SERIES Z-16

Battery operated Length measuring system

- **12 month continuous operation*)**
- **Including sensor for magnetic length measuring system**
- **Simple operation and assembly**
- **LCD-Display with integrated battery status**
- **Wireless**
- **Possibility of fraction display in the INCH mode**

* Depends on battery quality

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Z-16-000-E-v1-0-51.01

1. INTRODUCTION

Z16 battery operated length measuring system

The length measuring system Z16 consists of a magnetic sensor (ELGO MS20.25), which is connected tightly with the indicator over a suitable moving chain carriage cable (length 0,1 ... 1m). No wires or connections are required for installation. Z16 is specially designed for the assembly on moving sledges and stop systems as there is no cable to be carried on.

For measuring a magnetic band (ELGO MB 20.25 = 2,5 mm pole diversion) is attached alongside to the measuring distance, which delivers the necessary electrical Information (current position).

The head of the sensor with its security class Is resistant for any type of dust, dirt or water jet and absolutely use-resistant.

The indicator contains extensive programming possibilities as decimal places, counting direction, chain dimension and set-function, adjustable reference value as well as changeover for mm or inch operations. Thanks to their economical LCID display both types can work up to 1 year* permanently In continuous operation. (*depending on the battery quality)

The battery chamber is Integrated on the back of the indicator. As soon as the battery (standard alkaline baby cell) is getting exchanged all Information and parameters except the actual value are preserved.

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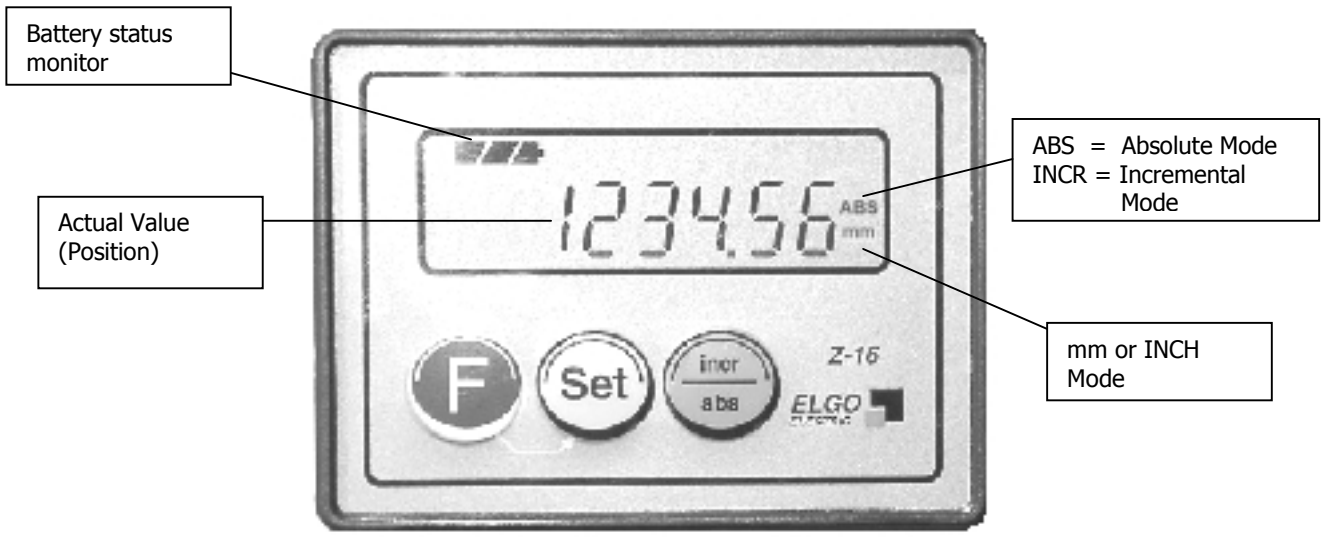
2. Division of the LCD-Display



3. Function of the buttons

F
1. Selection of the parameter level (press for 3 seconds)
2. Selection of the parameter and parameter value
3. Saving of the prepared parameter value

Set
1. Decade selection during the parameter input
2. Inch fraction display in normal use (in inch mode):
   - Press button 1 x = 1/16 inch
   - Press button 2 x = 1/32 Inch
   - Press button 3 x = 1/64 inch
   - Press button 4 x = back to decimal inch display

Incr/abs
1. Switch over from absolute tom incremental dimension in order (Actual value resets to zero, in the display appears INC)

2. During the parameter input the dialled decade is increasing 1 with every pressing.

F + Set With pressing simultaneous reference value is put on

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4. Parameter input

1. Press button **F** for 3 sec.
   In the display appears **P01** for parameter 01

2. Press button **F**, In the display appears the relevant parameter value

3. With the buttons **Set** and **Incr/abs** chose decade and prepare the wanted value

4. With button **F** set new value, display Is changing to the next parameter **(P05)**
   Repeat steps (2, to 4.) for the next parameter.

