

AX9 Data Sheet

9- Axis Bluetooth Logging IMU



AX9

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Description

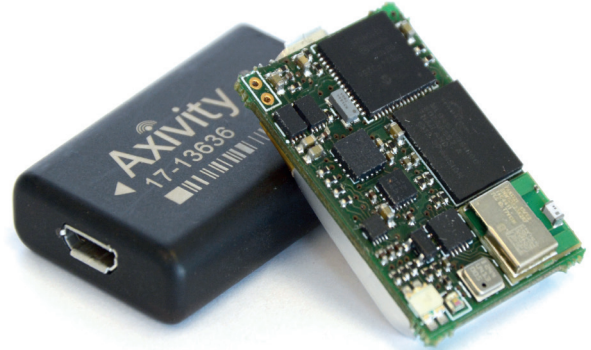
The AX9 is an inertial measurement unit with logging and streaming capability. The sensor features a 3-axis accelerometer, gyro and magnetometer as well as a barometric pressure sensor and temperature sensor. The AX9 includes non-volatile flash memory for recording data as well as a Bluetooth 4.0 compatible radio for streaming realtime. The sensor is powered by a rechargeable lithium polymer battery and is configured and downloaded via micro USB. The AX9 was designed with flexibility in mind and all sensors are configurable via a software API. The AX9 is supplied in a convenient puck form factor.

Summary

- 3-axis accelerometer
- 3-axis gyroscope
- 3-axis magnetometer
- LUX (light) sensor
- Pressure sensor
- Temperature sensor
- 1GB Flash memory
- Bluetooth BLE radio
- Configurable streaming options
- Configurable logging options

Applications

- Human Movement Science
- Sports Research
- Instrumented Environments
- Digital Interaction
- Activity Recognition



Specification: AX9

PARAMETER	VALUE	NOTES
Puck Size	23x32.5x7.6 mm	
Puck Weight	8g	
Enclosure Material	Polycarbonate	
Battery Capacity	150mAh	Rechargeable lithium polymer
Battery Charge Current	150mA	
Connectivity	Micro USB	
BLUETOOTH CAPABILITIES		(full charge)
Hibernate		
Discoverable		
Connected (not showing)		Bluetooth Basic Rate
Connected (50Hz stream)		Bluetooth Basic Rate
LE Mode Connected (not showing)		Bluetooth 4.0 Low Energy
LE Mode Connected (50Hz stream)		Bluetooth 4.0 Low Energy
Transmission Range	30m indoors, 100m line of sight	
ENVIRONMENTAL PROTECTION		
Dust Ingress	Dust tight (IP6X)	
Operating Temperature	0 - 65°C (not charging)	40°C if charging
MEASUREMENT CAPABILITIES		
Output Data Rate		
ACCELEROMETER		
Sensor Type		
Range		
Resolution		
MAGNETOMETER		
Sensor Type	MAG 3110	
Range	±1mT	
Resolution	16 Bit	
GYRO		
Sensor Type	L3G4200D	
Range	±250/500/2000 dps	
Resolution	16 Bit	
TEMPERATURE		
Sensor Type	BMP180	Linear thermistor
Range	0°C - 65°C	
Resolution	0.1°C	
PRESSURE		
Sensor Type	BMP180	
Range	30-110 kPA	

