CAMILLE BAUER

KINAX WT707
Transmitter for angular position

For industrial applications in rough environments

KINAX WT707 is a very robust, absolute transmitter for angular position, which is particularly suited to applications in rough environments due to its unique capacitive measuring principle. It acquires the angular position of a shaft in a non-contact manner and converts it into an impressed direct current proportional to the measured value.

Your customer benefit

LOW LIFE-CYCLE COSTS DUE TO:

TESTED TOP QUALITY
- Capacitive Measuring principle

SAFE, FREE OF MAINTENANCE
- Resistant to high mechanical stress due to its robust design and high-quality materials
- High immunity against magnetic fields

EASY AND FAST COMMISSIONING
- No wear, low annual maintenance
- Defined angle value

Technical data

General

Measured quantity:	Angle of rotation
Measuring principle:	Capacitive method

Measuring input

Angle measuring range:	0…30°, 0…60°, 0…90°
Drive shaft diameter:	Ø 19 mm [0.748"]
Starting torque in unloaded condition:	max. 0.25 Nm [35.402 in-oz]
Sense of rotation:	Delivery clockwise Adjustment counterclockwise according to the operating instructions, Chapter 10

Measuring output

Output variable I_A:	Load-independent DC current, proportional to the input angle
Zero point variation:	appox. ± 2 %
Final value variation:	approx. + 2 % (see criterion of choice 9)
Current limitation:	I_A max. 40 mA
Standard range:	4…20 mA, 2-wire connection or 0...20 mA, 3- or (4)-wire connection (adjustable with poteniometer) 4...20 mA, 3- or (4)-wire connection
Power supply:	DC voltage Input voltage U_i: 12...33 V
Residual ripple in output current:	< 0.3 % p.p.
Response time:	< 5 ms
External resistance:	$R_{ext\ max.}\ [k\Omega] = \frac{H\ [V]-12\ V}{I_A\ [mA]}$ H = Power supply I_A= Output signal end value

Accuracy data

Basic accuracy:	≤ 0.5 %
Reproducibility:	< 0.2 %
Influence of temperature output current (-40…+85 °C): [–40 ... +167 °F]	± 0.2 % / 10 K

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Installation data

Housing (main part):	Steel (finish QPQ)
Rear (cover):	Aluminium (silafont)
Connections:	Screwed cable gland metal

On units with **screw terminals** and **cable glands PG 11** (see Fig. 1) there are 4 screw terminals and a grounding terminal in the rear cover. The screw terminals accept gauges up to 1,5 mm² and are accessible after removing the cover.

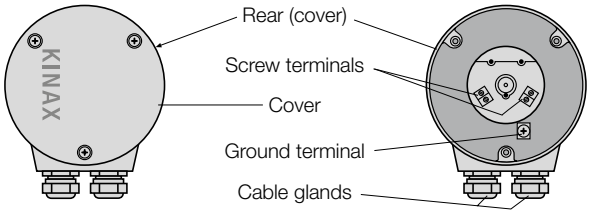


Fig. 1. Screw terminals / screwed cable gland

Mounting position:	Any
Fastening types:	Immediate fastening (Device without foot, without flange) Fastening with foot or flange
Weight:	Approx. 2.9 kg every 0.5 kg for foot or flange

Regulations

Spurious radiation:	EN 61000-6-3
Immunity:	EN 61000-6-2
Test voltage:	500 V_{eff}, 50 Hz, 1 min. All connections against housing
Admissible common-mode voltage:	100 VAC, 50 Hz, CAT II
Impulse voltage withstand:	1 kV, 1.2/50 µs, 0.5 Ws
Housing protection:	IP 66 acc. to EN 60 529

Environmental conditions

Climatic rating:	Temperature –25 … +70 °C [–13 ... +158 °F] Rel. humidity ≤ 90 % non-condensing
Permissible vibration:	0…200 Hz, 10 g continuous, 15 g for 2 h 200…500 Hz, 5 g continuous, 10 g for 2 h
Shock:	3 × 50 g every 10 impulses in all 3 axes
Permissible static load on the shaft:	Max. 1000 N (radial) Max. 500 N (axial)

The torque of the driving element should be selected so that it is sufficient for the resulting starting torque caused by the given axle loads and vibrations. We recommend decoupling the WT707 with the couplings available in our accessories range in order to increase the service life of the bearings. You will find our range of couplings in the "Position sensors/accessories" section of our website.

Transportation and storage temperature:	–40 ... +80 °C [–40 ... +176 °F]

Dimensional drawing

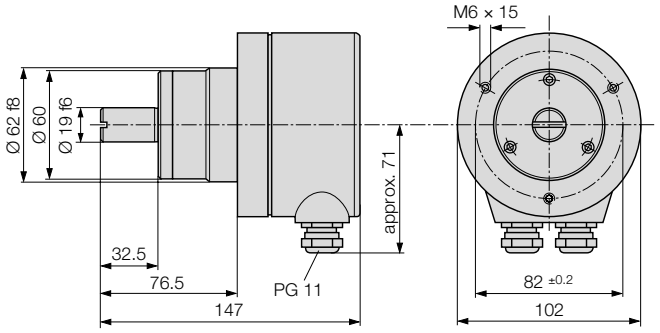


Fig. 2. KINAX WT 707 with screw terminals and cable glands.

