



DAXSON-2500S1040901300

DAX

MAGNETOSTRICTIVE LINEAR ENCODERS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

| Type | Part no. |
|------------------------|----------|
| DAXSON-2500S1040901300 | 1132836 |

Mounting brackets enclosed, mounting material for base not included.

Position magnet not included.

Other models and accessories → 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 | ≤ 0.02% F.S. (Minimum 250 µm) ^{1) 2)} |
| Repeatability | ≤ ± 100 µm |
| Measured values | Positioning, speed |
| Measuring range | 0 mm ... 2,500 mm |
| Unusable range | |
| Null zone | 25 mm |
| Damping zone | 63 mm |
| Magnet type | |
| Magnet shape | Slide magnet |
| Configured for number of magnets | 1 piece |
| Magnet travel speed | ≤ 10 m/s |
| Resolution | 100 µm |
| Cycle time | 1 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 | 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 | 7F |

Electrical data

| | |
|--|---|
| Connection type | Male connector, M12, 5-pin |
| PIN assignment | 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 | $\leq 0.28 V_{pp}$ |
| Dielectric strength | 500 V DC, 0 V against housing |
| Over voltage protection | ≤ 36 V DC |
| MTTFd: mean time to dangerous failure | 123 years ¹⁾ |

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.

Mechanical data

| | |
|--------------------------|---|
| Mechanical design | DAX Slider |
| 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 | 15 g / 10...2,000 Hz according to IEC 60068-2-6 |

¹⁾ In correctly assembled mating connector.

General notes

| | |
|-----------------------|---|
| Items supplied | Mounting brackets enclosed, mounting material for base not included. Position magnet not included. |
|-----------------------|---|

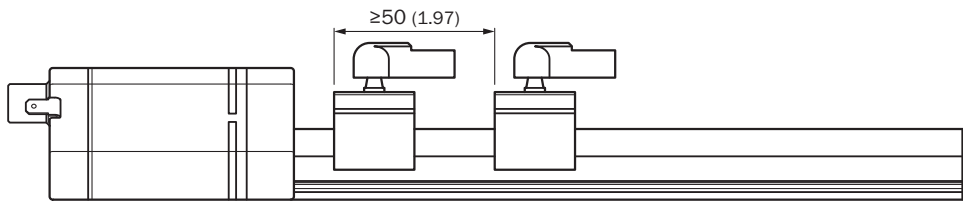
Classifications

| | |
|---------------------|----------|
| ECLASS 5.0 | 27270705 |
| ECLASS 5.1.4 | 27270705 |
| ECLASS 6.0 | 27270705 |
| ECLASS 6.2 | 27270705 |
| ECLASS 7.0 | 27270705 |
| ECLASS 8.0 | 27270705 |
| ECLASS 8.1 | 27270705 |
| ECLASS 9.0 | 27270705 |
| ECLASS 10.0 | 27270705 |

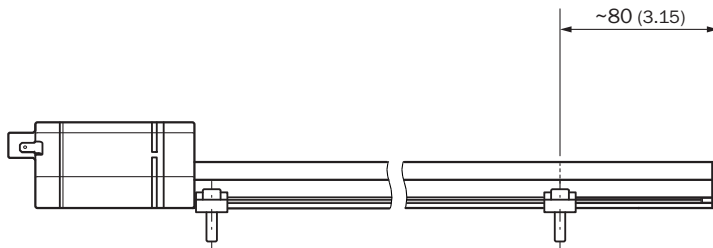
| | |
|-----------------------|----------|
| ECLASS 11.0 | 27270705 |
| ECLASS 12.0 | 27274304 |
| ETIM 5.0 | EC002544 |
| ETIM 6.0 | EC002544 |
| ETIM 7.0 | EC002544 |
| ETIM 8.0 | EC002544 |
| UNSPSC 16.0901 | 41111613 |

Dimensional drawing (Dimensions in mm (inch))

