

GIM140R - 2-dimensional, analog

2-dimensional, measuring range up to $\pm 60^\circ$

Analog

Overview

- Size 48 mm
- Interface Analog
- MEMS capacitive measuring principle
- Measuring range 2-dimensional: up to $\pm 60^\circ$
- Aluminium housing
- Protection IP 67/IP 69K
- Connection cable
- Teach input for adjustment of zero position



Technical data

Technical data - electrical ratings

Voltage supply	8...30 VDC 12...30 VDC
Reverse polarity protection	Yes
Short-circuit proof	Yes
Consumption typ.	8 mA (24 VDC, w/o load, voltage output) 12 mA (w/o load, current output)
Interface	Analog (4...20 mA / 0.5...4.5 V / 0...10 V)
Load resistor	Between Out/0 V ≥ 3 k Ω / voltage output 270 Ω at 10 VDC (500 Ω at 15 VDC) / current output
Measuring range	$\pm 10^\circ / \pm 30^\circ / \pm 45^\circ / \pm 60^\circ$
Resolution	0.05 $^\circ$
Accuracy (+25 $^\circ$ C)	$\pm 0.4^\circ$
Sensing method	MEMS technology
Interference immunity	EN 61000-6-2

Technical data - electrical ratings

Emitted interference	EN 61000-6-3
Programmable parameters	Preset
Diagnostic function	Out-of-range diagnostics
Technical data - mechanical design	
Dimensions W x H x L	48 x 14 x 45 mm
Protection EN 60529	IP 67/IP 69K
Material	Housing: aluminium, anodised
Corrosion protection	ISO 9227:2017 salt mist according to ISO 12944-6:1998 C5-M (CX)
Operating temperature	-40...+85 $^\circ$ C
Resistance	EN 60068-2-6 Vibration 10 g, 10-2000 Hz EN 60068-2-27 Shock 50 g, 11 ms
Weight approx.	50 g
Connection	Cable 0.3 m, radial

Optional

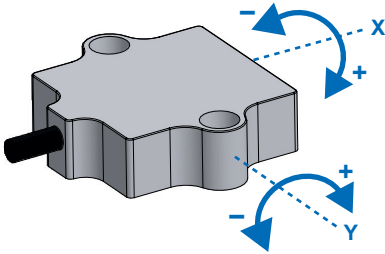
- Analog output with out-of-range diagnostic

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Installation position



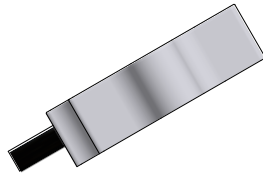
The 2-dimensional inclination sensor must be mounted with the base plate in horizontal position, i.e. parallel to the horizontal line.

The sensor can be inclined both towards the X and Y axis at the same time. For each axis a separate measured value is provided. Default on delivery the inclination sensor will apply the selected sensing range to both axis, for example $\pm 30^\circ$ with the zero passage being precisely in the horizontal line.

Y = 0°



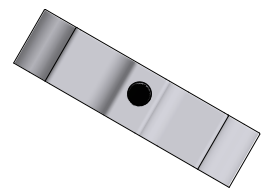
Y = -30°



X = $+30^\circ$



X = $+30^\circ$



Terminal assignment

Cable

Core color	Signal	Description
White	0 V	Ground relating to +Vs
Brown	+Vs	Voltage supply
Green	Out_X	Output
Yellow	Out_Y	Output
Grey	Teach	Teach-input

