LMAX/FLMAX - Magnetic Absolute Measuring System

General

The series of LMAX respective FLMAX was developed, in order to be able to use the advantages of the absolute measurement principle even for larger distances (e.g. high bay racking). With LMAX and FLMAX now measuring lengths up to 1000 meters can be processed. For further processing, the measured absolute position are transmitted by interface to a super ordinate system (like PC or PLC).

More facts of LMAX/FLMAX:

- Resolution 1 mm
- In standard with CANopen interface (optional RS-232, RS-422, Parallel* or SSI*))
- Power supply 10... 30 VDC
- Absolute measurements up to 1000 Meters
- With completely guided sensor head (FLMAX only)
- With two balance guidance's and guide carriages (option)
- Magnetic tape can be tensed in loose suspension vertically or laid horizontally
- Abrasion resistant and contactless measuring principle
- After initiation are no further referencing-procedures necessary

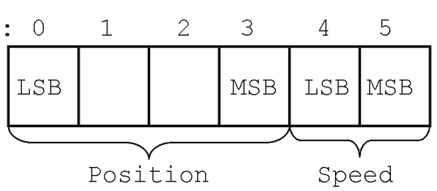
* (on request)

Technical specifications

Power supply	10... 30 VDC
Consumption	max. 0.2 A
Signal levels	5 VTTL (CAN Specification)
Repeating accuracy	+/- 1 mm
Resolution	1 mm
Operation speed	max. 16 m/sec.
Data transmission CAN	Adjustable Bit rate up to 1 MBit/s
Measuring length	max. 1000 m
Distance sensor / tape	max. 1.5 mm
Operation temperature	0 - 50 °C
Store temperature	- 40 ° C ... + 70 °C
Humidity	not condensing, max. 80 %
Protection	IP 50 (Standard)
	IP 67 (Option)
Magnetic tape EMAB	
Expansion coefficient	$\alpha = 16 \times 10^{-6} K^{-1}$
Linear extension	$\Delta L = L \times \alpha \times \Delta\vartheta$
Dimensions (W x H)	20 mm x approx 1.8 mm
min. bending radius	150 mm
Sensor	
Housing	Aluminium (Al/Mg/Si 0.5)
Dimensions	see drawing below
Cable	
Max. Length of cable	Depending on Bit rate, 125 KBit/s corresponding 400 m
min. bending radius	60 mm

Interface/log:
In standard the measuring system is equipped with a CANopen standard interface.
The following identifier is given:

CAN - Identifier (6 Byte telegram)
1D5 (sedecimal)
first 4 Bytes = position in mm (resolution 1 mm)
second 2 Bytes= speed in mm/s ,Bit rate 250 KB/s



Connections (with CANopen interface):

Open wires (standard)
Orange = CAN low
White = 0 V (GND)
Yellow = CAN high
Brown = + 24 VDC
Screen = screen/shield

9 pin D-SUB male connector (options D9M and D9F)
Pin 2 = CAN low
Pin 6 = 0 V (GND)
Pin 7 = CAN high
Pin 9 = + 24 VDC
Screen = housing potential

ELGO- Absolute Measuring Systems

Changes of position are also recognized in power down status. No more referencing is necessary.
The maximum of safety is guaranteed.

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LMAX/FLMAX - Magnetic Absolute Measuring System

Type designation

XXMAX - XXX - XX.X - X - XXX - X - XXX

Type/Guidance
L = **L**MAX no guidance
FL = **FL**MAX magnetic tape-guided LMAX

Version
000 = standard
001 = fist special version etc.

Length of signal cable in XX,X Meters
01.5 = standard length is 1,5 m
(further are 1, 3, 5, 8 and 10 m's available)

Resolution
0 = 1 mm

Interface
CAO = standard CANopen (encoder profile)
232 = RS-232
422 = RS-422
SSI = SSI-Interface *(in preparation)*
PAB = parallel interface, binary *(in preparation)*

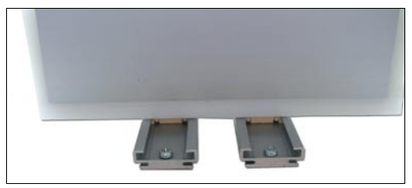
Options
V = sealed version IP67
D9M = 9 pin D-SUB male-connector (instead open wires) incl. counterpart
D9F = 9 pin D-SUB female-connector (instead open wires) incl. counterpart

Accessories
AGF = 2 balance guidance's (length each 110 mm's)

Magnetic tape (accessories)

LMAB - XXX

Magnetic tape, absolute coded, single-track
Please indicate desired length up to 1000 meters (001 = 1 m up to 000 = 1000 meters)

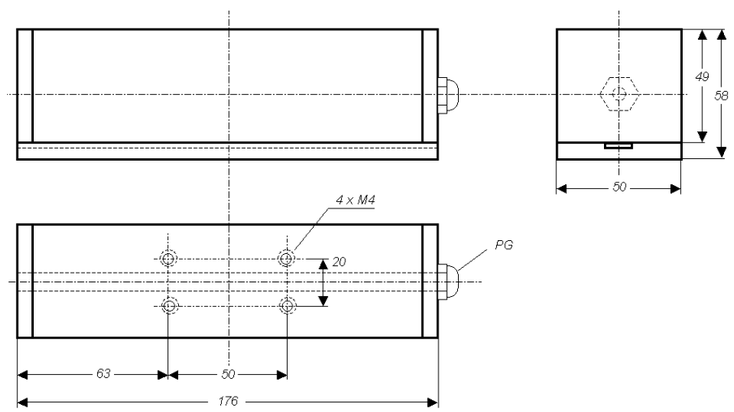


FLMAX with mounted balance guidance's



Accessories : two 110 mm long balance guidance's

Dimensions









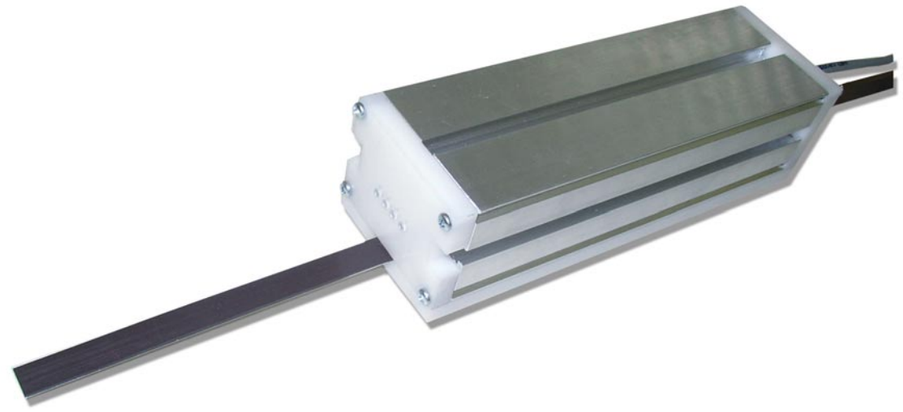


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LMAX resp. **FLMAX series**

Magnetic, absolute Length-Measuring-System up to 1000 Meters