



DAXSAN-0400SA040900D00

DAX

MAGNETOSTRICTIVE LINEAR ENCODERS

**SICK**  
Sensor Intelligence.



Illustration may differ

### Ordering information

| Type                   | Part no. |
|------------------------|----------|
| DAXSAN-0400SA040900D00 | 1139625  |

Mounting brackets enclosed, mounting material for base not included.

Position magnet not included.

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> |
|--|-------------------------|

<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 ... 400 mm                               |
| <b>Unusable range</b>                 |   |
| Null zone                             | 25 mm   |
| Damping zone                          | 63 mm   |
| <b>Magnet type</b>                    |   |
| Magnet shape                          | Slide magnet                                  |
| Configured for number of magnets      | 1 piece                                       |
| <b>Magnet travel speed</b>            | ≤ 10 m/s                                      |
| <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 |
| Sequence of signals                   | Rising            |
| <b>Load resistance</b>                | 100 Ω ... 500 Ω   |

### Electrical data

|  |  |
|--|--|
| <b>Connection type</b>                       | Male connector, M12, 5-pin   |
| <b>PIN assignment</b>                        | 1=+24 V DC; 2=Signal 1; 3=Power ground; 4=N.C.; 5=Output signal ground (0 V) |
| <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   |
| <b>MTTFd: mean time to dangerous failure</b> | 123 years <sup>1)</sup>  |

<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.

### Mechanical data

|                          |   |
|--------------------------|---|
| <b>Mechanical design</b> | DAX Slider  |
| <b>Material</b>          |   |
| Housing                  | Aluminum (anodised), zinc, stainless steel, brass |
| Mounting bracket         | Stainless steel 1.4301                            |

### 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 ... $+85$ °C                           |
| <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 |

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

### General notes

|                       |   |
|-----------------------|---|
| <b>Items supplied</b> | Mounting brackets enclosed, mounting material for base not included.<br>Position magnet not included. |
|-----------------------|---|

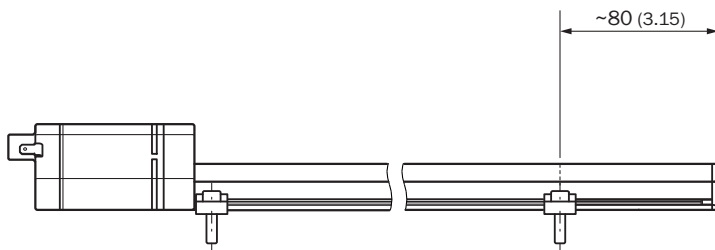
### Classifications

|                     |          |
|---------------------|----------|
| <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 |

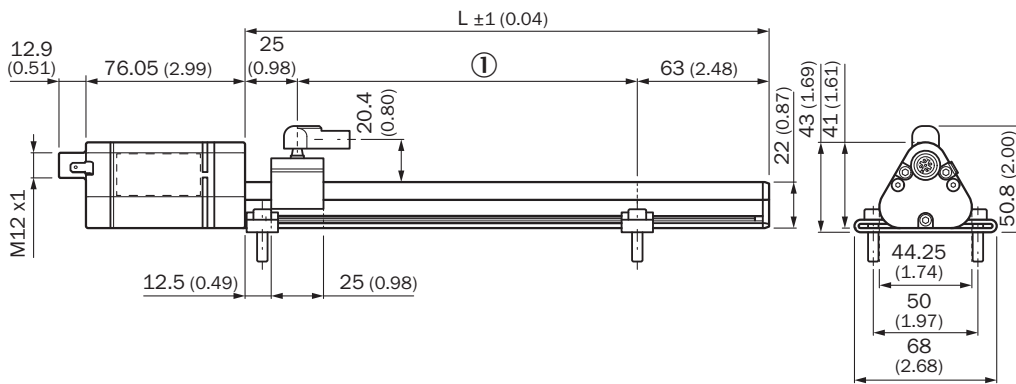
|                       |          |
|-----------------------|----------|
| <b>ECLASS 10.0</b>    | 27270705 |
| <b>ECLASS 11.0</b>    | 27270705 |
| <b>ECLASS 12.0</b>    | 27274304 |
| <b>ETIM 5.0</b>       | EC002544 |
| <b>ETIM 6.0</b>       | EC002544 |
| <b>ETIM 7.0</b>       | EC002544 |
| <b>ETIM 8.0</b>       | EC002544 |
| <b>UNSPSC 16.0901</b> | 41111613 |

### Dimensional drawing (Dimensions in mm (inch))

Positioning of mounting bracket

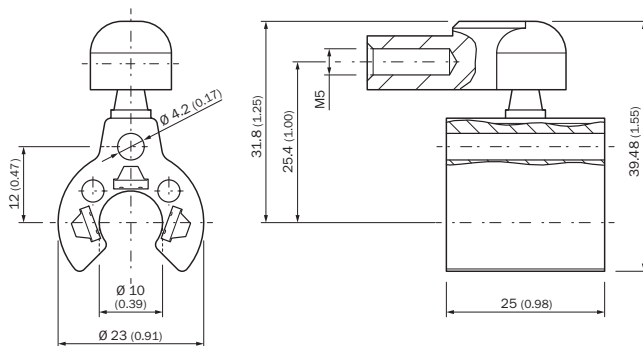


DAX Slider

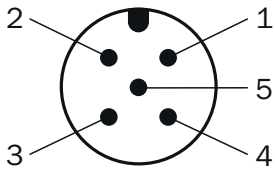


① Measuring range

Slide magnet





## PIN assignment



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

## Recommended accessories

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

|   | Brief description   | Type          | Part no. |
|---|---|---------------|----------|
| <b>Magnets</b>  |   |               |          |
|  | Slide magnet for magnetostrictive linear encoders                                 | MAG-S-H29-01  | 2129172  |
| <b>Terminal and alignment brackets</b>  |   |               |          |
|  | Replacement clamping bracket for DAX® Slider without fastening material, 2 pieces | BEF-KH-SL1-02 | 2125240  |
|   | Replacement clamping bracket for DAX® Slider without fastening material, 3 pieces | BEF-KH-SL1-03 | 2125241  |
|   | Replacement clamping bracket for DAX® Slider without fastening material, 4 pieces | BEF-KH-SL1-04 | 2125242  |

## 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.

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.

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.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)