

TTK50-HXI0K02

TTK50

MOTOR FEEDBACK SYSTEMS LINEAR HIPERFACE®

SICK
Sensor Intelligence.

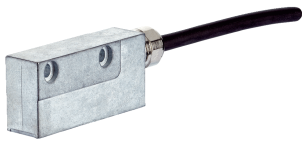


Illustration may differ



Ordering information

Type	Part no.
TTK50-HXI0K02	1057792

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

Detailed technical data

Performance

Measuring step	0.244 µm For interpolation of the sine/cosine signals with, e. g., 12 bits
Length of period	1 mm
Measuring length	Max. 940 mm
Magnetic strip length	Measurement length + 60 mm
System accuracy (ambient temperature)	± 10 µm (+20 °C)
Repeat accuracy	< 5 µm
Measured value backlash	< 10 µm
System part	Read head

Interfaces

Type of code for the absolute value	Binary
Communication interface	HIPERFACE®
Available memory area	1,792 Byte

Electrical data

Supply voltage range	7 V DC ... 12 V DC
Recommended supply voltage	8 V DC
Operating power consumption (no load)	≤ 55 mA ¹⁾

¹⁾ 100 mA approx. during adjustment.

Mechanical data

Dimensions	See dimensional drawing
Magnetic strip length	Measurement length + 60 mm
Weight	Read head 0.06 kg without cable, magnetic strip 0.18 kg/ m
Material	Read head die-cast zinc, magnetic tape 17410 hard ferrite 9/28 P
Traversing speed	≤ 10 m/s
Operating speed up to which the absolute position can be reliably produced	1.3 m/s
Connection type	1 m

Ambient data

Operating temperature range	-30 °C ... +80 °C
Storage temperature range	-40 °C ... +85 °C, without package
Relative humidity/condensation	100 %, Condensation allowed
Resistance to shocks	30 g, 6 ms (EN 60068-2-27)
Frequency range of resistance to vibrations	20 g, 10 Hz ... 2,000 Hz (EN 60068-2-6)
EMC	EN 61000-6-2, EN 61000-6-3 ¹⁾
Enclosure rating	IP65 (according to IEC 60529)
Temperature coefficient magnetic tape	(11 ± 1) µm/K/m
Maximum permitted ambient field strength	< 3 kA/m ... 4 kA/m (3.8 mT ... 5 mT) (to guarantee compliance with the quoted accuracy values) ²⁾
Maximum permitted field strength	< 150 kA/m (< 190 mT) (to ensure that the magnetic tape is not permanently damaged)

¹⁾ EMC according to the listed standards is guaranteed if the motor feedback system with mating plug inserted is connected to the central grounding point of the motor controller via a cable shield. If other screening concepts are used, users must perform their own tests. Class A device.

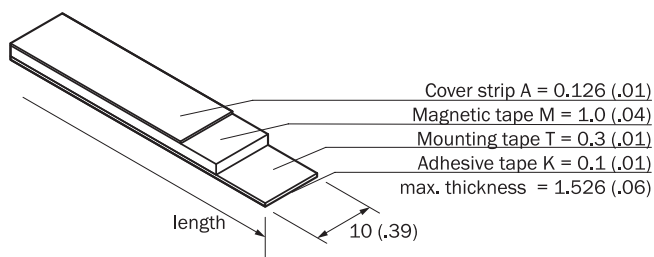
²⁾ The maximum permitted external field influence is reached when the position value deviates from the original value (without external field influence) by more than 5 µm. This value is reached when, at the sensor location, a field strength of 3 kA/m to 4 kA/m (3.8 mT to 5 mT) occurs in addition to the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

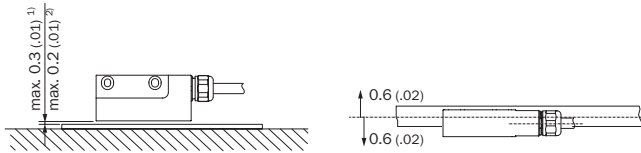
Classifications

ECl@ss 5.0	27270590
ECl@ss 5.1.4	27270590
ECl@ss 6.0	27270590
ECl@ss 6.2	27270590
ECl@ss 7.0	27270590
ECl@ss 8.0	27270590
ECl@ss 8.1	27270590
ECl@ss 9.0	27270590
ETIM 5.0	EC001486
ETIM 6.0	EC001486
UNSPSC 16.0901	41112113

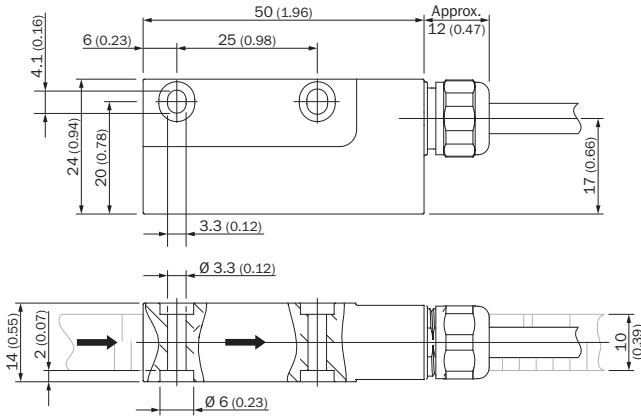
Dimensional drawing (Dimensions in mm (inch))

Magnetic tape





¹⁾ Without cover strip.
²⁾ With cover strip.
 General tolerances acc. to DIN ISO 2768-mk.



