

KINAX WT720

abszolút, programozható szögelfordulás távadó

- Kiemelkedő minőség
- Kapacitív mérési mód
- Programozható szögelfordulás méréstartomány: 0... 360°
- Kimenet: 4... 20 mA (2-vezetékes bekötés)
- Pontosság $\leq 0,5\%$ (360°-nál)
- Induló nyomaték < 0.03 Ncm
- Forgásirány: a kimenő jel növekedhet, vagy csökkenhet az elfordulás függvényében
- A tengely körbeforgatható (nincs végállás ütköző)
- Víz és pormentes kivitel IP67/IP69K
- Robbanásvédett kivitel ATEX és IECEx gyújtószikramentes "ia" (gáz és por) és tokozás védelem "tb" (por)
- Biztonságos, karbantartást nem igényel
- Kompakt tokozás
- A robusztus kivitelnek és a kiválóan megválasztott anyagoknak köszönhetően ellenáll nagy mechanikai igénybevételeknek
- Nagy zajelnyomás mágneses terekre
- Biztonságos és megbízható rugós-szorítású dugaszos elektromos csatlakozás
- Védelem ellentétes polaritás ellen



Technical data

General

Measured quantity: Angle of rotation

Kapacitív mérési mód

Measuring input

Angle measuring range: Programmable between 0 ... 360°

Drive shaft diameter: \varnothing 10 mm [0.394"]

\varnothing 19 mm [0.748"] with flange adapter

Starting torque: max. 0.03 Nm [4.248 in-oz]

max. 0.04 Nm [5.664 in-oz] with flange adapter

Sense of rotation: Adjustable

Measuring output

Output variable IA: Load-independent DC current, proportional to the input angle

Standard range: 4 ... 20 mA, 2-wire protected against wrong polarity

- Power supply: Standard non Ex:
- nominal voltage 24 VDC +30% -50%
- Explosion protection intrinsic ia:
 - input voltage U_i : 12 ... 30VDC
 - max. input current I_i : 160mA
 - max. input power P_i : 1W
 - max. Internal capacitance C_i : 22nF
 - max. Internal inductance L_i : 7.3 μ H
- Explosion prevention (Protection by enclosure) tb:
 - nominal voltage 24 VDC +30%
- Response time: < 3.5 ms
- External resistance: $R_{ext\ max.} [K\Omega] = (H [V] - 12V) / IA [mA]$ (Load)
 - where
 - H = Power supply
 - IA = Output signal end value

KINAX WT720

absolute, programmable angular position transmitter

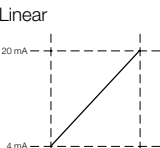
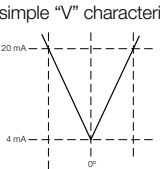
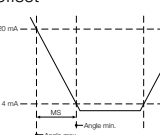
Accuracy data

Absolute precision: $\pm 0,5\%$ at 360°

Precision with errors:

90°	60°	30°
$\pm 0,65\%$	$\pm 0,75\%$	$\pm 1,05\%$

Additional errors (cumulative):

Output characteristic	Definition	Additional error
	Programmierter Angle max. = MW Angle min. = 0°	$f_{Add} = \left(\frac{0,18^\circ}{MW} \times 100 - 0,05 \right)$ $[f_{Add}] = \%$
	z.B. at $MW=90^\circ$: $f = f_{Add} + f_{Abs} = 0,15\% + 0,5\% = 0,65\%$	
	Programmierter Angle max. = MW Angle min. = 0°	$f_{Add} = \left(\frac{0,18^\circ}{MW} \times 100 \right)$ $[f_{Add}] = \%$
	$MS = (\text{angle max.}) - (\text{angle min.})$ angle max. = \pm final angle angle min. = $> 0^\circ$	$f_{Add} = \left(\frac{0,25^\circ}{MS} \times 100 \right)$ $[f_{Add}] = \%$

Resolution: $\pm 0,1^\circ$

Reproducibility: $< 0,1^\circ$

Influence of temperature output current (-40...+85°C): $\pm 0,04\% / 10K$
 [-40 ... +185°F]