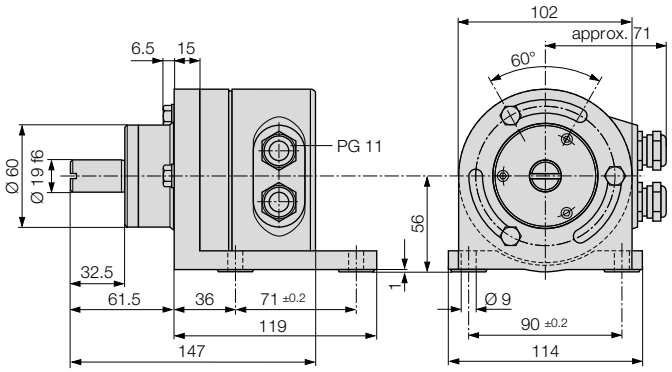


Fig. 3. KINAX WT 707 with screw terminals, cable glands and foot.

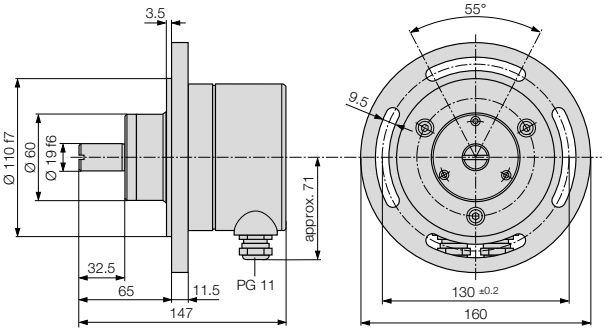
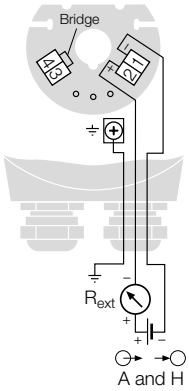


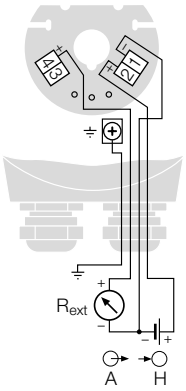
Fig. 4. KINAX WT 707 with screw terminals, cable glands and flange.

Electrical connections

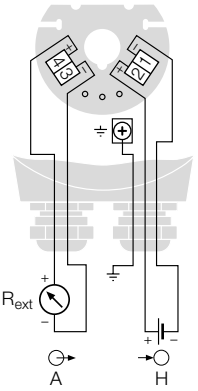
2-, 3- or 4-wire connection without electrical isolation



2-wire connection (4...20 mA)



3-wire connection (different mA-signals)



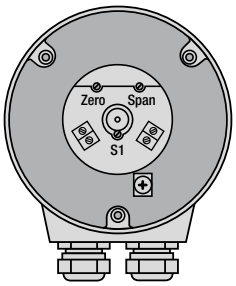
4-wire connection (different mA-signales)

A = Measuring output ...
... as 2-wire connection (4...20 mA, signal in output/powering circuit)
... as 3- or 4-wire connection (different mA-signals)

H = DC-power supply H = 12...33 V

R_{ext} = External resistance

Position of settings



Transmitters with the ordering code acc. table are designed for either a 2-wire connection with an output range of 4…20 mA or a 3- or 4-wire connection with an output range of 0…20 mA.

If, however, a transmitter be changed from one to the other (see “Electrical connections”), the beginning and end of the measuring range, ZERO and SPAN must be readjusted.

Fig 5. Position of settings
ZERO = Potentiometer for zero point
SPAN = Potentiometer for measuring range end value

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Order code

Version	Sense of rotation	Measuring range *			Output signal		Power supply	Mounting	Connection rear cap	Increased adjustability	Climatic rating	Marine version	Vibration resistance	Test certificate	Article Number
Standard version	Clockwise	Measuring range 0…30°	Measuring range 0…60°	Measuring range 0…90°	Output 4…20mA, 2-wire / 0…20mA, 3-/4-wire	Output 4…20mA, 3-/4-wire	12...33 V DC, without galvanic isolation	Mounting without foot / flange	Cable gland, PG11, metal hood	Omitted	Standard	Without maritime exec. (formerly Germ.Lloyd)	Standard	Test certificate English	
•	•	•	–	–	•	–	•	•	•	•	•	•	•	•	196129
•	•	–	•	–	•	–	•	•	•	•	•	•	•	•	196137
•	•	–	–	•	•	–	•	•	•	•	•	•	•	•	196145
•	•	•	–	–	–	•	•	•	•	•	•	•	•	•	196153
•	•	–	•	–	–	•	•	•	•	•	•	•	•	•	196161
•	•	–	–	•	–	•	•	•	•	•	•	•	•	•	196169

• Variant active / - Variant inactive

* Other measuring ranges can be covered with the KINAX WT717.

Accessories

Article	Article-Nr.
Mounting foot	997 182
Mounting flange	997 190
Cap-Set (for back)	997 207
Different bellow couplings	**
Different helical and cross-slotted coupling	**
Different spring washer coupling	**

** You can find our range of couplings in the “Position Sensors/ Accessories” section of our website.

Scope of delivery

1 Transmitter for angular position KINAX WT707
1 Safety instruction

Subject to change without notice • Edition 09.25 • Data sheet WT707 Le

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