

Instruction Manual

Specification 6220312

Inclination Sensor with analog output (4-20mA)

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Declaration of Conformity

CE-Conformity

This product has been developed and manufactured in accordance with the current European standards and guidelines.

Note: A Declaration of Conformity can be requested separately.

General

The Inclination Sensor 6220312 is an instrument used to control the inclination angle of a reference axis.

The product should be examined for any possible damage that may have occurred during transportation. Should any damage have occurred, please contact the transportation company or 2E mechatronic without delay.

Read the instructions carefully. Familiarize yourself with the device before assembling, installing and operating.

The following assembly and operation instructions have been carefully drafted, however, it is not possible to cover every conceivable eventuality. Therefore, if you have any queries regarding the product or its application we can be contacted at our internet address (www.2E-mechatronic.de) or one of our contact personnel for further information.

The Sensor should be operated and installed in accordance with the instructions given in order to guarantee that the device and the connected systems operate safely.

The safety of operating personnel can only be guaranteed when the device is used for the purpose which it was intended for.

Furthermore the national regulations are to be followed. (e.g. VDE0100)

Only shielded cables have to be used for connecting the device.

Technical Data	
Axis	1
Positive sense of rotation	Clockwise
Measurement range (angle)	360° (or custom specific)
Resolution	14 bit (0,022° FS)
Dimensions	79 mm x 28 mm x 21 mm
Operating voltage	10V...30V
Measurement rate	< 180 ms
Protection class	IP67
Temperature range (operating and storage)	-40°C bis +85°C
Weight	80g (with cable/connector)
Accuracy (RT)	±0,1% FS 0,1° (Measurement range <100°)
Temperature dependence	±0,1%/10K
Housing	Aluminium, 2 fixings
Interface	analog, 4-20mA
Output	3,8-20,2mA (error 1mA)

RT = Room temperature 23°C ±5K

FS = Full scale (360°)

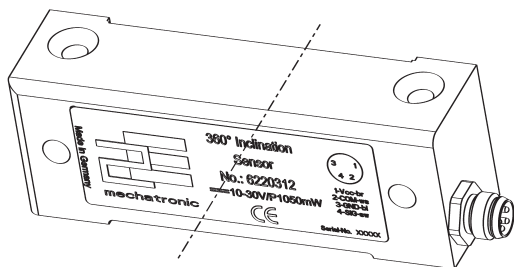
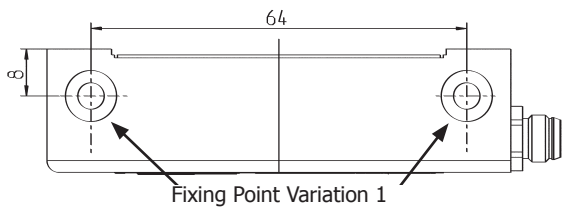
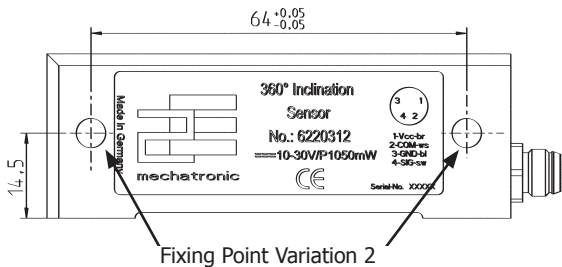
This is a Protection Class IP67 device.

Installation/Assembly

The Sensor can be mounted on the target unit in 2 ways, both perpendicular and parallel to the axis rotation.

Variation 1 (Perpendicular to axis): First, ensure that the surface is clean. Then, mount the Sensor using 2 flat head screws (max. Ø4.5mm thread diameter) to the target unit.

Variation 2 (Parallel to axis) mount the Sensor using 2 head shoulder screws (fitting an inner diameter of Ø5H7).

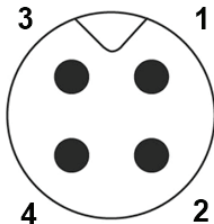


Electrical Connector

Sensor-/Actor-Panel Connector 4 pol. M8
IEC 61076-2-104

Voltage requirements: 10–30 V DC

Power Consumption at 10-30V DC: 32mA



Description of all input and output ports/terminals

Variations	Pin 1	Pin 2	Pin 3	Pin 4
6220312 kNS Standard analog	brown VCC (+)	white COM	blue GND	black I-SIG out

Safety Instructions

Responsibility for safe planning, assembly, operating and maintenance lies with the equipment user.

The installation and operation of all devices should only be carried out by qualified personnel. Changes or modifications which are not expressly approved in the operation manual and are made without permission could void the warranty and manufacturer's liability. Should a severe disturbance occur, the device should be taken out of operation immediately and protected against accidental reuse. If such an occurrence should happen the device should be sent to 2E mechatronic for repair.

Operation

The Sensor comes with an analogue current-interface (4-20mA)

Connect Pin 1 with Vcc and Pin 3 with GND.

COM (PIN 2) is either not connected (n/c) or connected with PIN1.

Between I-SIG out (Pin 4) and GND (Pin 3) the output signal can be measured.

Output signal [mA]	Inclination Default settings [°]	Inclination customer specific [°]
4	0	Measuring range min
20	360	Measuring range max
1	Error	Error

The current limits for the output signal are 3,8mA and 20,2mA (apart case of error).

Supply Voltage	apparent ohmic resistance
Generally	$R_{max} = \frac{U_b - 7V}{I_{max}(=20mA)}$
9V	100Ω
12V	250Ω
24V	500Ω

In case of error check first the pin configuration.

Service

The Sensor is maintenance free.

Should a fault occur please contact the following:

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