Installation data

Material: Front: aluminium (AW-6023)
 Back: aluminium (AW-6023) anodized
 Shaft: rust-proof, (1.4035 hardened steel)

Mounting position: Any

Connections: 3-pin spring-type terminal block or sensor plug connector metal (M12 x 1, 4 poles / only for non Ex version)

Weight: Approx. 360 g

Admissible static loading of shaft:

WT720 Standard	WT720 with adapter flange
80 N (radial)	120 N (radial)
40 N (axial)	40 N (axial)

Clearance influence: $\pm 0,1\%$

Regulations

Spurious radiation: EN 61000-6-3
 Immunity: EN 61000-6-2
 Degree of pollution: 2
 Admissible common-mode voltage: 100 V AC, CATII
 Test voltage: 750 V DC, 1 min.
 All connections against housing
 Housing protection: IP 67 acc. to EN 60529
 IP 69k acc. to EN 40050-9

Environmental conditions

Climatic rating: Standard (Not Ex):
 Temperature -40 ... +85 °C [-40 ... +185°F]
 Rel. humidity $\leq 95\%$ non-condensing
Explosion protection:
 Temperature -40 ... +70 °C [-40 ... +158°F]
 Rel. humidity $\leq 95\%$ non-condensing
 Vibration resistance: $\leq 100 \text{ m/s}^2 / 10 \dots 500 \text{ Hz}$ according to EN 60068-2-6
 Shock resistance: $1000 \text{ m/s}^2 / 11 \text{ ms}$ according to EN 60068-2-27
 Transportation and storage temperature: -40 ... +85 °C [-40° ... +185°F]

Operation in potentially explosive environments:

Gas explosion prevention: Labeling: Ex ia IIC T4 Gb
 Conform to standard: ATEX:
 EN 60079-0:2012
 EN 60079-11:2012
 IECEx:
 IEC 60079-0:2011
 IEC 60079-11:2011-06

Type of protection: ia
 Temperature class: T4
 Group according to EN60079-0:2012: II

Dust explosion prevention: Labeling: Ex ia IIIC T80°C Db
 or Ex tb IIIC T80°C Db

Conform to standard: ATEX:
 EN 60079-0:2012
 EN 60079-11:2012
 EN 60079-31:2009

IECEx:
 IEC 60079-0:2011
 IEC 60079-11:2011-06
 IEC 60079-31:2008

Type of protection: ia
 or tb (Protection by enclosure)
 max. surface temperature: 80°C

