

# KINAX N702

## Inclination transmitter with oil-damped pendulum system

### Features

- Measuring range, sense of rotation and zero position function programmed directly at the KINAX N702
- The output signal, representing the tilt angle, is provided either in form of an current variation
- The transmitter is inside a robust splash-proof aluminium case with enclosure protection IP66
- The pendulum system is oil damped
- The position of the pendulum is measured with a non contact magnetoresistive angular position transmitter
- Pendulum shaft has no mechanical stops and can be 360° infinitely rotated



### Application

The **KINAX N702** converts the tilt angle into a direct current signal, proportional to the angle. The sensor is contact free and has minimal abrasion on the pendulum. Tilt angle values of a platform e.g. on

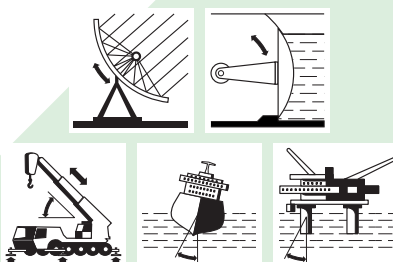
- cranes and heavy-duty vehicles
- excavators and drilling machines
- ships and offshore facilities

stand for important measuring data as a part of the safety and control system of that type of machinery. Angular measurement, for instance for equipment levelling is performed in such cases.

For acquisition the

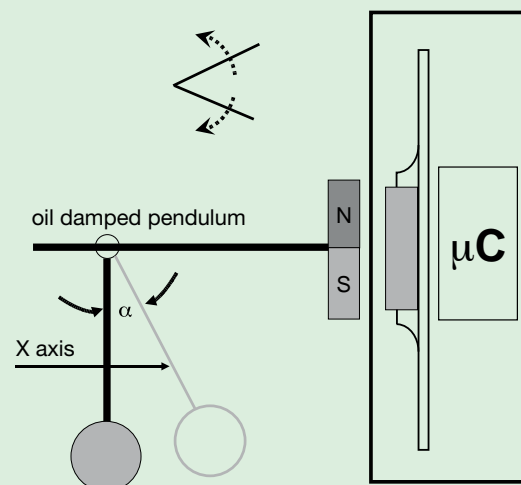
- angular positions of a crane jib
- lateral inclination of a vehicle
- orientation of a lifting platform, weir trap or of comparable facilities

the KINAX N702 can also be used.



### Layout and mode operation

Magnetoresistive angular position transducers are extremely robust measuring systems without a shaft stop, fully hermetically encapsulated and capable of measuring contactless the angular position of a permanent magnet, which is attached to the measuring object.



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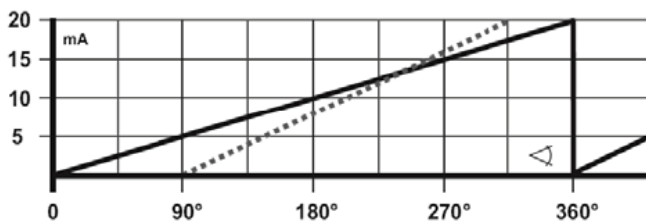
### Technical data

#### General

Measured quantity:	Tilt angle $\alpha$ $\text{°}$
Measuring principle:	Magnetoresistive angular position transmitter, contact free, freely rotatable without stops
Pendulum damping:	With silicon oil

#### Measuring input

Measuring range:	0 ... 360 $\text{°}$
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#### Measuring output

Power supply:	18 ... 33 V DC (no protection against wrong polarity)
Current consumption:	< 80 mA
Output variable $I_A$ :	Load-independent current, proportional to the input angle 12 bit
Standard range:	4 ... 20 mA, 3-wire connection
Load resistant:	max. 600 $\Omega$

#### Accuracy

Basic accuracy:	$\pm 0.2 \text{°}$
Resolution:	14 bit
Transient response:	by 25 $\text{°}$ tils < 1 sec.

