

STL70-2HA8

STL/ETL70

LINEAR MOTOR FEEDBACK SYSTEMS

SICK
Sensor Intelligence.

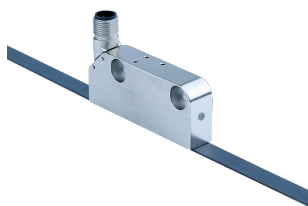


Illustration may differ

Ordering information

Type	Part no.
STL70-2HA8	1135012

Magnetic tape not included with delivery

Other models and accessories → www.sick.com/STL_ETL70



Detailed technical data

Features

Items supplied	Magnetic tape not included with delivery
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Safety-related parameters

Safety integrity level	SIL 2 (IEC 61508), Max. SIL2 (EN 62061) ¹⁾
Category	3 (EN ISO 13849)
Maximum demand rate	Continuous (analog signals)
Performance level	PL d (EN ISO 13849)
PFH (mean probability of a dangerous failure per hour)	1.94×10^{-8} ²⁾
T_M (mission time)	20 years (EN ISO 13849)
Safety-related accuracy	± 0.5 mm, = ± 1/4 pin length
Safety-related measuring step	0.25 mm

¹⁾ For more detailed information on the exact configuration of your machine/unit, please consult your relevant SICK branch office.

²⁾ The specified values apply to a diagnostic coverage rate of 90%, which must be achieved by the external drive system.

Performance

Measuring range	0 mm ... 16,384 mm
Resolution	0.448 μm, For interpolation of the sine/cosine signals with e.g. 12 bit
Length of period	2 mm
Traversing speed	4.5 m/s, ≤ 10 m/s up to which the absolute position can be reliably produced, dynamic operation (Sin/Cos)
Repeatability	< 1 μm
Max. reading distance	0.8 mm

Interfaces

Communication interface	HIPERFACE®
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Electrical data

Supply voltage	7 V DC ... 12 V DC
Current consumption	< 200 mA
Connection type	Male connector, M12, 8-pin, universal ¹⁾

¹⁾ The universal connection is rotatable so that it is possible to position the connector in the radial or axial direction.

Status display	RGB LED
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¹⁾ The universal connection is rotatable so that it is possible to position the connector in the radial or axial direction.

Mechanical data

Dimensions	See dimensional drawing
Scope of delivery	Magnetic tape not included with delivery
Read head material	Zinc diecast

Ambient data

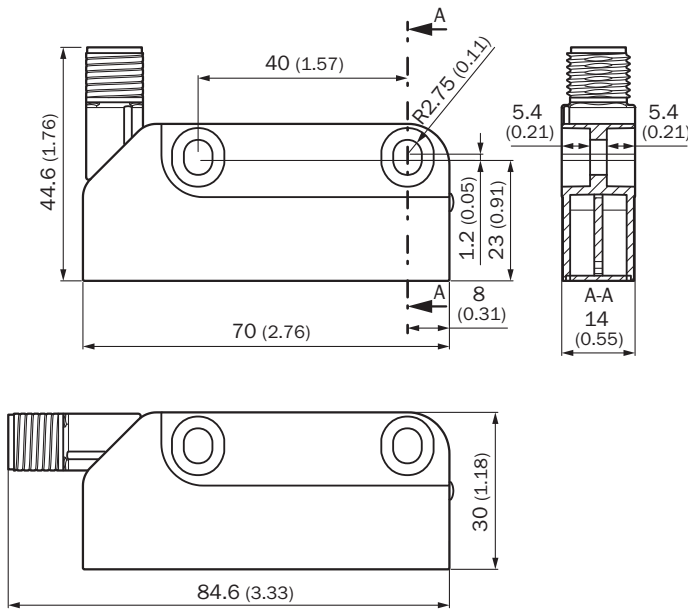
EMC	According to EN 61000-6-2, EN 61000-6-3 and IEC 61000-6-7 ¹⁾
Enclosure rating	IP65, with mating connector inserted (IEC 60529)
Operating temperature range	-30 °C ... +85 °C
Storage temperature range	-40 °C ... +85 °C, without package
Permissible relative humidity	100 %, condensation permitted
Resistance to shocks	500 m/s ² , 11 ms (EN 60068-2-27)
Resistance to vibration	100 m/s ² , 10 Hz ... 2,000 Hz (EN 60068-2-6)

¹⁾ According to the listed standards, EMC is guaranteed if the motor feedback system is connected to the central grounding point of the motor controller via a cable shield and the encoder housing lays over a large area of the motor potential. If other shielding concepts are used, users must perform their own test.

