



Angle sensor 424A...A

The angle sensor 424A is used for measuring angles between 30° and 120°. The 424A is based on the contactless Hall measurement principle, which is extremely reliable and ensures a long service life. Due to high protection class IP67, the sensor can be used reliably even under tough environmental conditions. Owing to their robustness, the sensors are particularly suitable for measuring the angular positions of rotating elements under extreme environmental conditions, e.g. on mobile machinery, in cranes, excavators, ships, mobile and stationary waste compactors, valve controllers, robot technology and wind turbines or in large medical devices.

Product characteristics

- Long lifetime and extremely reliable from contactless measurement with Hall principle
- Angle measuring range between 30° and 120°
- IP67 protection class for harsh environmental conditions
- Operating temperature range from -40 °C to +85 °C
- Resolution 0.1°
- Various current or voltage output signals
- Infinitely short-circuit proof
- Available together with actuation lever for simple connection
- EMV stable for the motor vehicle sector, field withstand 200 V/m
- Ball bearing (optionally with plain bearing)

Technical drawing

IMAGE 1/4

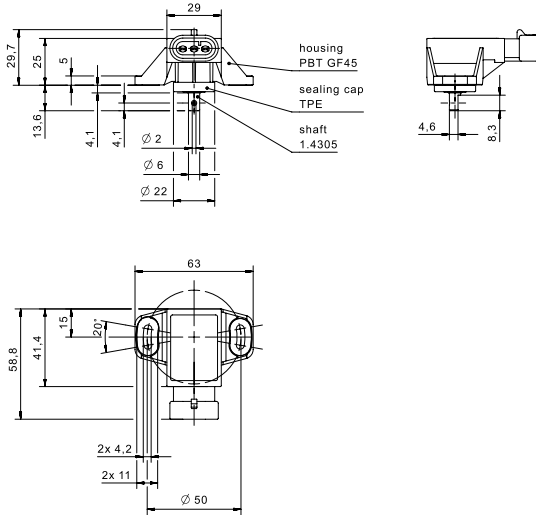


IMAGE 2/4

AMP-Superseal 1,5 male

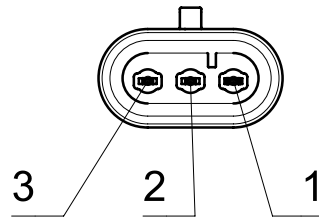


IMAGE 3/4

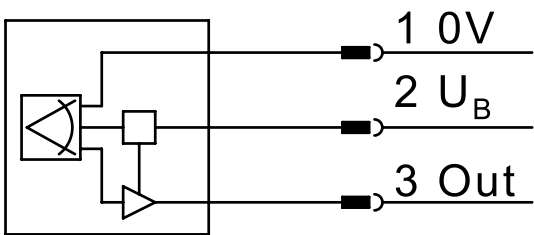
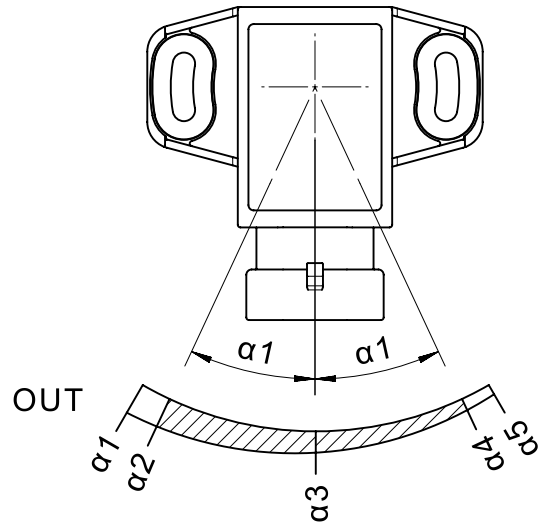
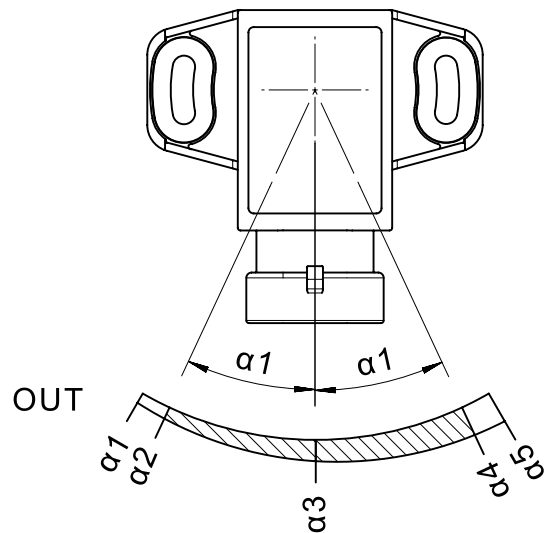


IMAGE 4/4

424A...CW



424A...CCW



Electrical data

Attribute	424A.1A...	424A.6A...	424A.7A...
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)	EN 13309: 2010 EN ISO 14982:2009 DIN EN 12895:2001		
EMC emission (Norm)	EN 13309: 2010 EN ISO 14982:2009 DIN EN 12895:2001		
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	-	
Short-circuit resistance to GND	yes	-	
Short-circuit resistance to supply	yes	-	
Temperature coefficient	typ. +- 220 ppm/K	typ. +- 245 ppm/K	
Linearity error	typ. +-4,17 %		
Signal sequence	Standard CCW (optional CW)		
Signal update rate	2000 Hz		
Outputs (quantity, type)	1		
Technology	Hall		
Angle measuring range	30°...120 °		
Outputs	4...20mA	0,5...4,5V ratiometric	0,5...4,5V

Electrical data

Attribute	424A.1A...	424A.6A...	424A.7A...
MTTF	101 a	225.7 a	133 a

Mechanical data

Attribute	424A.1A...	424A.6A...	424A.7A...
Max. shaft load, axial	50 N		
Max. shaft load, radial	100 N		
Bearing	Ball bearing		
Mechanical stop	Optional		

Material information

Attribute	424A.1A...	424A.6A...	424A.7A...
Housing material	PBT		

Environmental conditions

Attribute	424A.1A...	424A.6A...	424A.7A...
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	424A.1A...	424A.6A...	424A.7A...
Torque for fastening screws	2.5 N m		

Connection

Attribute	424A.1A...	424A.6A...	424A.7A...
Connector type	AMP Superseal 1.5		