

PMIX



Guided Incremental Linear Encoder

PMIX Guided Incremental linear measuring system

General: The guided measuring system *PMIX* is based on the magnetic length measuring systems *LMIX/EMIX*. Due to the magnetic (and therefore contactless) measuring principle, it's an alternative to conventional linear-measuring-systems. Depending on the ordered version a *LMIX/EMIX* or *EMIX23* sensor can be integrated in the *PMIX* housing. It can also be used with the battery-powered position indicators *IZ15E* and *IZ16E*.

The sensor head and the magnetic tape (*ELGO MB20-50-10-1-R* with *LMIX* resp. *MB20-20-10-1-R* with *EMIX*) are fixed in a mechanical cylinder (200/400/600 mm lengths). The sensor is optimal guided at lengthwise movements. The system can immediately be installed and connected.

The Sensor

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 sensor cable is an 8-wire cable, highly flexible and suitable for drag chains. It consists of twisted pair wires and is shielded.

Resolution/edge multiplier:

1. *LMIX*: 0.1 mm at single-edge triggering, resp. 0.025 mm at 4-edge triggering (magnetic tape: pole distance 5 mm)
2. *EMIX*: 0.01 mm at 4-edge triggering (magnetic tape: pole distance 2 mm)
EMIX23: 0.001 at 4-edge triggering (magnetic tape: pole distance 2 mm)
3. *IZ15E* or *IZ16E*: 0.01 mm (magnetic tape: pole distance 2.5 mm)

Product features:

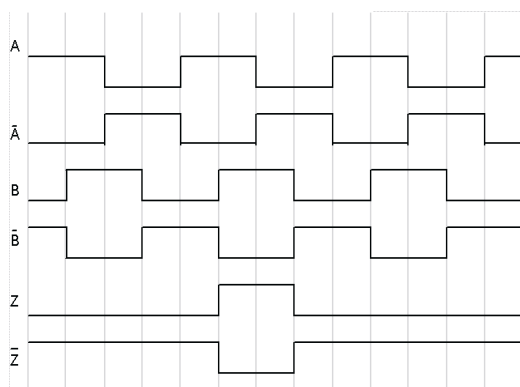
- Wearfree alternative to conventional linear-measuring systems
- Based on the series *LMIX/EMIX*
- Also in combination with battery-powered position indicators *IZ15E/IZ16E* possible
- Sensor head and magnetic tape integrated
- For measuring lengths 200, 400, 600 mm (others on request)
- Optimal guided

Application:



Example: *PMIX* in combination with *IZ15E*

Output pulses:



The channels A and B are 90° phase shifted

The output of the index pulse is a periodic pulse which is released every 5 mm's.
Serie *LMIX*

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	Aluminium (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 duration depending on operation speed
Resolution/ Repeating accuracy	<u>LMIX</u> : 0.025 mm (at 4-edge triggering) resp. 0.1 mm (at 1-edge triggering) <u>EMIX</u> : 0.01 mm (at 4-edge triggering) <u>EMIX23</u> : 0.001 mm (at 4-edge triggering) <u>IZ15E/IZ16E</u> : 0.01 mm
Speed	<u>LMIX/EMIX</u> : max. 4.0 m/s <u>EMIX23</u> : max. 2.0 m/s <u>IZ15E/IZ16E</u> : max. 4.0 m/s with optimal evaluation circuit
Sensor	
Housing	plastic
Protection class	IP65
00 - supply / output level 10-30 VDC / 10-30 V HTL	
Tolerance of supply voltage	+/- 10 %
Input current	max. 150 mA
Output frequency	100 kHz (per channel A or B)
Max. Length of wire	30 m
01 - supply / output level 10-30 VDC / 5V TTL Line Driver	
Tolerance of supply voltage	+/- 10 %
Input current	max. 150 mA
Output frequency	100 kHz (per channel A or B)
Max. length of wire	50 m
11 - supply / output level 5 VDC / 5 V TTL Line Driver	
Tolerance of supply voltage	+/- 5 %, ripple < 50 mV
Input current	max. 200 mA
Output frequency	100 kHz (per channel A or B)
Max. length of wire	10 m

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.

Order reference:

For orders, please use the following order code:

PMIX - - / - - - - - - - -
A A A - B B , B - C - D D - E E E E - F F - G G

A Version

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

B Signal cable length in XX.X m

- 1.5 m standard length with LMIX/EMIX/EMIX23
- 1.0 m standard length with IZ15E/IZ16E

C Resolution

- 1 0.025 mm (at 4-edge triggering) with LMIX sensor
- 3 0.01 mm (at 4-edge triggering) with EMIX sensor
- 7 0.001 mm (at 4-edge triggering) with EMIX23 sensor
- 8 0.01 mm with IZ15E-001
- 9 0.01 mm with IZ16E-000

D Supply / Output level

- 00 10-30 VDC/10-30 V HTL
- 01 10-30 VDC/ 5 V-TTL Line Driver
- 11 5 VDC/ 5 V-TTL Line Driver
- 99 Battery -powered

E Measuring length*

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

*Length PMIX= measuring length+ 60 mm

F Options

- D1 Connection D-SUB 9 pol.
(Pin-assignment ELGO standard)

G Mounting

- M0 without swivel head / 4 mounting parts
(standard)
- M1 with 1 swivel head SAKB5F & 4 mounting parts
- M2 with 2 swivel heads SAKB5F / without mounting parts

Your order:

PMIX - - / - - - - - - - -
A A A - B B , B - C - D D - E E E E - F F - G G

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Subject to modifications - © 2010 - ELGO Electronic GmbH & Co. KG

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Measure - Control - Position

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