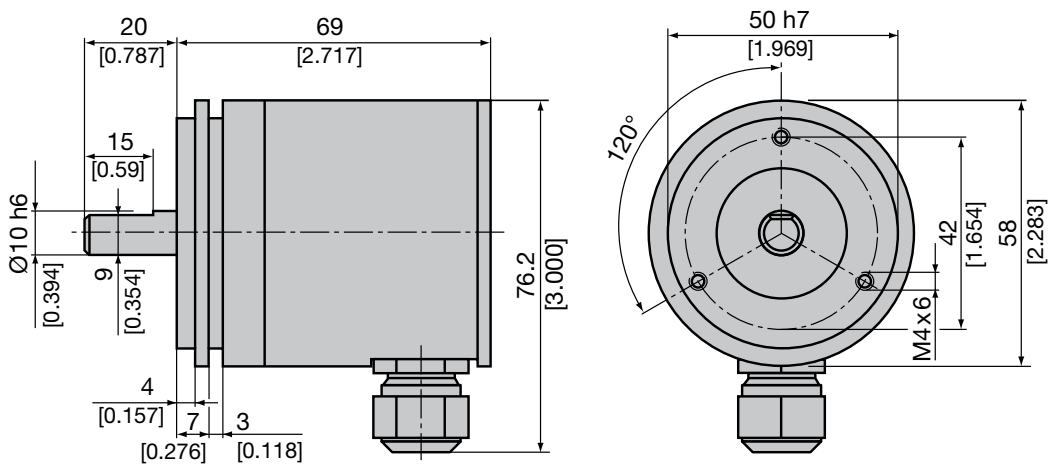
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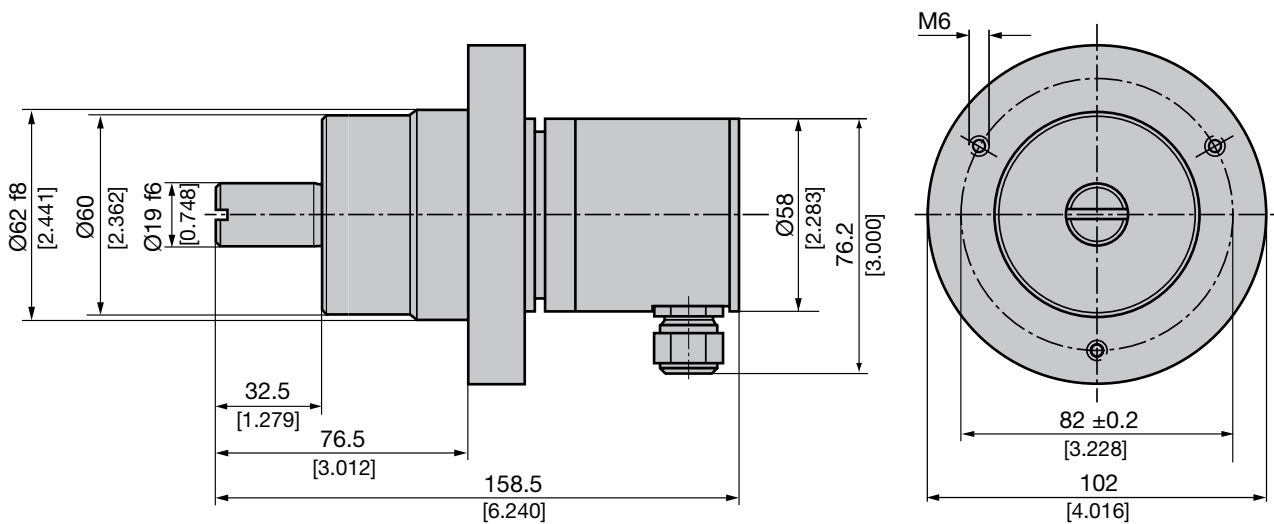
Group according to
EN60079-0:2012: III

Dimensional drawing

WT720 Standard



WT720 with Flange



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Mounting

All of the transmitters of this series may be mounted on the object to be measured as shown in the drawings. Screws, clamps, mounting brackets and mounting plates are not part of the scope of delivery but are available as accessories.

