

# KINAX N702-CANopen

## Absolute inclination transmitter

### For robust industrial applications

The KINAX N702-CANopen is a robust absolute inclination transmitter. Thanks to its high mechanical strength and the compact design it is particularly suitable for use in industrial applications. It detects tilt and angular positions and provides them via CANopen.

The very simple assembly by the synchro flange or mounting plate, the sensor connection via M12x1/5 poles, the free on-site parameterization and the digital CANopen-Businterface offers maximum installation flexibility.



### Your benefits

#### TOP QUALITY TESTED

- Compact industrial housing
- Splash and dust proof housing IP66
- Contact arm measuring principle
- Digital CANopen Businterface

#### ACCURATE, SAFE, MAINTENANCE FREE

- High degree of absolute measuring accuracy ( $\pm 0.2^\circ$ )
- Resistant against high mechanical strains thanks to robust design and high quality materials
- Secure electrical connection through sensor connector M12x1

#### SIMPLE AND QUICK COMMISSIONING

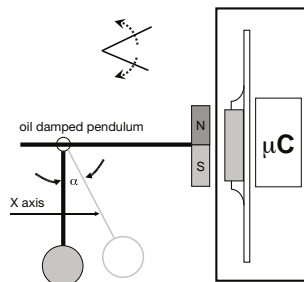
- Standard synchro flange or mounting plate
- No shaft adaptation necessary
- 3-wire connection with sensor connector M12x1 / 5 poles
- Auto-configuration of the network
- Free parameterization over CANopen interface

### Technical data

#### General

Measured quantity: Tilt angle

Measuring principle: Magnetic, one-dimensional inclination transmitter with hall sensor and oil-damped pendulum system, hermetically sealed, contact free, freely rotatable without stops



Pendulum damping: by oil filling

#### Measuring input

Measuring range:  $-180^\circ \dots 179.9^\circ$  free programmable

Inclination angle: Set to  $-180,0^\circ \dots +179,9^\circ$

Sense of rotation: Adjustable for rotation clockwise or counter-clockwise

#### Measuring output

Power supply: 9 ... 33 VDC  
protection against wrong polarity

Output signal: CAN-Bus Interface

Protocol: CANopen

CANopen Draftstandards: DS 401 Device-Profile inclinometers  
DS 301 Application-Layer and communication profile

Current consumption: < 100 mA

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### Accuracy

|   |                                    |
|---|------------------------------------|
| Basic accuracy:   | $\pm 0,2^\circ$ (bei + 25 °C)      |
| Resolution:   | 14 bit                             |
| Transient response:   | by 25° tils < 1 sec.               |
| Influence of temperature<br>output current<br>(-30°...+70°C):<br>[-22 ... +158°F] | $\pm 0.1^\circ / 10K (>100^\circ)$ |

### Installation data

|                        |  |
|------------------------|--|
| Material:              | Housing cap: (3.2382)<br>Aluminium GD-AISi10Mg coated<br>Housing flange: (3.2315)<br>Aluminium AlMgSiF30 |
| Mounting position:     | Perpendicular to the measurement<br>object   |
| Electrical connection: | Connector M12x1, 5 poles   |
| Weight:                | ca. 0,3 kg [9,645 oz]  |

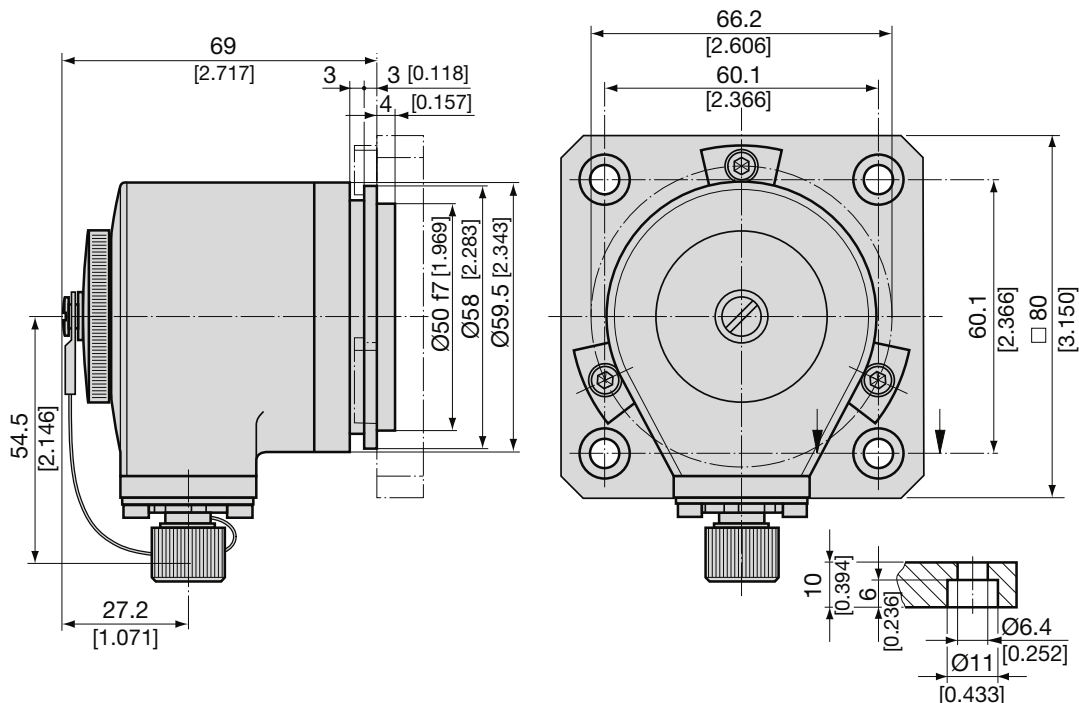
### Regulations

|                     |                          |
|---------------------|--------------------------|
| Spurious radiation: | EN 61 000-6-3            |
| Immunity:           | EN 61 000-6-2            |
| Test voltage:       | 500 Veff., 50 Hz, 1 Min. |
| Housing protection: | IP 66 acc. to EN 60 529  |

