Wi-Motion

Wireless Inertial Motion Capture

Features

- **10 DOF sensor data: 3-axis acceleration, 3-axis turn rate (gyroscope data), 3-axis magnetic field intensity (compass), barometric pressure**
- **Full 3-D orientation information (Euler angles and quaternions)**
- **BLE 4.2 (Bluetooth Low Energy) wireless link**
- **35+ hours operation with built-in battery**
- **Micro USB charger**
- **USB-dongle (receiver) with USB interface (virtual COM port)**
- **64 MHz ARM® Cortex™-M4F 32-bit processor**
- **On-board fusion algorithm running at 400 Hz**
- **Output data rate up to 200 Hz**

Specifications – electrical

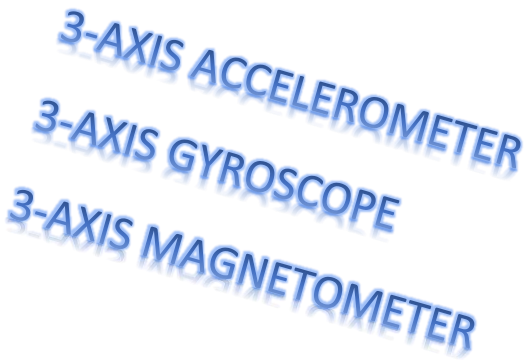
Accelerometer	
Range	±2 g/±4 g/±8 g selectable
Zero offset error	3 mg
Nonlinearity	< 0.5 % FS
Noise density	0.125 mg/√Hz @100Hz
Sampling rate	Up to 800 Hz
Gyroscope	
Range	±250/500/1000/2000 °/s selectable
Nonlinearity	< 0.5 % FS
Noise density	0.025 dps/√Hz @ 100 Hz
Sampling rate	Up to 800 Hz
Magnetometer	
Range	±1200 µT
Sampling rate	Up to 400 Hz
Self-calibration	Autonomous hard-iron calibration
Barometer	
Range	260 to 1260 hPa
Resolution	0.01 hPa RMS
Sampling rate	Up to 25 Hz
General Data	
Data format	ASCII
Output data rate	1, 2, 5, 10, 20 ,25, 40, 50, 100 and 200 Hz selectable
Resolution	0.02° | 0.25 mg (@ data rate ≤ 5)
Zero offset error†	< ±0.1° (@20°C)‡, maximum offset drift is ±0.011° /°C
GUI software	Wi-Motion Explorer®
Temperature sensor	1°C resolution

Applications

- **Human health monitoring**
- **Biomechanics**
- **Rehabilitation and physical therapy**
- **Sport science and activity monitoring**
- **Virtual/augmented reality and gaming**
- **Inertial navigation**

Specifications – mechanical

Protection	Elastic Shock absorber belt IP65 or IP67 Available upon request
Dimension	2.17"x1.81"x0.67" (55 x 46 x 17 mm)
Material	Enclosure: ASA (UL 94 HB)
Temperature range	-30°C to +80°C (-22°F to +176°F)
Connection	Micro USB / Bluetooth



† Zero g offset can be corrected and saved by user.

‡ Unit can be calibrated between -20°C and 60°C (-4°F and 140°F) upon request.

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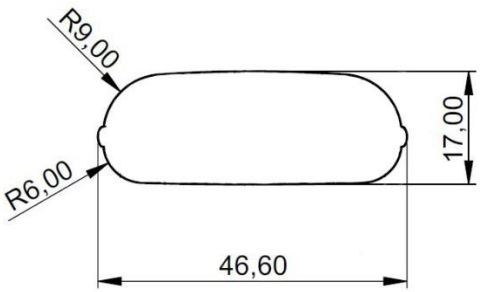
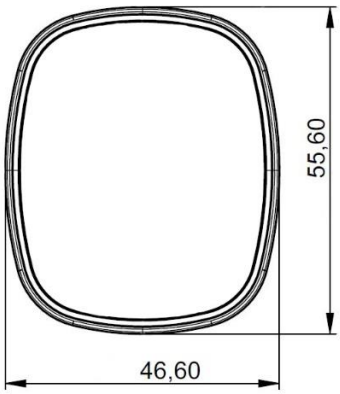
Dimensional drawing

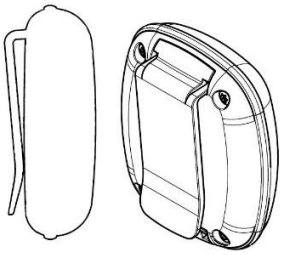




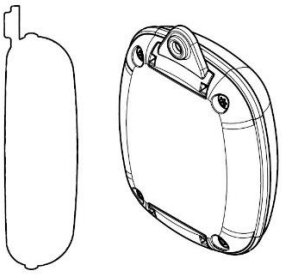
Units are in Millimeters

Available Accessories

Pocket Clip



Fastening kit



Wrist strap

Warranty: This product has 18 months limited warranty.
For more information, please visit:
www.CTiSensors.com/warranty

This product is fully designed and manufactured in the U.S.A.

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