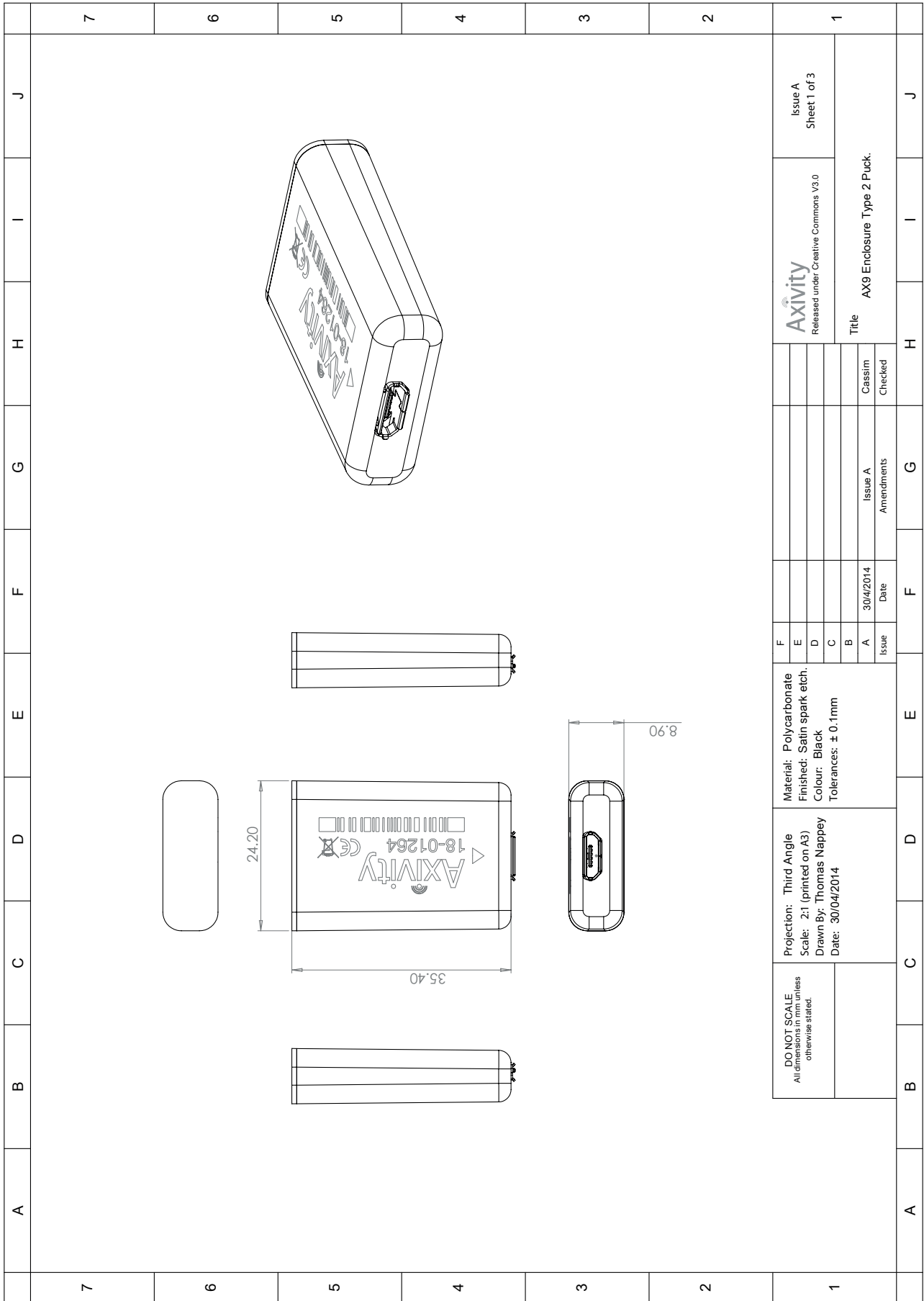
LOGGING CAPABILITIES

Memory	1GB NAND flash non-volatile	
Logging Frequencies		
Logging Accelerometer Only 100Hz		
Logging Accelerometer Only 12.5Hz		
Logging All Sensors 100Hz		Limited by memory
Logging All Sensors 12.5Hz		Limited by battery

