

# MAXI DIGITAL

Manually operated Digital Measuring Stop

User Manual

***WARNING: Read user manual before operating. Images are for illustration purposes only. Specifications are subject to change.***



## Luna MAXi DIGITAL Measuring System

### Instructions

The Luna Maxi Digital Measuring stop is supplied with a IZ-16E ELGO Digital Display. This measuring system is ideal for linear measuring. The Maxi Digital can be installed onto existing equipment or supplied OEM from Luna Machinery.

The Maxi Digital consists of an extruded aluminium rail which a sliding stop slides on. The Elgo display uses a magnetic reader head mounted just off a magnetic tape. The magnetic tape is located at the rear of the rail.

By using this system there is no need for gearbox, tachometer or any other mechanical means of measuring. By using the magnetic tape and reader there is virtually no wear in this system.

At the front of the rail there is still a provision for a standard tape measure to be inserted into the rail if so desired.

The Luna Maxi Digital will give you years of accurate, trouble free operation and reduce costly mistakes.

Please read through this instruction manual before operating your Maxi Digital.



#### CAUTION!

Danger through non-conventional use!  
Non-intended use and non-observance of this operation manual can lead to dangerous situations.

Therefore:

- Use **IZ16E** only as described
- Strictly follow this manual

Avoid in particular:

Remodelling, refitting or changing of the device or parts of it with the intention to alter functionality or scope of the position indicator.

## **INSTALLATION**

Mounting the Heavy Duty Fence Rail is depending on the conveyor or table used with the product.

### **ROLLER CONVEYOR**

The Maxi Stop is designed to mount easily onto our Luna Roller Conveyor System.

1. Select a side of the machine the Measuring Stop will be mounted. Luna Machinery Recommends mount Measuring Stops on the RIGHT HAND side.
2. On the rear lip of the conveyor frame, 10mm in from the rear edge of the frame, drill 8-10mm holes 150mm from either end of the frame.



3. Drill additional holes spaced at about 1m to 1.5m apart into the top rear lip of the roller conveyor frame (where the measuring stop will be mounted).

#### Recommended number of bolt holes:

3.0m = 4 holes

4.5m = 5 holes

6.0m = 6 holes

4. Place the Maxi Stop extrusion onto the roller conveyor. Make sure it is in the correct position that you want. Mark out the hole position onto the bottom of the Maxi Stop extrusion.
5. M
6. Lay the rail next to the drilled holes. Line up the bolts with the holes drilled into the table.



7. Place the 10mm U shaped plastic spacer onto the bolts they should be positioned so they will be between the base of the aluminium rail and the top of the roller conveyor.
8. Using two people, lower the rail onto the conveyor making sure the bolts line up with the spacer nuts and holes.
9. Make sure the U spacers do not interfere with the front of the aluminium rail.
10. Secure the rail to the conveyor using one flat washer and one M8 nut per bolt.
11. Slide the Stop onto the rail. Take care not to damage the reader head or the stainless steel tape.

## **FLAT BED OR TABLE**

1. Position the aluminium rail on the table so that it is 2-5mm behind the back fence of the machine.
2. Mark the centre line of each end of the rail on the table.
3. Remove the rail and draw a continuous line joining the centre line marks made in step 2.
4. Drill 8-10mm holes at 150mm from either end. Then drill holes spaced 1-1.5m apart.

### Recommended number of bolt holes:

3.0m = 4 holes  
4.5m = 5 holes  
6.0m = 6 holes

5. Place the supplied mounting bolts (M8x40) into the centre T- slot.
6. Lay the rail next to the drilled holes. Line up the bolts with the holes drilled into the table.
7. Secure the rail to the table using one flat washer and one M8 nut per bolt.

