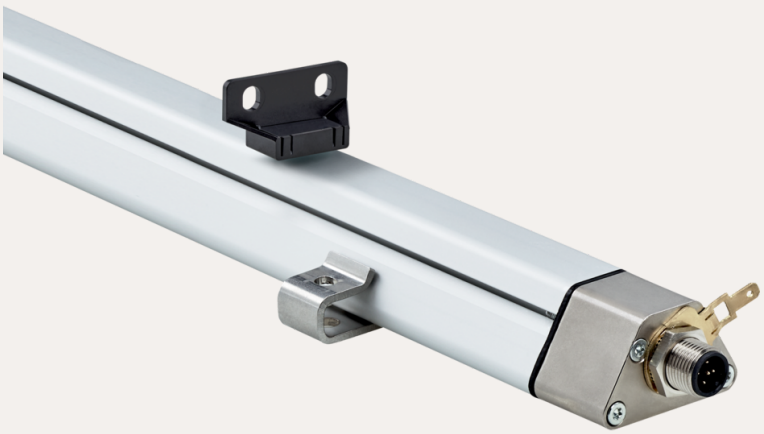
SICK.COM



DATA SHEET

# DAXLAN-0175BA080000D00

DAX
Magnetostrictive linear encoders

SICK Sensor Intelligence



Illustration may differ

# MAGNETOSTRICTIVE LINEAR ENCODERS

# DAXLAN-0175BA080000D00

## ORDERING INFORMATION

| Type | part no. |
|---|---|
| DAXLAN-0175BA080000D00 | 1137377 |

Further device versions and accessories at www.sick.com/DAX

## DETAILED TECHNICAL DATA

### SAFETY-RELATED PARAMETERS

| | |
|---|---|
| $MTTF_D$ (mean time to dangerous failure) | 123 years [1] |

[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.

### PERFORMANCE

| | |
|---|---|
| Linearity | ≤ 0.03% F.S. (Minimum 90 µm) [1] [2] |
| Repeatability | ≤ ± 20 µm |
| Measured values | Positioning |
| Measuring range | 0 mm ... 175 mm |
| Unusable range | |
| Null zone | 55 mm |
| Damping zone | 63 mm |
| Magnet type | |
| Magnet shape | Small block magnet MAG-B-180-01 |
| Dimensions of magnet | 11 mm x 33 mm x 18 mm |
| 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 | - |
| Communication Interface detail | Current |
| Signal type | Analog (current) |

| | |
|---|---|
| Output signal | 4 mA ... 20 mA |
| Signals | |
| Number of signals | One output signal |
| Sequence of signals | Rising |
| Load resistance | 100 Ω ... 500 Ω |

## ELECTRONICS

| | |
|---|---|
| Connection type | Male connector, M12, 5-pin |
| Pinouts | 1=+24 V DC; 2=Signal 1; 3=Power Ground; 4=n.c.; 5=Output Signal Ground (0 V) |
| Male connector coding | A-coded |
| Supply voltage | 24 V DC (± 20%) |
| Current consumption | 50 ... 100 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 |

## MECHANICS

| | |
|---|---|
| Mechanical design | DAX Low Profile |
| Material | |
| Housing | Aluminum (anodised), zinc, stainless steel, brass |
| Mounting bracket | Stainless steel 1.4301 |

## 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 / 10...2,000 Hz according to IEC 60068-2-6 [2] |

[1] In correctly assembled mating connector.

[2] Resonance frequencies can influence signal quality.

