



# DAXTAN-0200RA1J0100V01

DAX

MAGNETOSTRICTIVE LINEAR ENCODERS

**SICK**  
Sensor Intelligence.



Illustration may differ

### Ordering information

Type	part no.
DAXTAN-0200RA1J0100V01	1130896

Other models and accessories → [www.sick.com/DAX](http://www.sick.com/DAX)



### Detailed technical data

#### Safety-related parameters

<b>MTTF<sub>D</sub> (mean time to dangerous failure)</b>	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

<b>Linearity</b>	≤ 0.02% F.S. (Minimum 60 μm) <sup>1) 2)</sup>
<b>Repeatability</b>	≤ ± 20 μm
<b>Measured values</b>	Positioning
<b>Measuring range</b>	0 mm ... 200 mm
<b>Unusable range</b>	
Null zone	50 mm
Damping zone	63 mm
<b>Magnet type</b>	
Magnet shape	Ring magnet
Configured for number of magnets	1 piece
<b>Magnet travel speed</b>	Any
<b>Measuring frequency (internal)</b>	< 2 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

<b>Communication interface</b>	Analog
<b>Communication Interface detail</b>	Current
<b>Output signal</b>	4 mA ... 20 mA
<b>Signals</b>	
Number of signals	One output signal
<b>Load resistance</b>	100 Ω ... 500 Ω

#### Electronics

<b>Connection type</b>	Male connector, M12, 8-pin
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<b>Pinouts</b>	1=Output signal ground (0 V PIN 3); 2=Output signal ground (0 V PIN 5); 3=Signal 2; 4=n.c.; 5=Signal 1; 6=Power ground; 7=+24 V DC; 8=n.c.
<b>Male connector coding</b>	A-coded
<b>Supply voltage</b>	24 V DC ( $\pm 20\%$ )
<b>Current consumption</b>	50...100 mA
<b>Reverse polarity protection</b>	Up to $-30$ V DC
<b>Residual ripple</b>	$\leq 0.28$ V <sub>pp</sub>
<b>Dielectric strength</b>	500 V DC, 0 V against housing
<b>Over voltage protection</b>	$\leq 36$ V DC

## Mechanics

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

## Ambient data

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

<b>Items supplied</b>	Accessories not included with delivery, please order separately. Delivery without position magnet.
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## Certificates

<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓

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

### Classifications

<b>ECLASS 5.0</b>	27270705
<b>ECLASS 5.1.4</b>	27270705
<b>ECLASS 6.0</b>	27270705
<b>ECLASS 6.2</b>	27270705
<b>ECLASS 7.0</b>	27270705
<b>ECLASS 8.0</b>	27270705
<b>ECLASS 8.1</b>	27270705
<b>ECLASS 9.0</b>	27270705
<b>ECLASS 10.0</b>	27270705
<b>ECLASS 11.0</b>	27270705
<b>ECLASS 12.0</b>	27274304
<b>ETIM 5.0</b>	EC002544
<b>ETIM 6.0</b>	EC002544
<b>ETIM 7.0</b>	EC002544
<b>ETIM 8.0</b>	EC002544
<b>UNSPSC 16.0901</b>	41111613

### ring magnet



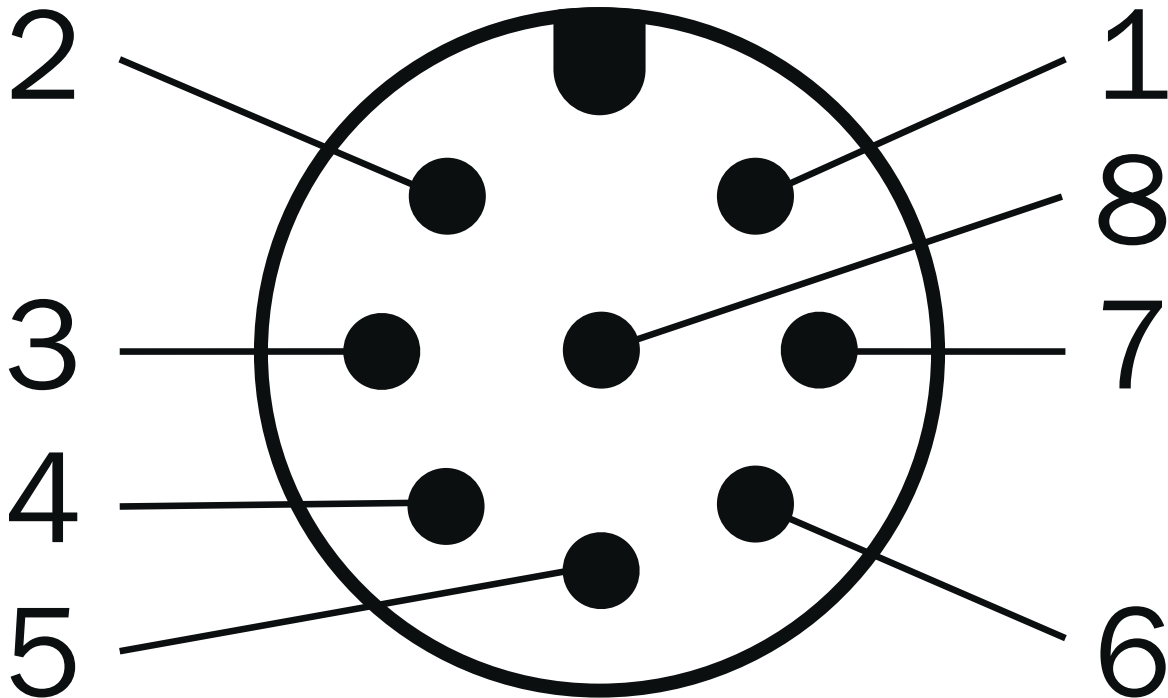
Dimensions in mm (inch)

