

PMIX - guided, incremental Linear Measuring System

- ⇒ Alternative to conventional Linear-measuring systems (200/400/600 mm lengths available)
- ⇒ Based on LMIX2, EMIX2
- ⇒ Also in combination with Z15/Z16 deliverable
- ⇒ Sensor head and magnetic tape integrated
- ⇒ Optimal guided
- ⇒ Easy installation

- With Index pulse (EMIX/LMIX2 versions)
- Resolution **EMIX2** Sensor = 0,01 mm (at 4 edge triggering)
- Resolution **LMIX2** Sensor = 0,025 mm (at 4 edge triggering) resp. 0,1 mm (at single edge triggering)
- Resolution **Z15/Z16** Sensor = 0,1 mm
- Repeating accuracy +/- 0,01 mm (**EMIX2**)
- Repeating accuracy +/- 0,1 mm (**LMIX2**)
- Repeating accuracy +/- 0,1 mm (**Z15/Z16**)
- Small sensor with integrated translator
- Speed proportional output of square waves (EMIX2/LMIX2 versions)

Description

PMIX standard is based on the magnetic length measuring systems ELGO LMIX2/EMIX2. With a contactless principal of measuring, it's an alternative to conventional Linear-measuring-systems. Depending on ordered version a LMIX2, EMIX2, or Z15 resp. Z16 sensor will be integrated in the PMIX housing.

The sensor head and the magnetic tape (ELGO MB20.50 resp. MB20.20 at EMIX2) are fixed in a mechanical cylinder (200/400/600 mm lengths available) and will be guided optimal at lengthwise movements. To the effective measuring length, always 60 mm must be counted in addition.

Thus the system can be mounted and installed immediately. Alternative it's possible to combine PMIX with the battery powered ELGO-systems Z15 or Z16.

The Sensor

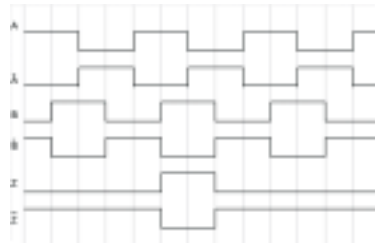
Functionality of the sampling sensors Integrated in the sensor head are the magneto resistor measuring-bridges, the interpolation circuit and the output drivers. The bridge generates the distance dependent count pulses for the signal processing electronic.

The distance between sensor and tape must not be larger than 2.0 mm at LMIX2 resp. 0.8 mm at EMIX2. Every smaller value (0.1 - 2.0 resp. 0.8 mm at EMIX2) is allowed. The sensor cable is an eight wire cable, highly flexible and suitable for tug chains. It consists of twisted pair wires and is shielded.

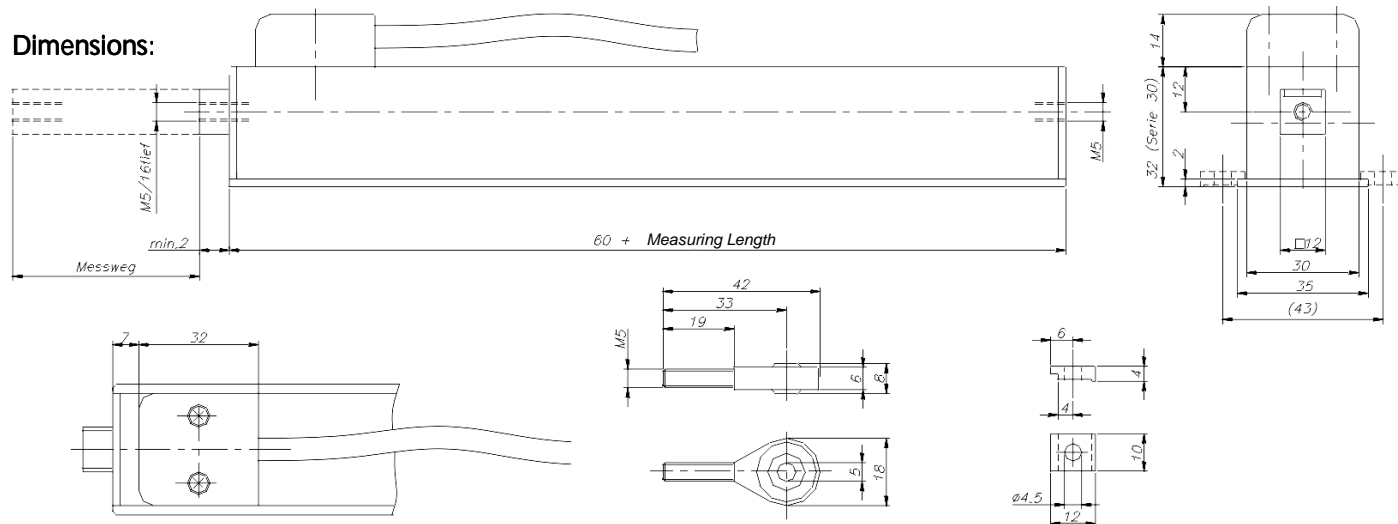
Resolution/edge multiplier

1. With LMIX2 Sensor: 0.1 mm at single edge triggering, resp. 0.025 mm at four edge triggering (Magnetic tape pole distance 5 mm)
2. With EMIX2 Sensor: 0.01 mm at four edge triggering (Magnetic tape pole distance 2 mm)
3. With Z15 or Z16: 0.1 mm

