

SERIES *DMIX1/DMIX3*



Magnetic Incremental Linear Encoders with 1.00 mm resolution and freely selectable reference pulse (DMIX3)

DMIX1 / DMIX3 - Magnetic Linear Encoder with 1.00 mm resolution

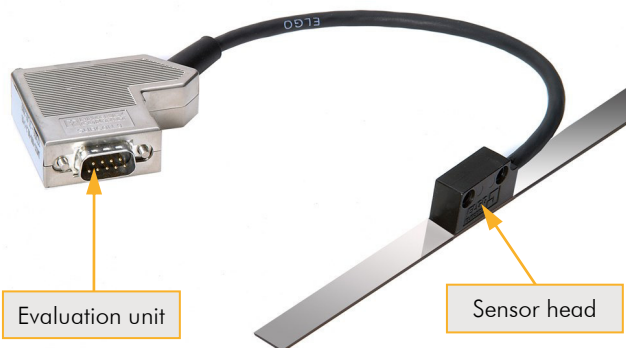
General: The DMIX1 is an incremental magnetic length measuring system. The sensor technology and evaluation electronics are placed in two different housings (sensor in sensor head and translator unit in external SUB-D connector). The magnetic tape can also be fixed into a guide rail with the provided adhesive tape. The DMIX1 can be installed up to a maximum distance of 10.0 mm to the magnetic tape. As signal channels A, A', B, B', Z, Z' are available.

DMIX3: The sensor technology and translator are placed in one housing. The index signals are available as an index- or reference signal.

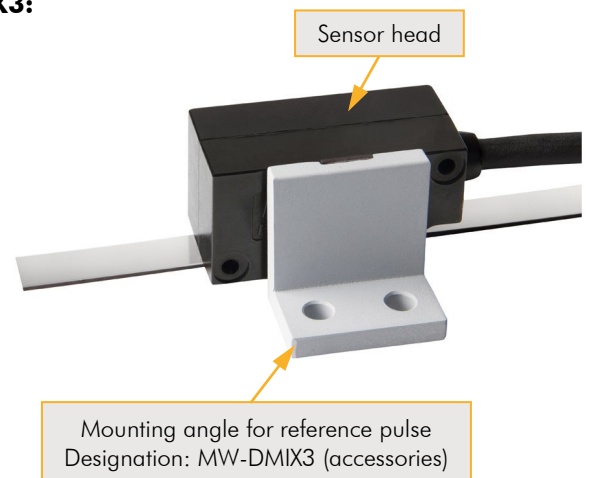
Product Features:

- Direct contact free measurement
- The distance between sensor and magnetic tape can vary between 0.1 and 10.0 mm
- Measuring length theoretical unlimited
- Resolution up to 1.00 mm
- Repeat accuracy ± 1 increment
- Very robust against pollution
- With freely selectable reference pulse (only DMIX3)
- Mounting angle for reference pulse available (accessories)

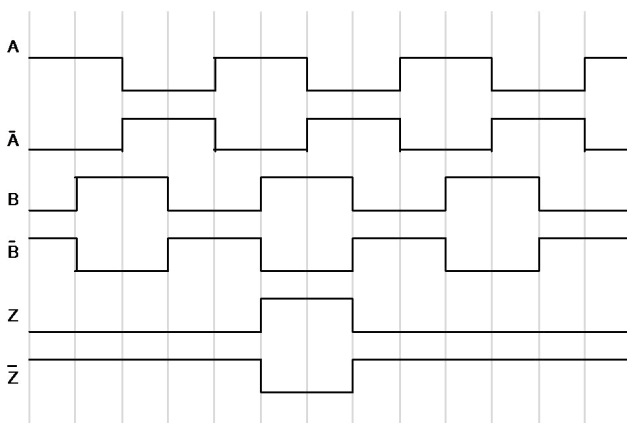
DMIX1:



DMIX3:



Output Pulse Diagram:



The channels A, B, A', B' are 90° phase-shifted.

DMIX1:

The index pulses output occurs periodically every 16 mm.

DMIX3:

The output of the index pulse carried out periodically every 16 mm, or as a one-time reference impulse respectively an inverted reference impulse with option "R".

Technical Data:

Mechanical Data	
Measuring principle	incremental
Repeat accuracy	±1 increment
System accuracy in µm at 20 °C	±(1000 + 20 x L) L = effective measuring length in meters
Distance sensor / tape	max. 10 mm
Pole pitch	16 mm
Material sensor housing	zinc die-cast
Housing dimensions DMIX1	L x W x H = 30 x 10 x 15 mm
Housing dimensions DMIX3	L x W x H = 50 x 24 x 26 mm
Required magnetic tape	MB20-160-10-1-R
Measuring length	theoretically unlimited
Cable connection	DMIX1: D-SUB connector 9-pin DMIX3: open cable ends
Weight	DMIX1 sensor + D-SUB connector: approx. 40 g without cable DMIX3: approx. 60 g without cable Cable: ca. 60 g per meter
Electrical Data	
Power supply	10 ... 30 VDC / 5 VDC
Residual ripple	10 ... 30 VDC : < 10 % 5 VDC: ±25 mV
Current consumption	10 ... 30 VDC : max. 150 mA 5 VDC: max. 200 mA
Output signals DMIX1	A/A', B/B', Z/Z', push/pull, durable short-circuit-proof
Output signals DMIX3	A/A', B/B', Z/Z' or REF/REF', push/pull, durable short-circuit-proof
Output levels	10 ... 30 V-HTL / 5 V-TTL
Resolution	1 mm (at 4 edge triggering)
Index pulse	16 mm periodically
Output frequency	max. 20 kHz per channel
Movement speed	max. 20 m/s
Sensor cable DMIX1	drag chain suitable, length max.: 30 m, cable wires: 6 x 0.08 mm ² bending radius: min. 60 mm
Sensor cable DMIX3	drag chain suitable, length max.: 30 m, wires: 2 x 0,75 mm ² or 6 x 0,14 mm ² bending radius: min. 60 mm
Environmental Conditions	
Storage temperature	-25 ... +85 °C
Operation temperature	-10 ... +70 °C (-25 ... +85 °C on request) (-40 ... +85 °C = special version 001)
Protection class DMIX1	Sensor IP67 / translator circuit: IP40
Protection class DMIX3	IP40 (optionally IP65)
Humidity	max. 80 %, non-condensing

