

MAGNETOSTRICTIVE LINEAR ENCODERS

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Ordering information

	Туре	Part no.
R	DAXLAN-0800BA080000W01	1133519

Illustration may differ

Mounting brackets and position magnet included. Mounting material for base not included.

Other models and accessories → www.sick.com/DAX



Detailed technical data

Performance

Linearity	$\leq 0.03\%$ F.S. (Minimum 90 $\mu m)^{(1)(2)}$
Repeatability	≤ ± 20 µm
Measured values	Positioning
Measuring range	0 mm 800 mm
Unusable range	
Null zone	55 mm
Damping zone	63 mm
Magnet type	
Magnet shape	Block magnet
Configured for number of magnets	1 piece
Magnet travel speed	Any
Measuring frequency (internal)	< 2 ms

¹⁾ 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).

 $^{2)}$ In principle, the size of the measurement deviation is limited by the resolution of the interface.

Interfaces

Communication interface	Analog	
Communication Interface detail	Current	
Output signal	4 mA 20 mA	
Signals		
Number of signals	2 output signals (one output signal + an inverted second output signal)	
Sequence of signals	Signal 1: rising, signal 2: falling	
Load resistance	100 Ω 500 Ω	
Electrical data		
Connection type	Male connector, M12, 8-pin	

5=Signal 1; 6=Power ground; 7=+24 V DC; 8=n.c.

1=Output signal ground (0 V PIN 3); 2=Output signal ground (0 V PIN 5); 3=Signal 2; 4=n.c.;

¹⁾ 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.

PIN assignment

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Male connector coding	A-coded
Supply voltage	24 V DC (± 20%)
Current consumption	50100 mA
Reverse polarity protection	Up to -30 V DC
Residual ripple	≤ 0.28 V _{pp}
Dielectric strength	500 V DC, 0 V against housing
Over voltage protection	≤ 36 V DC
MTTFd: mean time to dangerous failure	123 years ¹⁾

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Mechanical data

Mechanical design	DAX Low Profile
Material	
Housing	Aluminum (anodised), zinc, stainless steel, brass
Ambient data	
EMC	According to EN 61000-6-2 and EN 61000-6-4
Enclosure rating	IP65 / IP67 ¹⁾
Temperature	
Operating temperature range	-40 °C +85 °C
Storage temperature range	-40 °C +85 °C
Permissible relative humidity	90 % (Condensation not permitted)
Resistance to shocks	100 g, 6 ms (IEC 60068-2-27)
Resistance to vibration	8 g / 102,000 Hz according to IEC 60068-2-6 $^{2)}$

 $^{\mbox{\ 1})}$ In correctly assembled mating connector.

²⁾ Resonance frequencies can influence signal quality.

General notes

Items supplied	
	Mounting brackets and position magnet included. Mounting material for base not included.
Classifications	
eCl@ss 5.0	27270705
eCl@ss 5.1.4	27270705
eCl@ss 6.0	27270705
eCl@ss 6.2	27270705
	07070707

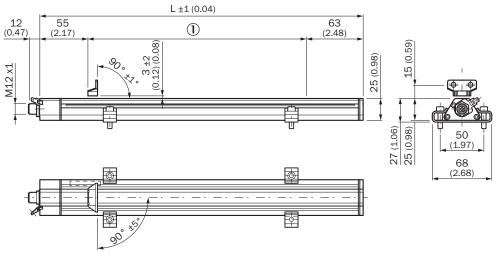
21210105
27270705
27270705
27270705
27270705
27270705
27274304

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ETIM 5.0	EC002544
ETIM 6.0	EC002544
ETIM 7.0	EC002544
ETIM 8.0	EC002544
UNSPSC 16.0901	41111613

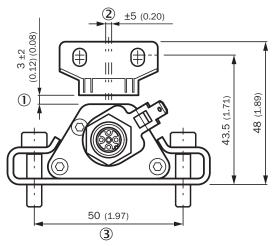
Dimensional drawing (Dimensions in mm (inch))

DAX Low Profile



① Measuring range

Distance tolerance

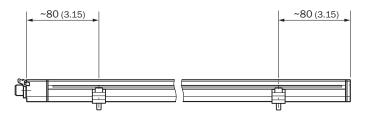


① Nominal distance + permissible amount of distance tolerance

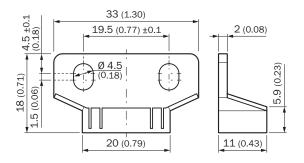
- ② Permissible center offset
- ③ Recommendation: M5 x 20

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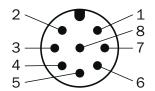
Positioning of mounting bracket



Block magnet



PIN assignment



M12 male connector, 8-pin	Signal
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.

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Recommended accessories

Other models and accessories → www.sick.com/DAX

	Brief description	Туре	Part no.
Magnets			
	Compact block magnet for magnetostrictive linear encoders	MAG-B-180-01	2129171
Plug connecto	Plug connectors and cables		
	Head A: cable Head B: Flying leads Cable: SSI, Incremental, HIPERFACE [®] , PUR, halogen-free, shielded	LTG-2308-MWENC	6027529
	Head A: cable Head B: Flying leads Cable: SSI, TTL, HTL, Incremental, PUR, halogen-free, shielded	LTG-2612-MW	6028516
	Head A: female connector, M12, 8-pin, straight Head B: Flying leads Cable: Incremental, SSI, PUR, halogen-free, shielded, 2 m	DOL-1208-G02MAC1	6032866
	Head A: female connector, M12, 8-pin, straight Head B: Flying leads Cable: Incremental, SSI, PUR, halogen-free, shielded, 5 m	DOL-1208-G05MAC1	6032867
	Head A: female connector, M12, 8-pin, straight Head B: Flying leads Cable: Incremental, SSI, PUR, halogen-free, shielded, 10 m	DOL-1208-G10MAC1	6032868
	Head A: female connector, M12, 8-pin, straight Head B: Flying leads Cable: Incremental, SSI, PUR, halogen-free, shielded, 20 m	DOL-1208-G20MAC1	6032869
	Head A: female connector, M12, 8-pin, straight Head B: Flying leads Cable: Incremental, SSI, PUR, halogen-free, shielded, 25 m	DOL-1208-G25MAC1	6067859
	Head A: female connector, M12, 8-pin, straight, A-coded Cable: Incremental, SSI, shielded	DOS-1208-GA01	6045001
Terminal and alignment brackets			
	Replacement clamping bracket for DAX $\ensuremath{\mathbb{R}}$ Low Profile without fastening material, 2 pieces	BEF-KH-LP1-02	2125244
	Replacement clamping bracket for $\ensuremath{DAX}\xspace^{\ensuremath{\mathbb{B}}}$ Low Profile without fastening material, 3 pieces	BEF-KH-LP1-03	2125245
	Replacement clamping bracket for DAX® Low Profile without fastening material, 4 pieces	BEF-KH-LP1-04	2125246

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We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

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