CAMILLE BAUER

KINAX 3W2
Transmitter for angular position

For installation

KINAX 3W2 is a compact transmitter for angular position for installation in devices and apparatus. Due to its unique capacitive measuring principle, it acquires the angular position of a shaft without contact and virtually reactionless, and converts the same into an impressed direct current proportional to the measured value.

The easy assembly via synchronous flange or flange adapter and the variety of connection options offers the highest degree of quality and flexibility in application and installation.



Your customer benefit

LOW LIFE-CYCLE COSTS DUE TO:

TESTED TOP QUALITY
- Capacitive Measuring principle

SAFE, FREE OF MAINTENANCE
- 0/4...20 mA analog output signal with 2-, 3- or 4-wire connection
- Drive shaft without stops, rotating
- Low starting troque
- 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…≥ 10° to 0… ≤ 270°
	Preferred ranges
	0…10°, 0…90°, 0…180° or 0…270°
Drive shaft diameter:	Ø 2 mm [0.078"], Ø 6 mm [0.236"]
Starting torque:	max. 0.001 Nm [0.141 in-oz] with shaft Ø 2 mm [0.078"]
	max. 0.03 Nm [4.248 in-oz] with shaft Ø 6 mm [0.236"]
Sense of rotation:	Delivery clockwise

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 %
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:	Input voltage U_i: 12...33 V
Residual ripple in output current:	< 0.3 % p.p.
Response time:	< 3.5 ms
External resistance: (load)	R_{ext} max. [kΩ] = $\frac{H\ [V] - 12\ V}{I_A\ [mA]}$
	H = Power supply
	I_A= Output signal end value

Accuracy data

Basic accuracy:	≤ 0.5 % for ranges 0…≤ 150°
	≤ 1.5 % for ranges from 0…> 150° to 0…270°
Reproducibility:	< 0.2 %
Influence of temperature output current (-40 … +70 °C): [–40 ... +158 °F]	± 0.2 % / 10 K

Installation data

Housing:	Aluminium, surface alodine 400
Mounting position:	Any
Connections:	Soldering terminals or Wiring print with screw terminals

Admissible static loading of shaft:

Direction	Drive shaft Ø	
	2 mm	6 mm
radial max.	16 N	83 N
axial max.	25 N	130 N

Bearing play influence	± 0.1 %
Weight:	Approx. 0.1 kg

KINAX 3W2
Transmitter for angular position

Regulations

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

Environmental conditions

Climatic rating:	Temperature –25 … +70 °C [–13 ... +158°F] Rel. humidity ≤ 90 % non-condensing
Permissible vibration: (without addit. gear):	0…200 Hz, 5 g per 2h in 3 directions
Shock:	3 × 50 g every 10 impulses in all directions
Transportation and storage temperature:	–40 ... +80 °C [–40 ... +176 °F]

Dimensional drawing

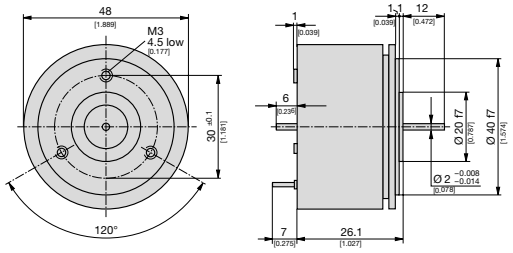


Fig. 1. KINAX 3W2 with special drive shaft at front and at rear.
At front: Ø 2 mm [0.078“], length 12 mm [0.472“]. At rear: Ø 2 mm [0.078“], length 6 mm [0.236“].

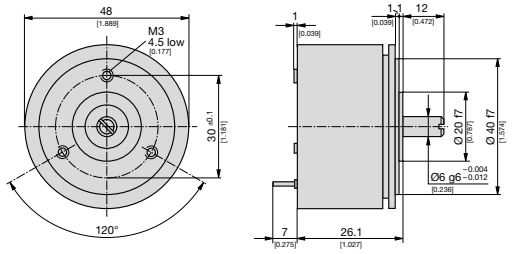


Fig. 2. KINAX 3W2 with special drive shaft at front only,
Ø 6 mm [0.236“], length 12 mm [0.472“].

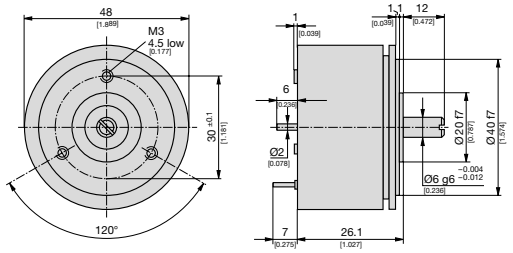
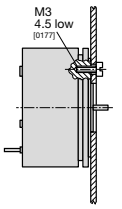
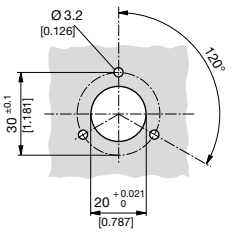
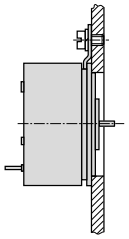
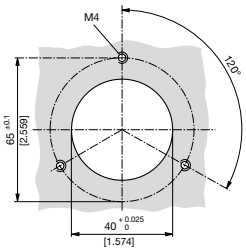


Fig. 3. KINAX 3W2 with special drive shaft at front and at rear.
At front: Ø 6 mm [0.236“], length 12 mm [0.472“]. At rear: Ø 2 mm [0.078“], length 6 mm [0.236“].

