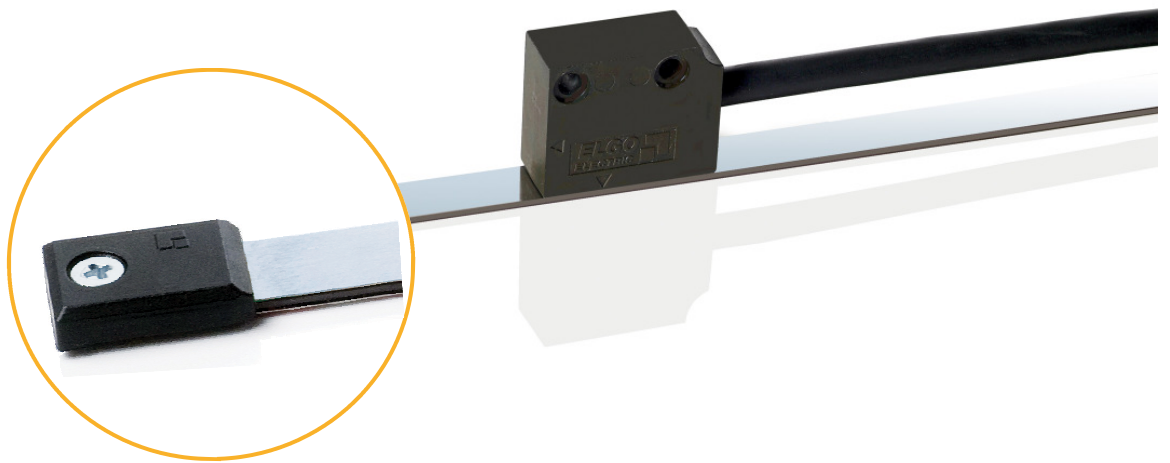


EMIX23



Incremental, μm - high resolution Measuring System for
Linear movements

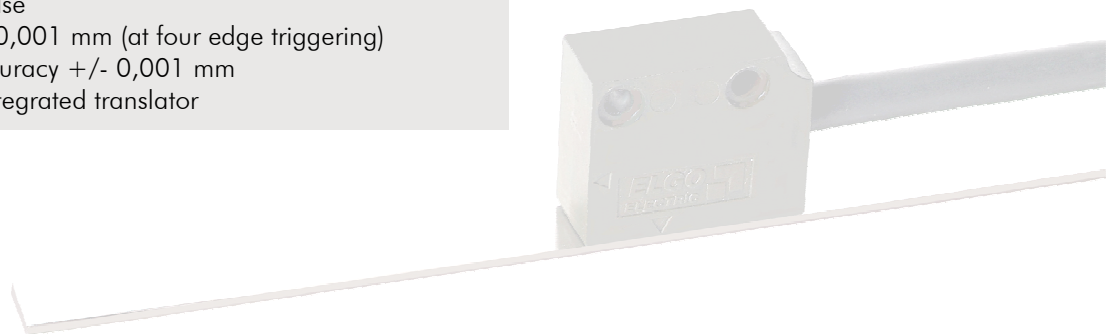
General: Based on the proven EMIX2 linear encoder system, the high resolution linear encoder EMIX23 was developed and offers two considerable advantages:

EMIX23 is available in many different resolutions. In spite of its small dimensions, the translator is integrated in the sensor head. The installation of the sensor can also be done vertically. This must be mentioned when ordering. (Option L)

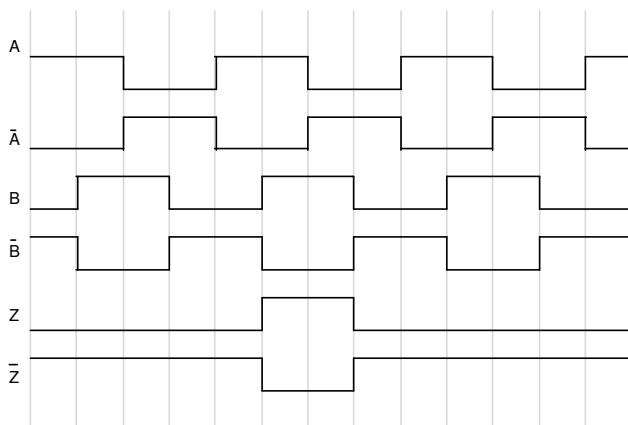
Function principle: Integrated in the sensor head are the magneto resistive measuring-bridges as well as the interpolation circuit and the output drivers. The bridge generates the distance depending count pulses for the signal processing electronic. The gap between sensor and tape must not be larger than 0,8 mm. Each smaller value (0.1 – 0,8 mm) is permitted. The sensor cable is an eight wire cable, highly flexible and suitable for tug chains. It consists of twisted pair wires and is shielded.