Accessories:

Order Designation	Description
MB20-160-10-1-R1	Magnetic Tape for DMIX1 and DMIX3
End cap set 10mm	2 end caps for fixation and protection of magnetic tape ends
Magnetic tape end cap 10	1 end cap (10 mm)
FS-1000, FS1500 or FS2000	Guide rail for magnetic tape (length 1.0, 1.5 or max. 2.0 m). For larger distances several guide rails can be lined up together.
FW2060	Guide carriage for DMIX1
FW2070	Guide carriage for DMIX3
AP-00-XX*	Aluminium cover profile for magnetic tapes (as alternative to the cover tape) *) AP-00-1m = 1m long / AP-00-2m = 2 m long
MW-DMIX3	Mounting angle with magnetic tape for DMIX3 reference pulse (Option R only)
POSU	Pole finder card 85 x 55 mm, to align the MW-DMIX3 angle (Option R only)

Type Designation:

For orders please use the following order code:

DMIX1/3 - $\bar{A} \bar{A} \bar{A} - \bar{B} \bar{B} \bar{B} - \bar{C} \bar{C} \bar{C} \bar{C} - \bar{D} \bar{D} - \bar{E} - \bar{F}$

A Version

000 = standard version

001* = special version with extended
operating temperature -40 ... +85 °C

002 = next special version, etc.

B Signal cable length (in XX.X meters)

01.5 = 1.5 m (standard length)

= (other cable lengths on request)

C Resolution

1000 = 1.00 mm (at 4-edge triggering)

D Supply / output levels

00 = 10 ... 30 VDC / HTL

01 = 10 ... 30 VDC / TTL

11 = 5 VDC / TTL

E Reference pulse

R** = reference pulse

F Option

V** = sealed version

*) DMIX1 only for sensor head (without ext. translator)

**) only for version DMIX3 available

Example:

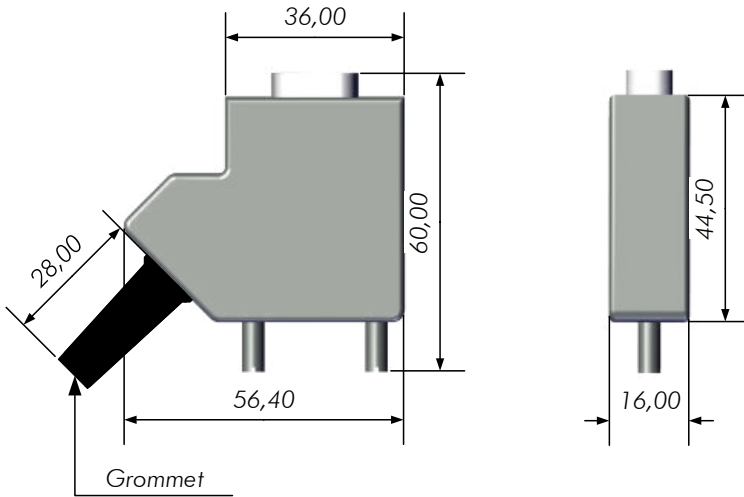
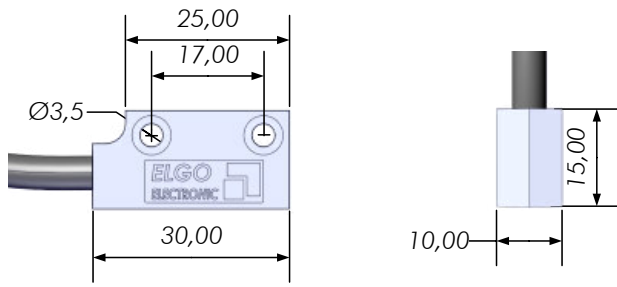
DMIX3 - 000 - 01.5 - 1000 - 01 R
A A A - B B . B - C C C C - D D - E

DMIX3 ELGO standard, with 1.5 m signal cable, 1.00 mm resolution,
10-30 VDC power supply / 5 V-TTL line driver output levels and with
a freely selectable reference pulse.

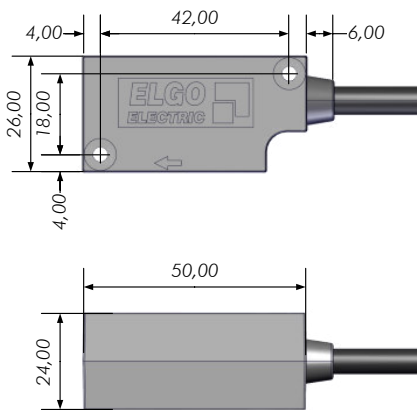
Your order:

DMIX - $\bar{A} \bar{A} \bar{A} - \bar{B} \bar{B} \bar{B} - \bar{C} \bar{C} \bar{C} \bar{C} - \bar{D} \bar{D} - \bar{E} - \bar{F}$

Dimensions DMIX1:



Dimensions DMIX3:



Dimensions of „MW-DMIX3“ for reference pulse:

