elobau GmbH & Co. KG
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Angle sensor 424R

Angle sensor 424R has a redundant design and, as a result, is suitable for safety-critical measurement tasks. The sensor measures angles are between 30° and 120°. Angle sensor 424R is based on the contactless Hall measurement principle, which is extremely reliable and ensures a long service life. The sensor can be used for angle determination in telescopic arms of telescopic handlers and lifting platforms as well as for many other challenging off-highway applications.

Product characteristics

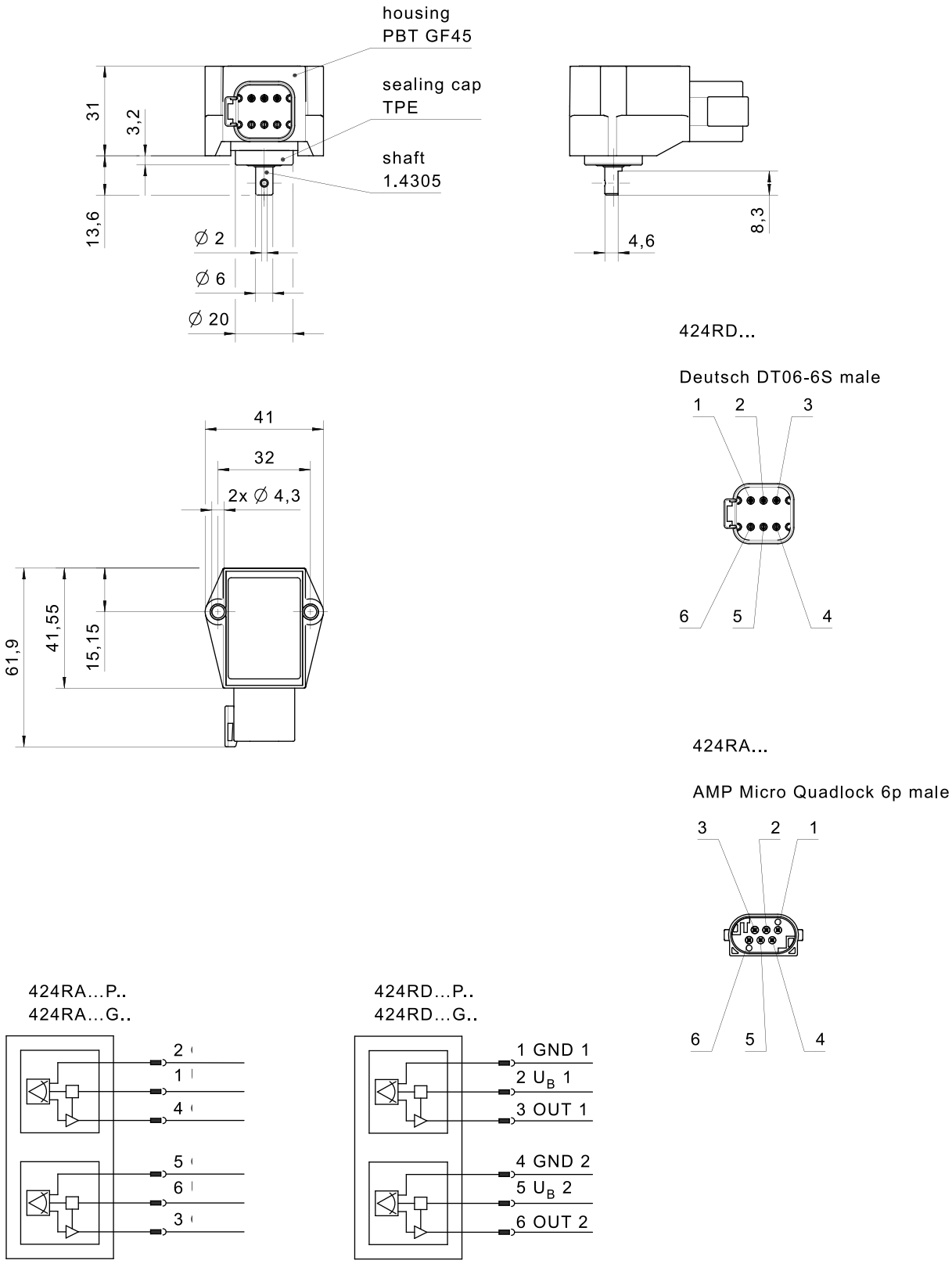
- Long lifetime and extremely reliable from contactless measurement with Hall principle
- IP67 protection class for harsh environmental conditions
- High temperature resistance from -40 °C to +85 °C
- Resolution 0.1°
- Current or voltage output signal available
- Redundant output signal
- Available with AMP plug (Micro Quadlock System) or Deutsch plug DT04-6P

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Technical drawing

IMAGE 1/2

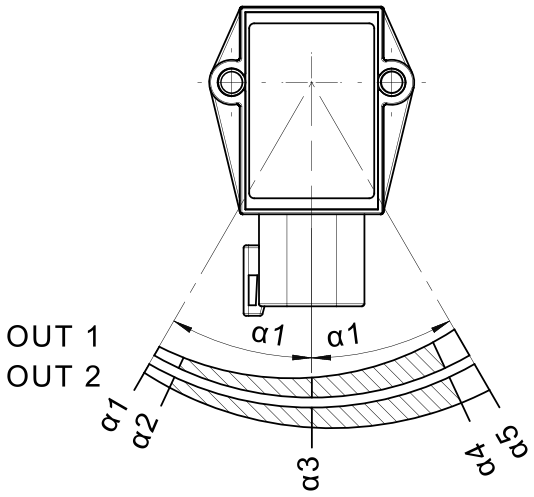


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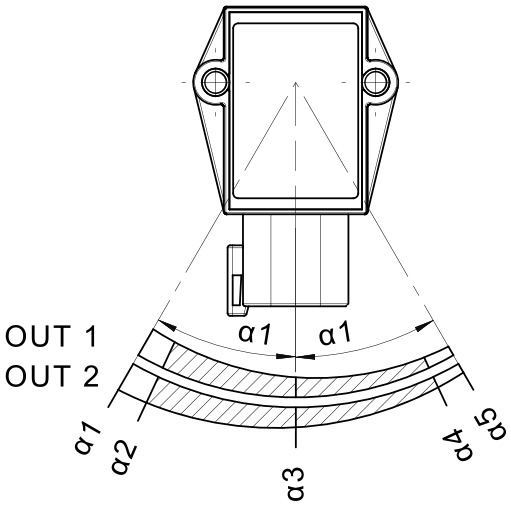
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IMAGE 2/2

