



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 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
- P67 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 for safety-critical applications
- Available with AMP plug (Micro Quadlock System) or Deutsch plug DT04-6P
- SIL-capable in accordance with EN61508

Technical drawing

IMAGE 1/4: 424RD

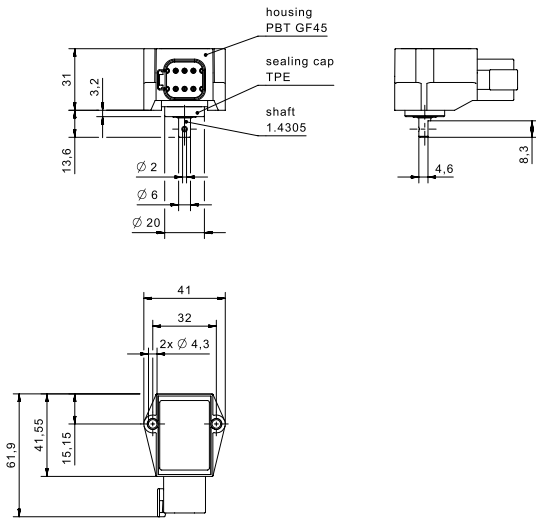
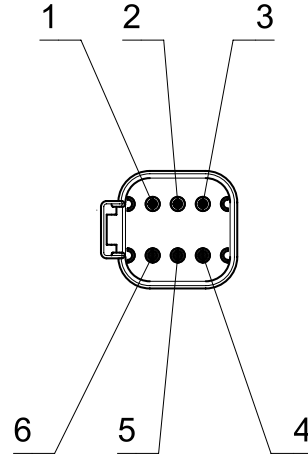


IMAGE 2/4: 350 210 BETÄTIGUNGSHEBEL

424RD...

Deutsch DT06-6S male



424RA...

AMP Micro Quadlock 6p male

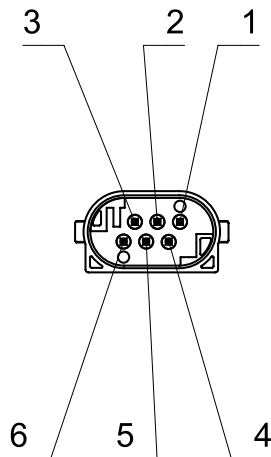


IMAGE 3/4

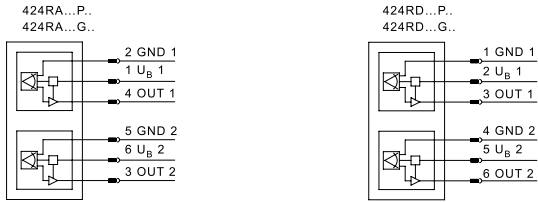
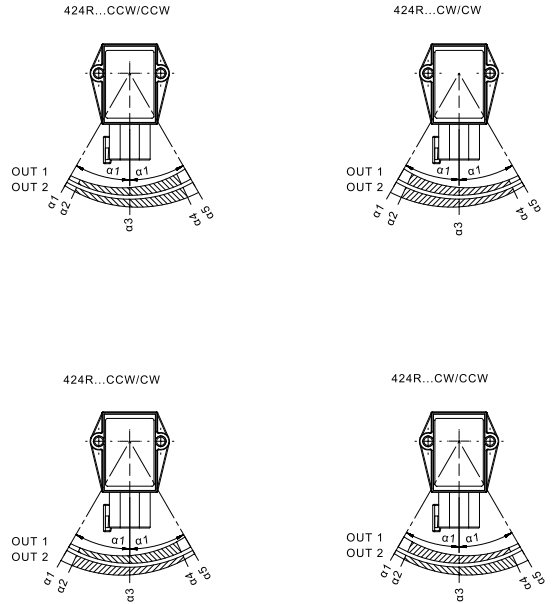


IMAGE 4/4



Electrical data

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 °		
EMC immunity (Norm)	ISO 11452-2:2004 ISO 11452-5:2002 ISO7637-2:2004		
EMC emission (Norm)	DIN EN 55025:2003		
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. +- 220 ppm/K	typ. +- 245 ppm/K	
Linearity error	typ. +-4,17 %		
Signal sequence	CCW/CW (gegenläufig)		
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

Mechanical data

Attribute	424R..11...	424R..66...	424R..77...
Max. shaft load, axial		50 N	
Max. shaft load, radial		100 N	
Bearing		Ball bearing	
Mechanical stop		Optional	

Material information

Attribute	424R..11...	424R..66...	424R..77...
Housing material		PBT	

Environmental conditions

Attribute	424R..11...	424R..66...	424R..77...
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	

Installation

Attribute	424R..11...	424R..66...	424R..77...
Torque for fastening screws		2.5 N m	

Connection

Attribute	424R..11...	424R..66...	424R..77...
Connector type		Deutsch Stecker DT04-6P	