

AX3

3-Axis Logging Accelerometer

Description:

The AX3 is a combination logging sensor for collecting data in a variety of environments. At the heart of the sensor is a state of the art three axis electronic accelerometer and a large block NAND flash memory chip linked by a USB enabled microcontroller. A temperature sensor, ambient light sensor, real time clock (RTC) and lithium polymer power source is also integrated into the hermetically sealed plastic encapsulation. The device can be charged in 2 hours for up to 21 days continuous recording of all sensor data. The device can be fully reconfigured using a bootloader over the USB or with a third party programmer with the appropriate cable.

Summary:

- +/- 16g 3-axis accelerometer
- 4 mg resolution
- 512 MByte NAND flash memory
- USB 2.0 enabled
- Rechargeable Li-Polymer battery
- Fully re-configurable functionality
- Ambient light sensor
- Temperature sensor
- Accelerometer data rate up to 2 kHz
- Small size (6mm x 21.5mm x 31.5mm)

Applications:

- Data acquisition
- Activity monitoring
- Instrumented environments
- Motion measurement
- Medical research
- Digital Interaction

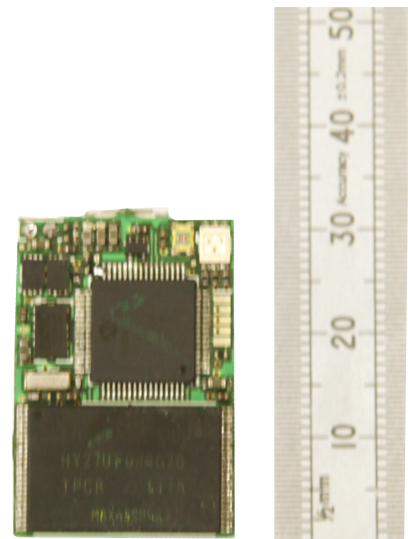
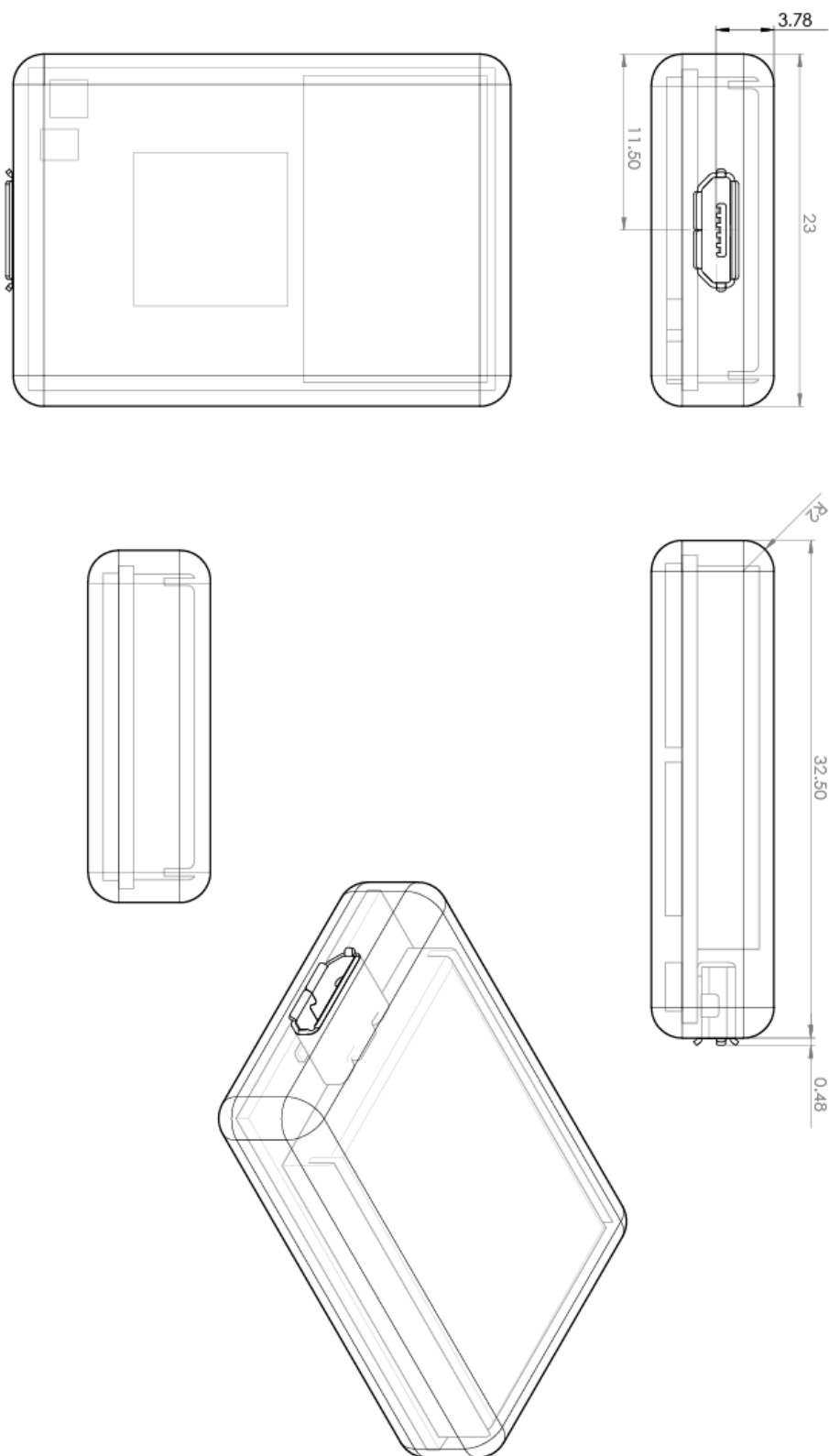


