ELGO ELECTRONIC

KMIX2

Compact Magnetic Sensor for linear and rotative Measurements



- Space-saving magnetic incremental measuring system
- Translator circuit already integrated in the sensor housing
- Differential square wave output channels A, B
- With periodical index pulse output channels Z
- Completely wear-free non-contact scanning
- Standard resolution at 4 edge triggering: 0.01mm or 0.025 mm (other resolutions are possible on request)
- Connections by 8 pin M12 round connector
- Pre-assembled signal cable as accessory available
- Resistant against dust, dirt and water
- Easy installation via M10 fine thread

KMIX2 - Compact Magnetic Sensor for linear and rotative Measurements

General:



The magnetic incremental measuring system KMIX2 consists of a round sensor head with an already integrated translator circuit and an 8-pole M12 round connector. The sensor is generally powered in the range 10 ... 30 VDC and supplies HTL output signals (A, B, Z) with a level that corresponds to the applied power supply voltage.

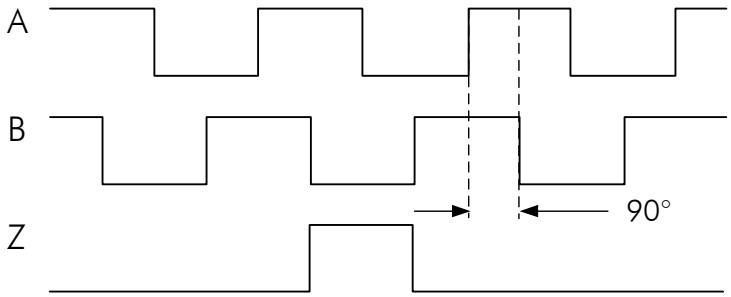
For linear measurement, a coded magnetic tape is glued along the distance to be measured. The magnetic tape supplies the necessary information (current position) to the incremental sensor. The sensor is guided contactless and absolutely wear-free over the magnetic tape.



Alternatively, diverse magnetic rings (see photo right) for rotary applications (e. g. measurement of angles or rotational speed) are available.

The mounting distance from the sensor to the magnetic tape or magnetic ring may be up to 2 mm.

Pulse Diagram:



Channel A and B are phase shifted by 90°

The index pulse output occurs periodically every 5 mm

Application Environment and Installation:

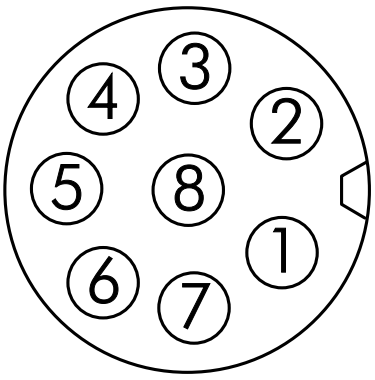
With its high protection class of IP67, the KMIX2 sensor is resistant against dust dirt and water. Thanks to the compact sensor housing, the system can be easily integrated into existing or new machine constructions. The M10 fine thread ensures quick and easy installation.

Accessories:

As an accessorial part, the ELGO "DKA" signal cable is available, which is pre-assembled with the matching M12 round socket on the sensor side. In order to connect external electronics (e. g. position indicator etc.), the other side of the cable is equipped with open cable ends. All available accessories (e. g. magnetic tape, compatible magnetic rings, etc.) as well as the respective order designations are listed in the table on the last page.

Connections:

Assignment of the KMIX2 round connector:



Pin	Function
1	n. c.
2	Channel Z
3	Channel A
4	n. c.
5	n. c.
6	0 V / GND
7	+ VCC
8	Channel B

Assignment of the DKA cable (accessory):

Color	Function
Green	n. c.
Pink	Channel Z
Black	Channel A
Grey	n. c.
Violet	n. c.
White	0 V / GND
Brown	+ VCC
Yellow	Channel B

KMIX2 - Compact Magnetic Sensor for linear and rotative Measurements

Technical Data:

Mechanical Data	
Measurement principle	incremental
Repeat accuracy	± 1 increment
Distance from sensor to the magnetic tape or ring	0.5 ... 2.0 mm
Misalignment	± 0.5 mm
Tilt resp. roll angle	± 0.5°
Twisting angle	± 0.5°
Sensor housing material	stainless steel
Sensor dimensions	L = 60 mm / Ø 12 mm
Connection type	8 pin round connector
Weight of KMIX2 Sensor	approx. 35 g
Weight of DKA cable*	approx. 60 g per meter
Required magnetic tape	MB20-50-10-1-R
Suitable magnetic rings	MR2012 / MR3824 / MR7244
Pole pitch magnetic tape/ring	5 mm
Max. measuring length	theoretically unlimited
Electrical Data	
Power supply voltage	10 ... 30 VDC
Residual ripple	10 ... 30 VDC: <10 %
Current consumption	10 … 30 VDC: max. 150 mA
Maximum wire length	30 m
Output signals	A, B, Z
Output levels	HTL
Resolution (at 4 edge triggering)	0.01 or 0.025 mm (others on request)
Output current per channel	max. 20 mA
Output frequency per channel	max. 80 kHz
Operating speed	max. 4.0 m/s
DKA cable*	drag chain suitable
DKA cable* length	standard length = 5.0 m (others on request)
Bending radius (DKA cable*)	min. 60 mm
Environmental Conditions	
Operating temperature	-10 … +70° C
Storage temperature	-25 ... +85° C
Humidity	max. 95 %, non-condensing
Protection class	IP67

