

AX6 Datasheet

6-Axis logging movement sensor



AX6

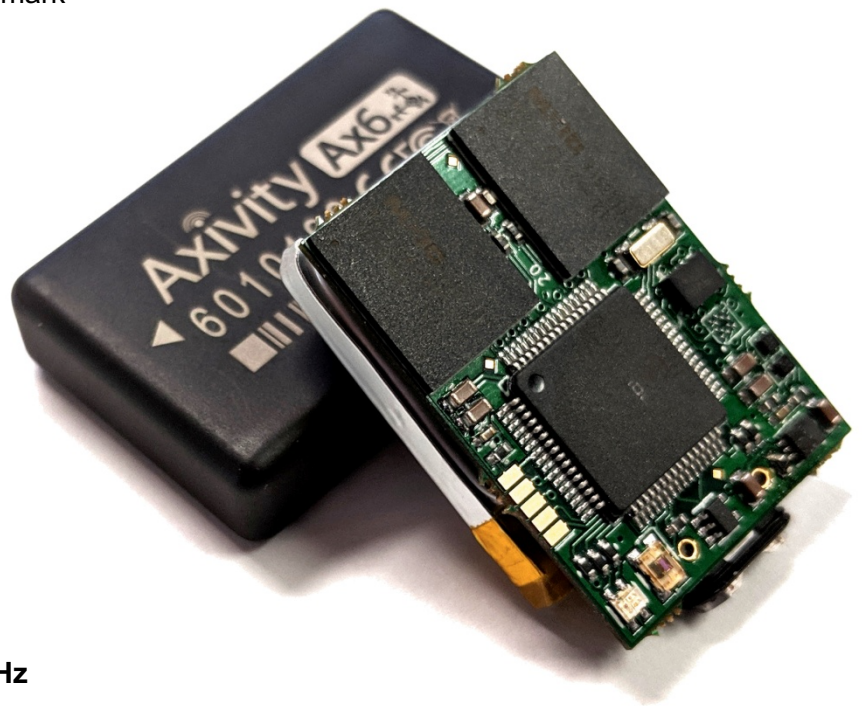
Axis logging movement sensor

Description

The AX6 is a low cost logging 6-axis inertial movement sensor (IMU). At the heart of the sensor is a 6-axis movement sensor and a non-volatile flash memory chip linked by a USB enabled microcontroller. A temperature sensor, ambient light sensor, real time clock (RTC) and lithium polymer battery are also integrated into the sealed polycarbonate puck. The charge time is approximately 120 minutes and the sensor will record for **7 days of continuous 6-axis IMU data at 100Hz**. The device is suitable for use in a variety of environments, is water resistant up to 1.5 meters and is CE safety mark approved.

Applications

- Human movement science
- Sports research
- Instrumented environments
- Digital interaction
- Activity recognition