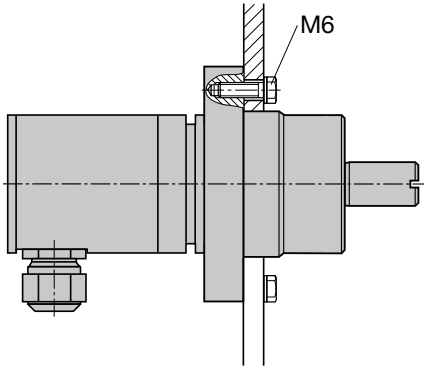
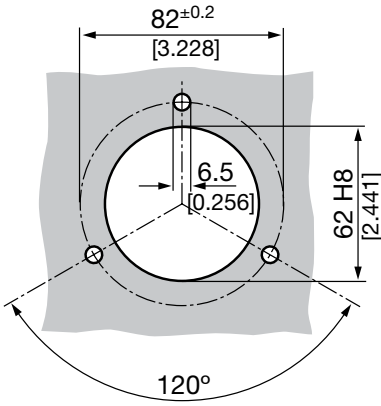
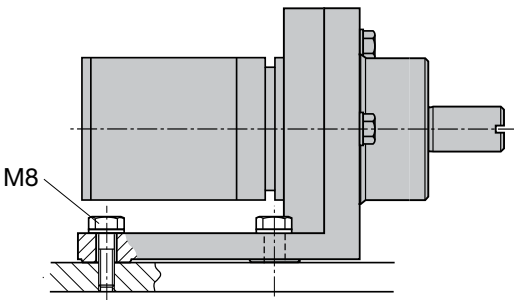
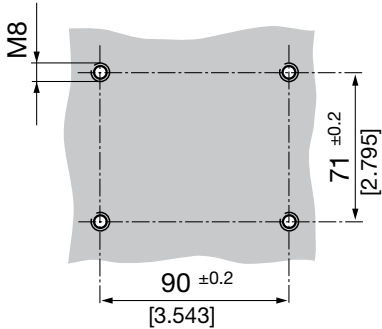
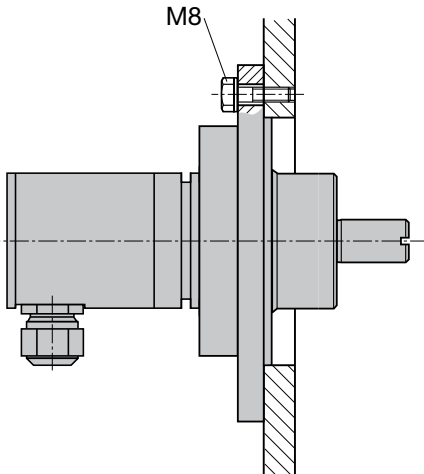
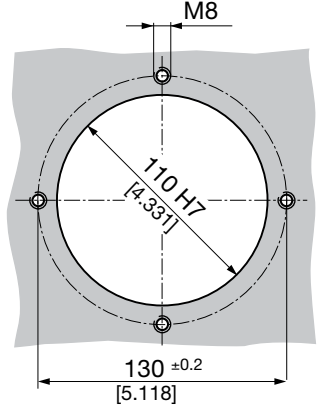
WT720 Standard

	Mounting	Cut-out diagram for mounting
direct	<p>M4 x 6 [0.236]</p>	<p>120° 42 ± 0.1 [1.654] 4.2 [0.165] 30 [1.181]</p>
with 3 clamps		<p>120° 50 F8 [1.969] 68 ± 0.1 [2.677] M4</p>
with mounting plate		<p>60.1 [2.366] 60.1 [2.366] M6</p>
with mounting angle		<p>60 [2.362] M6</p>

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WT720 with Flange

Mounting		Cut-out diagram for mounting
direct	 <p>M6</p>	 <p>82 ± 0.2 [3.228]</p> <p>6.5 [0.256]</p> <p>62 H8 [2.441]</p> <p>120°</p>
with mounting foot	 <p>M8</p>	 <p>M8</p> <p>71 ± 0.2 [2.796]</p> <p>90 ± 0.2 [3.543]</p>
with mounting flange	 <p>M8</p>	 <p>M8</p> <p>110 H7 [4.331]</p> <p>130 ± 0.2 [5.118]</p>

KINAX WT720

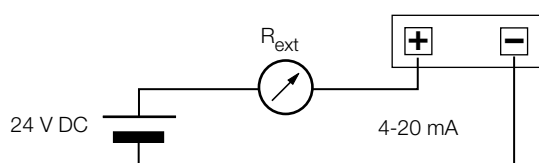
absolute, programmable angular position transmitter

Electrical connections

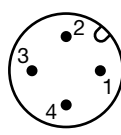
The electrical wires are connected to the transmitter via an M12 x 1 / 4-pole plug connector (only in the non-Ex variant) or an M16 x 1.5 cable gland. The cable gland version is connected according to the connection diagram via a spring-type push terminal. The Ex variant may only be used with the threaded cable connection supplied.

Permissible cable-Ø: NEx 6-10 mm
Ex 4-8 mm
max. conductor cross-section: 2,5 mm²

Connection allocation spring-type terminal block



Connection allocation plug (only for non Ex version)

	Pin	Plug
	1	+
	2	-
	3	not connected
	4	⊥

Programming

Parameters may be set by keys and DIP switches right at the device. Zero point, span and direction of rotation are set independently of each other. This facilitates the adjustment in commissioning considerably.