## GENERAL NOTES

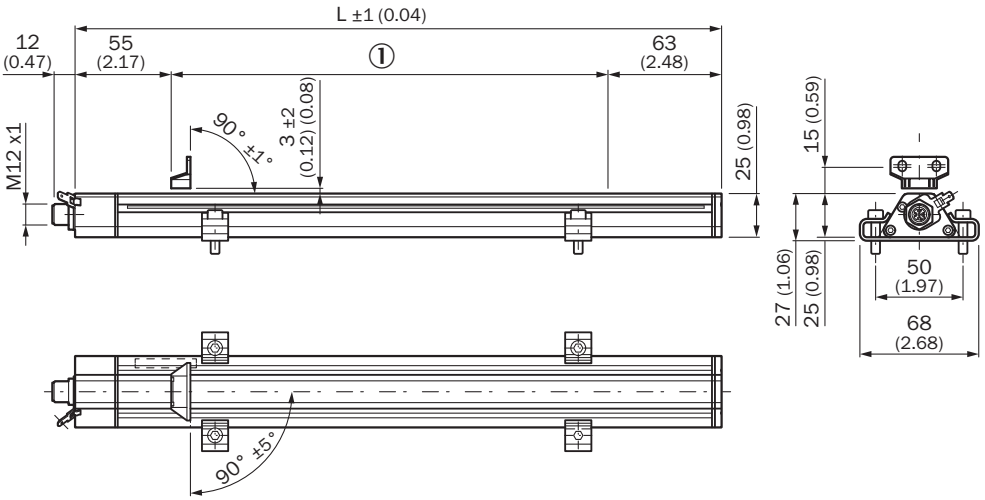
| | |
|---|---|
| Items supplied | Mounting brackets and position magnet included. Mounting material for base not included. |

## CERTIFICATES

| | |
|---|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China RoHS | ✓ |
| cULus certificate | ✓ |

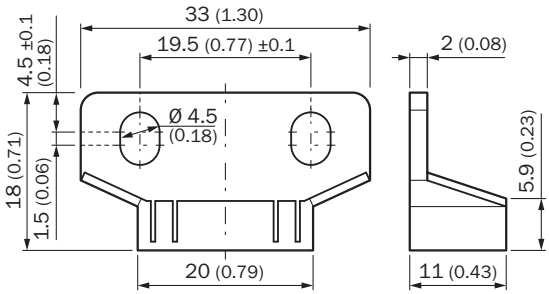
| | |
|---|---|
| Information according to Art. 3 of Data Act (Regulation EU 2023/2854) | ✓ |

**DAX LOW PROFILE**



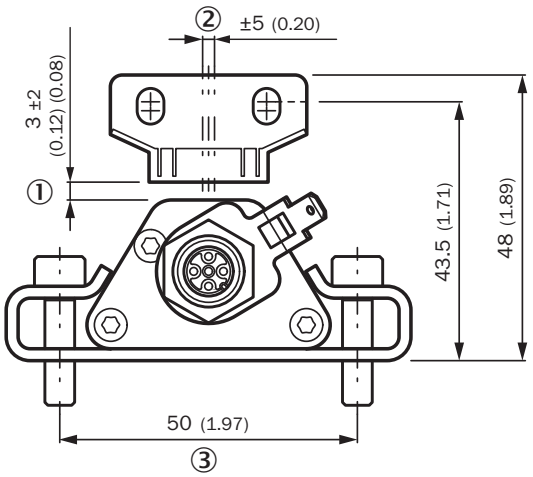

Dimensions in mm (inch)
① Measuring range

**BLOCK MAGNET MAG-B-180-01 (2129171)**



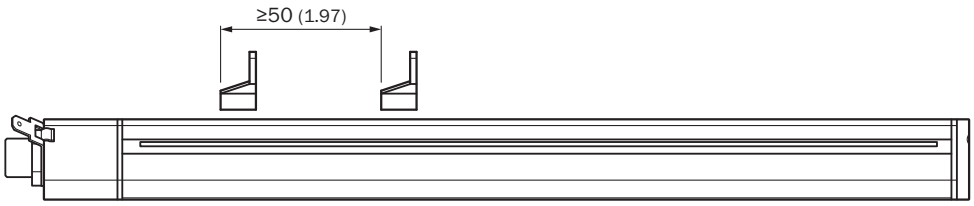

Dimensions in mm (inch)