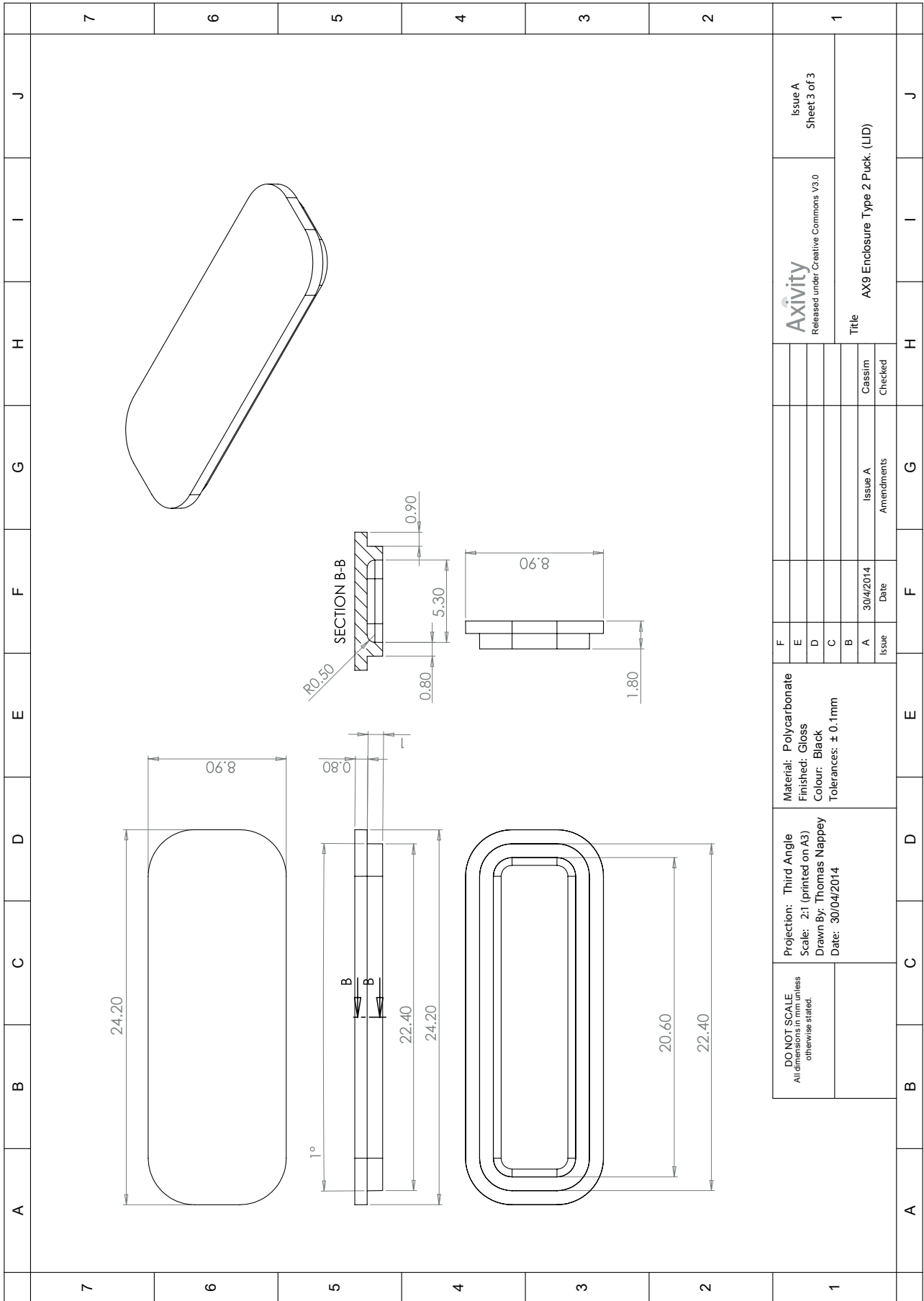
REAL TIME CLOCK

Type	Quartz real time clock	
Frequency	32.768KHz	
Precision	± 50ppm (typical)	

Dimensions: WAX9







7	J	I	H	G	F	E	D	C	B	A
6	Issue A Sheet 1 of 3		AXIVITY Released under Creative Commons V3.0		Title AX9 Enclosure Type 2 Puck.		Cassim Checked		Issue A Amendments	
5	Material: Polycarbonate		Finished: Satin spark etch.		Colour: Black		Tolerances: ± 0.1mm		Projection: Third Angle	
4	Scale: 2:1 (printed on A3)		Drawn By: Thomas Nappey		Date: 30/04/2014		DO NOT SCALE All dimensions in mm unless otherwise stated.		Issue A	
3	Date		30/04/2014		Issue		A		F	
2	G		H		I		J		K	
1	G		H		I		J		K	



Certification:

The AX9 is certified to the following:

Certification	Test
	<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 any interference received, including interference that may cause undesired operation.</p>
	<p>The product is compliant with the Directive 2004/108/EC; the relevant Declaration of Conformity is available from Axivity 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>This product is compliant with European Union RoHS (2011/65/EU) directive which restricts the use of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE) in electrical and electronic equipment put on the market in the European Union.</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 The lithium polymer cell has met the acceptance criterion for the UN Recommendations on the Transport or 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>

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