Montage

All versions of the transmitter can be mounted either directly or by means of 3 mounting clips to the item being measured. The screws are not supplied, because the required length varies according to the thickness of the mounting surface. Both methods of mounting and the relevant drilling and cut-out plans can be seen from table:

	Mounting versions[2]	Drilling and cut-out diagrams for mounting transmitters)
directly		
with 3 clamps		

Electrical connections

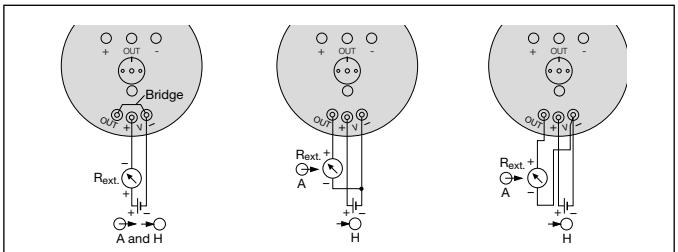


Fig 4. Electrical connection via soldering terminals

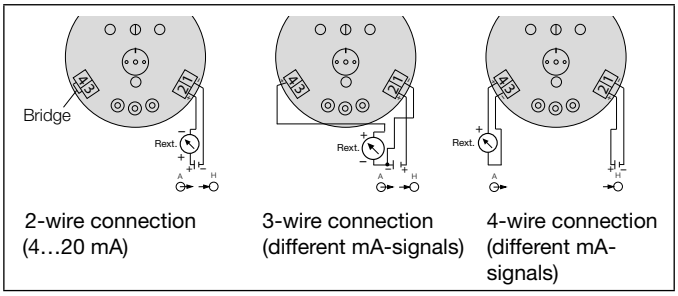


Fig 5. Electrical connection via screw terminals. Only for NEX and ATEX version.

Order code

Version	Sense of rotation	Measuring range				Output signal		Increased adjustability	Special drive shaft			Climatic rating	Marine version	Electrical connection	Test certificate	Article Number
Standard version	Clockwise	Measuring range 0…10°	Measuring range 0…90°	Measuring range 0…180°	Measuring range 0…270°	Output 4…20mA, 2-wire / 0…20mA, 3-/4-wire	Output 4…20mA, 3-/4-wire	Omitted	Ø 2mm, 12mm front / Ø2mm, 6mm rear	Ø 6mm, 12mm front	Ø 6mm, 12mm front / Ø2mm, 6mm rear	Standard	Without maritime exec. (formerly Germ.Lloyd)	Connection on soldering pins	Test certificate English	
•	•	•	–	–	–	•	–	•	•	–	–	•	•	•	•	195937
•	•	–	•	–	–	•	–	•	•	–	–	•	•	•	•	195945
•	•	–	–	•	–	•	–	•	•	–	–	•	•	•	•	195953
•	•	–	–	–	•	•	–	•	•	–	–	•	•	•	•	195961
•	•	•	–	–	–	–	•	•	•	–	–	•	•	•	•	195969
•	•	–	•	–	–	–	•	•	•	–	–	•	•	•	•	195977
•	•	–	–	•	–	–	•	•	•	–	–	•	•	•	•	195985
•	•	–	–	–	•	–	•	•	•	–	–	•	•	•	•	195993
•	•	•	–	–	–	•	–	•	–	•	–	•	•	•	•	196001
•	•	–	•	–	–	•	–	•	–	•	–	•	•	•	•	196009
•	•	–	–	•	–	•	–	•	–	•	–	•	•	•	•	196017
•	•	–	–	–	•	•	–	•	–	•	–	•	•	•	•	196025
•	•	•	–	–	–	–	•	•	–	•	–	•	•	•	•	196033
•	•	–	•	–	–	–	•	•	–	•	–	•	•	•	•	196041
•	•	–	–	•	–	–	•	•	–	•	–	•	•	•	•	196049
•	•	–	–	–	•	–	•	•	–	•	–	•	•	•	•	196057
•	•	•	–	–	–	•	–	•	–	–	•	•	•	•	•	196065
•	•	–	•	–	–	•	–	•	–	–	•	•	•	•	•	196073
•	•	–	–	•	–	•	–	•	–	–	•	•	•	•	•	196081
•	•	–	–	–	•	•	–	•	–	–	•	•	•	•	•	196089
•	•	•	–	–	–	–	•	•	–	–	•	•	•	•	•	196097
•	•	–	•	–	–	–	•	•	–	–	•	•	•	•	•	196105
•	•	–	–	•	–	–	•	•	–	–	•	•	•	•	•	196113
•	•	–	–	–	•	–	•	•	–	–	•	•	•	•	•	196121

• Variant active / - Variant inactive

KINAX 3W2
Transmitter for angular position

Accessories

Description	Order No.
Kit mounting clamp for 3W2	168 387
Mounting Kit as a Replacement for the KINAX WT710	177 354
Kit for connection board with screw terminals 3W2	196 209
Different bellow couplings	xxx xxx
Different helical and cross-slotted coupling	xxx xxx
Different spring washer coupling	xxx xxx

** 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 3W2 (according to Order)
1 3 clamps
1 Safety Instructions

CAMILLE BAUER

Camille Bauer Metrawatt AG
www.mod-tronic.com
sales@mod-tronic.com
1-800-794-5883