Product data sheet

DAXTON-1100R41F0101600

DAX

MAGNETOSTRICTIVE LINEAR ENCODERS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	Part no.
DAXTON-1100R41F0101600	1135112

Accessories not included with delivery, please order separately. Delivery with position magnet.

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 60 µm) [1] [2]
Repeatability	≤ ± 20 µm
Measured values	Positioning, speed
Measuring range	0 mm ... 1,100 mm
Unusable range	
Null zone	50 mm
Damping zone	63 mm
Magnet type	
Magnet shape	Ring magnet
Configured for number of magnets	1 piece
Magnet travel speed	Any
Resolution	10 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	500 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 (± 20%)
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]

[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 Threaded
Thread	
Thread shape	M18 x 1.5
Thread offset	Without thread offset
Material	
Pressure pipe	Stainless steel 1.4404 (AISI 316L)
Housing	Aluminum (anodised), zinc, stainless steel, brass
Flange	Stainless steel 1.4305 (AISI 303)

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 ... +65 °C [2]
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
Nominal operating pressure (P_N)	350 bar
Max. overload pressure during operation (P_N x 1.2)	420 bar
Max. test pressure in cylinder (P_N x 1.5)	530 bar

[1] In correctly assembled mating connector.

[2] Caused by dry storage of the O-ring in uninstalled state (no coating with oil).

General notes

Items supplied	Accessories not included with delivery, please order separately. Delivery with position magnet.

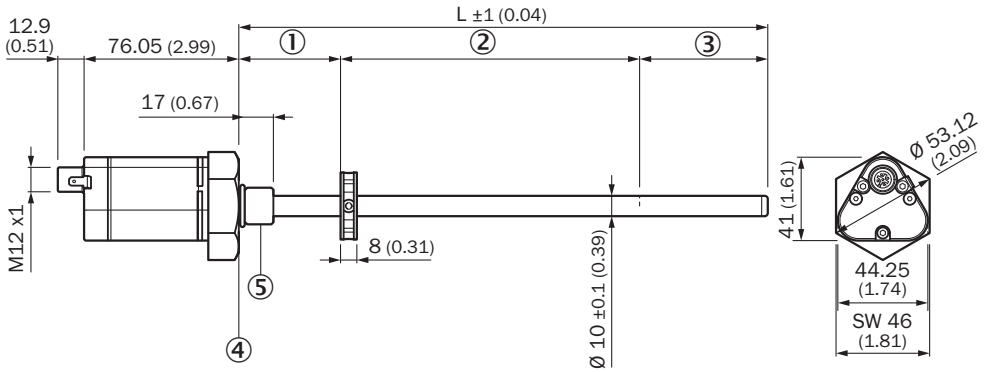
Classifications

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

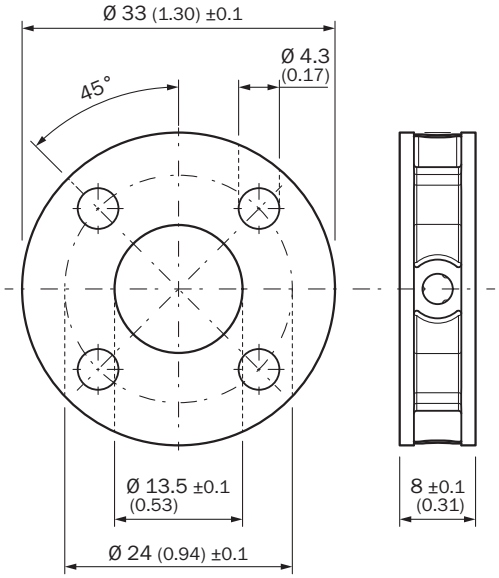
Dimensional drawing (Dimensions in mm (inch))

DAX Threaded

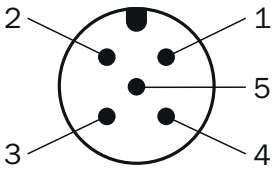


① Null zone
② Measuring range
③ Damping zone
④ Flat support surface
⑤ M18x1.5 / UNF 3/4”-16

Ring 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			
	Position magnet for magnetostrictive linear encoder, Ø 33.0 mm, max. axial surface pressure 40 N/mm²	MAG-0-330-01	2129167

	Brief description	Type	Part no.
Others			
	• **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
	• **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
	• **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
	• **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
	• **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-1205T000025KM0	6030664
	• **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
	• **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
	• **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
	• **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
	• **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.
	• **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
	• **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

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.”

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