

MAGNETIC TAPE

incremental scale



Series MB

Key-Features:

- Available measurement ranges: 200...50.000 mm
- Resolution 5 µm
- Output signal A/B/Z Linedriver (RS422)
- Resistant against dirt, vibration, humidity and oil
- Displacement speed up to 2 m/s
- Linearity ± 40 µm/m
- Working temperature -20...+70 °C
- Protection class IP67
- Easy installation

Content:

TECHNICAL DATA

Measurement range	[mm]	200 to 50.000 (in 200 mm steps)
Protection class		IP67
Displacement speed	[m/s]	≤2
Resolution	[µm]	5
Linearity (at 20°C)	[µm/m]	±40
Current consumption	[mA]	typical 120, max. 150
Temperature coefficient of magnetic tape	[1/K]	±17 × 10 ⁻⁶
Working temperature	[°C]	-20...+70
Power supply	[V]	5, ±5 %
Output signal		A/B/Z phase output according to RS422, Z-pulse periodical every 2 mm
Cable length reading head	[m]	3, armoured cable
Distance magnetic tape-reading head	[mm]	<1
Housing material reading head		Aluminium
Electrical connection		9-pole Sub-D connector

INFORMATION

The magnetic tape MB is a incremental linear measurement system consisting of a measurement tape and a reading head.

The tape, which is scanned by the reading head without any mechanical contact, can be easily installed by a self-adhesive foil. A protective stainless steel cover tape is included in the delivery and should be used in applications with dirt and swarfs. It is the users choice which part of the measurement system is installed movable (e.g. carriage) and fixed (e.g. machine base).

Magnetic measurement systems are generally immune to dirt, oil, vibrations and shock. But those systems react sensitive to external magnetic fields. This can lead to a destruction of the incremental track on the tape.

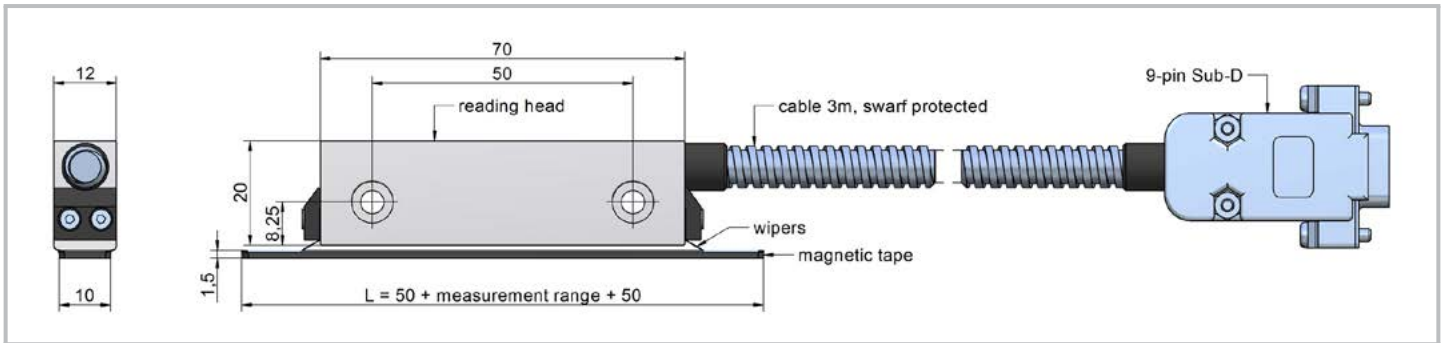
The magnetic pole pitch of the MB tape is 2 mm.

Precaution information:

Please keep in mind, never to bring a magnet of any kind close to the magnetic tape. Never fix a workpiece on the tape. The ground on which the tape is installed must not be magnetic. Otherwise the correctness of the measurement system will be influenced, or may even be damaged. A magnetic shielding of the tape to the ground is recommended. The threshold value is max. 10 Gauss magnetism at the point of installation.

If the installation of the MB tape is done directly on steel, a loss of accuracy and a malfunction of the reference point recognition are very likely. Therefore it is generally recommended to install the MB series on non-magnetic grounds.

TECHNICAL DRAWING



ELECTRICAL CONNECTION READING HEAD MB

Reading Head MB-LKM-2552-KA:

Sub-D connector, 9-pole, compatible to displays LG20, LH70

PIN	Signal
1	A
2	-A
3	B
4	-B
5	Z
6	-Z
7	0 V GND
8	+5 Vcc
9	0 V GND

Adapter cable for reading head MB-LKM-2552-KA: ADP-MB-LKM

for connection to REX displays

cable end 1: 9-pole Sub-D connector (female), 0,1m shielded cable

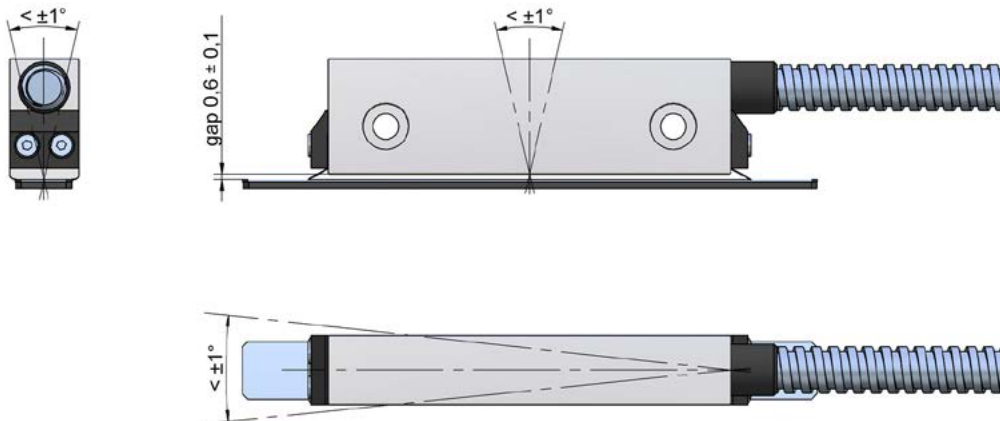
cable end 2: open end

PIN	Wire color
1	brown
2	red
3	orange
4	yellow
5	green
6	blue
7	white
8	grey
9	black



INSTALLATION INSTRUCTION

Tolerances for installation



DISPLAY

The LH70 display is a high performance counter for general-purpose machine tools, like milling machines and lathes.

The LG20 offers standard functions and is the perfect choice for simple applications.

The displays of the REX series fit into most industrial applications and offer a display up to 8 digits. Most REX displays are equipped with interfaces for an easy data transfer to the PLC or a computer.

Display series overview

	REX-Z-D340	REX-Z-R340	REX-Z-A330	LG20	LH70
	General purpose display	General purpose display	General purpose display	Display with standard functions	High performance display for milling machines and lathes
Display	6 digits, red	6 digits, red	8 digits, red	7 digits and signs, orange	7 digits and signs, orange
Number of axes	1 / 2	1 / 2	1 / 2	1 / 2 / 3	1 / 2 / 3
Display resolution	1 ... 0.00001	1 ... 0.00001	1 ... 0.00001	0.1 / 0.5 / 1 / 5 / 10 µm	0.1 / 0.5 / 1 / 5 / 10 µm
Input signal	RS422	RS422	RS422	RS422	RS422
Counting frequency	1Mhz	1Mhz	1MHz	10Mhz	10MHz
Power supply	17-40VDC	17-40VDC	17-40VDC	12VDC / 100-240VAC using power supply unit PSC23	12VDC / 100-240VAC using power supply unit PSC23
Analogue output	-	-	±10V / 0-10V / 4-20mA / 0-20mA	-	-
Interface	RS232	RS232 / RS485	RS232	-	-

Functions of the display series

	REX-Z-D340	REX-Z-R340	REX-Z-A330	LG20	LH70
Scalable display resolution	■	■	■	■	■
Linearity error compensation	■	■	■	■	■
Data storage	■	■	■	■	■
Reset	■	■	■	■	■
Preset	■	■	■	■	■
Flicker control	■	■	■	■	■
Displays for lathes / milling machines					■
Zero point detection					■
Multi reference point					■
Scaling	■	■	■		■
Milling machine functions (Bolt hole circle / simple R-cutting)					■
Lathe functions (tool coordinating / adding of axes)					■
Programming function	■	■	■		
Sum mode: input 1 + input 2	■	■	■		■
Differential mode: input 1 - input 2	■	■	■		■
Master counter and integrated batch counter	■	■	■		
Evaluation of the real cutting length	■	■	■		
Diameter calculation of winding rolls	■	■	■		
Radius calculation of winding rolls	■	■	■		
Cut-to-length control counter	■	■	■		
Monitor for slip, torsion, skew position, shaft fracture	■	■	■		

Please visit our homepage www.eddylab.com for additional displays or contact us directly.

ORDER CODE MAGNETIC TAPE

MB-LKM--2-ST

Measurement range in 200 mm steps [mm]

OVERVIEW

Magnetic tape

MB-xxxx-2-ST different price categories depending on the length

Reading head

MB-LKM-2552-KA

Accessories

ADP-MB-LKM adapter cable, 0,1 m, open end

Display

LG20-1 Digital display, 1 axis

LG20-2 Digital display, 2 axes

LG20-3 Digital display, 3 axes

LH70-1 High performance display, 1 axis

LH70-2 High performance display, 2 axes

LH70-3 High performance display, 3 axes

PSC23 Power supply unit for LG and LH

REX-Z-D340 General purpose display, 2 axes

REX-Z-R340 General purpose display, 2 axes

REX-Z-A330 General purpose display, 2 axes



Subject to change without prior notice.

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