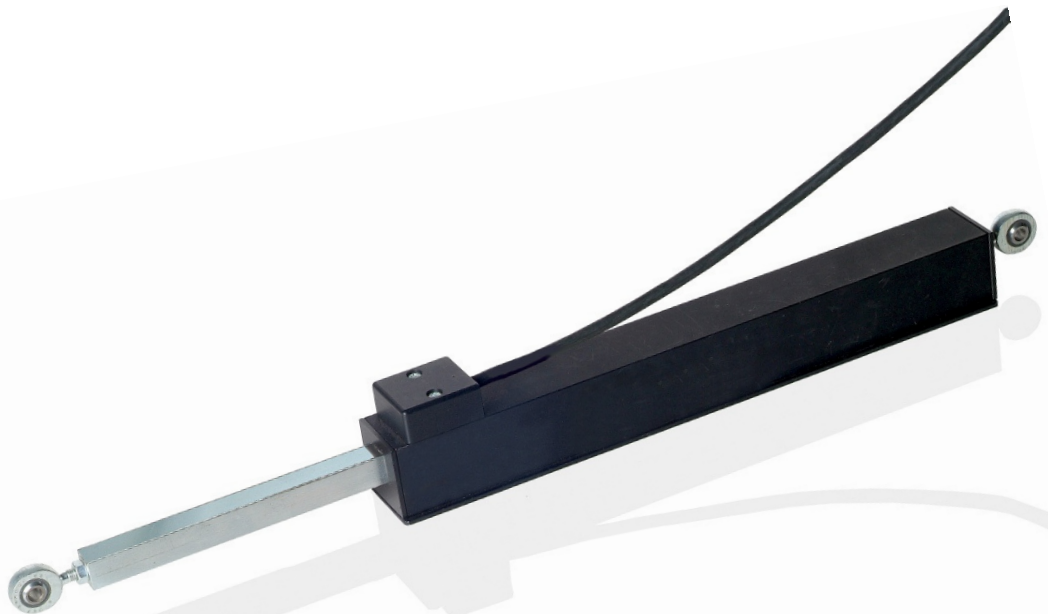


# **PMIX**



Guided Incremental Linear Encoder

# PMIX Guided Incremental linear measuring system

**General:** PMIX standard is based on the magnetic length measuring systems 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 MB20-50-10-1-R resp. MB20-20-10-1-R 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.

Alternatively 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 resistive measuring-bridges, the interpolation circuit and the output drivers. The bridge generates the distance dependent counting 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

## Product features:

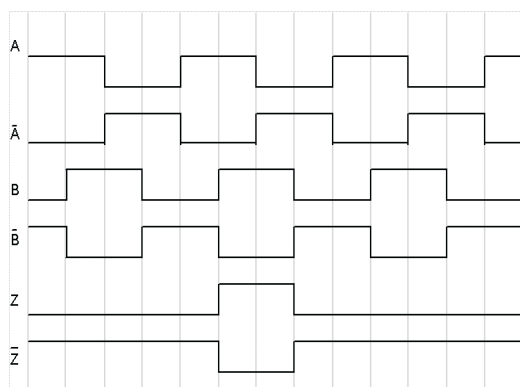
- Alternative to conventional Linear-measuring systems (200/400/600 mm lengths available)
- Based on LMIX2, EMIX2
- Also in combination with Z15/Z16 deliverable
- Sensor head and magnetic tape integrated
- Optimal guided
- Easy installation

## Application:



Example: PMIX in combination with Z16

## Output pulses:



The channels A and B are 90° phase shifted

The output of the index pulse is a periodic pulse which is released each 5 mm's

## Connections:

|                     | Open Standard | D-SUB 9 pin. Option D1 |
|---------------------|---------------|------------------------|
| Function            | Color         | PIN-Nr.                |
| 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            | Housing                |