Cable data: 5 x 0.5 mm²

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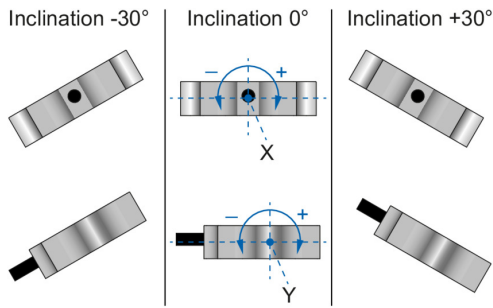
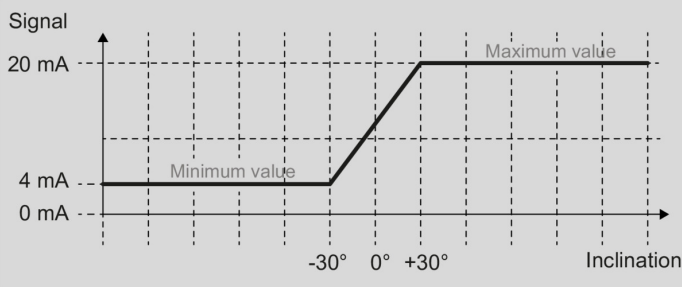
2-dimensional, measuring range up to $\pm 60^\circ$

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Output signals

Analog output

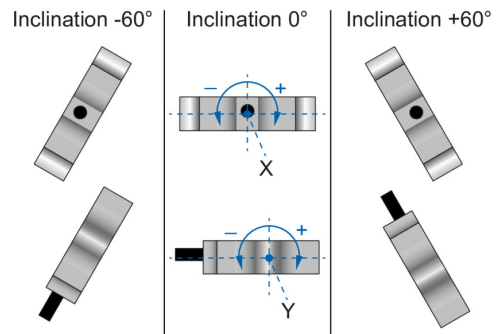
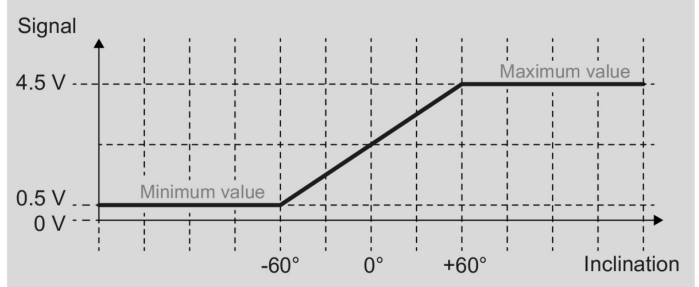
Measuring range $-30\dots+30^\circ$



Output signals

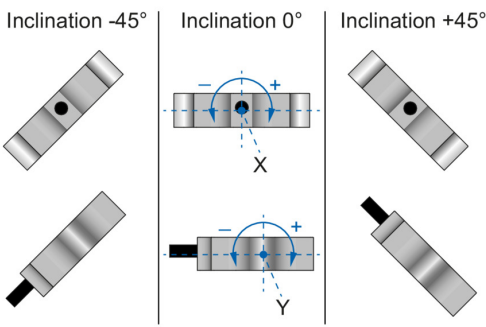
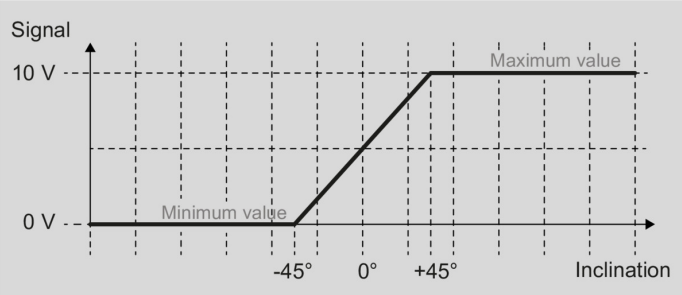
Analog output

