

AZ16E-300

Battery powered Absolute Linear Encoder with
3 Axis Position Indicator (axes are switchable)



- Measurement of 1... 3 Positions via external magnetic sensors
- Switchover between axis 1, 2 or 3 in the display by front key
- 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
- Fast and easy installation by snap-in housing
- No connections or wiring required
- Predestined for mounting on movable machine parts, e. g. slide carriages, stop systems or guide units

AZ16E-300 - Battery powered Absolute Encoder with 3 Axis Position Indicator

General:

AZ16E consists of a display unit which is combined with up to 3 external absolute linear encoders. For linear measurement, a coded magnetic tape is glued along the distance to be measured (up to 8 m possible). The magnetic tapes supplies the necessary information (current position) to the sensor. The sensor is guided contactless and absolutely wear-free over the magnetic tape. Thanks to the absolute measurement, no further referencing is necessary after setting the zero point once.

Sensor Variants (accessorial parts):

Two different sensor types are available for AZ16E. Standardly the AZS-100 sensor is used, which covers measuring distances up to 8 meters.

For shorter distances up to 4 meters the smaller AZS-50* sensor type can be used which is available as an option. Both types protected by IP67 and thus resistant to dust, dirt and water.

*) on request

To connect the drag chain suitable signal cable to the indicator, a pluggable RJ45 connector is used.

Power Supply:

Since no special tools, no wiring or electrical connections are required, the AZ16E-300 system is predestined for mounting on movable machine parts, e. g. slide carriages, stop systems or guide units. The 1.5 V battery (baby cell) is located in a battery case, which is accessible on the rear of the display unit.

Display:

The well legible 14 mm high LCD display can be programmed individually. For example to display values in length units as mm / m / inch or as ° symbol for angle measurements.

Operating and Programming:

The parameters are set via the membrane keyboard with short-stroke keys on the front face. As a special function of version 300, the respective position of axis 1, 2 or 3 can be switched over by pressing the star-button on the front of the display unit.

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.

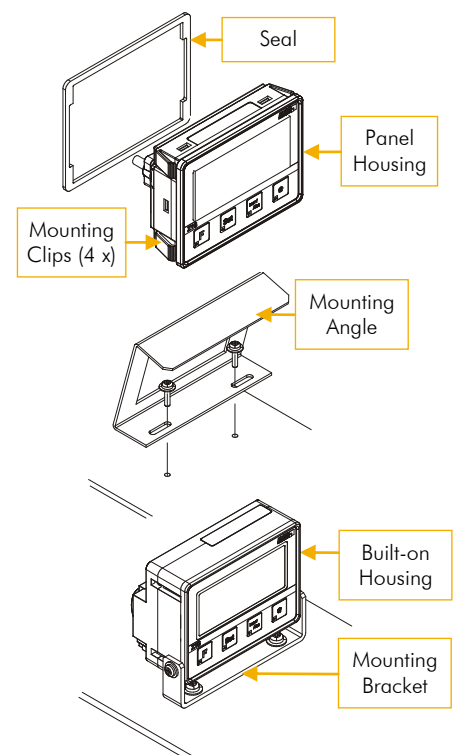
If no panel cutout available, or if the display unit should be mounted on a fixed or movable surface, the accessorial mounting angle MW-IZ16E (made of 2 mm galvanized steel sheet) can be used. This is provided with a suitable cutout for the display housing, which can be snapped in as described above. 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):

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.



AZ16E-300 - Battery powered Absolute Encoder with 3 Axis Position Indicator

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 | approx. 66 mm (incl. sensor connector) |

| 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 | integrated 1.5 V battery |
| Current consumption | < 1 mA at 1.5 V (with sensor) |
| Battery service life | up to 4 years (depending on power on time) |
| Connections | 3 x RJ45 socket |
| Data memory | Flash |

| 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) |
| Protection class (rear) | IP40 (standard) / IP50 (option AG) |

