

# KINAX WT717

## Programmable transmitter for angular position

### For industrial applications in rough environments

KINAX WT717 is a robust, programmable angular position transmitter, 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

- 4...20mA analog output signal with 2-wire connection
- 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
- Measuring range, sense of rotation, characteristic and switch point can be parameterised via programming software
- Measured value simulation already during installation is possible

### Technical data

#### General

Measured quantity:	Angle of rotation
Measuring principle:	Capacitive method

#### Measuring input

Angle measuring range:	0...≥ 5 to 0... ≤ 350°
Drive shaft diameter:	Ø 19 mm [0.748"]
Starting torque in unloaded condition:	max. 0.25 Nm [35.402 in-oz]
Sense of rotation:	clockwise or counter-clockwise

#### Measuring output

Output variable $I_A$ :	Load-independent DC current, proportional to the input angle
Zero point variation:	approx. ± 5 %
Final value variation:	approx. + 5 %
Current limitation:	$I_A$ max. 40 mA
Standard range:	4...20 mA, wire connection

Power supply:

Residual ripple in output current:

Response time:

External resistance: (load)

Input voltage  $U_i$ : 12...33 V

0.3 % p.p.

< 5 ms

$$R_{\text{ext max.}} [\text{k}\Omega] = \frac{H [\text{V}] - 12 \text{ V}}{I_A [\text{mA}]}$$

H = Power supply

$I_A$  = Output signal end value

#### Accuracy data

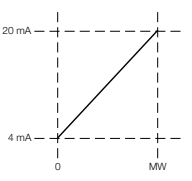
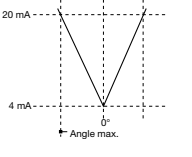
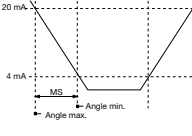
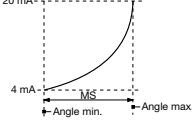
Basic accuracy: Adjustments

0.5 % with characteristic linear  
350° version  
measuring range > 50...350°  
characteristic linear  
50° version  
measuring range ≥ 10...50°  
characteristic linear

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Additional errors (cumulative):

Characteristic	Definition	Additional error
	Programmed Angle max. = MW Angle min. = 0°  $[f_{Add}] = \%$	Device version 350°: $f_{Add} = \left( \frac{0.18^\circ}{MW} \times 100 - 0.05 \right)$  Device version 50°: $f_{Add} = \left( \frac{0.05^\circ}{MW} \times 100 - 0.05 \right)$
	ex. with MW=180°: $f = f_{Add} + f_{Abs} = 0.05 \% + 0.5 \% = 0.55 \%$	
	Programmed Angle max. = MW Angle min. = 0°  $[f_{Add}] = \%$	Device version 350°: $f_{Add} = \left( \frac{0.18^\circ}{MW} \times 100 \right)$  Device version 50°: $f_{Add} = \left( \frac{0.05^\circ}{MW} \times 100 \right)$
	MS = (angle max.) – (angle min.) Angle max. = ± final angle Angle min. = > 0°  $[f_{Add}] = \%$	Device version 350°: $f_{Add} = \left( \frac{0.25^\circ}{MS} \times 100 \right)$  Device version 50°: $f_{Add} = \left( \frac{0.09^\circ}{MS} \times 100 \right)$
	MS = (angle max.) – (angle min.)  $[f_{Add}] = \%$	Device version 350°: $f_{Add} = \left( \frac{0.25^\circ}{MS} \times 100 \right)$  Device version 50°: $f_{Add} = \left( \frac{0.09^\circ}{MS} \times 100 \right)$

Reproducibility: < 0.2 %

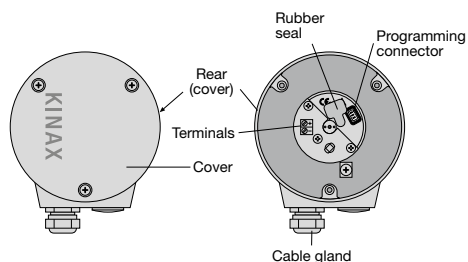
Influence of temperature  
output current  
(-25...+70 °C):  
[-13 ... +158 °F]

± 0.2 % / 10 K

### Installation data

Housing: Steel (finish QPQ)  
 Rear (cover): Aluminium (Silafont)  
 Mounting position: Any  
 Connections: Screwed cable gland metal

There are 2 screw terminals and the programming connection in the rear cover. The screw terminals accept gauges up to 1,5 mm<sup>2</sup> and are accessible after removing the cover.



