



LINEAR MOTOR FEEDBACK SYSTEMS



LINEAR MOTOR FEEDBACK SYSTEMS



Ordering information

Туре	Part no.
TTK50-HXJ0-K02	1057791

Illustration may differ

Magnetic tape not included with delivery

Other models and accessories → www.sick.com/TTK50

CE

Detailed technical data

Features

Items supplied	Magnetic tape not included with delivery
Safety-related parameters	
$\ensuremath{MTTF}_{\ensuremath{D}}$ (mean time to dangerous failure)	59 years (EN ISO 13849) 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 60°C, frequency of use 8760 h/a. All electronic failures are considered hazardous. For more information, see document no. 8015532.

Performance

Measuring step	$0.244\ \mu m$ For interpolation of the sine/cosine signals with, e. g., 12 bits
Measuring range	0 mm 940 mm
Resolution	1 µm
Length of period	1 mm
Traversing speed	1.3 m/s, \leq 10 m/s up to which the absolute position can be reliably produced, dynamic operation (Sin/Cos)
Repeatability	< 5 µm
System accuracy	+20 °C
Measured value backlash	< 10 µm

Interfaces

Code type	Binary
Available memory area	1,972 Byte (E ² PROM 2048)

Electrical data

Supply voltage	7 V DC 12 V DC
Recommended supply voltage	8 V DC
Operating current	\leq 55 mA (without load) ¹⁾
Connection type	Cable, 8-wire (4 x 2 x 0.15 mm²), 0.5 m
MTTFd: mean time to dangerous failure	59 years (EN ISO 13849) ²⁾

 $^{\mbox{1}\mbox{)}}$ 100 mA approx. during adjustment.

²⁾ 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 60°C, frequency of use 8760 h/a. All electronic failures are considered hazardous. For more information, see document no. 8015532.

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Mechanical data

Dimensions	See dimensional drawing
Scope of delivery	Magnetic tape not included with delivery
Weight	0.06 kg, without cable
Read head material	Zinc diecast

Ambient data

EMC	According to EN 61000-6-2 and EN 61000-6-3 $^{1)}$
Enclosure rating	IP67, with mating connector inserted (IEC 60529)
Operating temperature range	-30 °C +80 °C
Storage temperature range	-40 °C +85 °C, without package
Permissible relative humidity	100 %, condensation permitted
Resistance to shocks	30 g, 6 ms (EN 60068-2-27)
Resistance to vibration	20 g, 10 Hz 2,000 Hz (EN 60068-2-6)
Maximum permitted ambient field strength	< 3 kA/m 4 kA/m (3.8 mT 5 mT), to guarantee compliance with the quoted accuracy values $^{\rm 2)}$
Maximum permitted field strength	< 150 kA/m (< 190 mT), to ensure that the magnetic tape is not permanently damaged

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.

²⁾ The maximum permitted external field influence is reached when the position value deviates from the original value (without external field influence) by more than 5 µm. This value is reached when, at the sensor location, a field strength of 3 kA/m to 4 kA/m (3.8 mT to 5 mT) occurs in addition to the field strength of the magnetic tape.

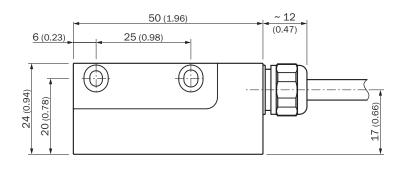
Classifications

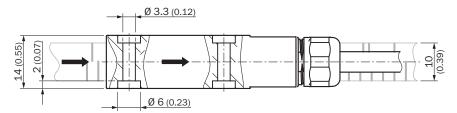
ECLASS 5.0	27270590
ECLASS 5.1.4	27270590
ECLASS 6.0	27270590
ECLASS 6.2	27270590
ECLASS 7.0	27270590
ECLASS 8.0	27270590
ECLASS 8.1	27270590
ECLASS 9.0	27270590
ECLASS 10.0	27273805
ECLASS 11.0	27273902
ECLASS 12.0	27273902
ETIM 5.0	EC001486
ETIM 6.0	EC001486
ETIM 7.0	EC001486
ETIM 8.0	EC001486
UNSPSC 16.0901	41112113