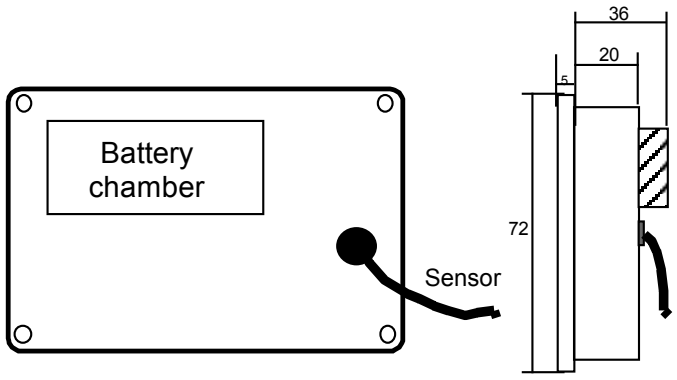
5. Press button **F** for **3 sec.** (Display switches back to reference value)

5. Parameter list

(Parameters without function are skipped)

P Number			Basic setting
P 01	X X	0 = Counting direction (+) 1 = Counting direction (**-**) 0 = mm 1 = inch (0,001 resolution)	**01**
P 03	Decimal point	0...3 (only at mm-Mode)	**1**
P 05	Button function X X	0 = Button **Set** active 1 = Button **Set** not active 0 = Button **Incremental** active 1 = Button **Incremental** not active	**00**
P 08	Pulse scaling factor	0,0001…9,9999	**1,0000**
P 09	Reference value	- 999999,9…999999,9	**0,0**
P 99	Version	actual software and version are displayed	

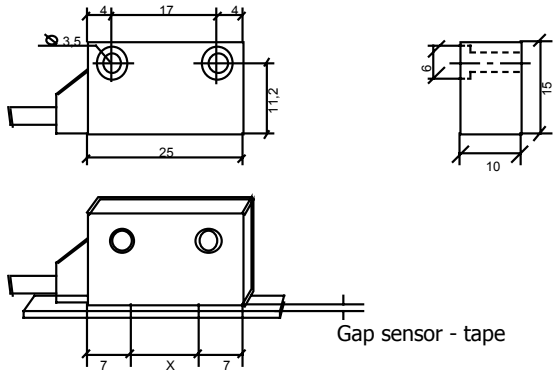
6. Backing / Battery chamber



7. Integrated Sensor type MS 20.25

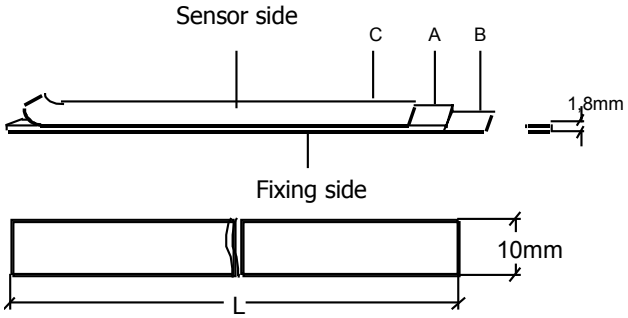
(available lengths: 0,1... max. 1,0 m)

The magnetically sensitive measuring resistance bridges are integrated in the sensor. From those the course-dependent metering pulses for the signal conditioning electronics are formed. The distance between the sensor and the tape within the measuring range X may not be larger than 1,0 mm. Every smaller value is permissible. The sensor cable has 6 cores and is high flexible. The cores are twisted pairs and screened. The sensor cable allows to be mounted on a chain moving carriage.



8. Magnetic tape MB20.25 (Accessories)

The magnetic tape consists of three contents:



Available lengths 0,5 - 32 m

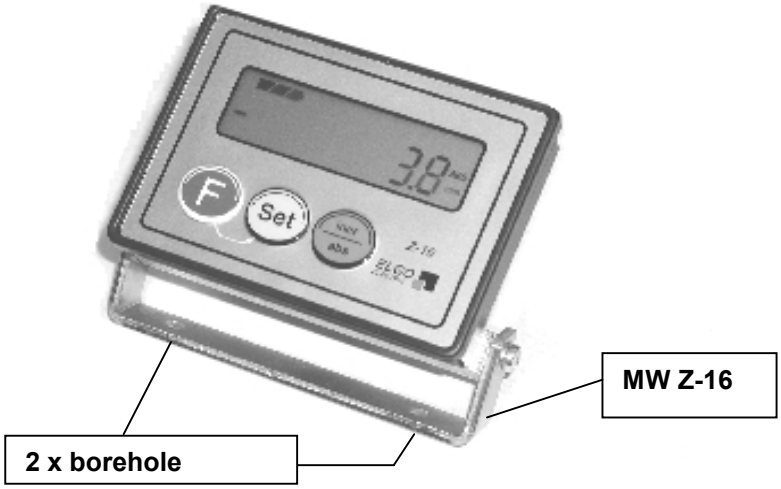
A The magnetic, high-flexible rubber tape on the bottom united with:

B a magnetic flexible steel tape. This steel tape protects the rubber tape against mechanical defects and represents a magnetic short circuit simultaneously. This increases significantly the safety of function against extreme external magnetic influences. **A** and **B** are supplied united from the factory.

C In order to receive the flexibility for transportation and assembly the third part also a steel tape (magnetically permeable) is supplied separately. It is used for the mechanical protection of the rubber tape and must be attached on the magnetic rubber tape after assembly.

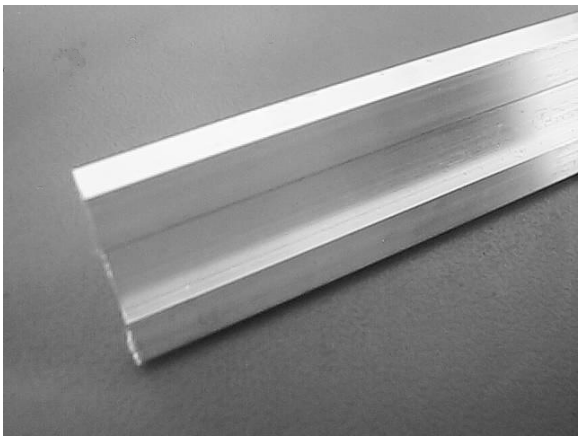
9. Accessories

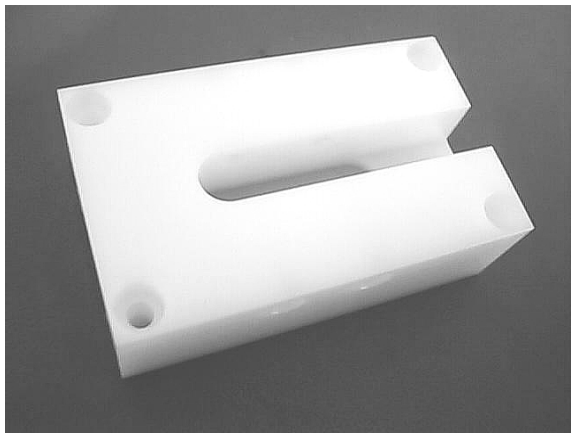
- **MW Z-16**
  Mounting angle



The mounting angle will be mounted with two long screws (contained in the shipping) together with the baking at the back of the data display. It is turn able and can put thus the display in any slopes, in order to enable the user the optimal reading. With the 2 boreholes shown in above diagram the unit can be (for example on the guidance carriage) fixed.

- **FS 20.25** guidance rail for MB 20.25 and **FW 20.60** guidance carriage for Z16





Dimensions:
Rail: l x w x h = (1or2m) x 25 x 6mm, Carriage: l x w x h = 80 x 48 x 25mm

The guidance rail F520.25 is an aluminium profile with integrated chase in which the magnetic tape is pasted. Additionally the matching guidance carriage FW20.60 made of rubber which allows to slip. The complete Z16 position readout (display and sensor) can be mounted on the FW20.60.

10. Technical specifications

Indicator:

LCD-Display	: 7 digits (11mm height) with sign,
Battery	: standard baby alkaline cell 1,5 V / 8 Ah
Current consumption (inclusive measuring system)	: approx 1 mA at 1,5 V
Operation temperature	: +5° …+ 50°C
Operation velocity	: max. 2,5 m / sec.
Resolution/magnetic sensor	: 0,1 mm
Housing	: aluminium black
Housing measurement	: W x H = 92 x 72 mm
Installation depth	: 40 mm
Panel cut out	: W x H = 92 x 66 mm
Protection class	: IP 43 (built in state)

SENSOR M520.25:

Resolution	: 0,1 mm
Sensor cable	: 0,1 m up to max. 1,0 m
Protection tape	: IP 66 zinc die cast housing
Operating temperature	: +5…+50° C
Mounting position	: any
Bending radius / sensor cable	: min. 60 mm
Gap sensor / tape	: max. 1,0 mm (exclusive cover tape)