*) Accessorial part - see last page (not included in the delivery)

Type Designation:

For orders please use the following code:

_	-	_	_	_	-	_	_	.	_	-	_	_	_	_	-	_	_
A		B	B	B	-	C	C	.	C	-	D	D	D	D	-	E	E

Series

A KMIX2

B SN Number

000 = *ELGO* standard version

001 = first special version

C Signal Cable Length in XX.X m

00.0 = without signal cable
(signal cable as accessory available)

D Resolution

0010 = 0.010 mm

0025 = 0.025 mm

other resolutions on request possible

E Power Supply Voltage / Output Levels

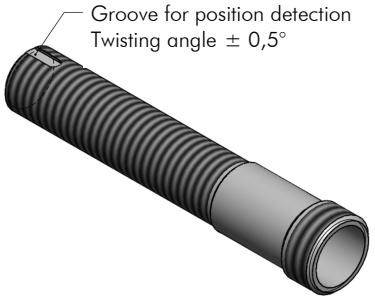
00 = 10 ... 30 VDC / HTL

Order example:

KMIX 2	-	0 0 0	-	0 0 . 0	-	0 0 2 5	-	0 0
A		B B B	-	C C . C	-	D	-	E E

Standard KMIX2 without signal cable, with 0.025 mm resolution (at 4 edge triggering), 10 ... 30 VDC power supply, HTL output levels and 8 pin M12 round connector.

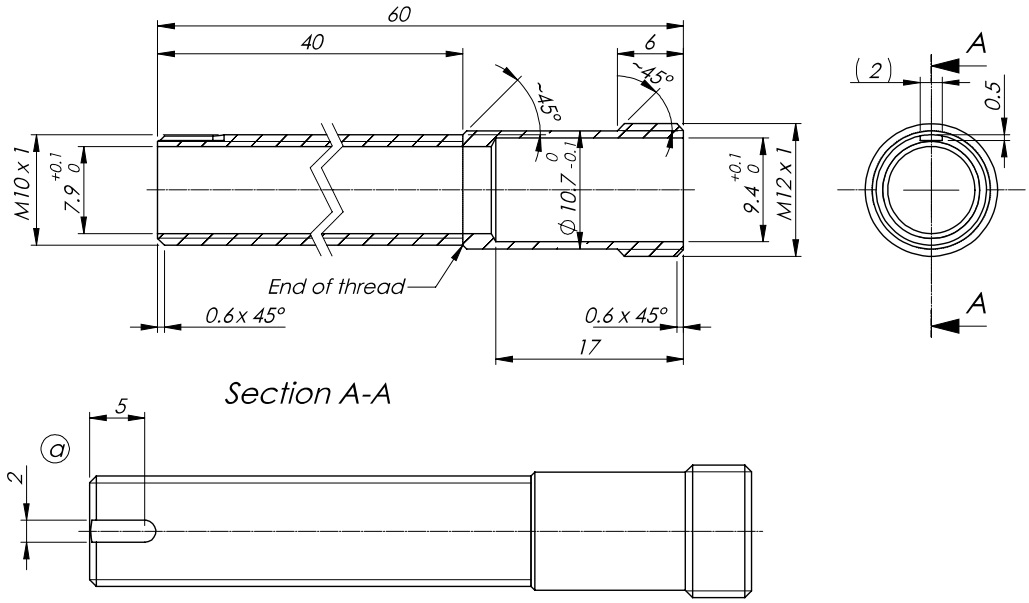
Mounting Assistance:



The groove must be positioned to the center of the magnetic tape during installation.

KMIX2 - Compact Magnetic Sensor for linear and rotative Measurements

Dimensions:



Accessories:

Order Designation	Description
DKA-00-R8F0-050*-XXXX-08-T-D-S	8-wire signal cable with M12 thread, female round connector (sensor side) and open wires (customer side), twisted pairs, drag chain suitable, with shield. Bending radius 60 mm. Weight approx. 60 g/m. **) 050 = 5 Meter standard length (other lengths on request)*
MB20-50-10-1-R	Magnetic tape, pole pitch 5.0 mm (please indicate measuring length in XX.X m)
End cap set 10 mm	End caps for fixing 10 mm wide magnetic tapes
MR2012	Magnetic ring, pole pitch 5 mm (12 poles, Ø ext.: 19,75 mm / Ø i: 14,7 mm)
MR3824	Magnetic ring, pole pitch 5 mm (24 poles, Ø ext.: 38 mm / Ø i: 30 mm)
MR7244	Magnetic ring, pole pitch 5 mm (44 poles, Ø ext.: 72 mm / Ø i: 54 mm)

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