

IZ16E

Battery powered Position Indicator with Incremental Sensor



- Measurement and display system for linear or angular applications
- Suitable for magnetic tapes or rings with 2.5 mm pole pitch
- 7 digit LCD display with sign, measurement units, special characters and ° symbol for angular measurements
- Numerous setting options, e. g. multiplication factor, counting direction and decimal place
- Display mode for measurement units mm / m / Inch / °
- Fraction display in Inch mode possible
- Adjustable reference value and 3 tool offsets
- Relative / absolute measurement switchover
- Fast and easy installation by snap-in housing
- No wiring required
- Predestined for mounting on movable machine parts, e. g. slide carriages, stop systems or guide units

IZ16E - Battery powered Position Indicator with Incremental Sensor

General:

IZ16E is combination of length measuring system and display unit. It consists of an external magnetic sensor, which is connected via drag-chain suitable cable to a position indicator.

For linear measurement, a coded magnetic tape is glued along the distance to be measured. The magnetic tapes supplies the necessary information (current position) to the incremental sensor. The sensor is guided contactless and absolutely wear-free over the magnetic tape.



Alternatively, a magnetic ring (see photo left) is available for rotary applications (e. g. angle measurements).

Thanks to its high IP67 protection class, the external sensor is insensitive against dust, dirt and water. The compact sensor design allows an easy installation as well into existing as new machine constructions. A fixed cable outlet connects the sensor to the display unit. Alternatively a threaded round plug connector is available (see cable option "1" in the type designation).

Since no special tools, no wiring or electrical connections are required, the system is predestined for mounting on movable machine parts, e. g. slide carriages, stop systems or guide units. Optionally, a pluggable screw terminal (instead of the battery case) is available on the rear of the position indicator, which can be used to supply the device with a 1.5 resp. 3 VDC voltage or external batteries. External battery holders can be found in the table on the last page. On request, the screw terminal can be modified for external 24 VDC power supply.

Display:

The display unit, which is equipped with a well legible 14 mm high LCD display, offers a wide range of parameterization options and can easily be adapted to the respective application. For example, the indicator is programmable to display values in length units as mm / m / inch or as ° symbol for angle measurements. The exact layout and different possibilities of the LCD display are shown on the next page.

Programming and Interfaces:

The parameters are set via the membrane keyboard with short-stroke keys on the front face. For communication with a higher-level controller, an optional serial interface (RS232, RS485) or a wireless 868 MHz module is available for IZ16E. The serial RS232 or RS485 interface can be connected by an additional RJ45 socket on the rear.

Installation / Mounting:

With panel housing (standard):

Due to the snap-in housing with 4 attached mounting clips, the device can be quickly and easily installed into the panel cutout. The rubber seal (supplied with the delivery) increases the front protection class against dust, dirt and splash and should generally be used.

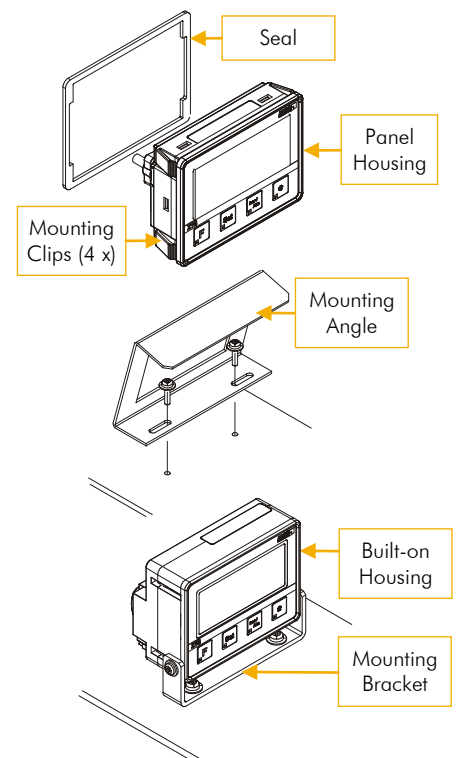
If no panel cutout available, or if the display unit should be mounted on a fixed or movable surface, the accessorial mounting angle MW-IZ16E (made of 2 mm galvanized steel sheet) can be used. This is provided with a suitable cutout for the display housing, which can be snapped in as described above. In this case, the rubber seal additionally improves the fit in the cutout. The inclination of the mounting angle ensures good readability of the display.

With built-on housing (option AG resp. AG1):

The built-on housing (available as an option) is equipped with an inclinable mounting bracket, which can be screwed on a fixed or movable surface. The viewing angle can be adjusted by tilting the indicator to the optimum position.

