

R3B0A10A

Angular Velocity Sensor, 3-axial

Properties

- Optimized body dimensions
- Measuring range up to ± 1500 °/s
- Bandwidth > 50 Hz
- Low influence of linear acceleration
- Noise reduction
- Unipolar supply

Application

- General test and measurement
- Fatigue
- Vehicle crash

Measurement principles

- Micro-mechanically

Options

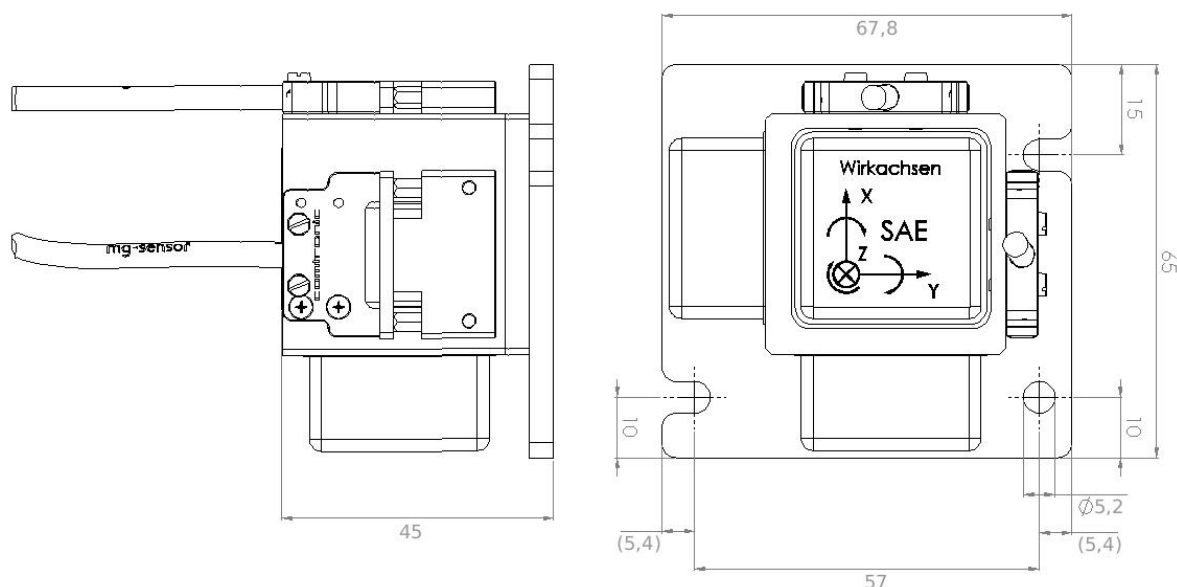
- ID-Module integrated in measurement module
- Plug-in connection cable
- 1-axial version



Technical description

The measurement of the angular velocity is based on the generally known principle of the Coriolis Effect. Thereby a second oscillation is overlaid on an oscillating ring structure by rotation (the rotary movement to be measured). The signal measured using differential measurement and electronically conditioned is directly proportional to the rotation within the measuring range. The output signal measured in mV thus corresponds to the angular velocity in °/s. An additional pre-integrated circuit enables a unipolar power to the sensor.

Dimensions



Technical Data Sheet



R3B0A10A

Technical specification

	Unit	Value	Comment
Measuring range	°/s	±1500	Standard
Bandwidth	Hz	> 50	±3 dB
Sensitivity ¹⁾	mV/(°/s)	1.34	
Output signal ^{1), 2)}	V	2.01	
Zero signal ¹⁾	mV	≤ 2.5	
Amplitude non-linearity ³⁾	%	≤ 1.0	
Sensitivity regarding linear acceleration	(°/s)/g	0.002	
Transversal sensitivity	%	< 5.0	
Noise	°/s rms	< 0.5	
Current consumption	mA	45	±10 %
Supply voltage	V	10	±2.5 %
Insulation resistance	MΩ	> 100	
Temperature range	°C	-30...+70	
Weight (approximate)	g	250	

All values measured at 10 V sensor supply voltage and at 23 °C.

¹⁾ Typical value

²⁾ At nominal load

³⁾ Relative nominal range