CAMILLE BAUER

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 (±0.2°)
- Resistant against high mechanical strains thanks to robust design and high quality materials
- Safe electrical connection through flexible signal line cable

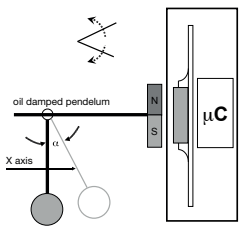
SIMPLE AND QUICK COMMISSIONING

- 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

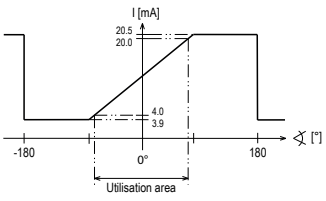
Measured quantity:	Tilt angle
Measuring principle:	Magnetic, one-dimensional inclination transmitter with hall sensor and oil-damped pendulum system, hermetically sealed, contact free, freely rotatable without stops



Pendulum damping:	by oil filling

Measuring input

Measuring range:	Programmable between 0 … 360°
Inclination angle:	Set to 0 ... 359.9°



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:	$R_{ext\ max.}$ [kΩ] = $\frac{H\ [V]-8V}{I_A\ [mA]}$
	H = Power supply I_A= 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): [-22 ... +158°F]	0.1° / 10K (<100°) 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]

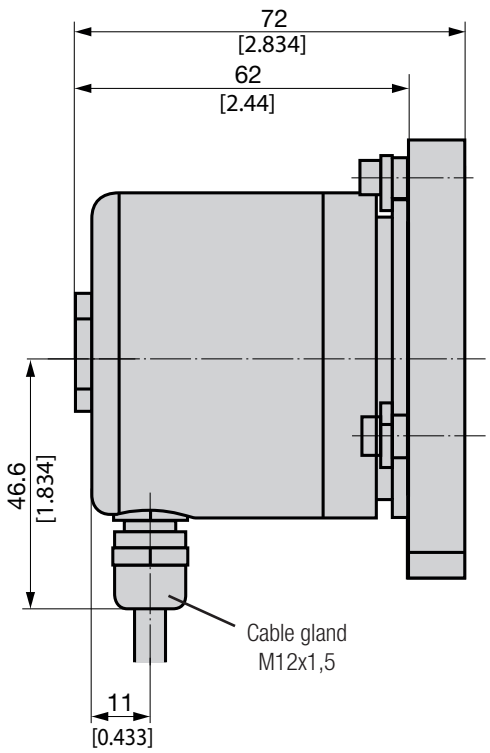
Regulations

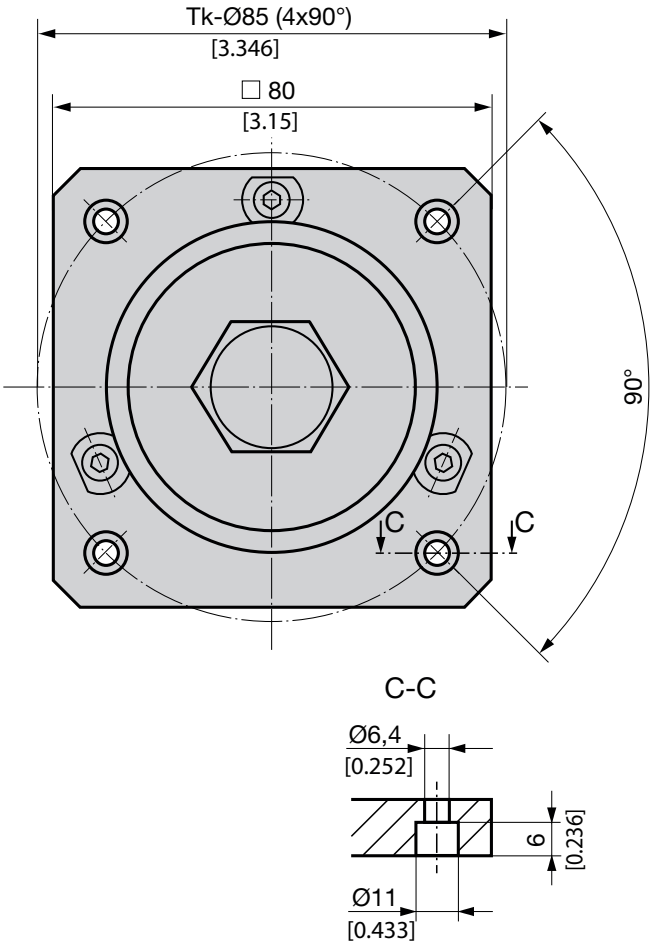
Spurious radiation:	EN 61 000-6-4
Immunity:	EN 61 000-6-2
Test voltage:	500 Veff, 50 Hz, 1 min.
Water column:	30 m
Housing protection:	IP 68 acc. to EN 60 529

