



## Motor feedback systems linear HIPERFACE® TTK70

TTK70-HXJ0-K02



**Model Name** > **TTK70-HXJ0-K02**  
**Part No.** > **1063567**



*Illustration may differ*

**At a glance**

- Absolute, non-contact, wear-free length measurement system for linear motors
- Measured lengths of up to 4 m
- Suitable for high traverse speeds of up to 10 m/s
- Reliable location positioning even in the event of condensation and contamination of the magnetic tape
- Electronic type label and programming of the position value
- Absolute location positioning, no reference run
- HIPERFACE® interface
- Conforms to RoHs

**Your benefits**

- Reference traverse no longer necessary due to absolute measuring system
- Maintenance-free thanks to non-contact measuring principle
- Simple integration of the system due to the HIPERFACE® interface
- Developed specifically for use in linear direct drives
- Also for use in rough ambient conditions



**Performance**

Measuring step:	0.244 µm at interpolation of the sine/cosine signals with e.g. 12 Bit
Length of period:	1 mm
Measuring length:	Max. 4,000 mm
Available memory area:	1,792 Byte, 1,792 Byte (E2PROM 2048)
System accuracy (ambient temperature):	± 10 µm (+20 °C)
Repeatability (Ta not constant):	< 5 µm
Magnetic strip length:	Measurement length + 80 mm
System part:	Read head
Measured value backlash:	< 10 µm

**Mechanical data**

Dimensions:	See dimensional drawing
Mass:	Read head 0.06 kg without cable, magnetic tape 0.18 kg/m
Material:	Read head die-cast zinc, magnetic tape 17410 hard ferrite 9/28 P
Piston speed:	10 m/s
Operating speed up to which the absolute position can be rel:	1.3 m/s
Connection type:	0.5 m

## Electrical data

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Electrical interface:	HIPERFACE
Operating voltage range/supply Voltage:	7 V DC ... 12 V DC
Recommended supply voltage:	8 V DC
Operating power consumption (no load):	≤ 65 mA <sup>1)</sup>

<sup>1)</sup> 100 mA approx. during adjustment

## Interfaces

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Type of code for the absolute value:	Binary
Interface signals:	Parameter channel RS 485: digital, Process data channel SIN, REFSIN, COS, REFCOS: analog, differential

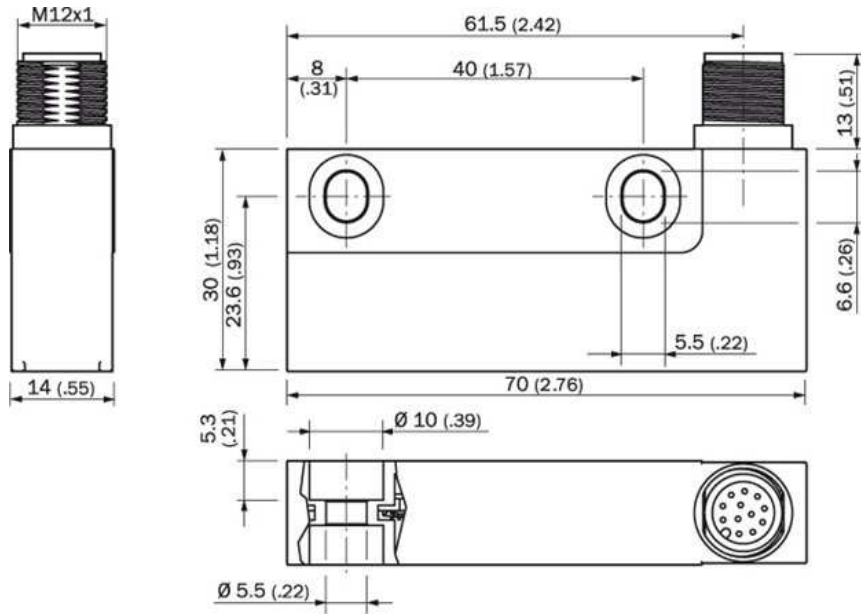
## Ambient data

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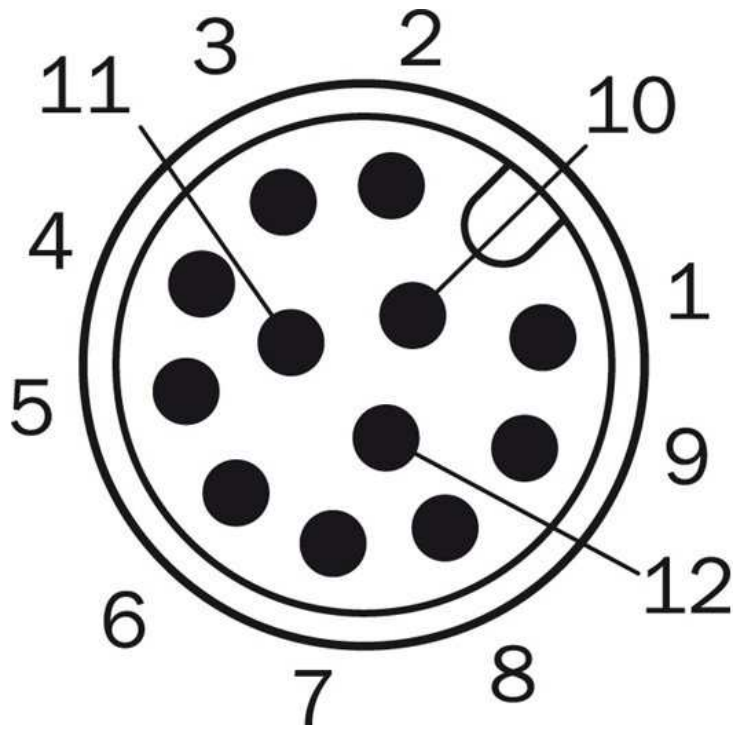
Working temperature range:	-30 °C ... +80 °C
Storage temperature range:	-40 °C ... +85 °C, without package
Relative humidity/Condensation:	100 %, Condensation allowed
Resistance to shocks:	30 g/6 ms/EN 60068-2-27
Resistance to vibration:	20 g/10 Hz/2,000 Hz/EN 60068-2-6
EMC:	(EN 61000-6-2) <sup>1)</sup> (EN 61000-6-3)
Enclosure rating:	IP 65 (according to IEC 60529), with mating connector inserted
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)
Maximum permitted field strength:	< 150 kA/m (< 190 mT) (to ensure that the magnetic tape is not permanently damaged)