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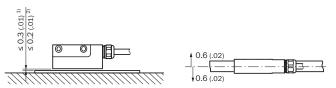
Dimensional drawing (Dimensions in mm (inch))

Read head





Position tolerance



General tolerances according to DIN ISO 2768-mk

① Without cover strip

② With cover strip

Recommended accessories

Other models and accessories → www.sick.com/TTK50

	Brief description	Туре	Part no.	
Magnets	Magnets			
	Magnetic tape length: 1 m, magnetic tape width: 10 mm, weight: 0.18 kg/m, magnetic tape material: 17410 hard ferrite 9/28 P, substrate tape material: steel, period length 1 mm, operating temperature range: –20 °C 100 °C, storage temperature range: – 30 °C 100 °C, temperature coefficient: (11 ± 1) μ m/K/m	MVM-1MO- 2MC-MKLB	6049001	
Programming and configuration tools				
	SVip® LAN programming tool for all motor feedback systems	PGT-11-S LAN	1057324	

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	Brief description	Туре	Part no.
Others			
No.	 Connection type head A: Female connector, M23, 12-pin, straight Connection type head B: Male connector, M23, 17-pin, straight Signal type: HIPERFACE[®] Cable: 1 m, 8-wire Description: HIPERFACE[®], unshielded 	DSL-2317-G01MJB2	2071328
	 Connection type head A: Female connector, JST, 8-pin, straight Connection type head B: Male connector, M23, 17-pin, straight Signal type: HIPERFACE[®] Cable: 1 m, 8-wire Description: HIPERFACE[®], unshielded 	DSL-2317-G01MJB6	2071327
	 Connection type head A: Female connector, M12, 8-pin, straight Connection type head B: Male connector, M23, 17-pin, straight Signal type: HIPERFACE[®] Cable: 1 m, 8-wire Description: HIPERFACE[®], unshielded 	DSL-2317-G01MJC1	2071329
~	 Connection type head A: Female connector, terminal box, 8-pin, straight Connection type head B: Male connector, M23, 17-pin, straight Signal type: HIPERFACE[®] Cable: 1 m, 8-wire Description: HIPERFACE[®], unshielded 	DSL-2317-G01MJC6	2071330
	 Connection type head A: Female connector, M12, 8-pin, straight, A-coded Description: Shielded Connection systems: Screw-type terminals Permitted cross-section: 0.25 mm² 0.5 mm² 	DOS-1208-GA	6028369
E	 Connection type head A: Male connector, M12, 8-pin, straight, A-coded Description: Shielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.5 mm² 	STE-1208-GA	6028370
	 Connection type head A: Female connector, M12, 8-pin, straight, A-coded Signal type: Incremental, SSI Cable: CAT5, CAT5e Description: Incremental, SSI, shielded, Head A: female connector, M12, 8-pin, straight, A encoded, shielded, for cable diameter 4 mm 8 mm Head B: - Operating temperature: -40 °C +85 °C Connection systems: IDC quick connection Permitted cross-section: 0.14 mm² 0.34 mm² 	DOS-1208-GA01	6045001
	 Connection type head A: Female connector, M12, 8-pin, angled, A-coded Signal type: Ethernet Cable: CAT5, CAT5e Description: Ethernet, shielded, M12 female connector, A-coded Connection systems: QUICKON connection Permitted cross-section: 0.14 mm² 0.34 mm² 	DOS-1208-WA	6043358
	 Connection type head A: Male connector, M12, 8-pin, straight, A-coded Signal type: Incremental Cable: CAT5, CAT5e Description: Incremental, shielded, Head A: male connector, M12, 8-pin, straight, A coded, shielded, for cable diameter 4 mm 8 mm Head B: - Operating temperature: -40 °C +85 °C Connection systems: IDC quick connection Permitted cross-section: 0.14 mm² 0.34 mm² 	STE-1208-GA01	6044892
	LTG-2708-MW	LTG-2708-MW	6028361

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