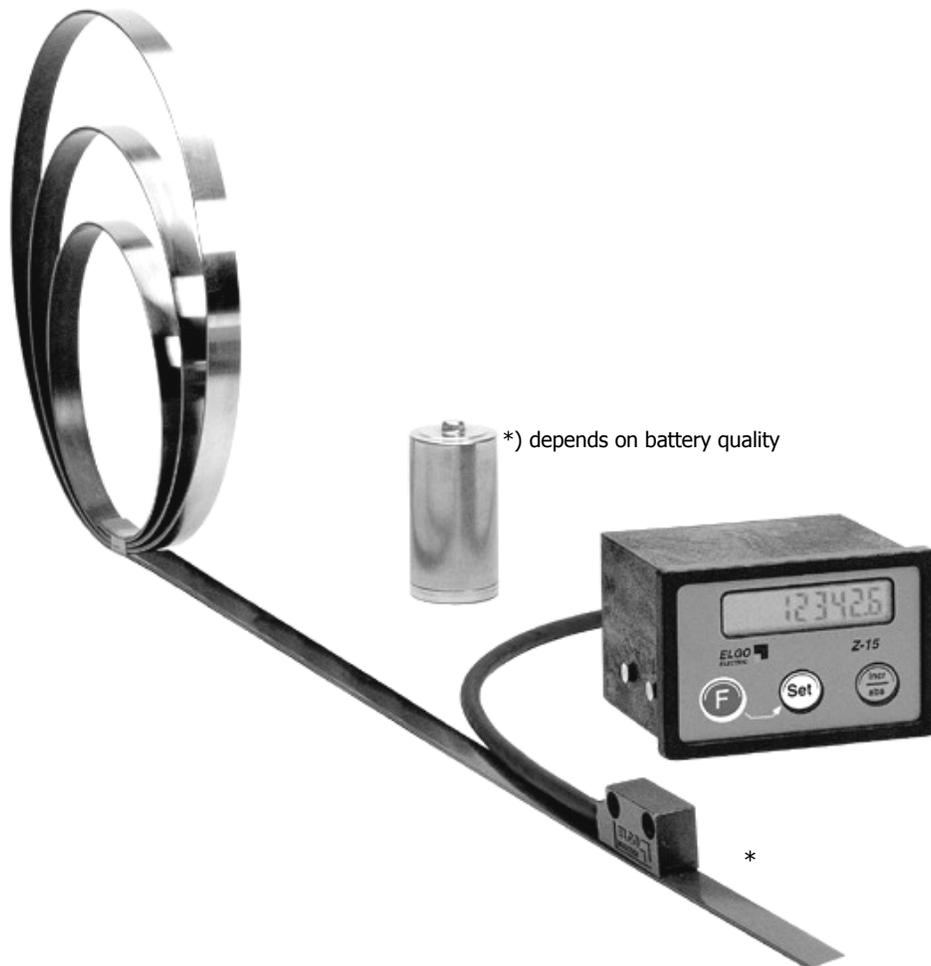


## Z15 series

### Battery powered linear encoder system for mobile assembly on manual slides, carriages and stop systems

- up to 12 months in continuous operation\*)
- no wiring necessary
- complete system with sensor and indicator
- LCD-display



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## 1. Z15 – battery powered linear encoder system

The Z-15 Readout is a highly efficient low power consumption system that allows the Indicator to be mounted on moving slide, carriages or stop systems, without the need for any cable connection to that carriage. It is thus particularly suited to “Manual” machines and those that involve very long travel.

The Z-15 is a replacement for optically read measuring tapes, and is priced at a level to make it attractive for the simplest of machines. The Z15 provides better accuracy, less errors and allows faster setting of the machine, than when using an optical measuring tape.

The Z-15 Indicator can be applied to many machines in the woodworking, metalworking, plastics and paper industries e.g. crosscut saws, moulders, drills, shears, slitters etc.

The battery, when it is flat, is simply exchanged for a new one. All datas (except the actual position) will be stored then.

The resolution of the magnetic sensor is 0.1 mm.

It's maximum operation speed is 2,5 m/s.