Measuring range $-60\dots+60^\circ$



Analog output

Measuring range $-45\dots+45^\circ$



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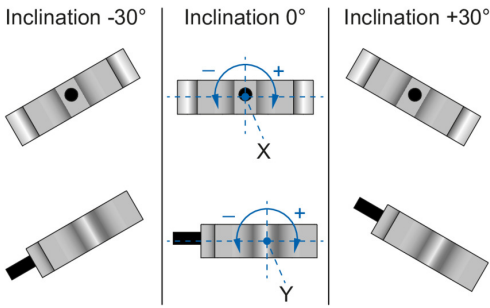
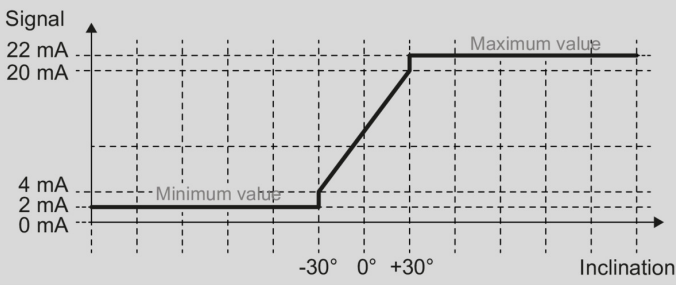
2-dimensional, measuring range up to $\pm 60^\circ$

Analog

Output signals

Analog output with out-of-range diagnostic

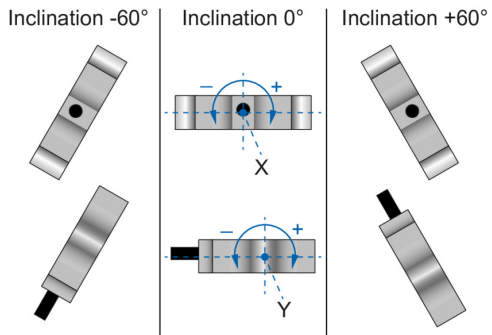
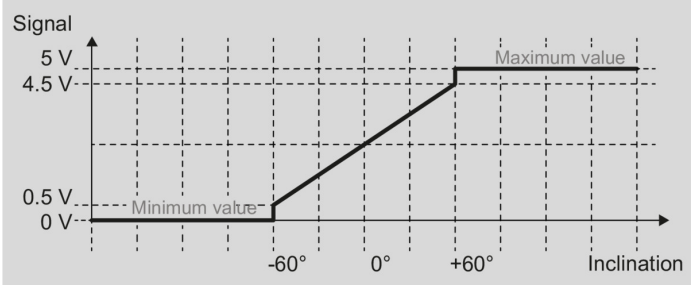
Measuring range $-30\dots+30^\circ$



Output signals

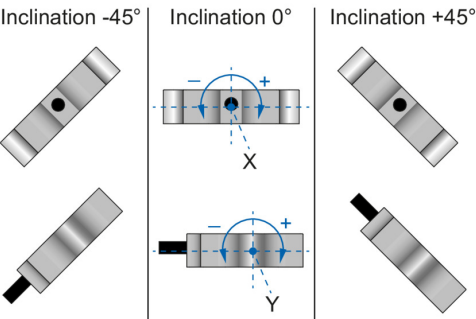
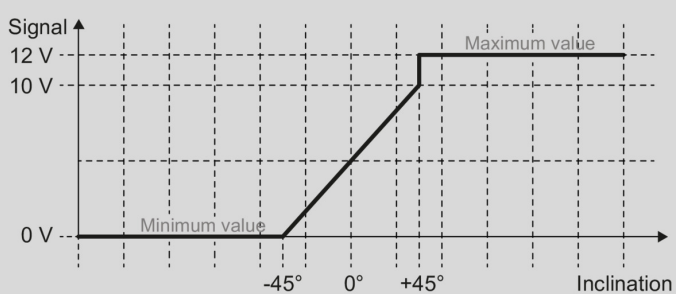
Analog output with out-of-range diagnostic

Measuring range $-60\dots+60^\circ$



Analog output with out-of-range diagnostic

Measuring range $-45\dots+45^\circ$



Trigger level

Teach-input

High level	>2.1 V
Low level	<1 V
Maximum	+Vs

Teach process

The teach-in function enables rapid and easy commissioning in the field.