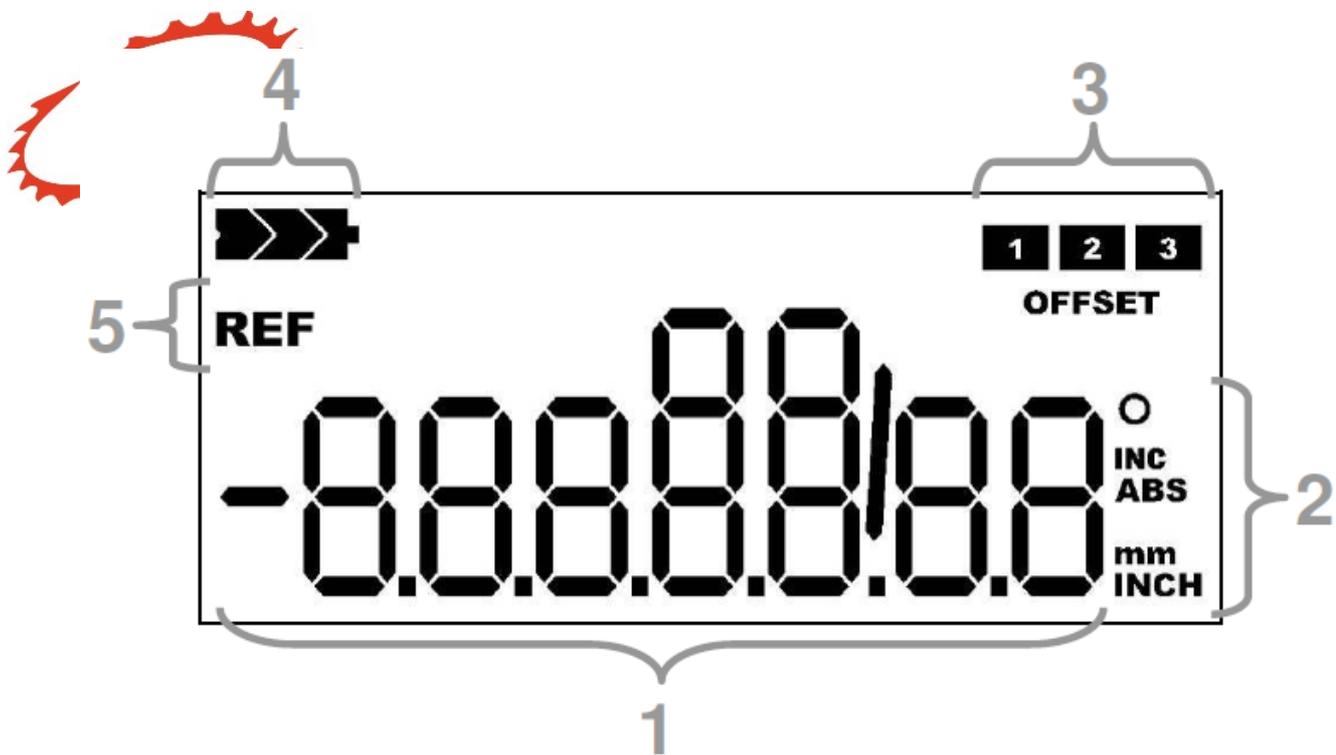


8. Slide the Stop onto the rail. Take care not to damage the reader head or the stainless steel tape



**MAIN SCREEN IZ-16E**





1	Segments for numeric and text display (including signs, decimal points, fraction display)
2	Symbols for units and display mode
3	Icons for active tool-offsets 1 ... 3
4	Battery-Status Icons
5	REF symbol: unit needs to be referenced

## **BASIC BUTTON FUNCTIONS**

**≡ Used to enter the Parameter Register List and other advanced functions.**

**≡ In metric mode there is no function. In Parameters Register List use SET button to move the editable number**



**= Switch between INCREMENTAL or ABSOLUTE measuring mode. In Parameters Register List use to change the value of the selected digit.**

**= Tool offset (cycle between the three tool offsets if enabled)**

### **Calibrating the stop to 500mm**

The Luna Maxi Digital IZ-16E is supplied with a calibration value of 500mm stored in memory (subject to change). This number can be quickly recalled by following the procedure below. If you wish to calibrate to another value please see the section titled SETTING OTHER CALIBRATION VALUE.

1. Follow the installation procedure outlines in the section titled "INSTALLATION".
2. Set the sliding stop to 500mm and lock into position. Do a test cut and make sure the cut piece is 500mm using an accurate tape measure or rule.

3. Tap **"F"** and **"Set"** together quickly will change the display to the value stored in **Register P09**, this is normally 500mm.