Accessories:

Further accessories as well as the respective order designations can be found in a separate table on the last page.



IZ16E - Battery powered Position Indicator with Incremental Sensor

Technical Data:

Mechanical Data	
Housing	norm panel housing
Housing material	plastic, black
Housing dimensions	W x H = 96 x 72 mm
Panel cutout	W x H = 93 x 67 mm
Keyboard	foil with short stroke keys
Installation depth (complete)	min. 30 mm (depends on version)
Electrical Data	
Display	7 digit LCD (digit height 14 mm) with sign, battery state, measurement units and symbols
Perspective	12 o'clock
Measurement units	mm / Inch / m / °
Accuracy (indicator)	± 1 digit
Power supply voltage	battery (1.5 V resp. 3 V) integrated or external; 24 VDC on request
Current consumption	< 1 mA at 1.5 V (with sensor)
Battery service life	1 ... 3 years (depending on battery type)
Connections	standard: fixed cable outlet optional: round connector
Data memory	Flash
Interfaces (optionally)	RS232, RS485 or RF 868 MHz
External inputs	2 x 5 ... 30 V (on request)
External outputs	2 x 30 V open collector (on request)
Environmental Conditions	
Operating temperature	0 ... +50° C
Storage temperature	-10 ... +60° C
Humidity	non-condensing, max. 80 %
Protection class (front)	IP54 (installed state with seal) IP40 (installed state without seal) IP50 (option AG) / IP64 (option AG1)
Protection class (rear)	IP40; IP50 (option AG) / IP64 (AG1)
Magnetic Sensor	
Required magnetic tape	MB20-25-10-1-R (linear measurements)
Required magnetic ring	MR 3848 (angular measurements)
Pole pitch of the tape	2.5 mm
Sensor cable length	0.1 m ... max. 2.0 m
Sensor cable	drag chain suitable, 6-wire, twisted pairs and double shielded
Housing	zinc die cast
Protection class	IP67
Mounting position	arbitrary
Bending radius (cable)	min. 60 mm
Resolution	0.1 mm ... 0.01 mm
Repeat accuracy	± 2 increments
Distance sensor - tape	max. 0.8 mm
Influence of external magnetic fields	External magnetic fields > 1 mT, which directly impinge upon the sensor can affect the system accuracy

Type Designation:

IZ16E - $\bar{A} \bar{A} \bar{A} - \bar{B} - \bar{C} \bar{C} \bar{C} - \bar{D} - \bar{E}$

A SN Number

- 000 = ELGO Standard
- 100 = with serial RS232 interface (via RJ45 socket)
- 150 = with serial RS485 interface (via RJ45 socket)
- 600 = with integrated RF 868 MHz wireless module

B Power Supply

- 1 = integrated battery case with cover
1x type C / LR14 / baby / 1.,5 V
- 6 = pluggable screw terminal
2 pin / 1 mm² for 1.5 V or 3 V
- 8 = integrated battery case with cover
1x type D / LR20 / mono / 1.5 V
(only for built-on housing option „AG“!)

C Signal Cable Length in XX.X m

- 01.5 = 1.5 m (example), max. 2 m possible

D Cable Options

- 0 = fixed cable outlet
- 1 = round connector (threaded)

E Options*

- CAP = integrated voltage back-up capacitor for battery change without loss of actual value
- 24V = external power supply 10 ... 30 VDC**
- AG = built-on housing with mounting bracket (IP50)
- AG1 = built-on housing with mounting bracket, sealed (IP64). Only for devices without RJ45!

*) multiple indications possible **) on request

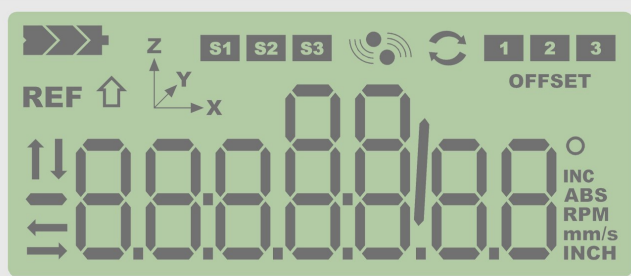
Order example:

IZ16E - 0 0 0 - 1 - 0 1 . 5 - 0 - X
A A A - B - C C . C - D - E

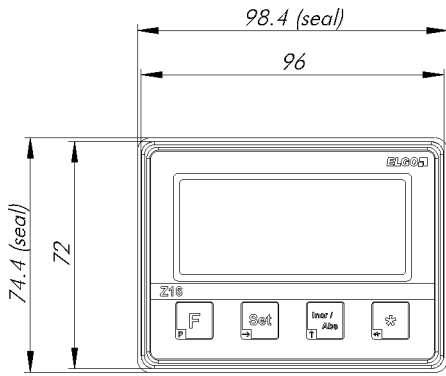
Standard ELGO IZ16E, with integrated battery case and cover, 1.5 m long signal cable and a fixed cable outlet. Additional options are available on request.

