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DATA SHEET

**DAXTON-0170R41K0101300**

DAX  
Magnetostrictive linear encoders

**SICK** Sensor Intelligence

## MAGNETOSTRICTIVE LINEAR ENCODERS

DAX-  
TON-0170R41K0101300

## ORDERING INFORMATION

Type	part no.
DAXTON-0170R41K0101300	1130908

Further device versions and accessories at [www.sick.com/DAX](http://www.sick.com/DAX)



Illustration may differ

## DETAILED TECHNICAL DATA

## SAFETY-RELATED PARAMETERS

MTTF <sub>D</sub> (mean time to dangerous failure)	123 years <sup>1)</sup>
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<sup>1)</sup> This product is a standard product and does not constitute a safety component as defined in the Machinery Directive. Calculation based on nominal load of components, average ambient temperature 40°C, frequency of use 8760 h/a. All electronic failures are considered hazardous. For more information, see document no. 8015532.

## PERFORMANCE

Linearity	≤ 0.02% F.S. (Minimum 60 μm) <sup>1) 2)</sup>	
Repeatability	≤ ± 20 μm	
Measured values	Positioning, speed	
Measuring range	0 mm ... 170 mm	
Unusable range	Null zone	50 mm
	Damping zone	63 mm
Magnet type	Magnet shape	Ring magnet
	Configured for number of magnets	2 pieces
Magnet travel speed	Any	
Resolution	10 μm	
Cycle time	1 ms	

<sup>1)</sup> Systematic position measurement deviation according to DIN ISO 1319-1 (value includes all systematic errors or deviations from the actual position value, e.g. repeatability and hysteresis).

<sup>2)</sup> In principle, the size of the measurement deviation is limited by the resolution of the interface.

**INTERFACES**

Communication interface	CANopen
Data protocol	Data protocol: CANopen CiA DS-301 V4.02, CiA DSP-305 LSS, Encoder Profile: - CiA DS-406, V3.2. - Class C2
Address setting	
	Data transmission rate 250 kbit/s
	Node ID 7Fh (127)

**ELECTRONICS**

Connection type	Male connector, M12, 5-pin
Pinouts	1=n.c.; 2=V DC; 3=GND; 4=CAN_H; 5=CAN_L
Male connector coding	A-coded
Supply voltage	24 V DC ( $\pm 20\%$ )
Reverse polarity protection	Up to $-30$ V DC
Residual ripple	$\leq 0.28$ V <sub>pp</sub>
Dielectric strength	500 V DC, 0 V against housing
Over voltage protection	$\leq 36$ V DC

**MECHANICS**

Mechanical design	DAX Threaded
Thread	
	Thread shape M18 x 1.5
	Thread offset Without thread offset
Material	
	Pressure pipe Stainless steel 1.4404 (AISI 316L)
	Housing Aluminum (anodised), zinc, stainless steel, brass
	Flange Stainless steel 1.4305 (AISI 303)

**AMBIENT DATA**

EMC	According to EN 61000-6-2 and EN 61000-6-4
Enclosure rating	IP65, IP67 <sup>1)</sup>
Temperature	
	Operating temperature range $-40$ °C ... $+85$ °C
	Storage temperature range $-40$ °C ... $+65$ °C <sup>2)</sup>
Permissible relative humidity	90 % (Condensation not permitted)
Resistance to shocks	100 g, 6 ms (IEC 60068-2-27)
Resistance to vibration	15 g / 10...2,000 Hz according to IEC 60068-2-6
Nominal operating pressure (P <sub>N</sub> )	350 bar
Max. overload pressure during operation (P <sub>N</sub> x 1.2)	420 bar
Max. test pressure in cylinder (P <sub>N</sub> x 1.5)	530 bar

<sup>1)</sup> In correctly assembled mating connector.

<sup>2)</sup> Caused by dry storage of the O-ring in uninstalled state (no coating with oil).

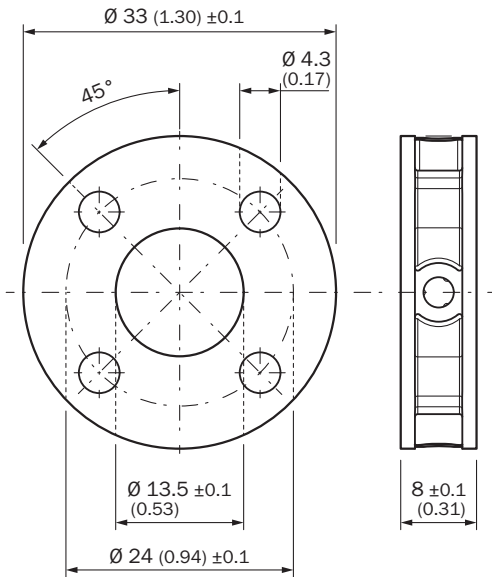
**GENERAL NOTES**

Items supplied	Accessories not included with delivery, please order separately. Delivery without position magnet.
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**CERTIFICATES**

