Baumer
Passion for Sensors

Inclination sensor

GIM140R - 2-dimensional, analog

2-dimensional, measuring range up to ±60°

Article number:

Overview

- Size 48 mm
- Interface Analog
- MEMS capacitive measuring principle
- Measuring range 2-dimensional: up to ±60°
- Aluminium housing
- Protection IP 67/IP 69K
- UL approval
- 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 kΩ / voltage output 270 Ω at 10 VDC (500 Ω at 15 VDC) / current output
Measuring range	±10°/±30°/±45°/±60°
Resolution	0.05 °
Accuracy (+25 °C)	±0.4°
Sensing method	MEMS technology
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3

Technical data - electrical ratings	
Programmable parameters	Preset
Diagnostic function	Out-of-range diagnostics
Approval	UL approval / E217823
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 °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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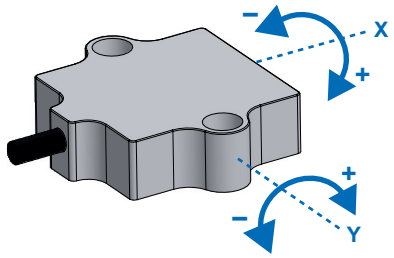
Installation position

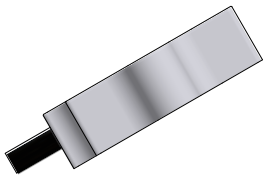


The 2-dimensional inclination sensor must be mounted with the base plate in horizontal position, i.e. parallel to the horizontal line.

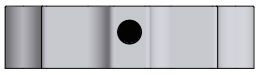
The sensor can be inclined both towards the X and Y axis at the same time. For each axis a separate measured value is provided. Default on delivery the inclination sensor will apply the selected sensing range to both axis, for example ±30° with the zero passage being precisely in the horizontal line.

Y = 0°

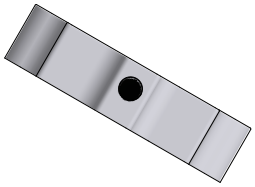
Y = -30°



X = +30°



X = +30°



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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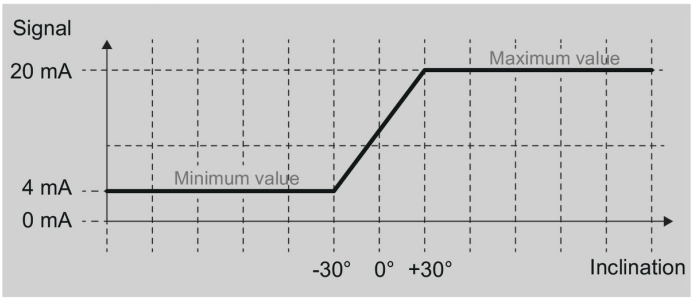
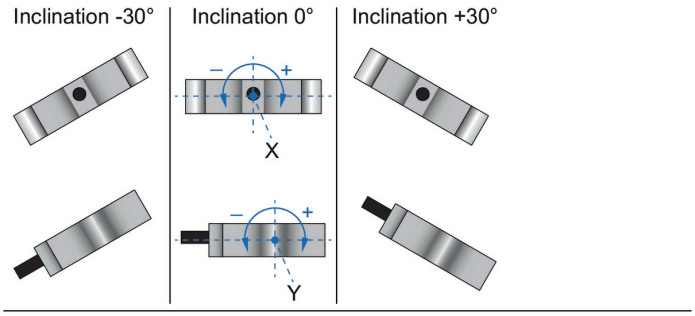
Output signals

