

# KINAX N702-INOX HART

## Absolute inclination transmitter

### For heavy-duty applications in rough environments

The KINAX N702-INOX HART is a very robust, absolute inclination transmitter. It is particularly suited for use in harsh environments due to its high mechanical strength and the hermetically sealed stainless steel housing. It makes it resistant against aggressive media such as sea water and detergents.

The very simple assembly by the synchro flange or mounting plate, the highly flexible 2-pole signal line with PUR sheath and the free parameterization via HART interface offers maximum installation flexibility.



### Your benefits

#### LOW LIFE CYCLE COSTS DUE TO:

##### TOP QUALITY TESTED

- Hermetic watertight and dust-proof housing IP68
- Optimally resistant to aggressive media such as sea water and cleaning agents
- Stainless steel housing INOX AISi 316Ti (1.4571)

##### 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
- Safe electrical connection through flexible signal line cable

##### SIMPLE AND QUICK COMMISSIONING

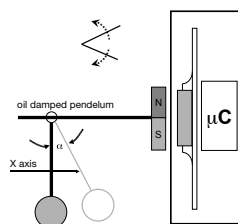
- Standard synchro flange or mounting plate
- 2-wire connection via flexible signal line
- HART compatible
- Simple parameterization via standard Common Practice Commands without additional DD

### 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

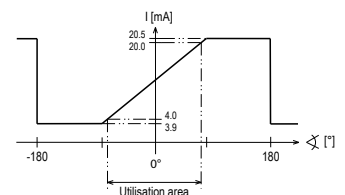
#### Measuring input

Measuring range:

Inclination angle:

Programmable between 0 ... 360°

Set to -180 ... 179.99°



Sense of rotation:

Adjustable for rotation clockwise or counter-clockwise

#### Measuring output

Power supply:

8 ... 33 VDC

Output signal  $I_A$ :

Load-independent DC current, proportional to the inclination

Standard range:

4...20 mA, 2-wire connection protection against wrong polarity

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Interface: HART compatible  
 Current consumption: < 22 mA  
 Fault current: > 21.5 mA (nominal 21.7 mA) and < 3.5 mA (nominal 3.3 mA)

External resistance:  $R_{\text{ext max.}} [\text{k}\Omega] = \frac{H [\text{V}] - 8\text{V}}{I_A [\text{mA}]}$   
 H = Power supply  
 I<sub>A</sub> = Output signal end value

### Accuracy

Basic accuracy: ± 0.2 ° (at +25 °C)  
 Resolution: 14 bit  
 Transient response: by 25° tils < 1 sec.  
 Influence of temperature output current (-30°...+70°C): 0.1° / 10K (<100°)  
 [-22 ... +158°F] up to 0.2° / 10K (>100°)

### Installation data

Housing: Stainless-steel INOX AISi 316Ti (1.4571)  
 Mounting position: Perpendicular to the measurement object

Electrical connection: highly flexible shielded 2-pin signal line with PUR sheath  
 Weight: approx. 1.1 kg [35.366 oz]

