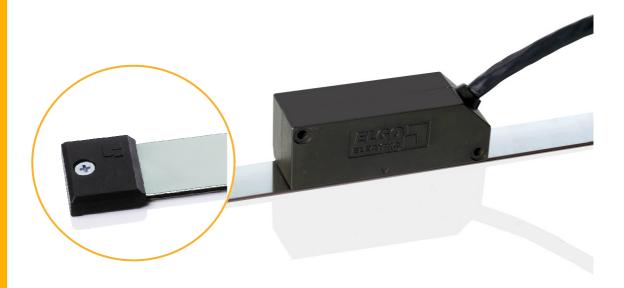


# **EMAX**



Absolute Length Measuring System

# **EMAX** Absolute Length Measuring System

**General:** Two sensors are guided above a two-track encoded magnetic tape with one fine interpolation track and one absolute track. The absolute track supplies with a sensor line an absolute value and the fine interpolation track supplies with the interpolation electronic the resolution of 0.01 mm.

The sensor technology is placed in a mechanical zinc die cast case and is conceived for rough industrial use. In the casted version the high protection category of IP67 is fulfilled. A considerable advantage of the system is that the sensor head has not to be slid rigidly, but can be moved in an distance between 0 to 0.8 mm above the magnetic tape.

#### Difference EMAX / EMAX with FW2080

EMAX consists of the components sensor head and the magnetic tape. The EMAX with FW2080 is guided. The guide rail with the magnetic tape and the guide carriage are included in the delivery.

The magnetic tape of FW2080 is factory-bonded in the nut of the aluminum guide rail (possible up to 2 m). In order to realize longer ways, several rails could be arranged in one row. Then the magnetic tape will be delivered in the desired length (as roller ware up to 32 m) and will be fixed afterwards, in the whole length, into the nuts of the arranged rails. On this aluminum guide rail again the sensor, provided with slide-plastic-rails can be moved abrasion-free and contactless.

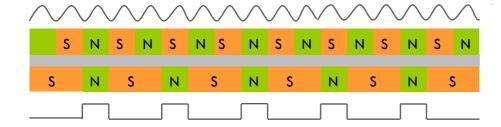
#### **Product features:**

- Absolute measuring
- Contactless
- Up to 10 m
- Resolution 0.01 mm
- Position changes are also in the current state recognized
  - no oak trees necessary



#### Measuring principle of the magnetic tape

Two-track system (Fine interpolation track up / Absolute track below

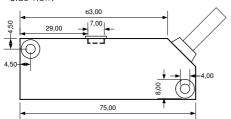


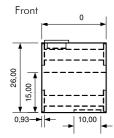
#### **Technical specifications:**

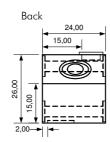
Power supply	10-30 VDC +/- 10 % allowed ripple < 5 %
Current consumption	max. 150 mA
Output voltage	5 VTTL at RS422
Repeat accuracy	+/- 0,01 mm
System accuracy in mm by 20 °C	+/- (150 + 20 x L) L = Measuring length
Resolution	0,01 mm
Operation speed	4 m/sec.
Data format RS422	9600 Bit/s, 8 Data bits, 1 Stop bit, no parity
Measuring length	max. 10 m
Distance	max. 0,8 mm
Operating temperature	-10 +70 °C (-25 +85 °C) on request
Storage temperature	-25 +85 °C
Humidity	non condensing, max. 80 %
Protection (standard)	IP 54
Option V	IP 67
Sensor	
Housing material	Black zinc die cast
Signal Cable	30 m max. length 60 mm min. bend radius

## **Dimensions:**

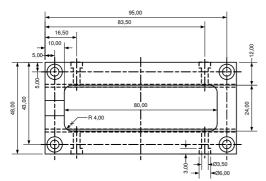
Side view:







Front view



#### **Order reference:**

For orders, please use the following order code:

## A SN-Number

000 ELGO standard

001 first special version

006 addressable, bus-compatible version

## B Signal cable length (in XX,X meter)

01.5 = 1,5 m standard length

#### **C** Resolution

**2** 0,01 mm

## D Interface

232 RS232

**422** RS422

SSI via coding switch binary or gray adjustable

CAN CANopen DS406

## E Baudrate

**0** 9600 Baud (standard)

1 19200 Baud (option on request)

2 38400 Baud (option on request)

### F Option

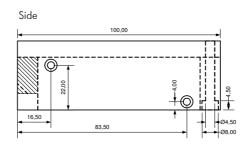
V sealed version (IP65)

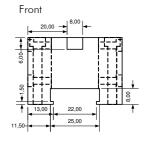
I additional incremental output A/B

## Example:

EMAX (ELGO standard) with 1,5 m cable length, with RS232 interface, 9600 Baudrate, sealed version (IP67).

Your order:





#### **Accessories:**

AB20-50-20-2-R Magnetic tape for EMAX

Magnetic tape end cap 20 mm - Set 2 end caps (20 mm) and 2 M3 screws;

additional fixation in the radial and linear area, as well as a protection of the magnetic tape ends

Order No. 731031003

Magnetic tape end cap 20 mm 1 end cap (20 mm)

Order No. 731031001

FW2080 Carriage for EMAX

FS- Guide rail (Length in mm)

PNO1 SSI/ Profibus Converter

ELGO Electronic GmbH & Co. KG
Measure - Control - Position
Carl - Bear - Straße 1 - D. 78239 Biologiages

Carl - Benz - Straße 1, D-78239 Rielasingen Fon: +49 (7731) 9339-0, Fax: +49 (7731) 28803 Internet: www.elgo.de. Mail: info@elgo.de