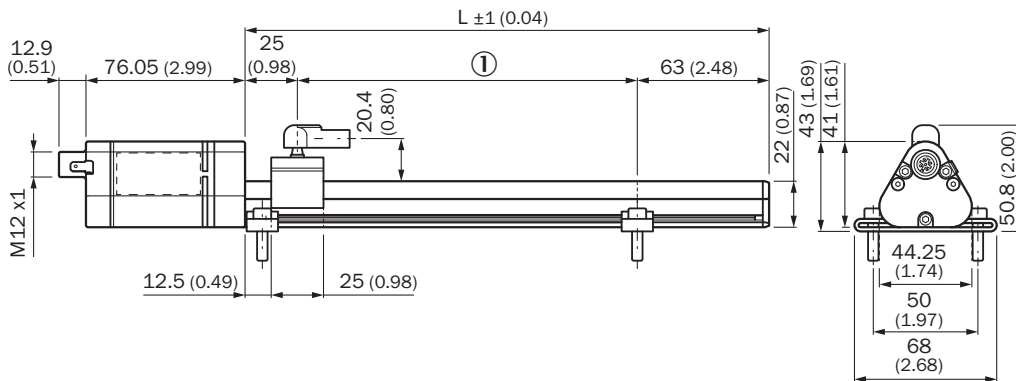
Distance of position magnets



Positioning of mounting bracket

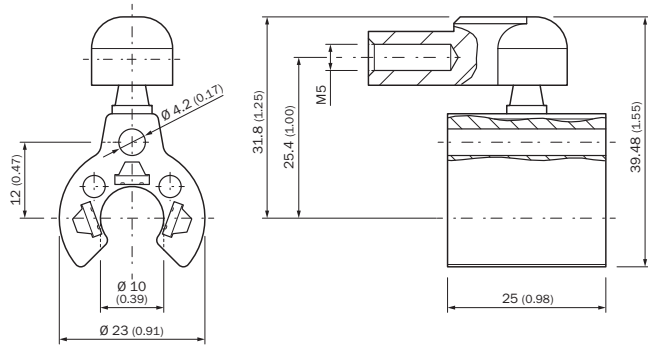


DAX Slider

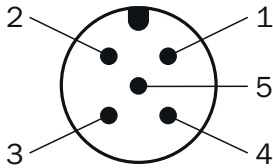


① Measuring range

Slide magnet





PIN assignment





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

Recommended accessories

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

| | Brief description | Type | Part no. |
|---|---|---------------|----------|
| Magnets | | | |
|  | Slide magnet for magnetostrictive linear encoders | MAG-S-H29-01 | 2129172 |
| Terminal and alignment brackets | | | |
|  | 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 |

| | Brief description | Type | Part no. |
|---|---|--------------------|----------|
| Others | | | |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Signal type: Fieldbus, CANopen, DeviceNet™ Cable: 10 m, 4-wire, PUR, halogen-free Description: Fieldbus, CANopen, DeviceNet™, shielded Application: Drag chain operation, Zones with oils and lubricants | YF2A15-100C1BM2A15 | 2106282 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Fieldbus, CANopen, DeviceNet™ Cable: 10 m, 4-wire, PUR, halogen-free Description: Fieldbus, CANopen, DeviceNet™, shielded Application: Drag chain operation, Zones with oils and lubricants | YF2A15-100C1BXLEAX | 2106286 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 5-pin, straight Signal type: CANopen Description: CANopen, unshielded, CAN male connector, with terminating resistor | CAN male connector | 6021167 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, X-coded Signal type: CANopen, DeviceNet™ Description: CANopen, DeviceNet™, shielded, Head A: female connector, M12, 5-pin, straight, shielded, for cable diameter 4.5 mm ... 7 mm Head B: - Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² | DOS-1205-GA | 6027534 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, A-coded Connection type head B: Male connector, M12, 5-pin, A-coded Connection type head C: Female connector, M12, 5-pin, A-coded Description: T-piece for simultaneous connection to sender and receiver, splits the cable from the control cabinet to the sender and receiver Note: 5-pin | DSC-1205T000025KMO | 6030664 |
|  | <ul style="list-style-type: none"> Connection type head A: Flying leads Connection type head B: Flying leads Signal type: CANopen, DeviceNet™ Cable: 4-wire, twisted pair Description: CANopen, DeviceNet™, shielded Note: Wire shield Al-Pt film, overall shield C-screen tin-plated | LTG-2804-MW | 6028328 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 5-pin, straight, A-coded Signal type: CANopen, DeviceNet™ Description: CANopen, DeviceNet™, shielded, Head A: male connector, M12, 5-pin, straight, A coded, shielded, for cable diameter 4 mm ... 8 mm Head B: - Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² | STE-1205-GA | 6027533 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Female connector, M12, 5-pin, straight, A-coded Signal type: CAN, Power Cable: 0.5 m, 5-wire Description: CAN, Power, Y-CAN cable | Y-CAN cable | 6027647 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Signal type: Fieldbus, CANopen, DeviceNet™ Cable: 2 m, 4-wire, PUR, halogen-free Description: Fieldbus, CANopen, DeviceNet™, shielded Application: Drag chain operation, Zones with oils and lubricants | YF2A15-020C1BM2A15 | 2106279 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Fieldbus, CANopen, DeviceNet™ Cable: 2 m, 4-wire, PUR, halogen-free Description: Fieldbus, CANopen, DeviceNet™, shielded Application: Drag chain operation, Zones with oils and lubricants | YF2A15-020C1BXLEAX | 2106283 |

| | Brief description | Type | Part no. |
|---|--|--------------------|----------|
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head B: Male connector, M12, 5-pin, straight, A-coded • Signal type: Fieldbus, CANopen, DeviceNet™ • Cable: 5 m, 4-wire, PUR, halogen-free • Description: Fieldbus, CANopen, DeviceNet™, shielded • Application: Drag chain operation, Zones with oils and lubricants | YF2A15-050C1BM2A15 | 2106281 |
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Fieldbus, CANopen, DeviceNet™ • Cable: 5 m, 4-wire, PUR, halogen-free • Description: Fieldbus, CANopen, DeviceNet™, shielded • Application: Drag chain operation, Zones with oils and lubricants | YF2A15-050C1BXLEAX | 2106284 |

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