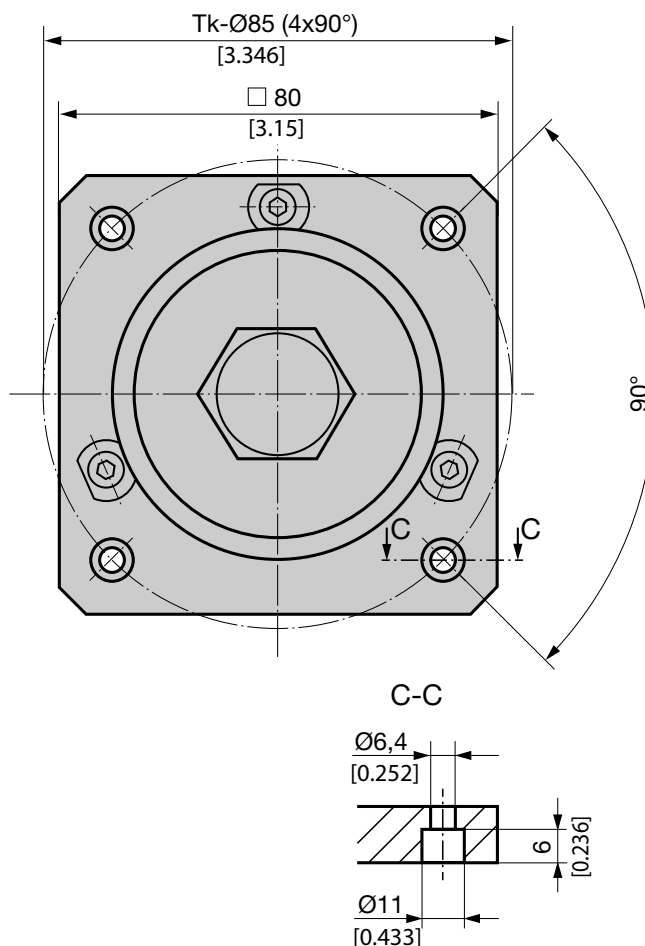
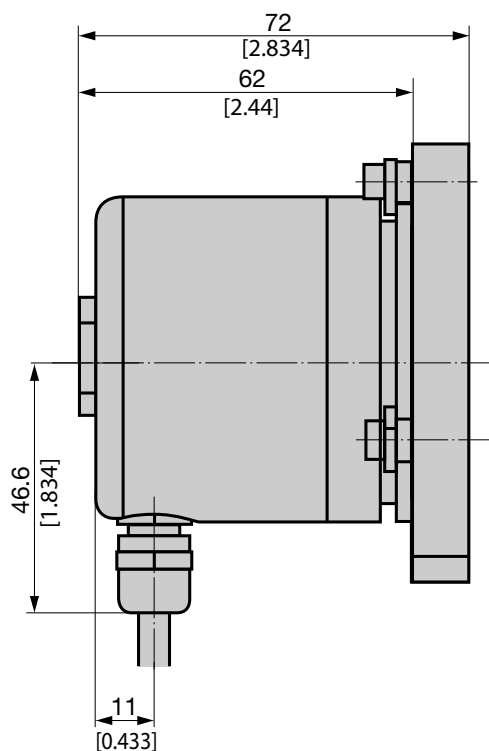
### Regulations

Spurious radiation: EN 61 000-6-4  
 Immunity: EN 61 000-6-2  
 Test voltage: 500 V<sub>eff</sub>, 50 Hz, 1 min.  
 Water column: 30 m  
 Housing protection: IP 68 acc. to EN 60 529

### Environmental condition

Climatic rating: Temperature - 30° to + 70° C [-22 ... +158 °F]  
 Vibration resistance: 40 m/s<sup>2</sup> / 10 ... 500 Hz acc. IEC 60068-2-6  
 Shock resistance: 300 m/s<sup>2</sup> / 18 ms acc. EN 60068-2-27  
 Transportation and storage temperature: - 30° to + 70° C [-22 ... +158 °F]

### Dimensional drawings

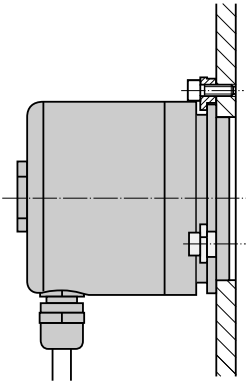
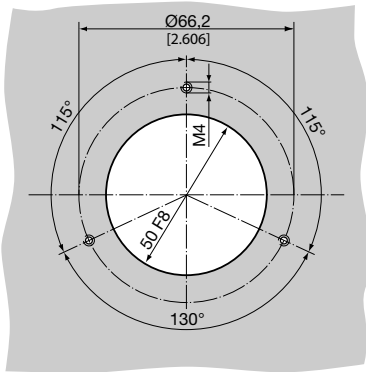
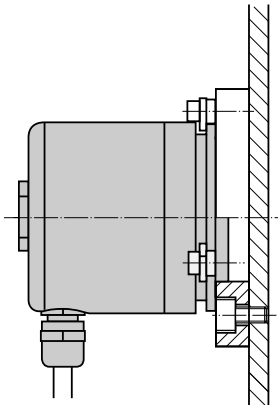
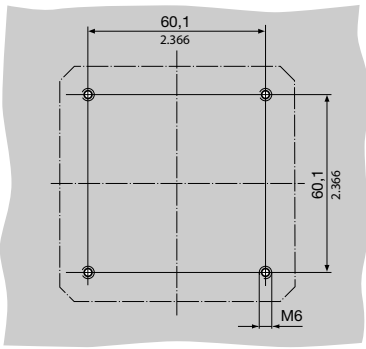