In case of an order with a measuring range parameterised at the factory, the zero point may be set by a key while the defined span is preserved.

The factory setting can always be restored in case of maloperation.



Specification and ordering information

Description	Blocking code	No-go with blocking code	Article No./ Feature
KINAX WT720			720 -
1. Version			
Standard			1
ATEX EX II 2G Ex ia IIC T4 Gb II 2D Ex ia IIIC T80°C Db	A		2
ATEX EX II 2D Ex tb IIIC T80°C Db	A		3
IECEX Ex ia IIC T4 Gb Ex ia IIIC T80°C Db	A		4
IECEX Ex tb IIIC T80°C Db	A		5
2. Angle area mechanically			
Single-Turn (360°)			1

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Description	Blocking code	No-go with blocking code	Article No./ Feature
KINAX WT720 Order code 720 - xxxx xxxx xx			720 -
3. Drive shaft Standard, shaft Ø 10 mm [0.393"] Flange, shaft Ø 19 mm [0.748"]			1 2
4. Output variable Current, 4...20 mA, two-wire			1
5. Electrical connections Gland standard Gland with increased strain relief Sensor plug M12		A	1 2 3
6. Test protocole Without protocole Protocole German Protocole English			0 D E
7. Interface Without a programmable interface			0
8. Direction of rotation Direction of rotation clockwise Direction of rotation counter-clockwise V-characteristic	J J, G K, G		0 1 2
9. Measuring range Basic configuration (linear, 0 ... 360°)		K, G	0
[°angle], 0...end value:		Switching point:	K 9
V-characteristic [± ° angle]	vmax1: vmax2:	vmin1: vmin2:	J Z
10. Climatic rating / Marine version Normal climatic rating (rel. humidity annual average ≤ 90 %) Increased climating rating (rel. humidity annual average ≤ 95 %) Version GL (Germanischer Lloyd)			0 1 G

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Accessories




Article	Article-Nr.
Plug connector for M12 sensor plug, 5 poles	168105
Kit mounting clamp	157 364
Mounting angle for WT720 Standard	168204
Mounting plate WT720 Standard	168212
Mounting foot for WT720 with Flange	997 182
Mounting flange for WT720 with Flange	997 190
Bellow coupling BKXK2429 06/10mm	164 773
Bellow coupling BKXK3030 010/8mm	164 799
Bellow coupling BKXK3030 010/10mm	164 806
Bellow coupling BKXK3030 010/12mm	164 814
Bellow coupling BKXK3030 010/14mm	164 822
Bellow coupling BKXK3030 010/16mm	164 830
Helical coupling WKAK2532 0 6/10mm	164 898
Helical coupling WKAK2532 0 10/8mm	164 913
Helical coupling WKAK2532 0 10/10mm	164 921
Helical coupling WKAK2532 0 10/12mm	164 939
Spring washer coupling FSKK3027 0 6/10mm	165 002
Spring washer coupling FSKK3027 010/10mm	165 010
Spring washer coupling FSKK3027 0 6/12mm	165 028
Spring washer coupling FSXK3850 0 10/10mm	165 052
Spring washer coupling FSXK3850 0 10/12mm	165 060

Scope of delivery

1. Absolute, programmable transmitter KINAX WT720 (according to Order)
1. Operating Instruction german, english, french (156796)

Approvals	Identification
 Explosion protection according to IECEx	Ex ia IIC T4 Gb Ex ia IIIC T80°C Db Ex tb IIIC T80°C Db
 Explosion protection according to ATEX	Ex II 2G Ex ia IIC T4 Gb Ex II 2D Ex ia IIIC T80°C Db Ex II 2D Ex tb IIIC T80°C Db
 Germanischer Lloyd	D, H, EMC1

You find power supply units for **KINAX WT720** in our process instrumentation product range.

SINEAX B840 4-channel power supply unit	SINEAX B812 1-channel power supply unit	SINEAX B811 1-channel power supply unit
to feed 2-wire transmitters		
		

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