Environmental condition

Climatic rating:	Temperature – 30° to + 70° C [-22 ... +158 °F]
Vibration resistance:	40 m/s² / 10 … 500 Hz acc. IEC 60068-2-6
Shock resistance:	300 m/s² / 18 ms acc. EN 60068-2-27
Transportation and storage temperature:	– 30° to + 70° C [-22 ... +158 °F]

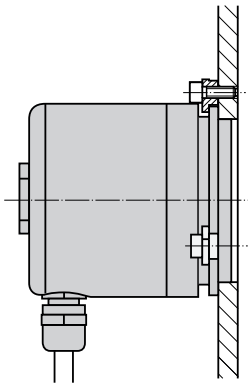
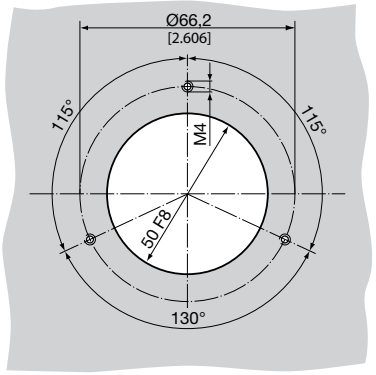
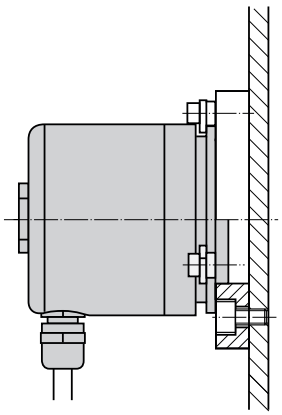
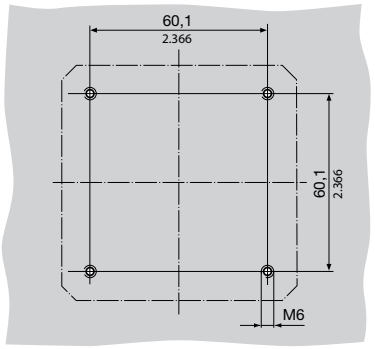
Dimensional drawings





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.

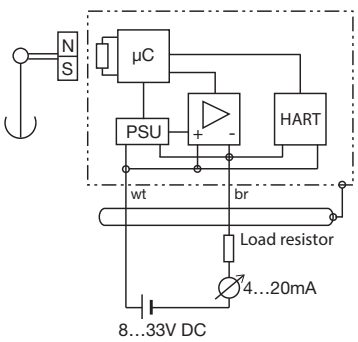
Mounting versions		Drilling aund cut-out diagrams (for mounting transmitters)
directly with clamps		
with mounting plate		

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 lenghts.

conductor cross-section: 2 x 0.34 mm²

Wiring connection

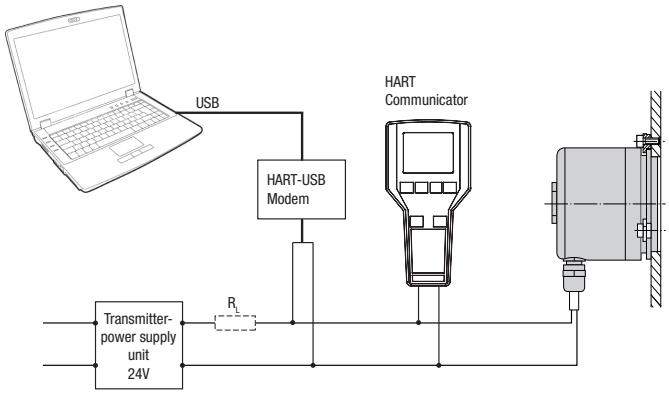


White (wt) = +24V
Brown (br) = 4…20 mA

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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.



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
KINAX N702-INOX HART, Cable length 35.0 m Set to -180 ... 179.99°	181 602
KINAX N702-INOX HART, Cable length 40.0 m Set to -180 ... 179.99°	186 214
KINAX N702-INOX HART, Cable length 60.0 m Set to -180 ... 179.99°	181 610
Further cable lengths on request	xxx xxx

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

Scope of delivery

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

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