## 2. Function of the keypad

- |                 |  |
|-----------------|--|
| <b>F</b>        | <ol style="list-style-type: none"><li>1. Selects parameter setting mode (press for 3 sec.)</li><li>2. Alternately selects Parameter number and Parameter value</li><li>3. Stores selected Parameter and selects next one</li><li>4. Quits Parameter setting mode</li></ol> |
| <b>Set</b>      | Selects digit of Parameter to be changed   |
| <b>incr/abs</b> | <ol style="list-style-type: none"><li>1. In operating mode:<br/>Incremental/absolute measurement switchover</li><li>2. In set up mode:<br/>Increments selected digit of Parameter value by 1 digit on each press</li></ol>   |
| <b>F + Set</b>  | When pressed together, immediately sets the pre-programmed datum position to the display   |

### 3. How to change parameters?

1. Press "F" for 3 seconds  
The display indicates P01 (for Parameter 01)
2. Press "F"  
The display indicates the value of the selected Parameter
3. Select sequentially by button "Set" the decades to be altered and set each one in turn using "Incr/Abs" button to clock up the value
4. Press "F"  
The above value is stored in memory  
Next parameter number (P05) is displayed  
Repeat steps 3.2 to 3.4 for each parameter to be set
5. Press "F" for 3 sec  
Then display switches back to operating mode

### 4. Parameter list

		Default																								
<b>P 01</b>	<table border="0"> <tr> <td><b>X</b></td> <td><b>X</b></td> <td></td> </tr> <tr> <td> </td> <td> </td> <td></td> </tr> <tr> <td> </td> <td>—</td> <td>0 = Count up in positive direction</td> </tr> <tr> <td> </td> <td>—</td> <td>1 = Count up in negative direction</td> </tr> <tr> <td>—</td> <td></td> <td>0 = mm</td> </tr> <tr> <td></td> <td></td> <td>1 = inch (0.001 resolution)</td> </tr> </table>	<b>X</b>	<b>X</b>						—	0 = Count up in positive direction		—	1 = Count up in negative direction	—		0 = mm			1 = inch (0.001 resolution)	01						
<b>X</b>	<b>X</b>																									
	—	0 = Count up in positive direction																								
	—	1 = Count up in negative direction																								
—		0 = mm																								
		1 = inch (0.001 resolution)																								
<b>P 03</b>	Decimal point	0 to 3 (only in metric mode)																								
<b>P 05</b>	<table border="0"> <tr> <td>Button Function (for operation mode)</td> <td><b>X</b></td> <td><b>X</b></td> <td></td> </tr> <tr> <td></td> <td> </td> <td> </td> <td></td> </tr> <tr> <td></td> <td> </td> <td>—</td> <td>0 = „Set“ active</td> </tr> <tr> <td></td> <td> </td> <td>—</td> <td>1 = „Set“ inactive</td> </tr> <tr> <td></td> <td>—</td> <td></td> <td>0 = "Incr" active</td> </tr> <tr> <td></td> <td></td> <td></td> <td>1 = "Incr" inactive</td> </tr> </table>	Button Function (for operation mode)	<b>X</b>	<b>X</b>								—	0 = „Set“ active			—	1 = „Set“ inactive		—		0 = "Incr" active				1 = "Incr" inactive	00
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	—		0 = "Incr" active																							
			1 = "Incr" inactive																							
<b>P 08</b>	Multiplication Factor	0.0001 to 9.9999	1.0000																							
<b>P 09</b>	Datum Value	- 999999.9 to 999999.9	0.0																							
<b>P 99</b>	Version	Actual Software No and Version are displayed																								

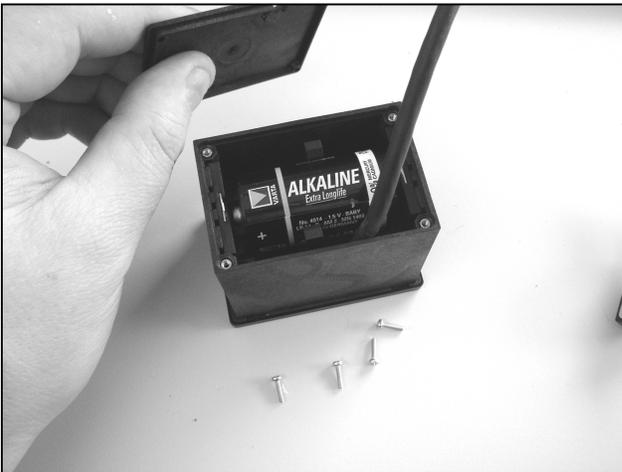
## 5. Indicator in operating mode

**F + SET** Sets display to datum value (i.e. value of P09)  
(if P05/2 is set active)

**Incr/Abs** Alternately selects Absolute or Incremental mode of the Display  
(if P05/1 is set active). In Incremental mode "INC" is displayed in the  
right-hand digit of the display. At all times the internal counter retains  
the absolute value

## 6. How to change the battery?

Loosen the 4 screws at rear (see image below) and remove the rear panel:



Now the commercial baby cell (1,5 V/8 Ah) can be changed.  
All datas (except the actual position) will be stored in the data memory.