Analog output

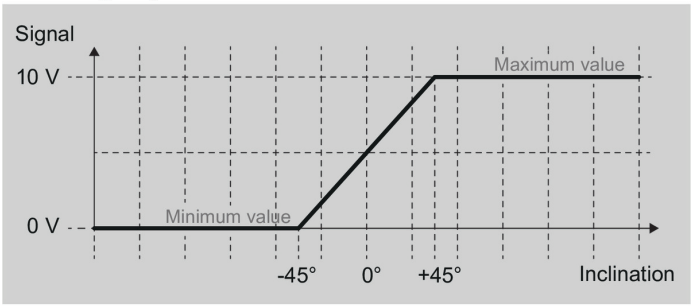
Measuring range -30...+30°

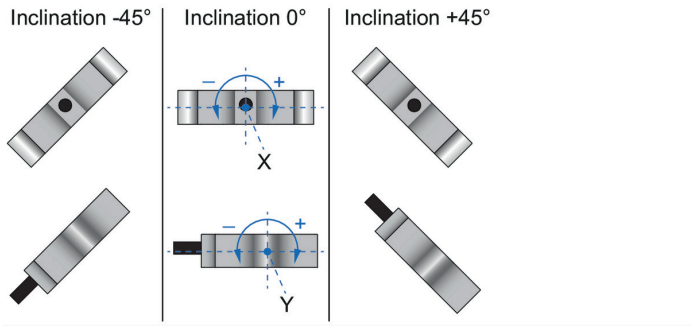




Analog output

Measuring range -45...+45°

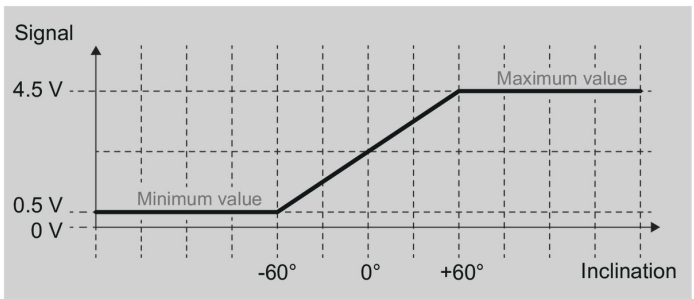


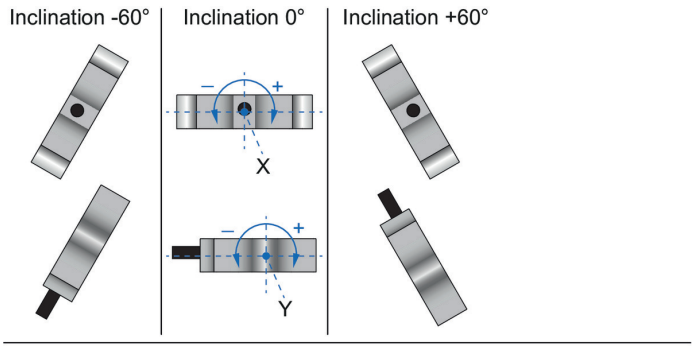


Output signals

Analog output

Measuring range -60...+60°





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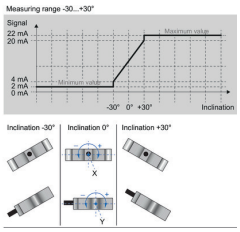
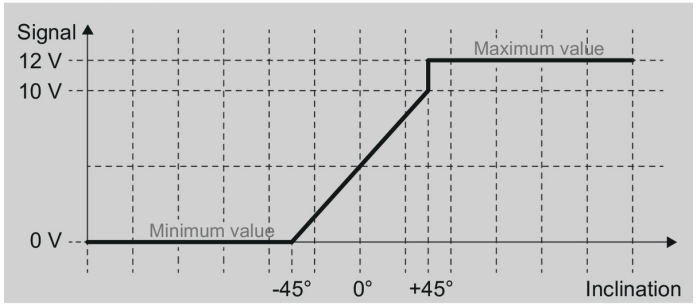
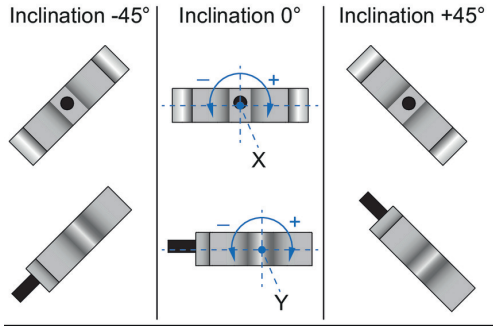
Output signals

Analog output with out-of-range diagnostic



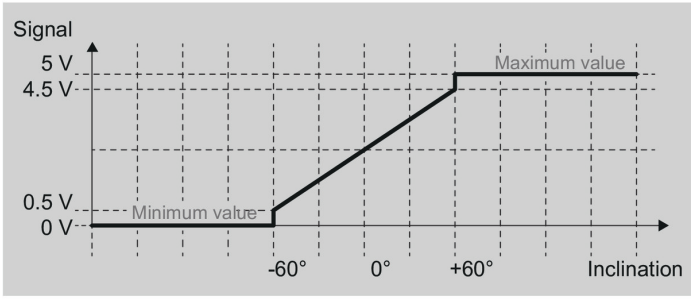
Analog output with out-of-range diagnostic
Measuring range -45...+45°