## Technical specifications:

|  |   |
|--|---|
| Housing  | Cylinder  |
| Protection class   | Cylinder: IP40, Sensor: IP65  |
| Operating temperature  | -10...+70 °C, (-25... +85 °C) on request  |
| Storage temperature  | -25... +85 °C   |
| Output current   | max. 20 mA per Channel  |
| Outputs  | Push/ pull, short circuit proof   |
| Index pulse  | Period time, depending on operation speed   |
| Resolution/<br>Repeating accuracy                              | <u>LMIX</u><br>0,025 mm (at 4 edge triggering)/ 0,1 mm<br><u>EMIX</u><br>0,01 mm (at 4 edge triggering)<br><u>Z15/Z16</u><br>0,1 mm |
| Speed  | <u>Z15/Z16</u><br>2,4 m/s<br><u>LMIX2 and EMIX2</u><br>4,0 m/s  |
| <b>Sensor</b>  |   |
| Housing  | plastic   |
| Protection class   | IP65  |
| <b>00 - supply / output level 10-30 V / TTL Line Driver</b>    |   |
| Tolerance of supply voltage                                    | +/- 10 %  |
| Input current  | max. 150 mA   |
| Output frequency   | 100 kHz (per Channel A or B)  |
| Operation speed  | <u>LMIX</u> max. 4 m/s, if optimal evaluation circuit<br><u>EMIX</u> max. 4 m/s, if optimal evaluation circuit                      |
| Max. Length of wire  | 30 m  |
| <b>01 - supply / output level 10 -30 VDC / TTL Line Driver</b> |   |
| Tolerance of supply voltage                                    | +/- 10 %  |
| Input current  | max. 150 mA   |
| Output frequency   | 100 kHz (per Channel A or B)  |
| Operation speed  | <u>LMIX</u> max. 4 m/s,<br><u>EMIX</u> max. 4 m/s   |
| Max. length of wire  | 50 m  |
| <b>11 - supply / output level 5 V / TTL Line Driver</b>        |   |
| Tolerance of supply voltage                                    | +/- 5 %, ripple < 50 mV   |
| Input current  | max. 200 mA   |
| Output frequency   | 100 kHz (pro Kanal A or B)  |
| Operation speed  | <u>LMIX</u> max. 4 m/s<br><u>EMIX</u> max. 4 m/s  |
| Max. length of wire  | 10 m  |

## Order reference:

For orders, please use the following order code:

PMIX - AAA - BB, B - C - DD - EEEE - FF - GG

### A Version

- 000** ELGO standard
- 001** First special version
- 002** etc.

### B Signal cable length in XX.X m

- 1,5m Standard length with LMIX2/EMIX2
- 1,0m Standard length with Z15/Z16

### C Resolution

- 1** 0,025 mm (4 edge triggering) LMIX2 sensor
- 3** 0,01 mm (4 edge triggering) EMIX2 sensor
- 4** 0,1 mm with Z15
- 5** 0,1 mm with Z16

### D Supply / Output level (only by EMIX2/LMIX2 relevant)

- 00** 10-30 VDC/10-30 VDC
- 01** 10-30 VDC/ 5 V-TTL line driver
- 11** 5VDC/ 5V-TTL line driver

### E Measuring length\*

- 0200** 200 mm
- 0400** 400 mm
- 0600** 600 mm (other lengths available)

\*Length PMIX= measuring length+ 60mm

### F Options

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

### G Mounting

- M0** without pivot mount
- M1** with pivot mount SAKB5F
- M2** with 2 pivot mount SAKB5F

For Example:

PMIX - 000 - 01,5 - 1 - 00 - 0200 - D1 - M0  
A A A - B B B - C - D D - E E E E - F F - G G

PMIX ELGO standard, with 1,5m signal cable length, 0,025 mm resolution (4- edge triggering), 10-30 VDC/10-30 VDC supply, 200 mm measuring length, with D-SUB 9 pol. connection, mounting without pivot mount.

Your order:

PMIX - AAA - BB, B - C - DD - EEEE - FF - GG