### Environmental condition

|  |   |
|--|---|
| Climatic rating:                           | Temperature -30° to + 70° C<br>[-22 ... +158 °F]<br>Relative humidity < 95% |
| Vibration resistance:                      | $\leq 40 \text{ m/s}^2 / 5 \dots 100 \text{ Hz}$<br>acc. EN 60068-2-6       |
| Shock resistance:                          | $300 \text{ m/s}^2 / 18 \text{ ms}$<br>acc. EN 60068-2-27                   |
| Transportation and<br>storage temperature: | -30° ... +70 °C [-22 ... +158 °F]   |

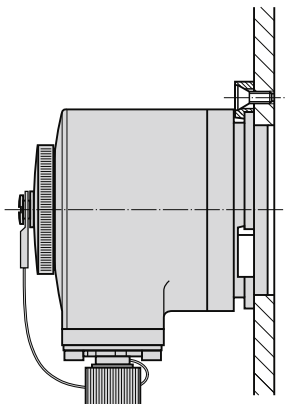
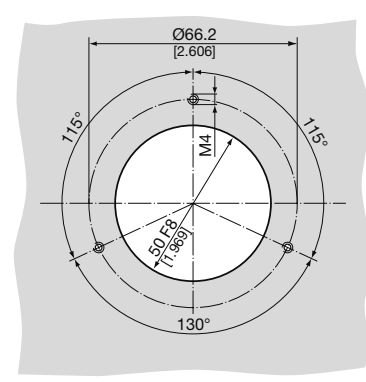
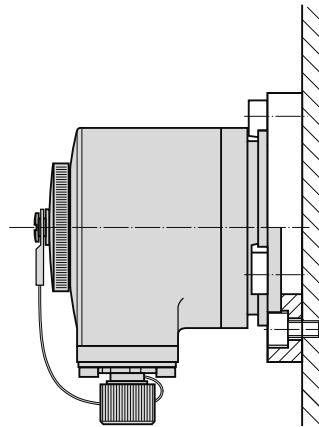
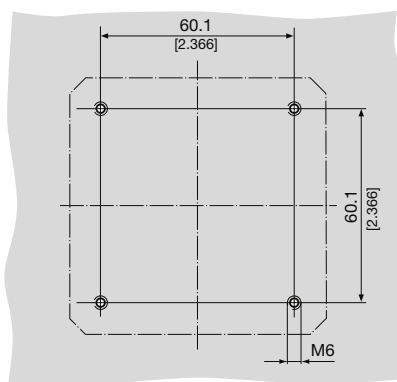
### Dimensional drawings



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## Mounting

All inclination transmitter can be mounted either directly with 3 clamping brackets to the item being measured or with a mounting plate with 4 cheese head screws M6. Please take care that the installation position of the inclination transmitter is perpendicular to the gravity of the earth. The inclination transmitter are supplied standard with mounting plate but without cheese head screws M6.

| Mounting versions    |   | Drilling and cut-out diagrams (for mounting transmitters)                             |  |
|----------------------|---|---|--|
| directly with clamps |    |    |  |
| with mounting plate  |  |  |  |

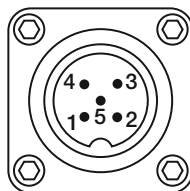
## Electric connections

To connect the electrical lines, the inclination transmitter has a sensor connector M12x1 / 5 poles.

PIN configuration

### Pin assignments:

- 1 = CAN Shld
- 2 = + 24 V DC
- 3 = GND
- 4 = CAN High
- 5 = CAN Low



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### Programming

A parameterization is performed by means of the CANopen interface. All parameters are stored in the object directory.

### Ordering information of variants

| Description        | Article No. |
|--------------------|-------------|
| KINAX N702-CANopen | 157 554     |

### Accessories

| Description               | Article no. |
|---------------------------|-------------|
| Connector M12x1 / 5 poles | 168 105     |
| Kit mounting clamp N7xx   | 168 353     |
| Mounting plate N7xx       | 168 379     |

### Scope of delivery

- 1 Inclination transmitter KINAX N702-CANopen (157 554)
- 1 Mounting plate with 3 clamps (168 379, 168 353)
- 1 Connector M12x1, 5 poles (168 105)
- 1 Operating instructions German, English, French (157 637)



**Rely on us.**

Camille Bauer AG  
Aargauerstrasse 7  
CH-5610 Wohlen / Switzerland  
Phone: +41 56 618 21 11  
Fax: +41 56 618 21 21  
info@camillebauer.com  
www.camillebauer.com