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4. Do a test cut and check the size of the cut piece. If the size is correct then the unit is ready for normal operation. If the size is incorrect please follow the instructions below.

5. Press and HOLD **"F"** and **"Set"** together for 3 seconds to edit the **Register P09**. Using the **"Set"** and **"Incr/abs"** keys edit the value to be the same as the measured test piece.

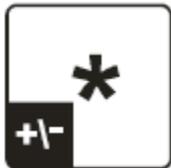
6. Press and hold the **"F"** key to return to normal operating mode.

7. Tap **"F"** and **"Set"** together quickly to change the display to the value just modified in **Register P09**.

8. Do another test cut and measure. The unit is now calibrated correctly.



### SETTING TO OTHER CALIBRATION VALUE.



1. Move the stop to your desired position and lock in place. Preferably a short size.

2. Make a test cut and measure the cut piece. Note the size.

3. Press and HOLD **"F"** and **"Set"** together for 3 seconds to edit the **Register P09**. Using the **"Set"** and **"Incr/abs"** keys edit the value to be the same as the measured test piece.

4. Press **"F"** to return to normal operating mode.



5. Tap **"F"** and **"Set"** together quickly to change the display to the value just modified in **Register P09**.
6. Do another test cut and measure. The unit is now calibrated correctly.

## Register Parameters Explained

The Elgo IZ-16E can be configured for many different applications. Elgo includes several parameters (registers) that can be changed by the end user depending of their particular application.

## Editing the Registers

**!!!WARNING!!!**

***There is no need to adjust these settings after installation under normal circumstances.***



Hold for 3 Seconds to enter the Parameter Register.

Use this key to select the flashing “editable” number.

Use this key to change the value of the selected number (0-9)

Used with some parameters to select a negative symbol

## Luna Factory Register Values for Your Elgo IZ-16

<b>Register</b>	<b>Default Value</b>
P 01	_____(count direction)
P02	_____(symbol display)
P 03	_____(decimal point, only in mm mode)
P 05	_____(key lock)



P 07 **Luna Machinery Qld** (Resolution)

P 08 1.0000 (Multiplier, do not change)

P 09 \_\_\_\_\_(datum value)

P10 0 (offset 1)

P11 0 (offset 2)

P12 0 (offset 3)

P13 0 (offset lock)

P90 0 (No Function)

P 99 Firmware Version

When finished, press and holding the **"F"** key to return the unit to normal operation.

## Register List

The table below lists all possible settings for all registers.



<b>PROBLEM</b>	<b>SOLUTION</b>
Display is blank	<ul style="list-style-type: none"><li>• Check that the battery is inserted correctly</li><li>• Low battery. Replace battery</li></ul>
Random sizes are displayed or constant incorrect measuring.	<ul style="list-style-type: none"><li>• Check the reader head located at the rear of the stop. The distance between the reader head and the stainless steel tape should be between 0.1 and 0.5mm. Please refer to the diagram below.</li><li>• Clean the stainless steel tape with a clean rag. <b>DO NOT USE AGGRESSIVE CLEANER!!!</b></li><li>• Check the register P08. This must be 1.0000</li></ul>
Counts in the wrong direction	<ul style="list-style-type: none"><li>• Check the register P01. Change the digit on the right</li></ul>



Parameter:	Description:	Default:
P01: A	System configuration: A = 0: Counting positively A = 1: Counting negatively	0
P02: A	Display mode (affect only the display of symbols!) A = 0: mm-Mode / Display symbol „ mm “ A = 1: Inch-Mode / Display symbol „ Inch “ A = 2: mm-Mode / Display symbol „ m “ A = 3: mm-Mode / Display symbol „ ° “ A = 4: mm-Mode / Display non symbol	0
P03: A	Decimal point ( 0 ... 4 ) → only for mm-Mode	2
P05: ABC	Keylock: A: Key „Set“ (0= activated / 1= deactivated) B: Key „Incr/Abs“ (0= activated / 1= deactivated) C: Key „*“ (0= activated / 1= deactivated)	000
P08:	Multiplication factor ( 0,0001 ... 9,9999 )	1,0000
P09:	Reference value ( -9999999 ... +9999999 )	0
P10:	Offset 1 ( -9999999 ... +9999999 )	0
P11:	Offset 2 ( -9999999 ... +9999999 )	0
P12:	Offset 3 ( -9999999 ... +9999999 )	0
P13: A	Configuration Offset (0...3) A = 0: offset cannot be activated A = 1: offset 1 can be activated A = 2: offset 1 & 2 can be activated A = 3: offset 1 & 2 & 3 can be activated	3
P90:	(without function)	0
P99:	Indicator in the company version	x.xx

