AZ161
Battery powered Absolute Linear Encoder
with Position Indicator and Guide Carriage

- Integrated absolute sensor with plastic sliding guide
- Stand-alone system, predestined for manual measurement applications, e.g. slides, guiding and stop systems
- Magnetic tape guide rails up to 2 m length available
- With 4 rails in series measuring lengths up to 8 m possible
- After setting the zero point no further referencing required
- 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
- Automatic power safe mode (Auto-Power-Off/On)
- System resolution 0.1 mm
- 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
- No wiring required
AZ16I - Battery powered Absolute Linear Encoder with Position Indicator

General:
AZ16I is a complete stand-alone system consisting of a battery powered position indicator, an integrated absolute sensor and a plastic sliding guide located on the rear of the device.

Included in the delivery is a guide rail with the length of the distance, which has to be measured (please indicate the length with your order, max. length 2.0 m). It is possible to line up four 2 m rails to achieve the max. measuring length of 8 m. More information about the rail see on last page.

ELGO-Guide rails up to 2 m are already equipped with the necessary absolute encoded magnetic tape. The magnetic tape will be delivered separately if more than one guide rail is needed (measuring lengths longer than 2 m). Thanks to the absolute measuring method, no further referencing is necessary after setting the zero point once.

The carriage for the guide rail is mounted on the rear of the device and precisely matched to the available ELGO guide rails of the FS series. This ensures that the sensor (integrated in the indicator) keeps the correct distance to the magnetic tape along the entire measuring distance.

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 Millimeters, Meters or Inches. 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.

Battery Supply:
Due to the battery supply, the system operates completely independently and no connections or wiring are required. To increase battery life, the internal AUTO-POWER-SAFE mode with programmable start-up time can be used by activating the respective parameter.

Battery Change:
The two built-in mignon batteries (type AA) can be replaced by removing the 4 screws on the back and removing the plastic guide carriage. For an optimum durability, never use old and new batteries together. Please always replace both batteries at the same time.

Applications:
The absolute measuring and display unit AZ16I is particularly suitable for manual measuring applications at slides, guiding and stop systems.

Accessories:
Required accessories for the function of the AZ16I are the absolute encoded magnetic tape and the corresponding guide rails in the desired length. More information and the respective order designations can be found in the table on the last page.
**Technical Data:**

**Mechanical Data**
- Housing: mounted on guide carriage
- Housing material: aluminium, black
- Housing dimensions: \(W \times H \times D = 96 \times 72 \times 39 \text{ mm} \) (incl. guide carriage)
- Keyboard: foil with short stroke keys

**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: 2 x 1.5 V mignon cells (integrated)
- Current consumption: < 1 mA at 1.5 V (with sensor)
- Battery service life: up to 4 years (depending on power on time)
- Connections: no connections required
- Data memory: Flash

**Environmental Conditions**
- Operating temperature: 0 ... +50° C
- Storage temperature: -10 ... +60° C
- Humidity: non-condensing, max. 80 %
- Protection class (front): IP54
- Protection class (rear): IP54

**Internal Magnetic Sensor**
- Required magnetic tape (see accessories): AB20-40-10-1-R-11
- Pole pitch of the tape: 4 mm
- Distance sensor - tape: fixed by guide carriage
- Resolution: 0.1 mm
- Repeat accuracy: ± 2 increments
- Interface (absolute): RS485
- Max. measuring length: 8 m
- Operating speed: max. 2 m/s
- Influence of external magnetic fields: External magnetic fields > 1 mT, which directly impinge upon the sensor can affect the system accuracy

**Order example:**

AZ16I - 0 0 0 - 2 - 0  
A A A - B - C

ELGO standard AZ16I with integrated battery power supply (type AA) and a 25 x 6 mm guide carriage for ELGO guide rails (type FS).

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**Rear Guide Carriage:**

The guide carriage for the magnetic tape-assembled FS guide rail consists of an easily gliding plastic material.

**Display Structure:**

Structure of the LCD with special characters and symbols

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**Type Designation:**

AZ16I -  
A A A - B - C

- **A SN Number**
  - 000 = ELGO standard
  - 001 = first special version

- **B Power Supply**
  - 2 = 2 integrated mignon cells type AA / 1.5 V

- **C Housing / Sliding Guide**
  - 0 = for ELGO FS guide rail* (25 x 6 mm)

*) The guide rail is not included in the scope of delivery. Please order as an accessory. For further information and order designation see last page.
Dimensions of AZ16I:

Dimensions of the FS Guide Rail:

Length = max. 2 m

Accessories for AZ16I:

<table>
<thead>
<tr>
<th>Order Designation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB20-40-10-1-R-11</td>
<td>AZ14E magnetic tape - please indicate measuring length in XX m (max. 8.0 m)</td>
</tr>
<tr>
<td>FS-XXX*</td>
<td>Aluminium profile guide rail for the magnetic tape</td>
</tr>
</tbody>
</table>

*) XXXX = Length in mm

Example: To cover the maximum measuring length of 8 m, four 2 m rails can be installed in series.

⇒ Required order designation: “4 pieces FS-2000*”