

AX3v2 Datasheet

3-Axis logging movement sensor



AX3v2

3-Axis Logging Accelerometer

Description

The AX3v2 is a low-cost logging 3-axis accelerometer. At the heart of the sensor is 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 90 minutes and the sensor will record for up to 21 days of continuous data. 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.

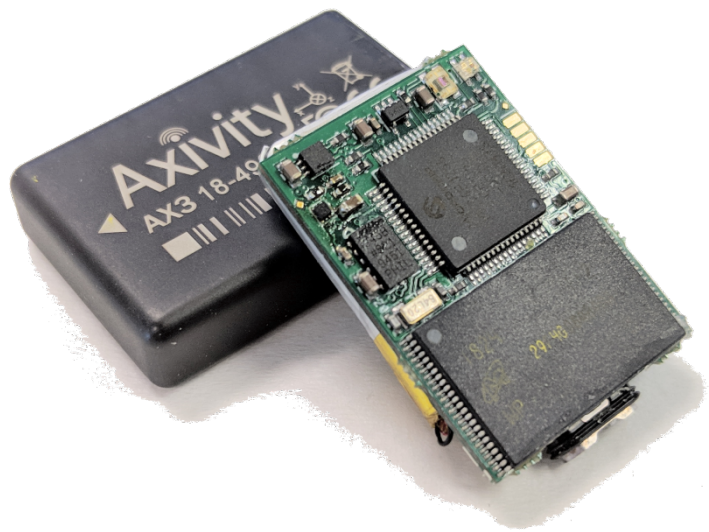
The AX3v2 is functionally identical to the AX3 and all the integrated sensor, LED and external marking positions and orientations are unchanged. The newer design uses an improved enclosure, the USB connector position has been moved.

Applications

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

Summary

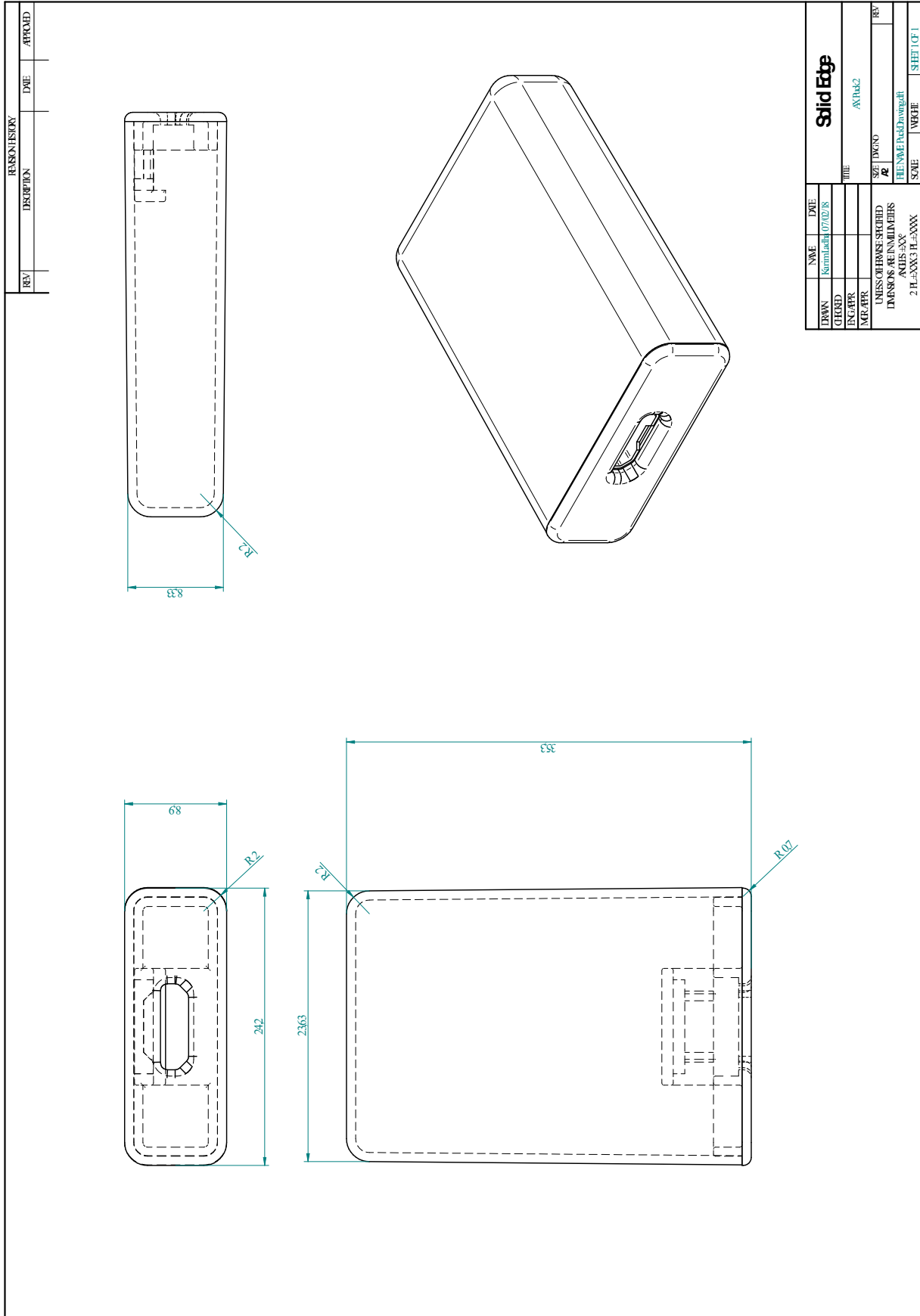
- 3-axis accelerometer
- Light sensor
- Temperature sensor
- 512MB memory
- Up to 14 days recording at 100Hz
- Rechargeable lithium battery
- Water resistant and CE marked
- Configurable logging options