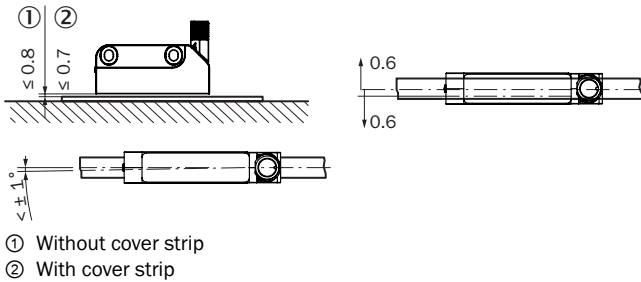
Classifications

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	27273902
ETIM 5.0	EC002544
ETIM 6.0	EC002544
ETIM 7.0	EC002544
ETIM 8.0	EC001486
UNSPSC 16.0901	41111613

Dimensional drawing (Dimensions in mm (inch))







Position tolerance



Recommended accessories

Other models and accessories → www.sick.com/STL_ETL70

	Brief description	Type	Part no.
Magnets	Magnetic tape length: 1.08 m, magnetic tape width: 10 mm, magnetic tape material: 17410 hard ferrite 9/28 P, substrate tape material: stainless steel, period length 2 mm, operating temperature range: -20 °C ... 100 °C, storage temperature range: -30 °C ... 100 °C, temperature coefficient: (11 ± 1) µm/K/m	BTL70-01000	6078482
	Magnetic tape length: 3.08 m, magnetic tape width: 10 mm, magnetic tape material: 17410 hard ferrite 9/28 P, substrate tape material: stainless steel, period length 2 mm, operating temperature range: -20 °C ... 100 °C, storage temperature range: -30 °C ... 100 °C, temperature coefficient: (11 ± 1) µm/K/m	BTL70-03000	6078485

	Brief description	Type	Part no.
	Magnetic tape length: 4.08 m, magnetic tape width: 10 mm, magnetic tape material: 17410 hard ferrite 9/28 P, substrate tape material: stainless steel, period length 2 mm, operating temperature range: -20 °C ... 100 °C, storage temperature range: -30 °C ... 100 °C, temperature coefficient: (11 ± 1) µm/K/m	BTL70-04000	6078486
	Magnetic tape length: 6.08 m, magnetic tape width: 10 mm, magnetic tape material: 17410 hard ferrite 9/28 P, substrate tape material: stainless steel, period length 2 mm, operating temperature range: -20 °C ... 100 °C, storage temperature range: -30 °C ... 100 °C, temperature coefficient: (11 ± 1) µm/K/m	BTL70-06000	6078487
	Magnetic tape length: 8.08 m, magnetic tape width: 10 mm, magnetic tape material: 17410 hard ferrite 9/28 P, substrate tape material: stainless steel, period length 2 mm, operating temperature range: -20 °C ... 100 °C, storage temperature range: -30 °C ... 100 °C, temperature coefficient: (11 ± 1) µm/K/m	BTL70-08000	6078488
	Magnetic tape length: 10.08 m, magnetic tape width: 10 mm, magnetic tape material: 17410 hard ferrite 9/28 P, substrate tape material: steel, period length 2 mm, operating temperature range: -20 °C ... 100 °C, storage temperature range: -30 °C ... 100 °C, temperature coefficient: (11 ± 1) µm/K/m	BTL70-10000	6078489
	Magnetic tape length: 12.08 m, magnetic tape width: 10 mm, magnetic tape material: 17410 hard ferrite 9/28 P, substrate tape material: steel, period length 2 mm, operating temperature range: -20 °C ... 100 °C, storage temperature range: -30 °C ... 100 °C, temperature coefficient: (11 ± 1) µm/K/m	BTL70-12000	6078490
	Magnetic tape length: 14.08 m, magnetic tape width: 10 mm, magnetic tape material: 17410 hard ferrite 9/28 P, substrate tape material: steel, period length 2 mm, operating temperature range: -20 °C ... 100 °C, storage temperature range: -30 °C ... 100 °C, temperature coefficient: (11 ± 1) µm/K/m	BTL70-14000	6078491
	Magnetic tape length: 16.5 m, magnetic tape width: 10 mm, magnetic tape material: 17410 hard ferrite 9/28 P, substrate tape material: steel, period length 2 mm, operating temperature range: -20 °C ... 100 °C, storage temperature range: -30 °C ... 100 °C, temperature coefficient: (11 ± 1) µm/K/m	BTL70-16300	6078492
Programming and configuration tools			
	SVip® LAN programming tool for all motor feedback systems	PGT-11-S LAN	1057324
Nuts and screws			
	Mounting kit for SIL2 applications for safe and easy mounting of the TTK70S; 2x titan cylinder screws, 2x galvanized steel lock washers, 2x washers, 2x female connectors	BEF-MK-S12	2105618
Others			
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 8-pin, straight • Connection type head B: Flying leads • Signal type: Incremental, SSI • Cable: 2 m, 8-wire, PUR, halogen-free • Description: Incremental, SSI, shielded, Head A: female connector, M12, 8-pin, straight Head B: cable Cable: suitable for drag chain, PVC, shielded, 4 x 2 x 0.25 mm², Ø 7.0 mm • Connection systems: Flying leads 	DOL-1208-G02MAC1	6032866
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 8-pin, straight • Connection type head B: Flying leads • Signal type: Incremental, SSI • Cable: 5 m, 8-wire, PUR, halogen-free • Description: Incremental, SSI, shielded, Head A: female connector, M12, 8-pin, straight Head B: cable Cable: suitable for drag chain, PVC, shielded, 4 x 2 x 0.25 mm², Ø 7.0 mm • Connection systems: Flying leads 	DOL-1208-G05MAC1	6032867