#### Additional errors (maxima)

Temperature influence:	0.05% / 10 K
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#### Installation data

Housing:	Coated aluminium
Mounting position:	Any
Electrical connection:	Connector M12 x 1
Weight:	0.3 kg

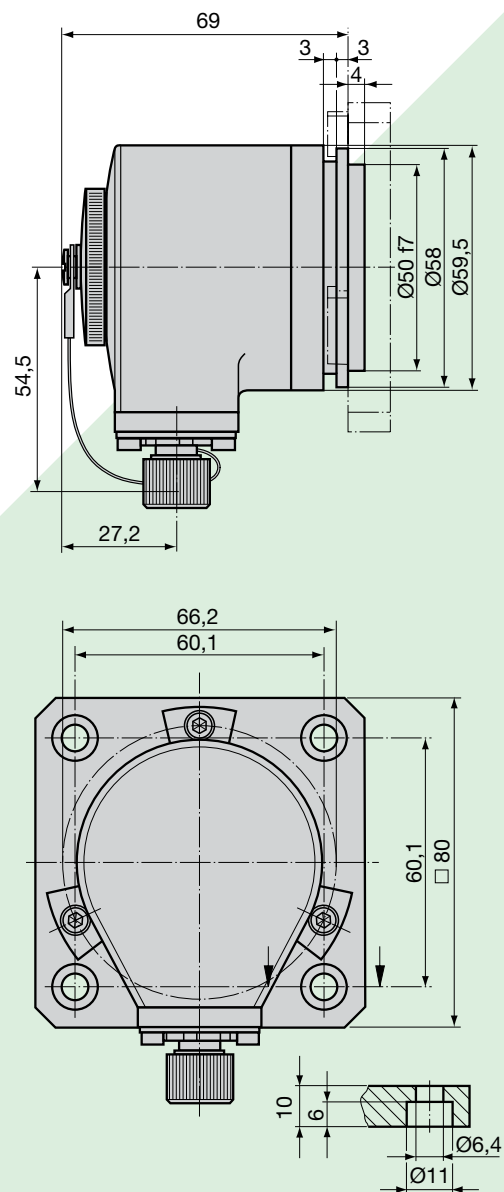
#### Environmental condition

Climatic rating:	Temperature - 30 to + 70 $\text{°C}$ Annual mean relative humidity $\leq 95\%$
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#### Regulations

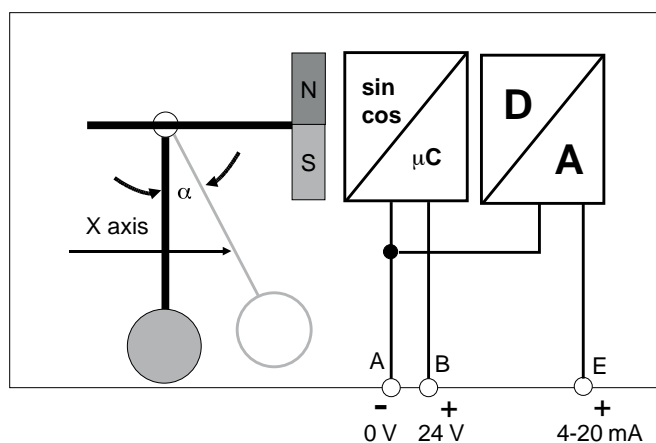
Test voltage:	500 Veff., 50 Hz, 1 min.
Electromagnetic compatibility:	The standards EN 61 000-6-4 and EN 61 000-6-2 are observed
Enclosure protection:	IP 66
Permissible vibration:	4 g, 0 ... 100 Hz

#### Dimensional drawings



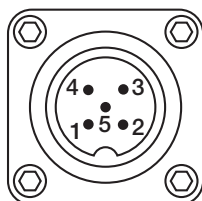
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### Electrical connections



#### Pin assignments:

- 1 = 0 V
- 2 = + 24 V DC
- 4 = + 20 mA



### Order specification

Description	Order No.
KINAX N702	157 083

### Scope of delivery

- 1 Inclination transmitters KINAX N702 (157083)
- 1 Mounting plate with 3 clamps (168379, 168353)
- 1 Connector M12 x 1, 5 poles (168105)
- 1 Operating instructions German, English, French (157265)

### Accessories

Description	Order No.
Operating instructions N702 Be	157 265
Cable plug for M12 sensor plug / 5 polig	168 105
Clamping bride set N7xx	168 353
Mounting plate N7xx	168 379
Connection cable to KINAX M702 length 3m	169 757

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