



TECH IMU V.4

Small and powerful.

The heart of Technaid inertial Motion Capture System.

Technical Specifications

General:			
Characteristic		Value	Unit
Supply voltage		3.3 – 4.0	VDC
Current consumption		70	mA
Dimensions: Height x Width x Length		11x26x36	mm
Weight		10	g
Specific:			
GYROSCOPES	Measurement range	± 2000 ± 34.9	$^{\circ}/s$ rad/s
	Resolution	0.06	$^{\circ}/S$
ACCELEROMETERS	Measurement range	$\pm 4, 8, 16$ $\pm 39.22 - 156.88$	g m/s^2
	Resolution	0.122	mg
MAGNETOMETERS	Measurement range	± 8.1 ± 810	gauss μT
	Resolution	0.092	μT
Special:			
Built-in calibration to eliminate axes misalignment, adjust sensitivity and compensate the measurements due to external temperature changes.			
Kalman filter to estimate absolute 3D orientation.			
Robust algorithm against external magnetic fields.			
Sampling frequency: 1kHz		Static accuracy:	0.7 degrees RMS
Output frequency: Up to 500 Hz		Dynamic accuracy:	1.0 degrees RMS
Types of communication: CAN.			
Measured variables:		Output:	
<ul style="list-style-type: none"> • 3D Angular Speed (rad/s) • 3D Acceleration (m/s^2) • 3D Magnetic Field (μT) • Temperature ($^{\circ}C$) 		<ul style="list-style-type: none"> • Digital: Digitalized signal values at 16 bits. • Physical: Physical signal values on the corresponding unit of measurement. • Orientation: Direction Cosine Matrix (DCM) or Quaternions. 	
Note: Physical and Orientation data can be sent at the same time.			