<sup>1)</sup> The EMC according to the standards quoted is achieved when the motor feedback system with put-on mating connector is connected to the central earthing point of the motor controller via a cable screen. Users must perform their own tests when other screen designs are used. <sup>2)</sup> 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.

**Dimensional drawing**

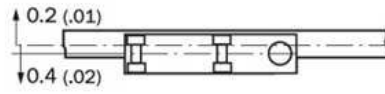
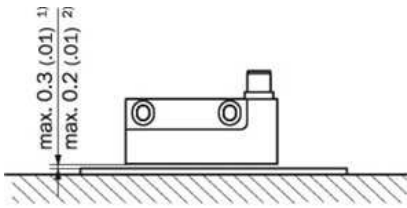


**Magnetic tape**



## General tolerances

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- |1| Without cover strip
- |2| With cover strip

**Australia**

Phone +61 3 9457 0600  
1800 33 48 02 – tollfree  
E-Mail sales@sick.com.au

**Belgium/Luxembourg**

Phone +32 (0)2 466 55 66  
E-Mail info@sick.be

**Brasil**

Phone +55 11 3215-4900  
E-Mail marketing@sick.com.br

**Canada**

Phone +1 905 771 14 44  
E-Mail information@sick.com

**Česká republika**

Phone +420 2 57 91 18 50  
E-Mail sick@sick.cz

**China**

Phone +86 4000 121 000  
E-Mail info.china@sick.net.cn  
Phone +852-2153 6300  
E-Mail ghk@sick.com.hk

**Danmark**

Phone +45 45 82 64 00  
E-Mail sick@sick.dk

**Deutschland**

Phone +49 211 5301-301  
E-Mail info@sick.de

**España**

Phone +34 93 480 31 00  
E-Mail info@sick.es

**France**

Phone +33 1 64 62 35 00  
E-Mail info@sick.fr

**Great Britain**

Phone +44 (0)1727 831121  
E-Mail info@sick.co.uk

**India**

Phone +91-22-4033 8333  
E-Mail info@sick-india.com

**Israel**

Phone +972-4-6881000  
E-Mail info@sick-sensors.com

**Italia**

Phone +39 02 27 43 41  
E-Mail info@sick.it

**Japan**

Phone +81 (0)3 5309 2112  
E-Mail support@sick.jp

**Magyarország**

Phone +36 1 371 2680  
E-Mail office@sick.hu

**Nederland**

Phone +31 (0)30 229 25 44  
E-Mail info@sick.nl

**Norge**

Phone +47 67 81 50 00  
E-Mail sick@sick.no

**Österreich**

Phone +43 (0)22 36 62 28 8-0  
E-Mail office@sick.at

**Polska**

Phone +48 22 837 40 50  
E-Mail info@sick.pl

**România**

Phone +40 356 171 120  
E-Mail office@sick.ro

**Russia**

Phone +7-495-775-05-30  
E-Mail info@sick.ru

**Schweiz**

Phone +41 41 619 29 39  
E-Mail contact@sick.ch

**Singapore**

Phone +65 6744 3732  
E-Mail sales.gsg@sick.com

**Slovenija**

Phone +386 (0)1-47 69 990  
E-Mail office@sick.si

**South Africa**

Phone +27 11 472 3733  
E-Mail info@sickautomation.co.za

**South Korea**

Phone +82 2 786 6321/4  
E-Mail info@sickkorea.net

**Suomi**

Phone +358-9-25 15 800  
E-Mail sick@sick.fi

**Sverige**

Phone +46 10 110 10 00  
E-Mail info@sick.se

**Taiwan**

Phone +886 2 2375-6288  
E-Mail sales@sick.com.tw

**Türkiye**

Phone +90 (216) 528 50 00  
E-Mail info@sick.com.tr

**United Arab Emirates**

Phone +971 (0) 4 88 65 878  
E-Mail info@sick.ae

**USA/México**

Phone +1(952) 941-6780  
1 (800) 325-7425 – tollfree  
E-Mail info@sickusa.com

More representatives and agencies  
at [www.sick.com](http://www.sick.com)