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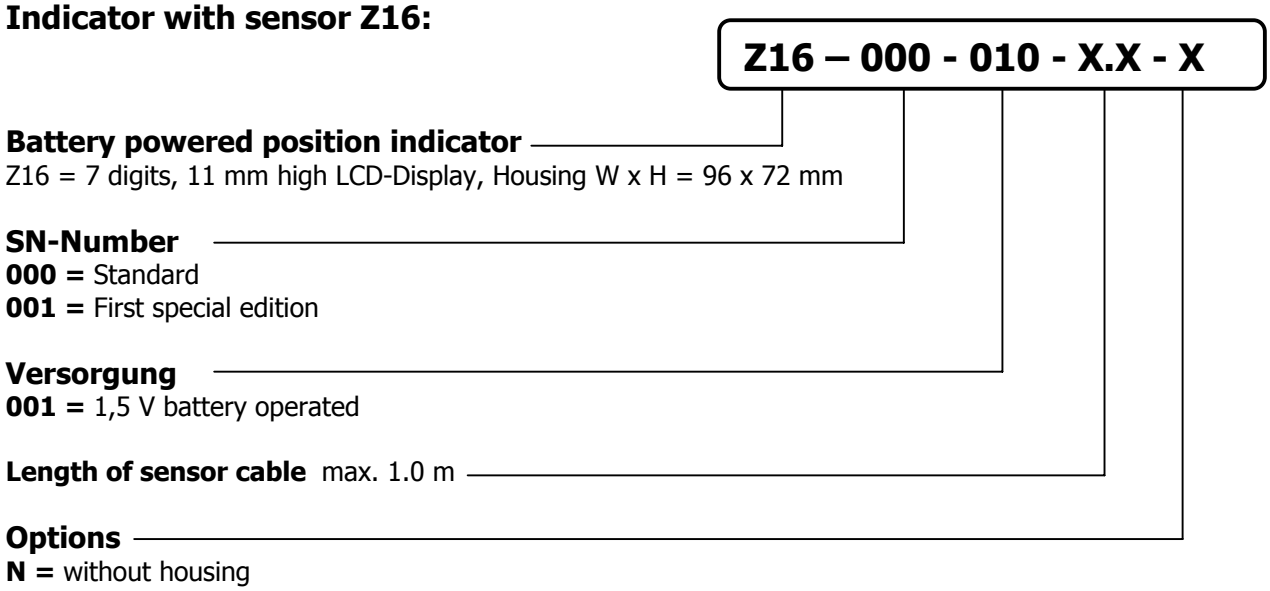
MAGNETIC TAPE MB20.25 (Accessories):

Operation temperature	: 0° C … + 50° C
Accuracy at 200 C in mm	: +/- (0,025 + 0,02 x L) L = effective measuring length in m
Lengths coefficient of expansion	: α = 16 x 10^{-6} x 1/K

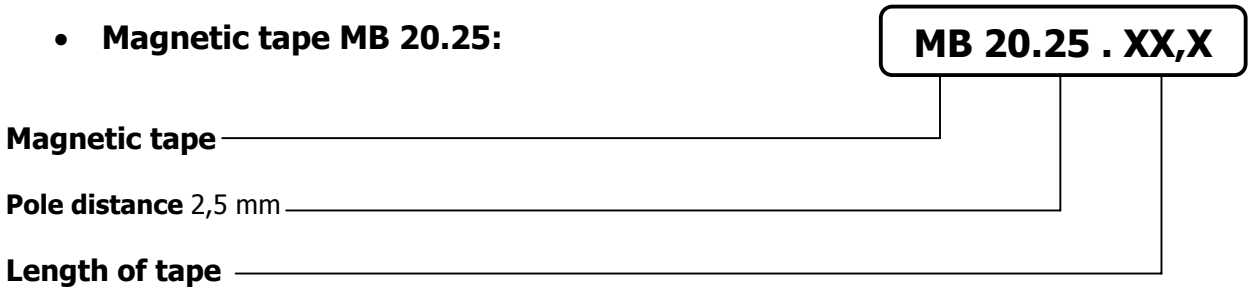
11. Type designation

Indicator with sensor Z16:



Accessories:

- **Magnetic tape MB 20.25:**



- **MW Z16** Mounting angle, moveable
- **FS 20.25** Guidance rail inclusive MB 20.25
  (available lengths are 1m or 2m , longer on request)
- **FW 20.60** guidance carriage for Z16

Liability exclusion / Guarantee

We have checked the contents of this instruction manual carefully, to the best of our knowledge and belief for conformity with the described hardware and software.
Nevertheless errors, mistakes or deviations can not be excluded, therefore we do not guarantee complete conformity.
Necessary corrections are included in the subsequent editions.
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