Setting zero

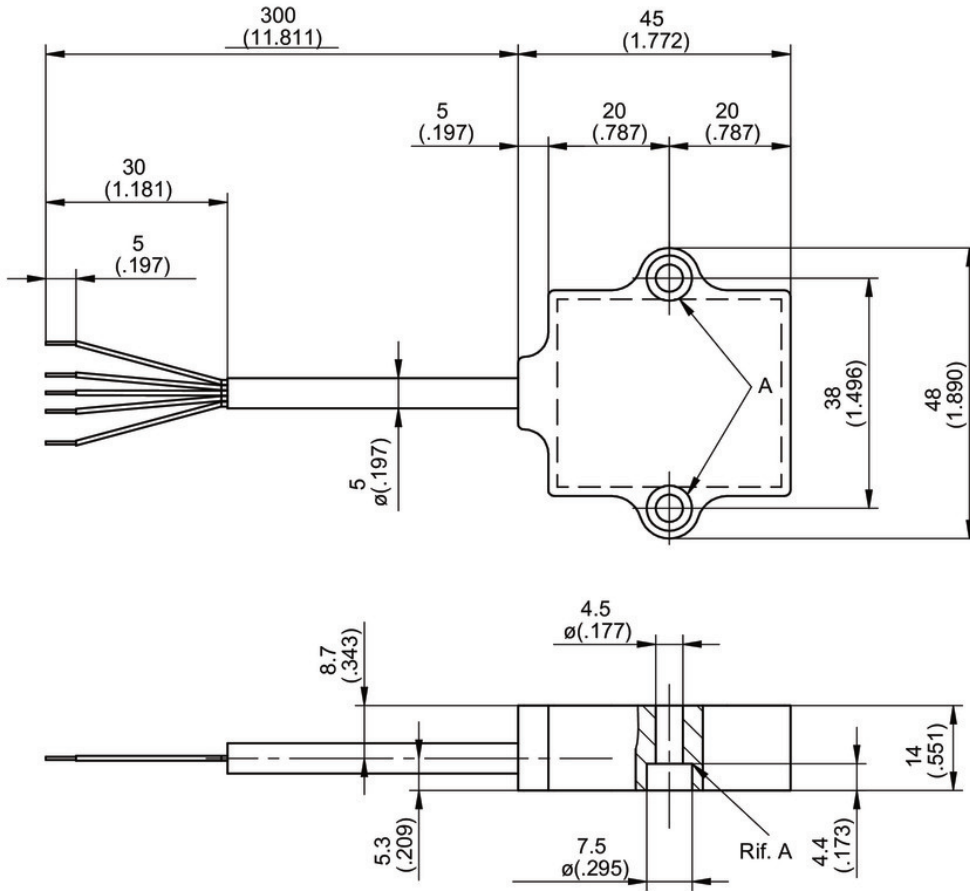
- Get inclination sensor on position intended for zero position.
- Set teach input for $5 < t < 10$ seconds on high level.

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Dimensions



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Ordering reference

GIM140R - M 2 ### . K ## . A #####

Product

GIM140R

Housing

Metal

M

Number of axes

2-dimensional, housing horizontal

2

Measuring range

 $\pm 10^\circ$ (Analog with zero setting)

10

 $\pm 30^\circ$ (Analog with zero setting)

30

 $\pm 45^\circ$ (Analog with zero setting)

45

 $\pm 60^\circ$ (Analog with zero setting)

60

Connection

 Cable 0.3 m, Standard 5x0.5 mm²

K

Voltage supply / interface

8...30 VDC / Analog 0.5...4.5 VDC

V3

12...30 VDC / Analog 0...10 VDC

V6

12...30 VDC / Analog 4...20 mA

C0

Operating temperature

 $-40...+85^\circ\text{C}$

A

Option

Without option

Output signal with out-of-range diagnostics (Analog)

/4822

Accessories

Programming accessories

11084376

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