**DISTANCE TOLERANCE**



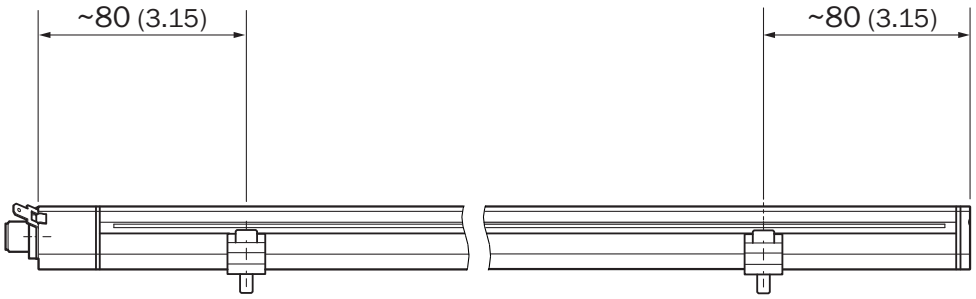

Dimensions in mm (inch)
① nominal distance + permissible amount of distance tolerance
② permissible center offset
③ recommendation: M5 x 20

**DISTANCE OF POSITION MAGNETS**



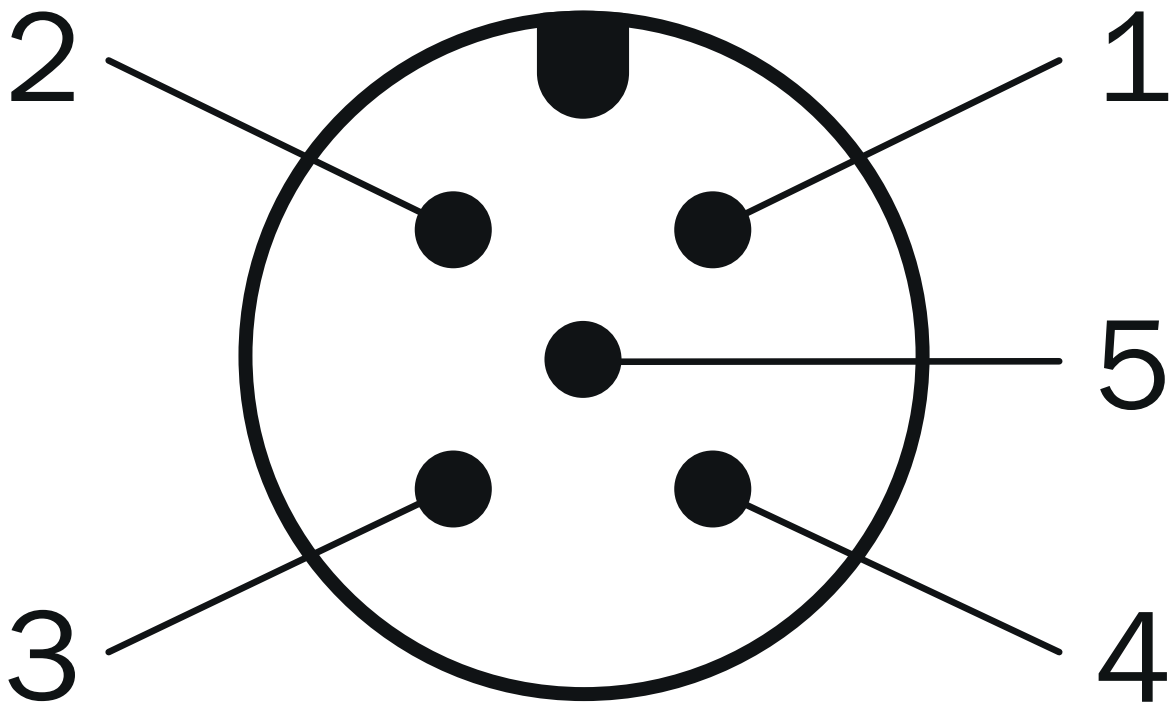

Dimensions in mm (inch)

**POSITIONING OF MOUNTING BRACKET**




Dimensions in mm (inch)

**ANSCHLUSSBELEGUNG**




| Plug, M12, 5-pin | Signal |
|---|---|
| 1 | +24 V DC |
| 2 | Signal 1 |
| 3 | Power Ground |
| 4 | n.c. |
| 5 | Output signal ground (0 V) |

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/1137377

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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

SICK

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