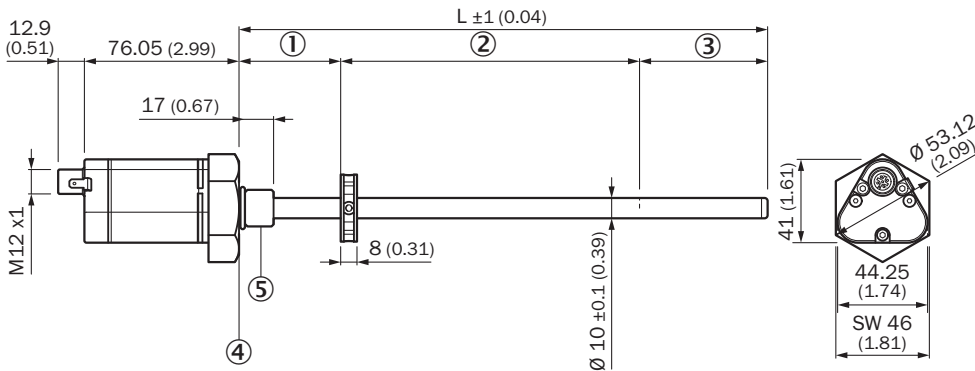
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

**DIMENSIONAL DRAWING RING MAGNET MAG-O-330-01 (2129167)**



Dimensions in mm (inch)

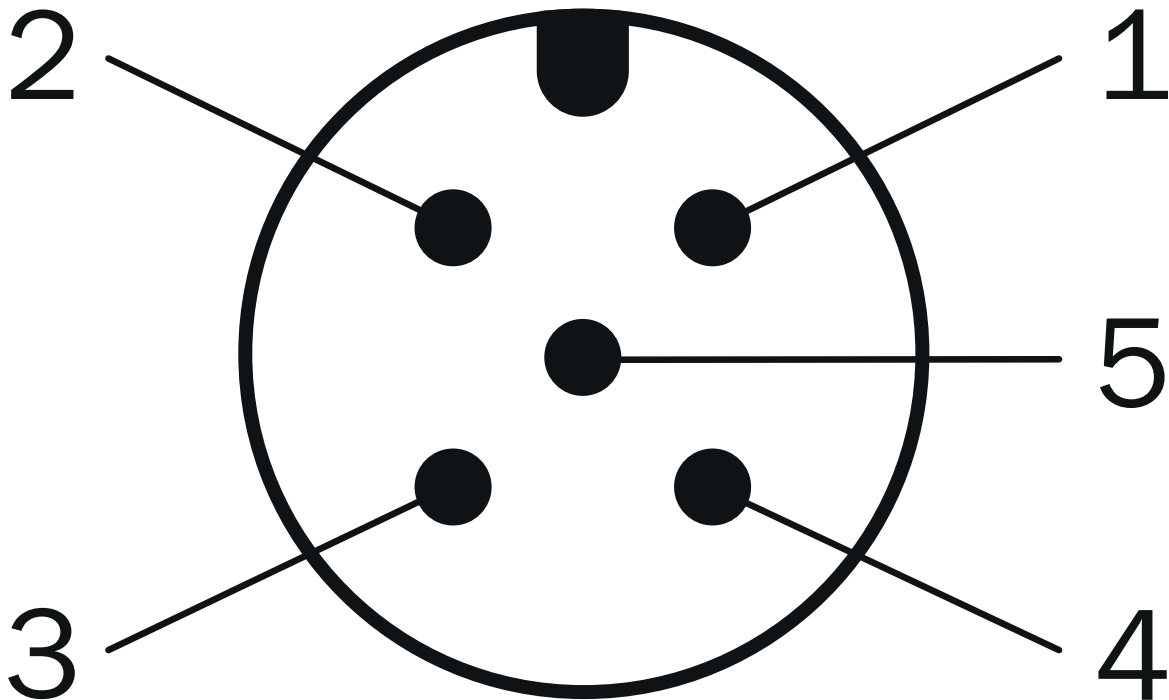
**DAX THREADED**



Dimensions in mm (inch)

- ① null zone
- ② Measuring range
- ③ damping zone
- ④ Flat support surface
- ⑤ M18x1.5 / UNF 3/4"-16

ANSCHLUSSBELEGUNG



M12 male connector, 5-pin	Signal
1	n.c.
2	V DC
3	GND
4	CAN_H
5	CAN_L

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at [www.sick.com/1130908](http://www.sick.com/1130908)



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SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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