| Magnetic Sensors AZS-100 / AZS-50 | |
|---------------------------------------|--|
| Dimensions | AZS-100: 100 x 12 x 25 mm (standard) AZS-50: 50 x 12 x 25 mm (on request) |
| Required magnetic tape | AB20-40-10-1-R-11 |
| Pole pitch of the tape | 4 mm |
| Distance sensor - tape | max. 1.5 mm |
| Resolution | 0.1 mm |
| Repeat accuracy | ± 2 increments |
| Interface (absolute) | RS485 |
| Max. measuring length | AZS-100: 8 m / AZS-50: 4 m |
| Operating speed | max. 2 m/s |
| Housing material | ABS plastic |
| Protection class | IP67 |
| Connection type | RJ45 (male) connector |
| Sensor cable | drag chain suitable, highly flexible, 4-wires, shielded |
| Sensor cable length | 0.1 m ... max. 20 m |
| Mounting position | arbitrary |
| Bending radius (cable) | min. 25 mm |
| Influence of external magnetic fields | External magnetic fields > 1 mT, which directly impinge upon the sensor can affect the system accuracy |

Type Designation:

AZ16E - $\overline{\text{A}} \overline{\text{A}} \overline{\text{A}} - \overline{\text{B}} - \overline{\text{C}} \overline{\text{C}} \cdot \overline{\text{C}} - \overline{\text{D}} - \overline{\text{E}}$

A SN Number

300 = 3 Axis Position Indicator (AZ sensors must be ordered as accessories, see type designation below)

B Power Supply

1 = integrated battery case with cover
1x type C / LR14 / baby / 1.5 V

C Cable Option

1 = sensors pluggable via RJ45 socket

D Options*

0 = built in housing for panel installation
AG = built on housing with mounting bracket (IP50)

Order Example:

AZ16E - 300 - 1 - 1 - AG
A A A - B - C - D D

3 axis position indicator AZ16E with integrated battery case incl. cover and female RJ45 connectors. Additional options on request available.

Type Designation AZ Sensor: (please order separately)

AZS - $\overline{\text{A}} \overline{\text{A}} \overline{\text{A}} - \overline{\text{B}} - \overline{\text{C}} \overline{\text{C}} \cdot \overline{\text{C}} - \overline{\text{D}}$

A SN Number

000 = ELGO standard
001 = first special version

B Sensor Type

1 = AZ-100 (L=100 mm, max. 8 m measuring length)
2 = AZ-50* (L=50 mm, max. 4 m measuring length)
*) on request

C Sensor Cable Length in XX.X m

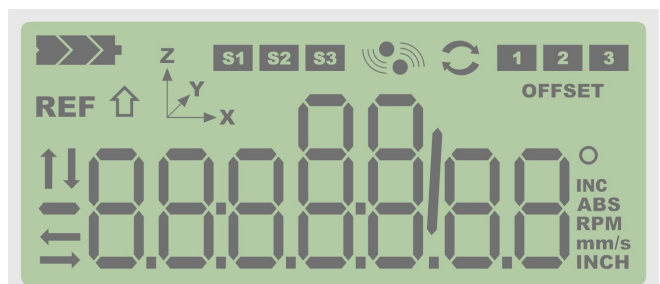
02.0 = 2.0 m (example)
Available standard lengths: 1 / 2 / 3 / 5 m
(further lengths available at extra charge; max. 20 m)

D Cable Option

1 = Cable outlet with RJ45 connector (standard)