Product features:

- 1 μm - Sensor – technology in high resolution
- Speed-proportional square wave outputs
- Predestined for regulated - applications
- Wear free measuring principle
- Contactless scanning of position
- Allowed distance sensor/tape: up to 0.8 mm
- Insensitive against dust, dirt and water
- Differential 5 V-TTL or 10... 30 V-HTL output logic
- With index-pulse
- Resolution = 0,001 mm (at four edge triggering)
- Repeating accuracy +/- 0,001 mm
- Sensor with integrated translator



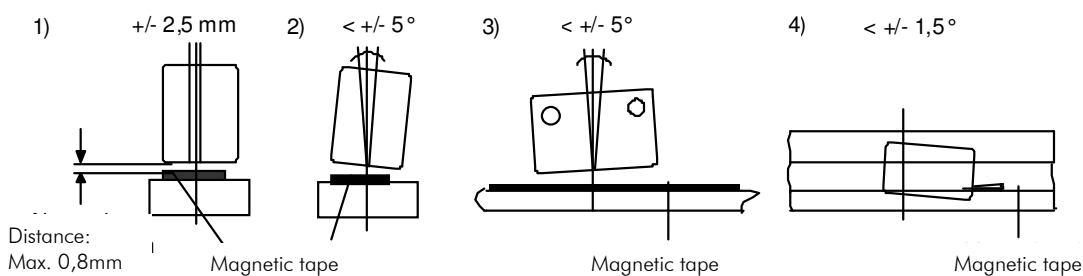
Pulse diagram:



The channels A and B are 90 ° phases shifted

The output of the pulse occurs periodically every 2mm

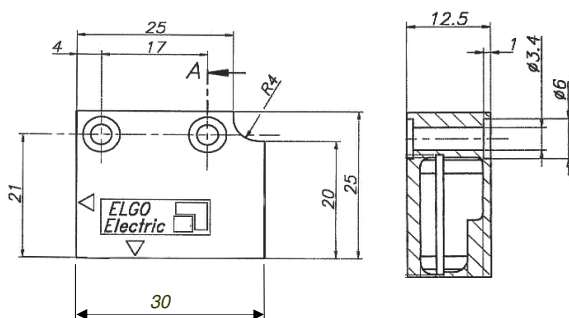
Installation of EMIX23:



Technical specifications:

Measuring principle	Incremental
Signal output	Speed proportional
Resolution	0,001 mm (at four edge triggering)
Repeating accuracy	+/- 0,001 mm
System accuracy in μm at 20 °C	+/- (20 + 20 x L) (L = measuring length in meter)
Distance tape/sensor	0,8 mm
Supply voltage VDC	5 VDC or 10... 30 VDC
Tolerance/ supply voltage	5 VDC: +/- 2,5 %, ripple < 50 mV 10... 30 VDC: +/- 10 %, ripple < 5 %
Consumption	5 VDC: max. 200 mA 10... 30 VDC: max. 150 mA
Translator Intern/extern	Intern
Output level	5 V- TTL Line Driver or 10... 30 V- HTL
Output sign	A, A', B, B', Z, Z'
Features of outputs	Push- pull, permanent short-circuit-proof
Output frequency / channel	100 KHz with 0.4 m/s operation speed; 500 KHz with 2.0 m/s operation speed
Output current	20 mA
Operating speed	2,0 m/s
Index pulse	Periodically output of channel Z and Z'
Wire length	5 V / 5 V-TTL = 10 m 10-30 V / 10-30 V = 30 m 10-30 V / 5 V-TTL = 50 m
Min. bending radius	60 mm
Sensor head	
Operating temperature	-10... +70 °C (25... +85 °C) on request
Store temperature	-25... +85 °C
Max. Humidity	95 %, non condensing
Mechanical sensor data	
Sensor housing	Zinc die cast
Protection class	IP67
Dimensions sensor head L x W x H	30 mm x 12,5 mm x 25 mm
Installation position	Horizontal or vertikal (Option L)

Dimensions:



Order reference:

For orders, please use the following order code:

EMIX23 - $\overline{\text{A}} \overline{\text{A}} \overline{\text{A}} - \overline{\text{B}} \overline{\text{B}} \overline{\text{B}} - \overline{\text{C}} \overline{\text{C}} \overline{\text{C}} \overline{\text{C}} - \overline{\text{D}} \overline{\text{D}} - \overline{\text{E}} \overline{\text{E}}$

A version

000 ELGO standard

001 First special version

B Signal cable length (in XX.X m)

01.5 = 1,5 m (standard cable length)

C Resolution

0001 0,001 mm (standard)

D Supply / output level

00 10-30 VDC / 10-30 V-HTL

01 10-30 VDC / 5 V-TTL line driver

11 5 VDC / 5V-TTL line driver

E Options

D1 Connection D-SUB9 pol.
(Pin-configuration ELGO standard)

L Vertical position (Board and sensor)

For Example:

EMIX23 - 000 - 01.5 - 0001 - 00 - D1
A A A - B B . B - C C C C - D D - E E

EMIX23 ELGO Standard, with 1,5 m signal cable length, a resolution of 0,001 mm, 10-30VDC / 10-30v-HTL supply / output level, and a connection via D-SUB9 pol. ELGO Standard.

Your order:

EMIX23 - $\overline{\text{A}} \overline{\text{A}} \overline{\text{A}} - \overline{\text{B}} \overline{\text{B}} \overline{\text{B}} - \overline{\text{C}} \overline{\text{C}} \overline{\text{C}} \overline{\text{C}} - \overline{\text{D}} \overline{\text{D}} - \overline{\text{E}} \overline{\text{E}}$

Accessories:

MB20-20-10-1-R	Magnetic tape, Pole width 2 mm with INOX-Cover (32,0 Meter rolled)
Magnetic tape end cap 10 mm - Set	2 end caps (10 mm) and 2 M3 screws; additional fixation in the radial and linear area, as well as a protection of the magnetic tape ends <u>Order No. 731031002</u>
Magnetic tape end cap 10 mm	1 end cap (10 mm) <u>Order No. 731031000</u>
AP1.0	Cover, length 1,0 m
FW2070	Carriage for EMIX23 sensor
FS2020-000-XXX	Guiding rail FS20 (incl. magnetic tape)