**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, 8-pin	Signal
1	Output signal ground (0 V PIN 3)
2	Output signal ground (0 V PIN 5)

M12 male connector, 8-pin	Signal
3	Signal 2
4	n.c.
5	Signal 1
6	Power Ground
7	+24 V DC
8	n.c.

### Recommended accessories

Other models and accessories → [www.sick.com/DAX](http://www.sick.com/DAX)

	Brief description	Type	part no.
magnets			
	<ul style="list-style-type: none"> <li><b>Product segment:</b> Magnets</li> <li><b>Product:</b> Position magnets</li> <li><b>Description:</b> Position magnet for magnetostrictive linear encoder, Ø 33.0 mm max. axial surface pressure 40 N/mm<sup>2</sup></li> </ul>	MAG-O-330-01	2129167

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> <li><b>Description:</b> Incremental, shielded, SSI</li> <li><b>Connection type head A:</b> Female connector, M12, 8-pin, straight</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Incremental, SSI</li> <li><b>Cable:</b> 2 m, 8-wire, PUR, halogen-free</li> <li><b>Connection systems:</b> Flying leads</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li> </ul>	DOL-1208-G02MAC1	6032866
	<ul style="list-style-type: none"> <li><b>Description:</b> Incremental, shielded, SSI</li> <li><b>Connection type head A:</b> Female connector, M12, 8-pin, straight</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Incremental, SSI</li> <li><b>Cable:</b> 5 m, 8-wire, PUR, halogen-free</li> <li><b>Connection systems:</b> Flying leads</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li> </ul>	DOL-1208-G05MAC1	6032867
	<ul style="list-style-type: none"> <li><b>Description:</b> Incremental, shielded, SSI</li> <li><b>Connection type head A:</b> Female connector, M12, 8-pin, straight</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Incremental, SSI</li> <li><b>Cable:</b> 10 m, 8-wire, PUR, halogen-free</li> <li><b>Connection systems:</b> Flying leads</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li> </ul>	DOL-1208-G10MAC1	6032868
	<ul style="list-style-type: none"> <li><b>Description:</b> Incremental, shielded, SSI</li> <li><b>Connection type head A:</b> Female connector, M12, 8-pin, straight</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Incremental, SSI</li> <li><b>Cable:</b> 20 m, 8-wire, PUR, halogen-free</li> <li><b>Connection systems:</b> Flying leads</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li> </ul>	DOL-1208-G20MAC1	6032869
	<ul style="list-style-type: none"> <li><b>Description:</b> Incremental, shielded, SSI</li> <li><b>Connection type head A:</b> Female connector, M12, 8-pin, straight</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Incremental, SSI</li> <li><b>Cable:</b> 25 m, 8-wire, PUR, halogen-free</li> <li><b>Connection systems:</b> Flying leads</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li> </ul>	DOL-1208-G25MAC1	6067859
	<ul style="list-style-type: none"> <li><b>Description:</b> Incremental, shielded, SSI</li> <li><b>Connection type head A:</b> Female connector, M12, 8-pin, straight, A-coded</li> <li><b>Signal type:</b> Incremental, SSI</li> <li><b>Cable:</b> CAT5, CAT5e</li> <li><b>Connection systems:</b> IDC quick connection</li> <li><b>Permitted cross-section:</b> 0.14 mm<sup>2</sup> ... 0.34 mm<sup>2</sup></li> </ul>	DOS-1208-GA01	6045001
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Flying leads</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> SSI, Incremental, HIPERFACE®</li> <li><b>Items supplied:</b> By the meter</li> <li><b>Cable:</b> 8-wire, PUR, halogen-free</li> <li><b>Description:</b> SSI, shielded, Incremental, HIPERFACE®</li> </ul>	LTG-2308-MWENC	6027529
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Flying leads</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> SSI, TTL, HTL, Incremental</li> <li><b>Items supplied:</b> By the meter</li> <li><b>Cable:</b> 12-wire, UV and saltwater-resistant, PUR, halogen-free</li> <li><b>Description:</b> SSI, shielded, TTL, HTL, Incremental</li> </ul>	LTG-2612-MW	6028516

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

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