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### Mounting

All inclination transmitters 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 transmitters are supplied standard with mounting plate but without cheese head screws M6.

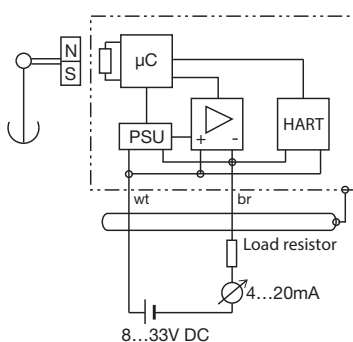
Mounting versions		Drilling and cut-out diagrams (for mounting transmitters)
directly with clamps		
with mounting plate		

### Electric connections

The inclination sensor is connected via a highly flexible, shielded signal line with 2 strands and PUR sheath. The same is preassembled at the factory, included in the delivery and available in different lengths.

Permissible cable-Ø: 5.9 mm [0.232]  
 conductor cross-section: 2 x 0.34 mm<sup>2</sup>

#### Wiring connection



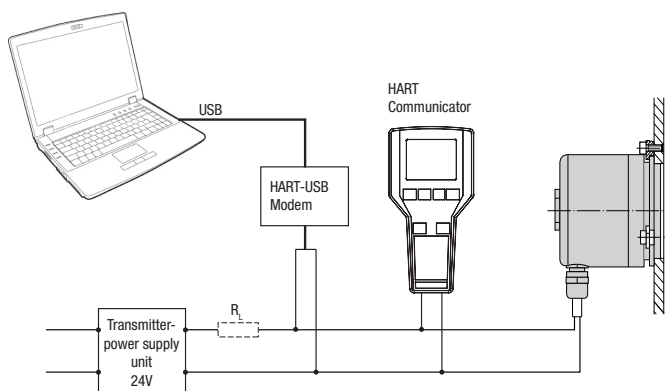
White (wt) = +24V  
 Brown (br) = 4...20 mA

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### Programming

The inclination transmitter can be programmed via HART modems (e.g. ifak system type isHRT USB) or via HART communicator (e.g. EMERSON type 475). To program the item you have to connect the cable terminals of the HART modem or communicator directly to the 4 ... 20 mA control line. The minimum value (0%), the maximum value (100%), zero position as well as the sense of rotation can be programmed.



### Accessories

Description	Article No.
Mounting plate N7xx INOX (already included in delivery)	172 619
Kit mounting clamp N7xx INOX (already included in delivery)	172 627

You find power supply units for KINAX N702-INOX HART in our product range.

SINEAX B812	SINEAX B811
1-channel power supply unit	1-channel power supply unit
to feed 2-wire transmitters	

### Ordering information of variants

Description	Article No.
KINAX N702-INOX HART, Cable length 1.5 m Set to 0 ... 60° (Special version)	172 510
KINAX N702-INOX HART, Cable length 5.0 m Set to -180 ... 179.99°	172 536
KINAX N702-INOX HART, Cable length 10.0 m Set to -180 ... 179.99°	172 544
KINAX N702-INOX HART, Cable length 30.0 m Set to -180 ... 179.99°	173 922
Further cable lengths on request	xxx xxx

### Scope of delivery

- 1 Inclination transmitter KINAX N702-INOX HART
- 1 Mounting plate with 3 clamps
- 1 Operating instructions German, English, French, Italian



[www.mod-tronic.com](http://www.mod-tronic.com) | [sales@mod-tronic.com](mailto:sales@mod-tronic.com) | 1-800-794-5883