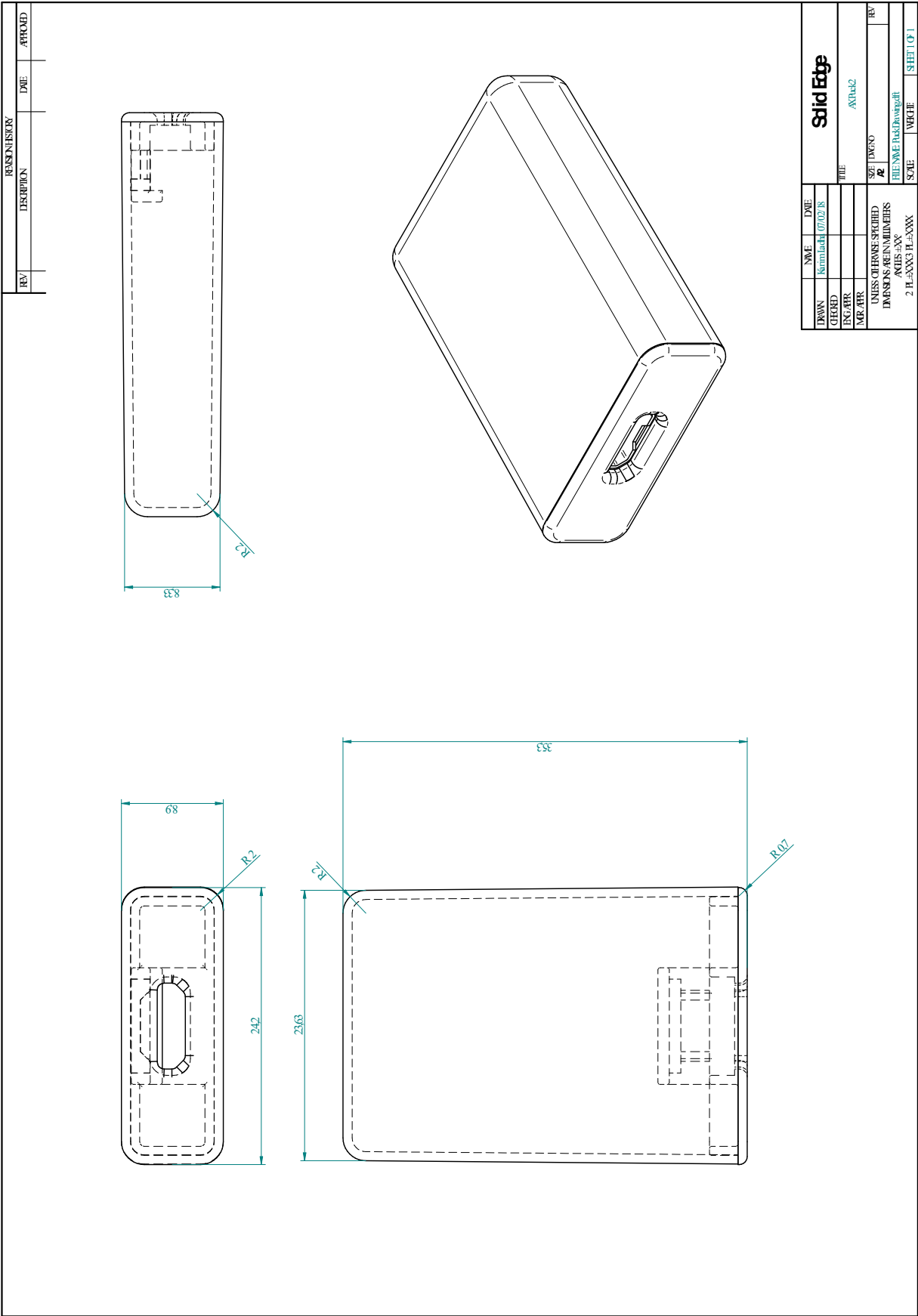
Summary

- 6-axis 16-bit synchronised IMU
- Light sensor
- Temperature sensor
- 1024MB memory
- **7 days recording gyro/accel @ 100Hz**
- **34 days recording accel @ 50Hz**
- Rechargeable lithium battery
- Water resistant and CE marked
- Configurable logging options

Specification: AX6

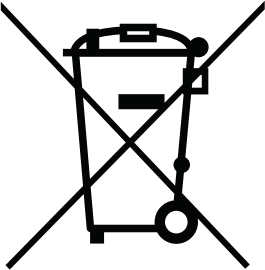
PARAMETER	VALUE	NOTES
Puck Size	23x32.5x8.9 mm	
Puck Weight	11g	
Enclosure Material	Polycarbonate	
Battery Capacity	250mAh – 280mAh	Rechargeable lithium polymer
Battery Charge Current	250mA – 280mA	
Connectivity	Micro USB	
ENVIRONMENTAL		
Moisture Ingress	Water-resistant to 1.5m	IPx8
Dust Ingress	Dust tight	IP6x
Operating Temperature	0 - 65°C (not charging)	10 – 35°C if charging
TYPICAL CAPABILITIES		
Memory	1024MB flash non-volatile	
Logging Frequencies	Configurable 12.5Hz - 1600Hz	
Typical Logging Periods	7 days	IMU mode @ 100Hz
	17 days	Accelerometer @ 100Hz
	34 days	Accelerometer @ 50Hz
	Up to 140 days	Accelerometer @ 12.5Hz
REAL TIME CLOCK		
Type	Quartz real time clock	
Frequency	32.768KHz	
Precision	± 50ppm (typical)	
ACCELEROMETER AND GYROSCOPE		
Sensor Type	MEMS	BMI160
Accelerometer Range	±2/4/8/16 g	Configurable
Gyroscope Range	±125/250/500/1000/2000 dps	Configurable
Resolution	16 bit	Gyro and Accelerometer
LIGHT		
Sensor Type	APDS9007	Logarithmic light sensor
Wave Length	470-650 nm	Matched to human eye
Range	3-1000 LUX	At sensor
Digital format	10 bit	
TEMPERATURE		
Sensor Type	MCP9700	Linear thermistor
Range	0 - 40°C	
Resolution	0.3°C	
Accuracy	1°C typical (4°C max)	

Dimensions: AX6



Certification:

The AX6 is certified to the following:

Certification	Test
	The product is compliant with the Directive 2014/30/EU the relevant Declaration of Conformity is available from Axivity. The product has been tested to EN IEC 61000-6-1:2019 and BS EN 61000-6-3:2007/A1:2011 (Electromagnetic compatibility (EMC), Generic standards, Immunity for residential, commercial and light-industrial environments).
	The AX6 manufactured by Axivity Ltd is tested to comply with FCC CFR 47 part 15.107 and 15.109 (Class B Device).
	The product has an ingress protection rating as defined in IEC 60529 to level 68. Due to the nature of the housing (potted enclosure) the device was passed on the basis that it was fully functional both before and after each testing criterion.
	In accordance with the European Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE), the product must not be disposed of in the normal unsorted municipal waste stream. Instead, it is the user's responsibility to dispose of this product by returning it to a collection point or directly to Axivity. Separate collection of this waste helps optimize the recovery and recycling of any reclaimable materials and also reduces the impact on human health and the environment. For more information concerning the correct disposal of this product, please contact your local authority or our issuing authority The lithium polymer cell has met the acceptance criterion for the UN Recommendations on the Transport of Dangerous Goods relating to lithium batteries, UN Manual of Tests and Criteria Part III Subsection 38.3 and Section II of Packing Instruction PI967, for Lithium Ion Batteries Contained in Equipment (Cells ≤ 20 Wh).

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