## 7. Technical specifications (indicator)

<b>LCD display</b>	:	6 digits plus sign symbol , 11 mm high
<b>Battery</b>	:	Commonly available "C" size , 1.5V
<b>Consumption</b>	:	ca 1mA at 1.5V
<b>Operating temperature</b>	:	+ 5° C to +50° C
<b>Operating Speed</b>	:	2.5m/sec max
<b>Resolution</b>	:	0.1mm
<b>Housing</b>	:	Black metal for insertion in panels*
<b>Dimensions</b> in mm's	:	72 width x 48 height x 60 depth
<b>Cut Out</b> in mm's	:	67 width x 45 height
<b>Protection Class</b>	:	IP43

\* a mounting flange for free standing version is available as an accessory

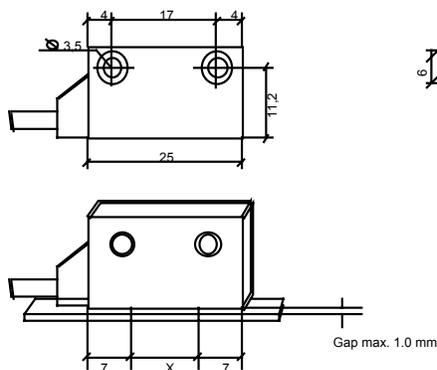
## 8. Integrated sensor type MS20.25

This can be delivered with any length of cable between 0.1 to 1.0 m and is directly attached to the indicator housing.

The Sensor Head contains the magnetically sensitive bridge, which provides the signal for translation into counts pulses.

The gap between Sensor Head and Magnetic Tape must not exceed 1.0mm.

The cable has 6 cores and is highly flexible. Each pair is twisted and screened.

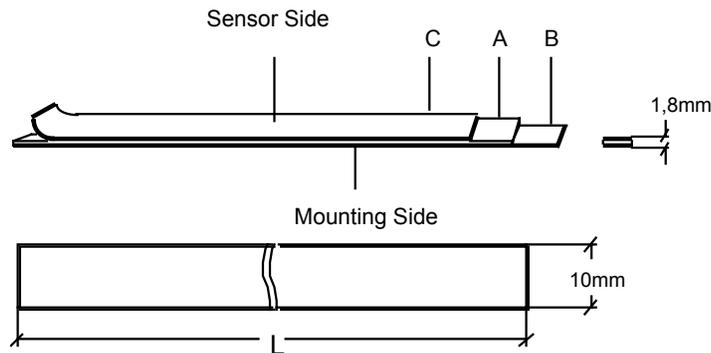


### Technical specifications:

<b>Cable length</b>	:	0.1 to 1.0 m
<b>Protection class</b>	:	IP67
<b>Housing</b>	:	zinc die cast zinc
<b>Operating temperature</b>	:	+ 5 ° C up to + 50 ° C
<b>Mounting position</b>	:	arbitrary
<b>Min Bending Radius</b>	:	60 mm
<b>Max Gap Band/Sensor</b>	:	1 mm

## 9. The magnetic tape MB 20.25

### The magnetic tape comprises 3 components



- A** The magnetised highly flexible tape, whose underside is bonded to **B**
  - B** A ferrous flexible steel tape. This tape protects the rubber Tape **A** from mechanical damage and at the same time forms the magnetic path. This provides security against external magnetic influences.
- A** and **B** are supplied factory bonded. This assembly is stuck to machine face by means of double-sided sticky tape.
- C** To enable the tape to be flexible for transport and mounting, the third tape (non-ferrous metal) is supplied separately. This is used to protect the magnetic rubber tape from above. This tape is attached to the bonded **A** & **B** by means of double sided sticky tape.

### Specifications of Tape:

Operating temperature	:	0° to 70°c (Adhesive only suitable up to 40°C)
Accuracy (mm) at 20°C	:	± (0.025+0.02xL) L = effective measuring length in meters
Temperature coefficient	:	16x10 <sup>-6</sup> /°C
Protection class	:	IP66

## 10. Type designation Z15

**Z15-000- 001-X,X-XX**

**Single axis indicator**

for Battery integrated translator for magnetic system  
Z16 = 6 digit 10mm LCD big size housing B x H = 96 x 72

**Construction**

000 = standard  
001 = 1<sup>st</sup> special version  
etc

**Supply voltage**

001 = 1,5 V Battery

**Length of sensor cable in X.X meters**

max 1.0 m possible

**Special Features**

N = without housing (open PCB)

### Accessories

**Magnetic tape : MB 20.25**

**MB 20.25.XX,X**

**Incremental Magnetic tape**

**Pole distance** 2,5 mm

**Length of tape**

## 11. 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 will be included in the subsequent editions.

We appreciate your ideas and improvement suggestions very much.

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**ELGO - Electric - GmbH**  
**Measure - Control - Position**

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