



## Angle sensor 424D

The 360° angle sensor 424D is used for the detection of rotary movements from 20° to 360°. Angle sensor 424D is based on the contactless Hall measurement principle, which is extremely reliable and ensures a long service life.

Angle sensors are used, for example, in foot pedals for controlling mobile machinery or for position determination in cranes. Additionally, the 424D is ideal for use in excavators, robots or wind turbines thanks to its robust design.

### Product characteristics

- Long lifetime and extremely reliable from contactless measurement with Hall principle
- Angle measuring range between 20° and 360°
- IP67 protection class for harsh environmental conditions
- Temperature range -40 °C to +85 °C
- Resolution 12 bit
- Current or voltage output signal
- Available with one or two outputs, PWM signal available on request
- SIL-capable in accordance with EN61508

### General information

The angle measuring range lies between 20° and 359°. The measuring principle is contactless, based on a magnetic field rotating above the 2D Hall sensor. The system is short-circuit proof. There is no mechanical limit stop. Housing material: PBT.

**Technical drawing**

IMAGE 1/5

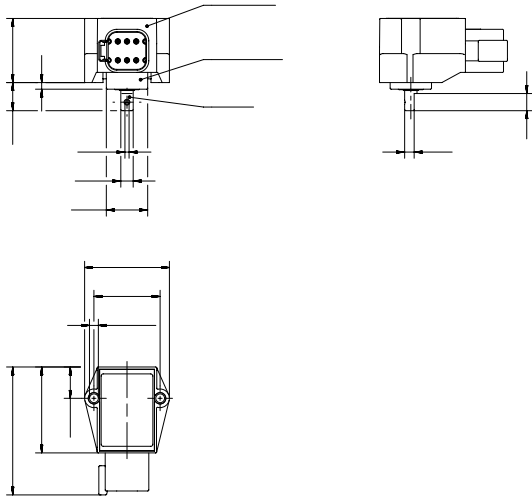


IMAGE 2/5

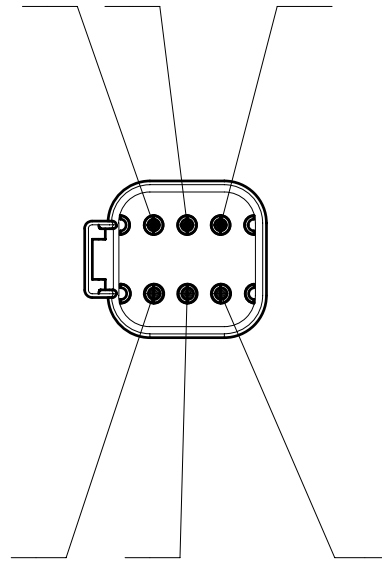


IMAGE 3/5

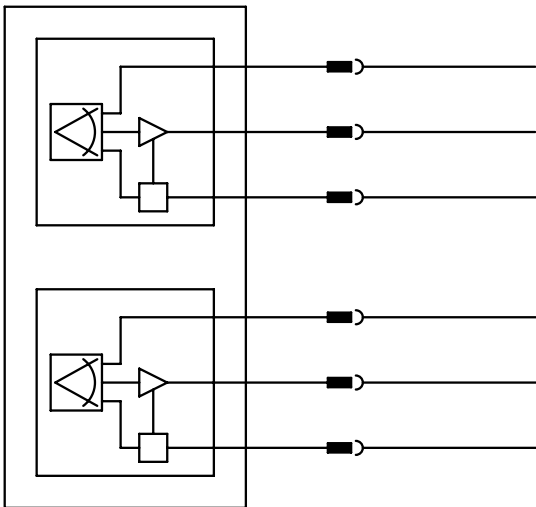
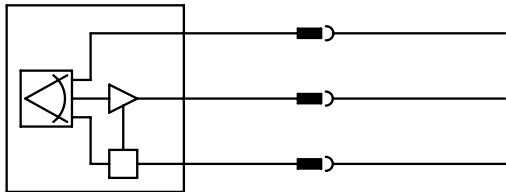


IMAGE 4/5

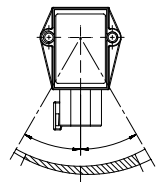
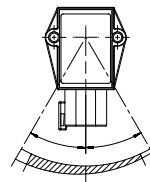
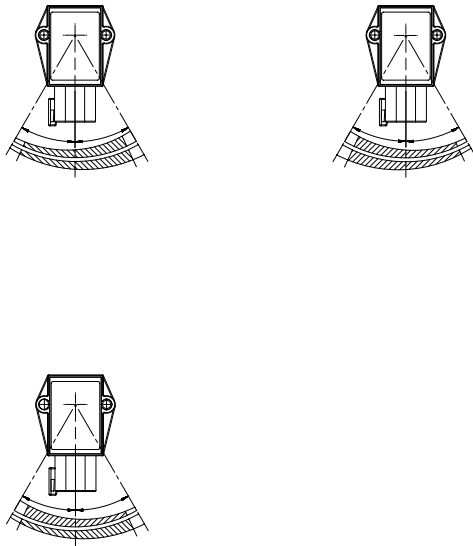


IMAGE 5/5



## Electrical data

Attribute	424D.1...	424D.7...
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	0.09 °	
EMC immunity (Norm)	ISO 11452-5:2000 ISO7637-2:2004	
EMC emission (Norm)	DIN EN 55025:2003	
Operating voltage min.	10 V DC	
Operating voltage max.	30 V DC	
Current consumption	30 mA	
Load resistance min.	-	100000 Ohm
Load resistance max.	200 Ohm	-
Linearity error	< ±1 %	< ±1 %
Signal sequence	CCW oder CCW/CW	
Signal update rate	1600 Hz	
Outputs (quantity, type)	1 oder 2	
Technology	Hall	
Angle measuring range	20°...360 °	
Outputs	4...20mA	0,5...4,5V
MTTF	79.6 a	115.9 a
Temperature coefficient	< ±1.2 %	

## Mechanical data

Attribute	424D.1...	424D.7...
Max. shaft load, axial	50 N	
Max. shaft load, radial	100 N	
Mechanical stop	no	

## Material information

Attribute	424D.1...	424D.7...
Housing material	PBT	

## Environmental conditions

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

## Connection

Attribute	424D.1...	424D.7...
Connector type	Deutsch DT06-6S	