Output pulses:



Dimensions:



Accessories Swivel head Option **M1** resp. **M2** (see type designation)

Accessories Mounting parts (see type designation)

Example

PMIX in combination with Z16:



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Type designation

PMIX - XXX - XX.X - X - XX - XXXX - XX - XX

- Series/Type** _____
- SN-Number** _____
000 = Standard
001 = First special version
002... etc.
- Length of wire XX,X m** _____
Standard lengths with LMIX2/ EMIX2: 1, 3, and 5 m, with Z15/Z16: 1m or 2 m
- Resolution** _____
1 = 0,025 mm (at 4-edge triggering) with **LMIX2** sensor
3 = 0,01 mm (at 4-edge triggering) with **EMIX2** sensor
4 = 0,1 mm with **Z15**
5 = 0,1 mm with **Z16**
- Supply/output levels (only relevant for LMIX2/EMIX2 versions)** _____
00 = 10-30 VDC/10-30 VDC
01 = 10-30 VDC/ 5 V-TTL line driver
11 = 5VDC/ 5V-TTL line driver
- Length of cylinder (effective measuring length)*** _____
0200 = 200 mm
0400 = 400 mm
0600 = 600 mm (others on request)
* Total length = measuring length + 60 mm
- Options** _____
D1 = Connection via 9 pin D-SUB (PIN assignment in ELGO-Standard)
- Mounting** _____
M0 = Without swivel heads with 4 mounting parts (**standard**)
M1 = With one swivel head SAKB5F and 4 mounting parts
M2 = With two swivel heads SAKB5F without mounting parts

Technical specifications

- General**
- Housing : Cylinder - Aluminium
Sensor - Die cast zinc
- Protection class : Cylinder IP40
Sensor IP 65
- Operating temperature : 0° ... + 50°C
- Output current : max. 20 mA per channel
- Outputs : Push/pull, short circuit proof
- Index pulse : Period time depending on operation speed
- Resolution/repeating accuracy : LMIX2 = 0,025 mm (at 4 edge triggering)/ 0,1 mm
EMIX2 = 0,01 mm (at 4 edge triggering)/0,01 mm
Z15/Z16 = 0,1 mm/0,1 mm
- Operation speed : Z15/Z16 = 2,4 m/s
LMIX2/EMIX2 depending on supply-/output level, see below...

00 - Supply / Output level 10 -30 V / 10 -30 V

- Tolerance of supply voltage : +/- 10 %
- Consumption : max. 150 mA
- Output frequency : 100 kHz (per channel A or B)
- Operation speed : LMIX max. 4 m/s, if optimal evaluation circuit
EMIX max. 4 m/s, if optimal evaluation circuit
- max. length of wire : 30 m

01 - Supply / Output level 10 -30 V / TTL Line Driver

- Tolerance of supply voltage : +/- 10 %
- Consumption : max. 150 mA
- Output frequency : 100 kHz (per channel A or B)
- Operation speed : LMIX max. 4 m/s
EMIX max. 4 m/s
- max. length of wire : 50 m

11 - Supply / Output level 5 V / TTL Line Driver

- Tolerance of supply voltage : +/- 5 %, ripple <50 mV
- Consumption : max. 200 mA
- Output frequency : 100 kHz (per channel A or B)
- Operation speed : LMIX max. 4 m/s
EMIX max. 4 m/s
- max. length of wire : 10 m

Connections:

| | open wires Standard | D-SUB 9 pins Option D1 |
|------------------------|------------------------|---------------------------|
| Function | Color | PIN-No. |
| 0V (GND) | White | 1 |
| 5 VDC/ 10-30 VDC in | Brown | 2 |
| Channel A | Green | 3 |
| Channel B | Yellow | 4 |
| Channel Z | Black | 8 |
| Channel A' | Violet | 6 |
| Channel B' | Orange | 7 |
| Channel Z' | Grey | 9 |
| Screen/shield | PE | auf Gehäuse |



Positioning- und
Length measuring systems
ELGO Electric GmbH



PMIX series

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