	Brief description	Type	Part no.
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 8-pin, straight • Connection type head B: Flying leads • Signal type: Incremental, SSI • Cable: 10 m, 8-wire, PUR, halogen-free • Description: Incremental, SSI, shielded, Head A: female connector, M12, 8-pin, straight Head B: cable Cable: suitable for drag chain, PVC, shielded, 4 x 2 x 0.25 mm², Ø 7.0 mm • Connection systems: Flying leads 	DOL-1208-G10MAC1	6032868
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 8-pin, straight • Connection type head B: Flying leads • Signal type: Incremental, SSI • Cable: 20 m, 8-wire, PUR, halogen-free • Description: Incremental, SSI, shielded, Head A: female connector, M12, 8-pin, straight Head B: cable Cable: suitable for drag chain, PVC, shielded, 4 x 2 x 0.25 mm², Ø 7.0 mm • Connection systems: Flying leads 	DOL-1208-G20MAC1	6032869
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 8-pin, straight • Connection type head B: Flying leads • Signal type: Incremental, SSI • Cable: 25 m, 8-wire, PUR, halogen-free • Description: Incremental, SSI, shielded, Head A: female connector, M12, 8-pin, straight Head B: cable Cable: suitable for drag chain, PVC, shielded, 4 x 2 x 0.25 mm², Ø 7.0 mm • Connection systems: Flying leads 	DOL-1208-G25MAC1	6067859
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 8-pin, angled • Connection type head B: Flying leads • Signal type: HIPERFACE[®], Incremental • Cable: 2 m, 8-wire, PUR, halogen-free • Description: HIPERFACE[®], Incremental, shielded 	DOL-1208-W02MAC1	6037724
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 8-pin, angled • Connection type head B: Flying leads • Signal type: HIPERFACE[®], Incremental • Cable: 5 m, 8-wire, PUR, halogen-free • Description: HIPERFACE[®], Incremental, shielded 	DOL-1208-W05MAC1	6037725
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 8-pin, angled • Connection type head B: Flying leads • Signal type: HIPERFACE[®], Incremental • Cable: 10 m, 8-wire, PUR, halogen-free • Description: HIPERFACE[®], Incremental, shielded 	DOL-1208-W10MAC1	6037726
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 8-pin, angled • Connection type head B: Flying leads • Signal type: HIPERFACE[®], Incremental • Cable: 20 m, 8-wire, PUR • Description: HIPERFACE[®], Incremental, shielded 	DOL-1208-W20MAC1	6037727
	LTG-2708-MW	LTG-2708-MW	6028361

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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