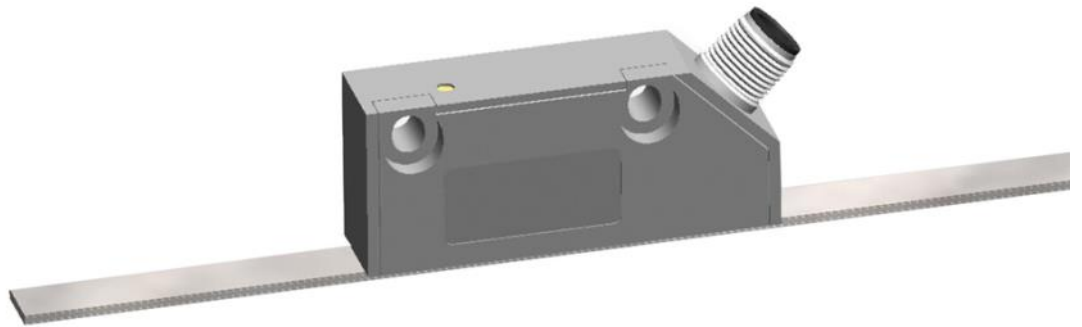


EMAX-HI

Magnetic Absolute Linear Encoder with High-Resolution



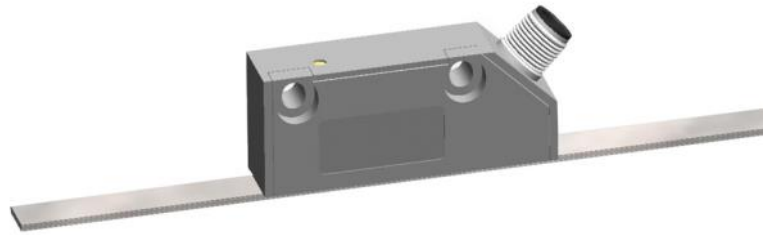
- Magnetic absolute length measuring system
- High performance and resolution of 1 μm
- Automatic distance detection via LED
- For dynamic control tasks (e. g. linear drives)
- Interfaces: SSI, CANopen (DS406) or RS422
On request: BISS-C or CAN BASIC ELGO
- Optionally, incremental square wave (A, B) or
1 V_{ss} sine-cosine-signals for dynamic movement control

EMAX-HI - Magnetic Absolute Linear Encoder with High-Resolution

General:

EMAX-HI is an absolute magnetic length measuring system with high-resolution. The sensor technology and the evaluation electronic are integrated in one housing.

The magnetic tape is attached to a flat surface using the adhesive tape included in the delivery. EMAX-HI can be installed with a distance of up to 0.5 mm from the magnetic tape (without cover tape).



Advantages of EMAX-HI:

- Absolute measurement up to 8 m
- Direct, contactless and wear-free measurement
- Various output interfaces available
- High resolution of 0.001 mm at ± 1 increment repeating accuracy
- No referencing necessary: position changes are detected even in de-energized state
- The distance between the sensor and the magnetic tape can vary between 0.1 and 0.5mm (without cover tape)
- Automatic distance detection if the distance between sensor and tape gets too big: the LED on the housing will turn RED if the permissible distance is exceeded.
- Very robust against dirt (increased IP65 protection with sealed version option "V")
- Optionally, incremental square wave (A, B) or sine-cosine-signals (1 V_{ss}) for dynamic movement control

Interfaces:

Various options of interfaces are available: SSI, CANopen (DS406) or RS422 (see "Type Designation").
On request: BISS-C or CAN BASIC ELGO.

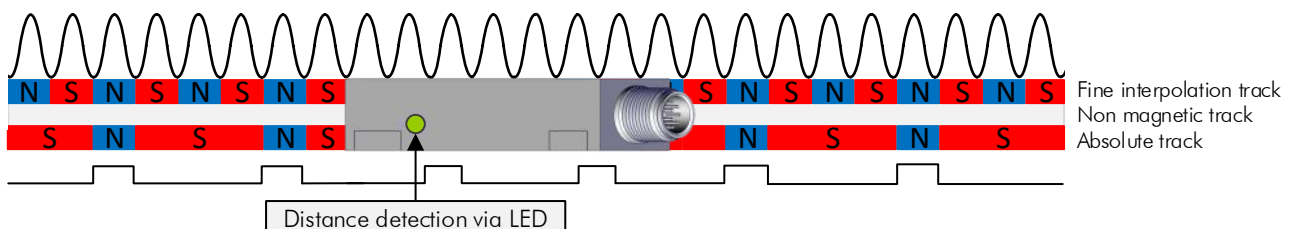
Applications:

Typical applications are linear drives and other dynamic tasks where a high control performance is required.

