN 72585



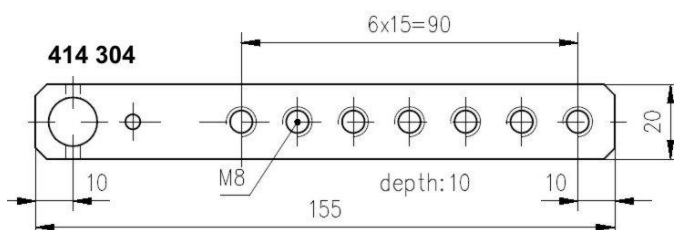
pin	signal name
1	channel A: supply 0 V
2	channel A: signal output
3	channel A: supply 24 V
4	channel B: supply 0 V
5	channel B: signal output
6	channel B: supply 24 V
7	screen

Connector M12 flange plug

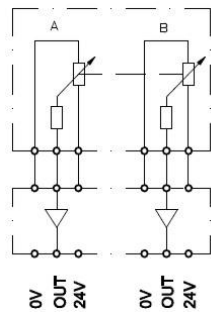


pin	signal name
1	+Ub (24V)
2	n.c.
3	GND (0V)
4	OUT

Levers (preferences, see ordering specification)



Equivalent circuit diagram (redundant version)



Version k) - Technical changes due to further technical development reserved.