Figure 1. Picture of device

Specifications:





Parameter	Value	Notes
USB Connection	Full Speed	Several configuration options available, USB 2.0
Charge Current	150 mA	Current drawn from USB port
Battery Capacity	150 mAh	Lithium polymer technology
Battery life sleep	> 1.7 years	All peripherals off except RTC
Battery endurance	500 cycles	Charge discharge cycles
Battery life logging	~14 days	@100Hz, can be >21 days for some settings
Max survivable acceleration	10,000 <i>g</i>	Accelerometer sensor figure
Max recorded acceleration	+/- 16 <i>g</i>	Maximum deflection
Recorded acceleration resolution	4 mg	Minimum recorded deflection
Memory Capacity	512 MBytes	Available storage data space
Memory endurance	5,000	Erase cycles including with ECC enabled
Light sensor dynamic range	3 – 300Lux	Logarithmic response matched to human eye using APDS9007
Temperature sensor range	-40 - 125°C	Linear active thermistor type MCP9700
Temperature sensor resolution	1 °C	Accuracy +/- 1°C
RTC accuracy	5 ppm	Typical, with configurable alarm options
LED indicator	RGB	Combined red, green and blue LED package
Connector used	Molex	USB Micro B
Weight	9g	Typical value

Dimensions:



Certification:

The AX3 is certified to the following:

Certification	Test
	<p>The product is compliant with the Directive 2004/108/EC; the relevant Declaration of Conformity is available from Axivity</p> <p>The product has been tested to BS EN 61000-6-1 :2007 and BS EN 61000-6-3 :2007 (Electromagnetic compatibility (EMC), Generic standards, Immunity for residential, commercial and light-industrial environments).</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 European Directive 2002/96/EC 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</p> <p>This product meets the minimum standards of the RoHS Directive 2002/95/EC</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, reference Para 38.3 of Manual tests and Criteria document No. ST/SG/AC.10.11/Rev.4:2003</p>
	<p>This product complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept and interference received, including interference that may cause undesired operation.</p>

Disclaimers:

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