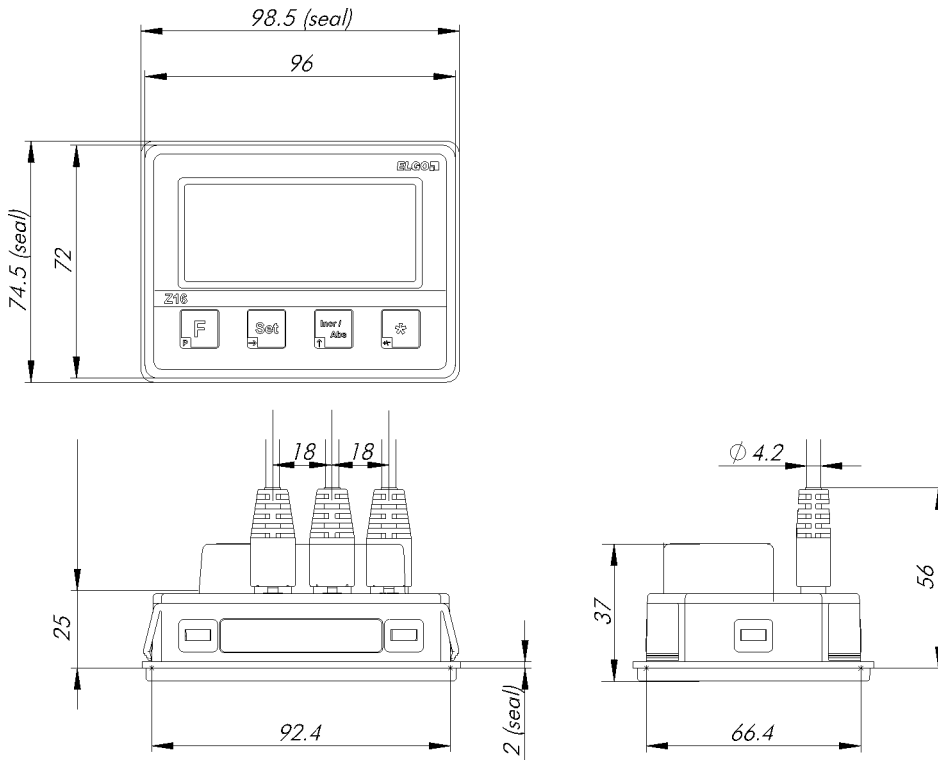
Display Structure:

Structure of the LCD with special characters and symbols



Dimensions of AZ16E-300:

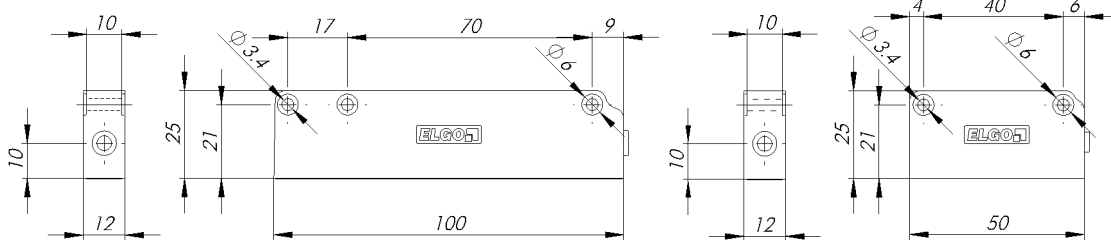
Panel housing (standard)



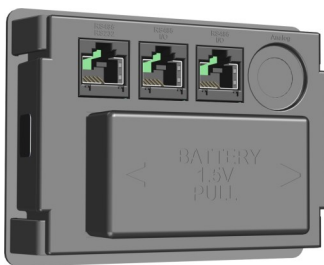
Sensor Dimensions:

AZS-100 (standard)

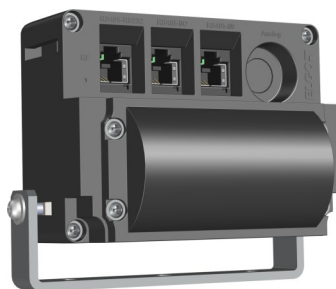
AZS-50 (on request)



Housing Versions:



Panel housing: AZ16E-300-1-1-0



Built on housing: AZ16E-300-1-1-AG

Outer dimensions:
W x H x D = 111 x 87 x 60 mm
(incl. mounting bracket)

Accessories for AZ16E-300:

| Order Designation | Description |
|-------------------|---|
| AB20-40-10-1-R-11 | AZ16E magnetic tape - please indicate measuring length in X.X m (max. 8.0 m per axis) |
| 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) |
| MW-IZ16E | Mounting angle with suitable AZ16E cutout; made of 2 mm galvanized steel sheet |

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Subject to modifications - © 2017

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