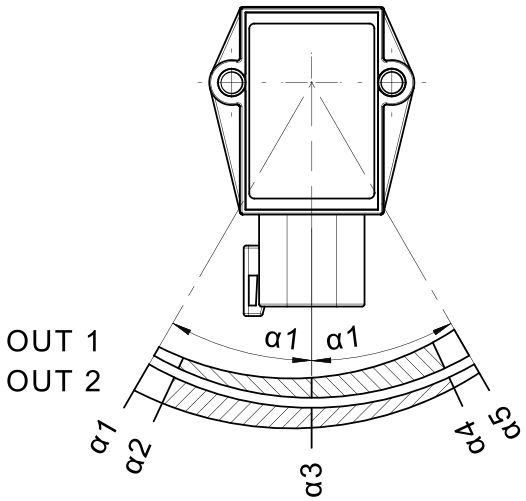
424R...CCW/CCW



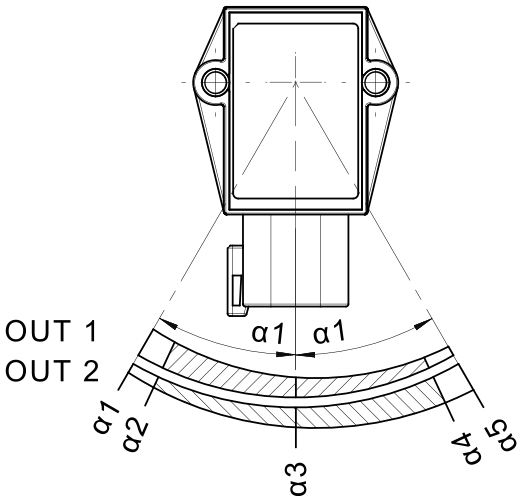
424R...CW/CW



424R...CCW/CW



424R...CW/CCW



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Product options

IMAGE 1/1

ORDERING KEY

424R								Angle sensor 120°, redundant
								Connection
	A							AMP connector Micro Quadlock
	D							Deutsch connector DT04-6P
								Bearing
		1						Ball bearing
								Output signal 1
			1					4…20mA
			6					0.5...4.5V, ratiometric
			7					0.5…4.5V
								Output signal 2
				1				4…20mA
				6				0.5...4.5V, ratiometric
				7				0.5…4.5V
								Output signal
					G			Opposite (CCW/CW)
								Angle measuring range
						030		30°
						045		45°
						060		60°
						090		90°
						120		120°
								Operating lever
							B	Yes
							-	No (if selected without lever, this position is omitted)

Optional
Connection
Output signal 1
1…5V
Output signal 2
1…5V
Output signal
Parallel
Other connectors, output signals, signal sequences and angle rates on request

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Article characteristics

Attribute	424R..11...	424R..66...	424R..77...
Polarity reversal protection	yes		
Output signal min.	-	0.5 V DC	
Output signal max.	-	4.5 V DC	
Output signal min.	4 mA	-	
Output signal max.	20 mA	-	
Output signal - centre position/zero position	-	2.5 V DC	
Output signal - centre position/zero position	12 mA	-	
Resolution	0.1 °		
Operating voltage min.	10 V DC	4.5 V DC	10 V DC
Operating voltage max.	30 V DC	5.5 V DC	30 V DC
Current consumption	18 mA	8 mA	10 mA
Load resistance min.	-	20000 Ohm	
Load resistance max.	250 Ohm	-	
Temperature coefficient	typ. ±250 ppm/K		
Signal sequence	CCW/CW (opposite)		
Signal update rate	2000 Hz		
Outputs (quantity, type)	2		
Technology	Hall		
Angle measuring range	30° ... 120 °		
Outputs	4...20mA	0,5...4,5V ratiometric	0,5...4,5V
MTTF	205.9 a	237.3 a	144.5 a
Typical linearity error	= ±15°:±0,2° = ±25°:±0,4° = ±35°:±1,0° = ±45°:±2,0° = ±60°:±5,0°		
EMC Agricultural and forestry machines (Norm)	EN ISO 14982 pulse 5b: max. voltage 56V (absolute), functional status C for pulse 1 and 4	EN ISO 14982 conducted disturbance not applicable for 5V supply	EN ISO 14982 pulse 5b: max. voltage 56V (absolute), functional status C for pulse 1 and 4
EMC Earth-moving and building construction machinery (Norm)	DIN EN ISO 13766-1 pulse "load dump": max. voltage 56V (absolute)	DIN EN ISO 13766-1 conducted disturbance not applicable for 5V supply	DIN EN ISO 13766-1 pulse "load dump": max. voltage 56V (absolute)
EMC Industrial trucks (Norm)	DIN EN 12895		
Max. shaft load, axial	50 N		
Max. shaft load, radial	100 N		

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Attribute	424R..11...	424R..66...	424R..77...
Bearing	Ball bearing		
Mechanical stop	Optional		
Actuating lever	Selectable		
Protection class	IP67 DIN EN 60529		
Operating temperature min.	-40 °C		
Max. operating temperature	85 °C		
Min. storage temperature	-40 °C		
Max. storage temperature	85 °C		
Torque for fastening screws	2.5 N m		
Connector type	Deutsch DT04-6P		