### Update:

P07: Resolution 0 = (0.01mm) 1= (0.1mm)

From Firmware version 1.50 & up

NOTE: If changing from tenths to hundredths of a millimetre, parameter P03 must be changed to the correct decimal place.

**MAINTAINENCE**

The Luna Maxi Stop requires very little maintenance. However it is good practice to check the unit periodically.

## **Luna Machinery Qld**

Item to check:

- Inspect the bolts and nuts. Adjust as required.
- Check the steel flag is aligned.
- Clean the Stainless Steel Strip at the rear of the aluminium rail with a dry clean rag. **DO NOT USE AGGRESSIVE CLEANERS!**
- Check the battery indicator. Replace battery if low.
- Inspect the aluminium rail for any damage. This should be free of burrs and foreign objects.

If any parts become damaged or worn please contact Luna Machinery for the replacement parts. Luna has a comprehensive range of spare parts in stock in Australia.

### **Changing the Battery**



#### **ADVERT**

For a long operating time, the use of commercially branded batteries is recommended.

If all the battery icons on the LCD-Display are extinguished, a battery change should be made as soon as possible.

By changing the batteries strictly observe the polarity, take for orientation the markings on the battery-case!

All data and parameters are obtained at the battery change, apart from the current actual value.

1. Lock the Flip-Stop at the calibration size
2. Change the battery
3. Once battery has been changed press **"F"** & **"SET"** together
4. Flip-stop will be calibrated to the value stored in P09.
5. Make a test cut and measure.
6. Resume normal operation

If the calibration value is not known check the register value P09. This will show the stored calibration value.

## **TROUBLE SHOOTING**

# ***Luna Machinery Old***

In most cases problems are caused by operators accessing the register list and changing register values. It is recommended to advise operators that under normal use it is unnecessary to access the register list.

Note that the IZ-16E can have certain buttons “locked” to prevent operators from accessing the register list. Please see “Register Parameters Explained (P05)”.

## **Changing the direction of the count P 01**

Pressing “**F**” for 3 seconds will allow you to edit the register values.

The register number will be displayed. Pressing “**F**” will display its value.

P 01	00 Direction (+)
P 01	01 Direction (-)

Hold “**F**” for 3 seconds to return to normal operating mode.

## **Restore default settings**

1. Remove Battery
2. Press “**Inc/Abs**” while replacing battery
3. This restores the original Elgo factory settings. The unit will require calibration before use.

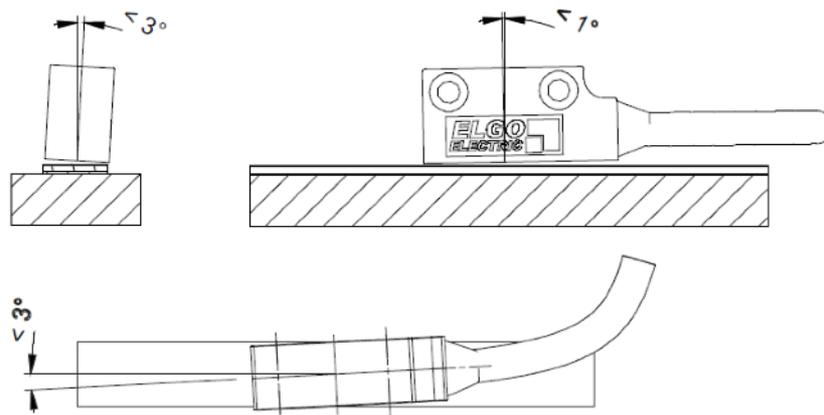
## **Electro Magnetic Fields**

**!!! DO NOT PLACE UNIT NEAR EMF EMITTING DEVICES !!!**

Magnetic interference can also cause the IZ16-E unit to malfunction. Do not place the unit near magnetic fields. Do not allow the following device within 3m radius of the IEgo Unit or magnetic tape:

- Any device with a brush motor
- Frequency inverters
- Magnets of any kind
- Welders
- De-gauss equipment

## Correct installation of the Magnetic Reader Head.



Note that the distance between the reader head and the magnetic tape must be between 0.1mm and 0.8mm.