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 WT717 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.

Bearing play influence

± 0.1 %

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:

750 V DC, 50 Hz, 1 min.  
 All connections against housing

Admissible

common-mode voltage: 100 V AC, 50 Hz

Impulse voltage withstand: 1 kV, 1.2/50 µs, 0.5 Ws, CAT II

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 axes

Transportation and

storage temperature:

-40 ... +80 °C [-40° ... +176 °F]

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## Programmable transmitter for angular position

### Dimensional drawing

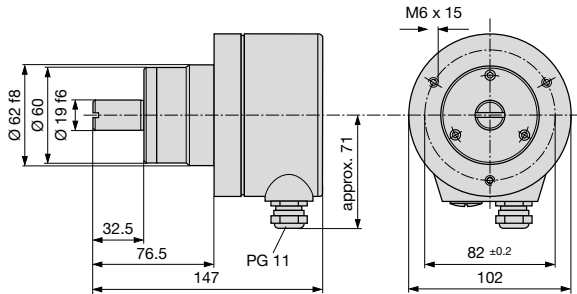


Fig 1. KINAX WT717.

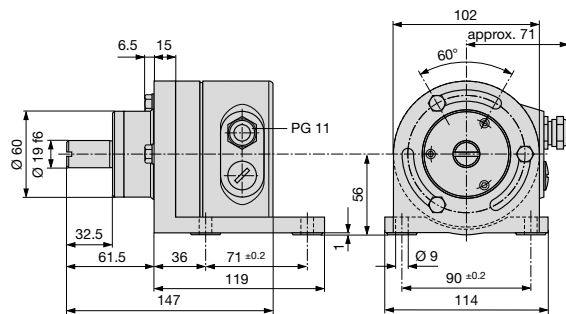


Fig 2. KINAX WT717 with foot.

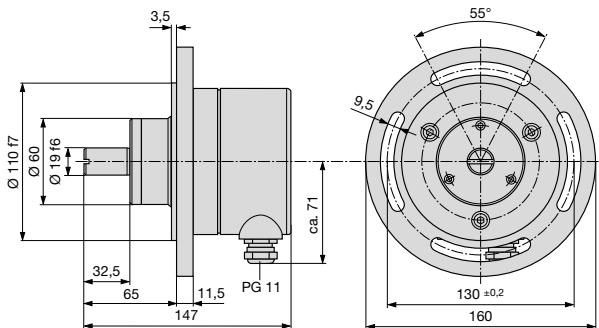


Fig 3. KINAX WT717 with flange.

### Montage

The three versions of the transmitter differ in their mechanical design. One of them is intended for mounting directly on the device being measured. The others are equipped with a mounting bracket or a flange. Three M6 screws are needed for the “directly” mounted versions and four M8 nuts and bolts for these “with a bracket” or “with a flange”. The screws, respectively nuts and bolts are not supplied, because the required length varies according to the thickness of the mounting surface.

The relationship between the three types of mounting, or more precisely the corresponding cut-out diagrams and the different versions of the transmitter can be seen from table on page 4.

Transmitter versions	Drilling and cut-out diagrams for mounting transmitters ...	
	... directly	
	... with a bracket	
	... with a flange	

### Electrical connections

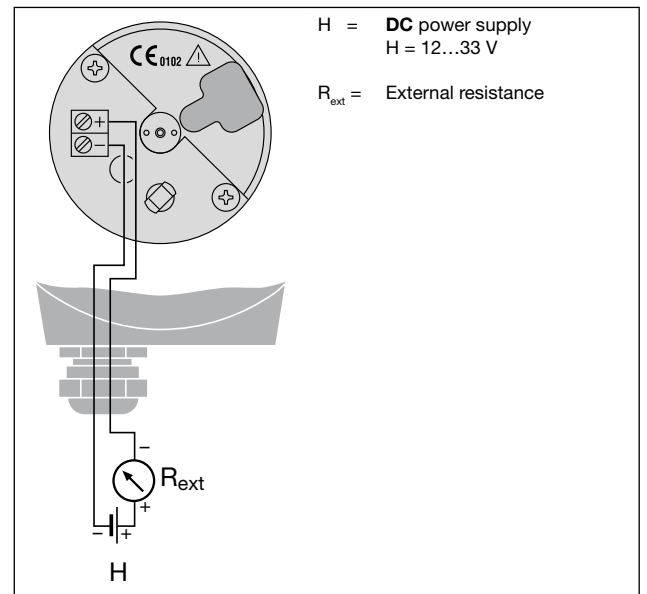


Fig. 4. Connection diagram

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## Programmable transmitter for angular position

### Programming

A PC, the programming cable PK 610 plus ancillary cable and the configuration software 2W2 are required to program the transmitter. (Details of the programming cable and the software are to be found in the separate data sheet: PK 610 Le).