Display Structure:

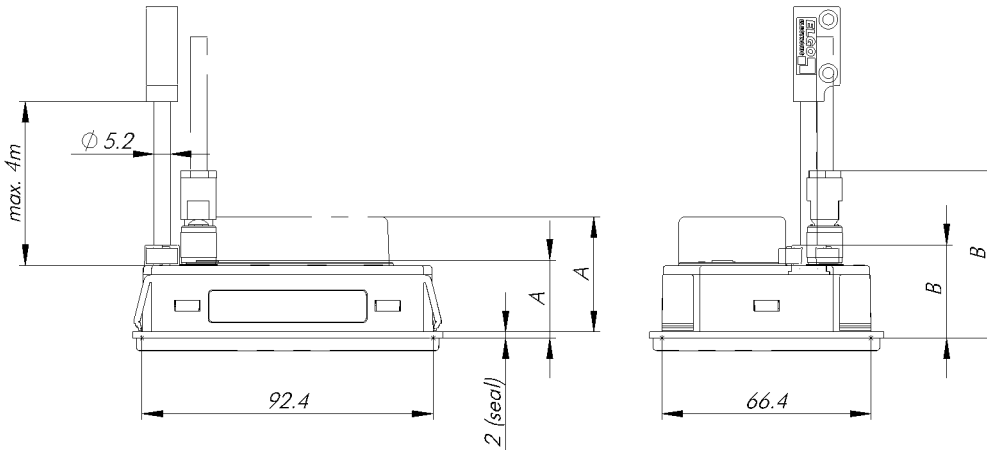
Structure of the LCD with special characters and symbols



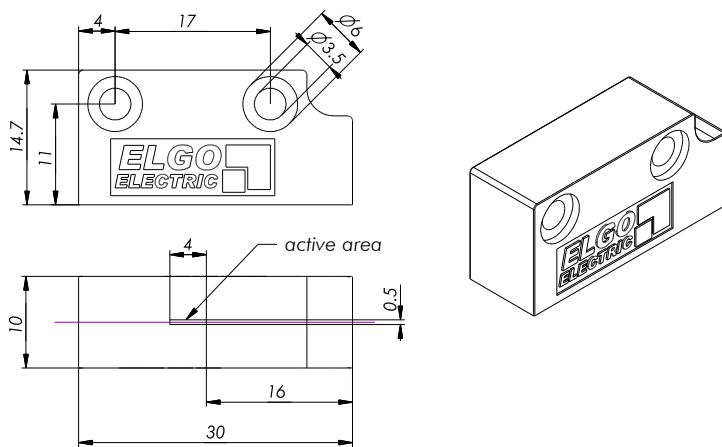
Dimensions IZ16E:



Type	A (mm)	B (mm)
IZ16E-XXX-1-XX.X-0	37	30
IZ16E-XXX-1-XX.X-1	37	53
IZ16E-XXX-6-XX.X-0	25	30
IZ16E-XXX-6-XX.X-1	25	53



Dimensions Sensor:



Accessories for IZ16E:

Order Designation	Description
MB20-25-10-1-R	Magnetic tape with 2.5 mm pole pitch (please indicate measuring length in XX.X m)
End cap set 10 mm	End caps for fixing 10 mm wide magnetic tapes
FS-XXXX	Aluminium profile guide rail for the magnetic tape (XXXX = length in m)
FW-2060	Guide carriage for sensor head, suitable for guide rail FS-XXXX
MR3848*	Magnetic ring; pole pitch 2.5 mm; 48 poles; outer Ø 38 mm / inner Ø 30 mm
MW-IZ16E	Mounting angle with suitable IZ16E cutout; made of 2 mm galvanized steel sheet
Battery holder-set 1 x C assembly	Consisting of battery holder (type C), battery and 2 cable shoes
Battery holder-set 1 x C open	Consisting of battery holder (type C), battery and 2 cable shoes

*) More details about magnetic rings on request