Specification: AX3v2




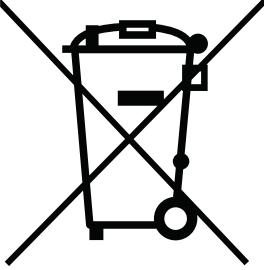
PARAMETER	VALUE	NOTES
Puck Size	23 × 32.5 × 8.9 mm	
Puck Weight	11 g	
Enclosure Material	Polycarbonate	
Battery Capacity	150 mAh – 180 mAh	Rechargeable lithium polymer
Battery Charge Current	150 mA – 180 mA	
Connectivity	Micro USB	
ENVIRONMENTAL		
Moisture Ingress	Water-resistant to 1.5 m	IPx8
Dust Ingress	Dust tight	IP6x
Operating Temperature	0 – 65°C (not charging)	10 – 35°C if charging
TYPICAL CAPABILITIES		
Memory	512MB NAND flash non-volatile	
Logging Frequencies	Configurable 12.5 Hz – 3200 Hz	
Maximum Logging Periods	30 days at 12.5 Hz or 14 days at 100 Hz	
REAL TIME CLOCK		
Type	Quartz real time clock	
Frequency	32.768KHz	
Precision	± 50ppm (typical)	
ACCELEROMETER		
Sensor Type	MEMS	
Range	±2 / 4 / 8 / 16 g	Configurable
Resolution	up to 13-bit	Configurable
LIGHT		
Sensor Type	APDS9007	Logarithmic light sensor
Wavelength	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: AX3v2



Certification:

The AX3v2 is certified to the following:

Certification	Test
	<p>The product is compliant with the Directive 2014/30/EU; the relevant Declaration of Conformity is available from Axivity.</p> <p>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).</p>
	<p>The AX3v2 manufactured by Axivity Ltd is tested to comply with FCC CFR 47 part 15.107 and 15.109 (Class B Device).</p>
	<p>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.</p>
	<p>In accordance with the 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.</p> <p>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</p> <p>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).</p>

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