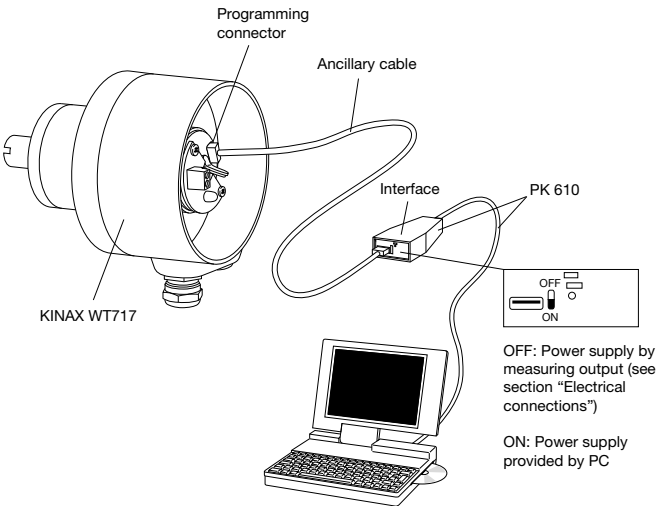


Fig. 5. Example of the set-up for programming a KINAX WT 717 without the power supply. For the case the switch on the interface must be set to "ON".

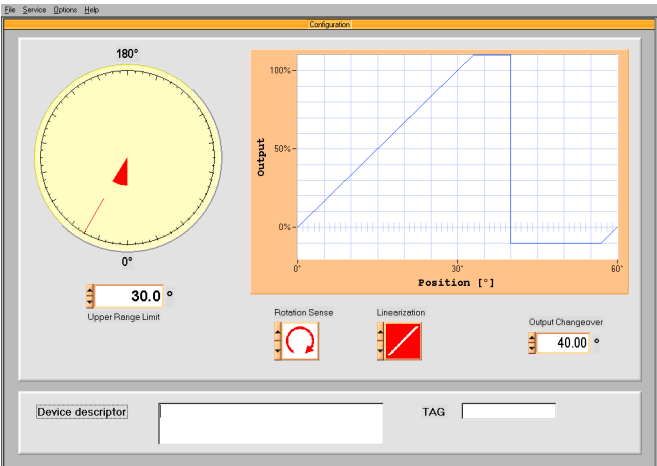
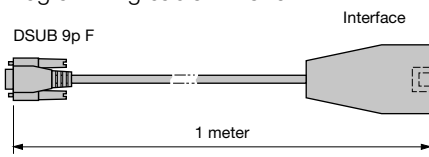
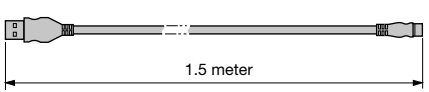


Fig. 6. Print screen example of the menu-controlled programming software.

### Accessories

Description	Order No.
Programming cable PK 610 	137 887
Ancillary cable 	141 440
Configuration software 2W2 Windows 95 or higherr on CD in German and English <b>(download free of charge under <a href="http://www.camillebauer.com">http://www.camillebauer.com</a>)</b> In addition, the CD contains all configuration programmes presently available for Camille Bauer products	146 557
Mounting foot	997 182
Mounting flange	997 190
Different bellow couplings	**
Different helical and cross-slotted coupling	**
Different spring washer coupling	**

\*\* You can find our range of couplings in the "Position Sensor Accessories" section of our website.

### Scope of delivery

- 1 Transmitter for angular position KINAX WT717
- 1 Safety instructions

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### Order Code

Version	Angle range mechanical		Sense of rotation	Measuring range	Output characteristic	Test certificate	System zero marking	Climatic rating	Mounting	Marine version	Vibration resistance	Article Number
Standard version	Angle range up to 50°	Angle range up to 350°	Clockwise	Basic configuration programmed	Linear	Test certificate English	0 system not marked	Standard	Mounting without foot / flange	Without maritime exec. (formerly Germ.Lloyd)	Standard	
•	•	-	•	•	•	•	•	•	•	•	•	
•	-	•	•	•	•	•	•	•	•	•	•	
												195921
												195929

• Variant active / - Variant inactive