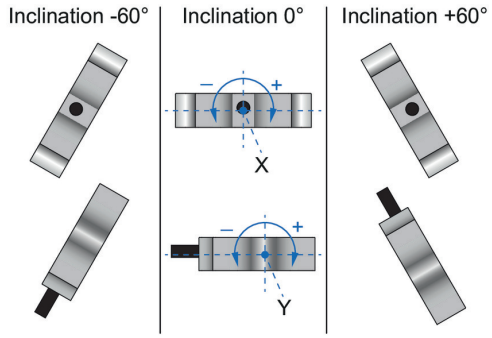




Output signals

Analog output with out-of-range diagnostic
Measuring range -60...+60°





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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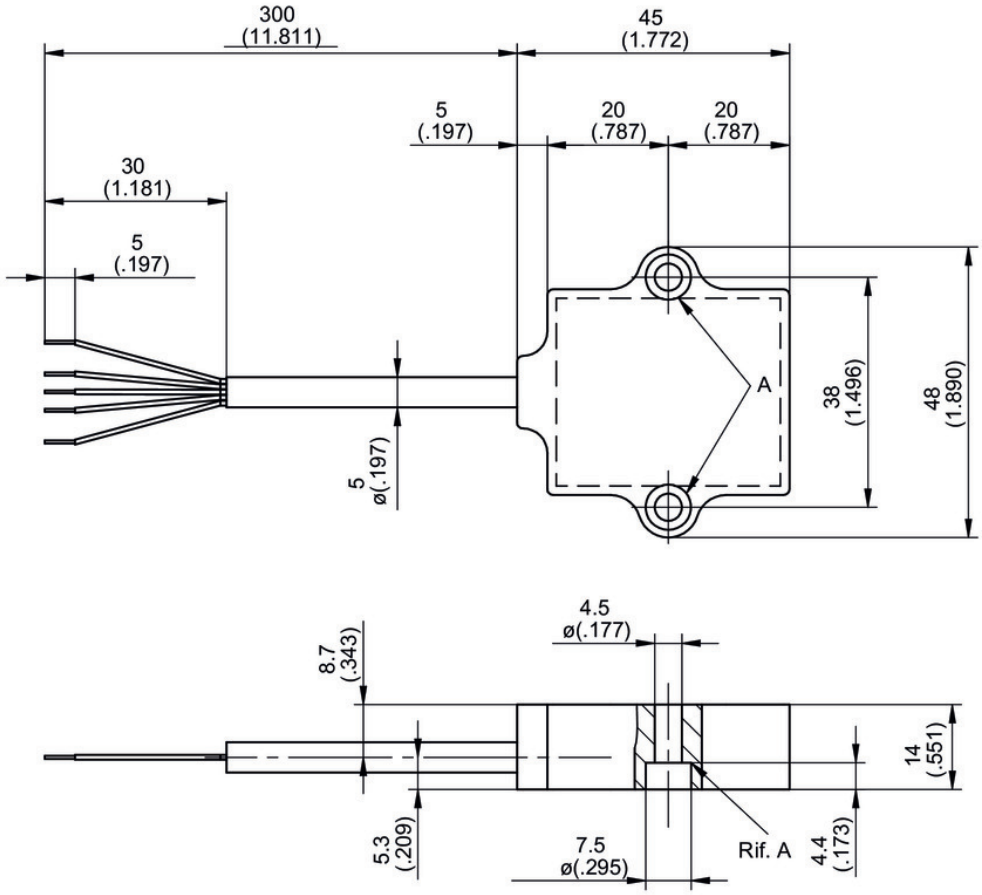
Dimensions



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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											
±10° (Analog with zero setting)					10						
±30° (Analog with zero setting)					30						
±45° (Analog with zero setting)					45						
±60° (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 °C										A	
Option											
Without option											
Output signal with out-of-range diagnostics (Analog)											/4822

Accessories

Programming accessories

11084376	ZTEST-ALL.ANALOG