- The sensor must never touch the magnetic tape, this will shorten the life of the tape and the sensor.
- Never have the gap larger than 0.8mm. This will result in random errors and inaccurate measuring.



If you cannot resolve the issue with your Maxi Digital please contact your local Luna Machinery dealer.

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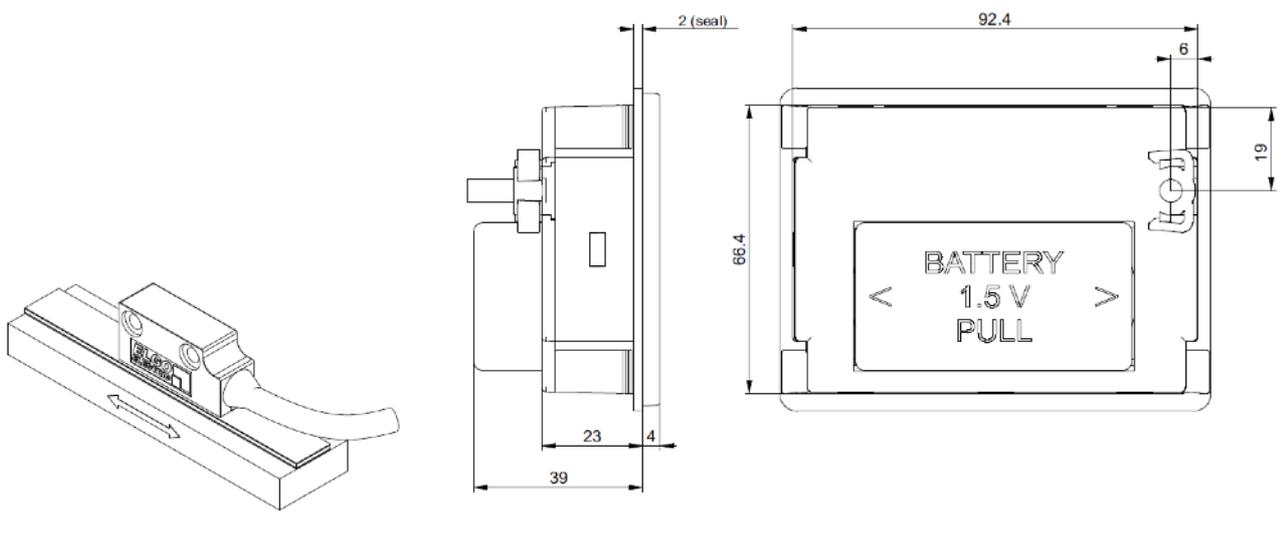
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## **TECHNICAL SPECIFICATIONS**



## Position Indicator IZ16E

LCD-Display	7 decades (digit height 14mm) With sign, battery status and measurement units
Measuring unit	mm, m, Inch or °
Perspective	12 o'clock
Keyboard	Foil with softkeys
Measuring principle	Magnetic, theoretically absolute
Measurement	linear or rotative
Power supply	1.5 V or 3.0 V (+24V on request)
Power consumption (with measuring system)	< 1 mA with 1.5V
Battery life	1...3 years (depending on the battery-type)
Operating temperature	0 °C ... + 50 °C
Storage temperature	-10 °C ... +60 °C
Humidity	max. 80 %, non-condensing
Velocity	max. 4 m/s
Housing	Norm panel housing, ABS plastic, black
Housing dimensions	W x H = 96 x 72 mm
Installation depth	30 mm -> depending on the version, see section 6.1.2
Front panel cut out	W x H = 93 x 67 mm
Protection class front	IP 54 (when installed with sealing) IP 43 (when installed without sealing)
Protection class back	IP 40



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