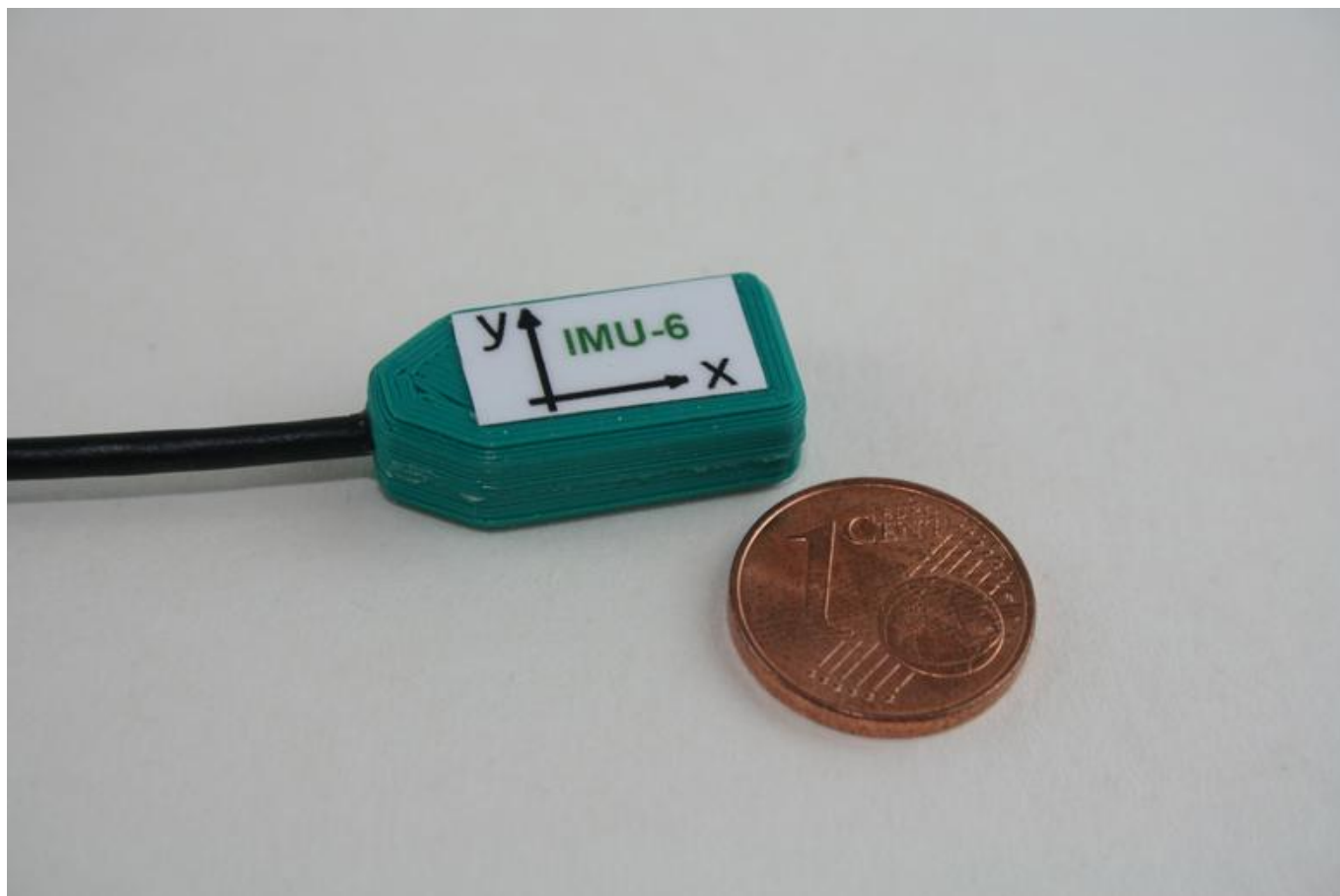


# Datasheet IMU-6

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IMU-6 is an inertial measurement unit (IMU) for the detection of movements and rotations in 6 degrees of freedom. It combines the functionality of two inertial sensors in one device: an advanced triaxial 16-bit gyroscope and a versatile, leading edge triaxial 16-bit accelerometer.

The sensor has an extended measurement range of up to  $\pm 24g$  to avoid signal clipping under strong signal exposure.

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## absolute Ratings

Parameter	condition	max
Supply Voltage		4.0 V
Mechanical Shock	Duration < 200 $\mu$ s	10000 g
	Duration < 1.0 ms	2000 g
	Free fall onto hard Surfaces	2 m

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## Electrical Specifications

Parameter	condition	value
Supply Voltage	operating	2.4 V ... 3.6 V
Supply Current	typ	5 mA

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## Accelerometer

selectable Ranges:  $\pm 3g$  ,  $\pm 6g$ ,  $\pm 12g$ ,  $\pm 24g$

Parameter	condition	typ	max
Output Data Rate			1600 Hz
Zero-g Offset	Range = $\pm 6g$	20 mg	
Output Noise Density	Range = $\pm 3g$	190 $\mu g/\sqrt{\text{Hz}}$	
Bandwidth	configurable	5 ... 280 Hz	
Nonlinearity		0.5% FS	
Bandwith	configurable	5 ... 280 Hz	

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## Gyroscope

selectable Ranges:  $\pm 125^\circ/s$  ,  $\pm 250^\circ/s$ ,  $\pm 500^\circ/s$ ,  $\pm 1000^\circ/s$ ,  $\pm 2000^\circ/s$

Parameter	condition	typ	max
Sensitivity Tolerance	Ta=25°C, FS2000	$\pm 1\%$	
Zero Rate Offset	Ta=25°C	$\pm 1^\circ/s$	
Bandwidth	configurable	12 ... 500 Hz	
Output Noise	RMS Bandwidth=50Hz	$\pm 1^\circ/s$	
Output Data Rate			2000 Hz

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**Connector IMU Sensor**

Type: Micro USB typ B ( 5 Pins )

1. not connected
2. Sensor CLK
3. Sensor DATA
4. Supply Voltage
5. Ground