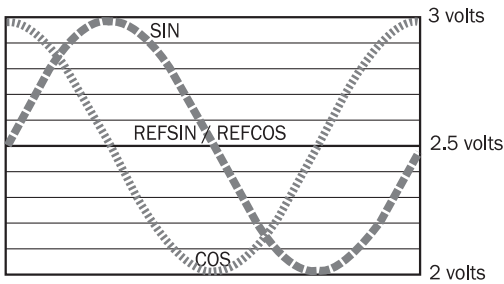
PIN assignment

Color of wires	Signal	Explanation
Brown	REFSIN	Process data channel
White	+ SIN	Process data channel
Black	REFCOS	Process data channel
Pink	+ COS	Process data channel
Gray or yellow	Data +	RS-485 parameter channel
Green or purple	Data -	RS-485 parameter channel
Blue	GND	Ground connection
Red	+U _s	Encoder supply voltage
Copper braid	Screen	Screen connected with encoder housing

Electronically adjustable via programming tool










Diagram


Signal diagram for clockwise shaft rotation, looking in direction "A" (see dimensional drawing) 1 period = 360° : 64/128/256



Recommended accessories

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

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: cable Head B: cable Cable: HIPERFACE®, HIPERFACE®, drag chain use, PUR, halogen-free, shielded	LTG-2708-MW	6028361
	Head A: female connector, M12, 8-pin, straight Head B: cable Cable: drag chain use, PUR, halogen-free, shielded, 2 m	DOL-1208-G02MAC1	6032866
	Head A: female connector, M12, 8-pin, straight Head B: cable Cable: drag chain use, PUR, halogen-free, shielded, 5 m	DOL-1208-G05MAC1	6032867
	Head A: female connector, M12, 8-pin, straight Head B: cable Cable: drag chain use, PUR, halogen-free, shielded, 10 m	DOL-1208-G10MAC1	6032868
	Head A: female connector, M12, 8-pin, straight Head B: cable Cable: drag chain use, PUR, halogen-free, shielded, 20 m	DOL-1208-G20MAC1	6032869
	Head A: female connector, M12, 8-pin, angled Head B: cable Cable: HIPERFACE®, drag chain use, PUR, shielded, 2 m	DOL-1208-W02MAC1	6037724
	Head A: female connector, M12, 8-pin, angled Head B: cable Cable: HIPERFACE®, drag chain use, PUR, shielded, 5 m	DOL-1208-W05MAC1	6037725
	Head A: female connector, M12, 8-pin, angled Head B: cable Cable: HIPERFACE®, drag chain use, PUR, shielded, 10 m	DOL-1208-W10MAC1	6037726
	Head A: female connector, M12, 8-pin, angled Head B: cable Cable: HIPERFACE®, drag chain use, PUR, shielded, 20 m	DOL-1208-W20MAC1	6037727
	Head A: female connector, M23, 12-pin, straight Head B: male connector, M23, 17-pin, straight Cable: HIPERFACE®, unshielded, 1 m	DSL-2317-G01MJB2	2071328
	Head A: female connector, JST, 8-pin, straight Head B: male connector, M23, 17-pin, straight Cable: HIPERFACE®, unshielded, 1 m	DSL-2317-G01MJB6	2071327
	Head A: female connector, M12, 8-pin, straight Head B: male connector, M23, 17-pin, straight Cable: HIPERFACE®, unshielded, 1 m	DSL-2317-G01MJC1	2071329
	Head A: female connector, terminal box, 8-pin, straight Head B: male connector, M23, 17-pin, straight Cable: HIPERFACE®, unshielded, 1 m	DSL-2317-G01MJC6	2071330
	Head A: female connector, M12, 8-pin, straight Head B: - Cable: shielded	DOS-1208-GA	6028369
	Head A: female connector, M12, 8-pin, angled, A-coding Head B: - Cable: Ethernet, shielded	DOS-1208-WA	6043358
	Head A: male connector, M12, 8-pin, straight Head B: - Cable: shielded	STE-1208-GA	6028370

	Brief description	Type	Part no.
Programming and configuration tools			
	SVip® LAN programming tool for all motor feedback systems	PGT-11-S LAN	1057324
	SVip® WLAN programming tool for all motor feedback systems	PGT-11-S WLAN	1067474

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