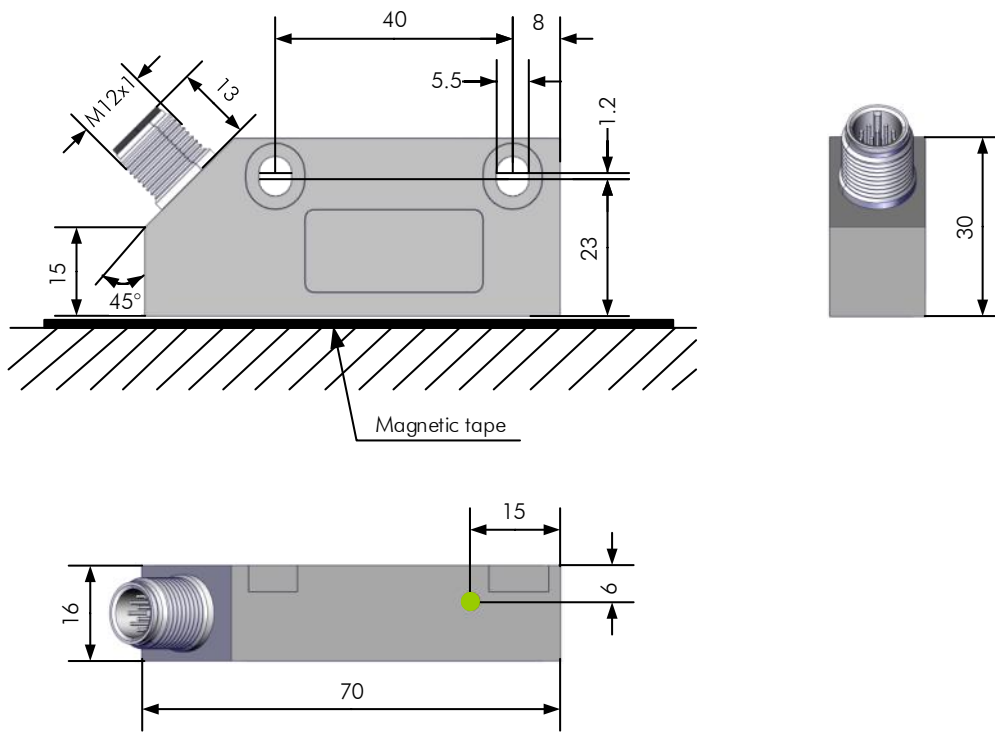
Functional principle:

A line of hall sensors and a magneto-resistive resistance bridge element are guided along a magnetic tape encoded with two tracks; one absolute track and one fine interpolation track. The line of sensors provides an absolute value by scanning the absolute track and the fine interpolation electronic provides the high resolution of the system by scanning the fine interpolation track.

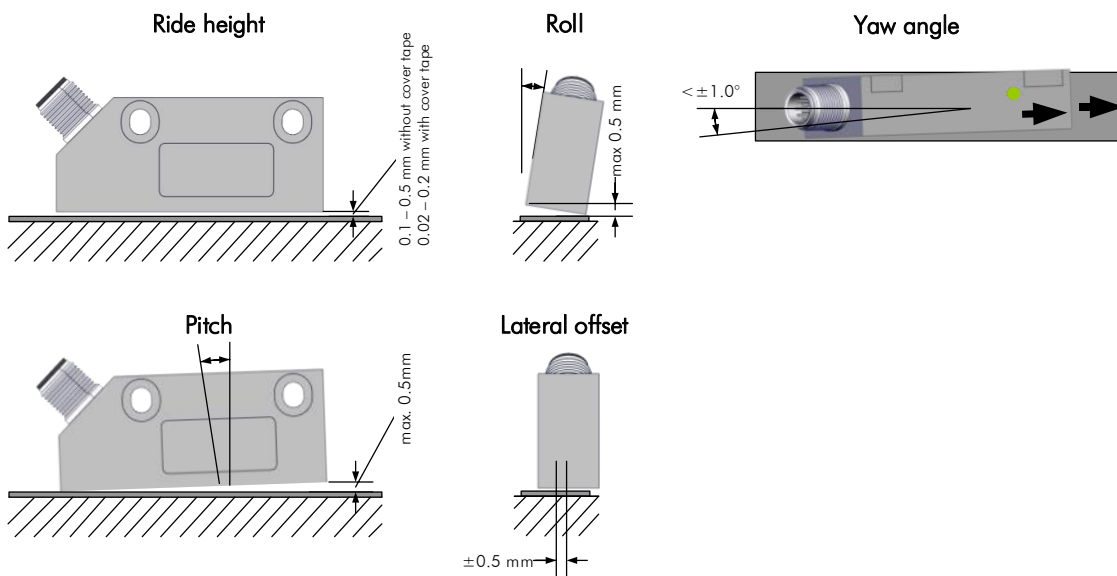
The fine interpolation track consists of alternating north and south poles with a length of 1 mm which are scanned by the resistance bridge and provide the resolution of 0.001 mm. The absolute value is provided by the line of individual hall sensors which scan the code of the north and south poles.



Dimensions:



Mounting tolerances:



Accessories:

Order designation	Description
AB20-10-10-2-R-11	Absolute encoded Magnetic Tape for EMAX-HI (max. measuring length 8 m)
Magnetic tape end cap set 10 mm	2 end caps (10 mm) and 2 x M3 screws; Additional fixation for linear or radial application, as well as for protection of magnetic tape ends. Art. No. 731031002
FS-1000, FS-1500, FS-2000	Guide rails for EMAX-HI (length indication in mm)
PNO1	SSI/ PROFIBUS converter
DKA-00-RCF0-050-XXXX-12-T-D-S	Connection cable for EMAX-HI with RCF0 = female M12 round connector, 050 = cable length 5,0 meters, 12 = 12-pin M12 round connector (female), T = twisted pairs, D = drag chain suitable, S = with screen/shield

