



Axiamote xRun / xData

User Guide

www.axiamo.com

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Welcome

Congratulations on your purchase of the Axiamote professional motion sensor with 10 degrees of freedom motion tracking.

What's Included

1. Axiamote Motion Sensor
2. USB Cable
3. Velcro Strap
4. Warranty 365 days

Safety Information

See **Battery Care** for important battery care and battery safety information.

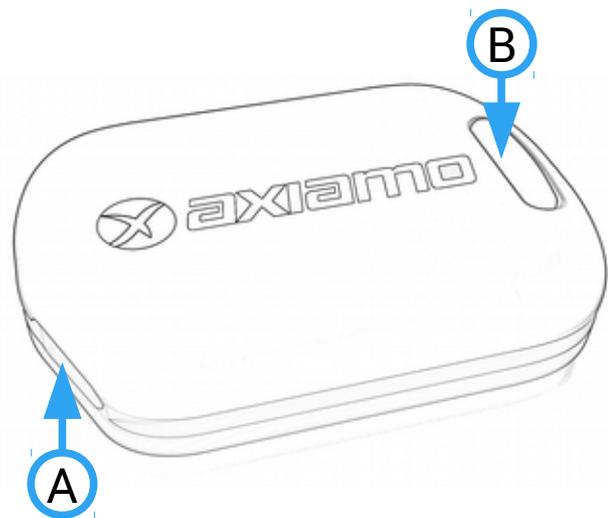
Your Axiamote

A Micro USB Connector

- ▶ Charge your Axiamote sensor
- ▶ Wired communication

B Push Button

- ▶ LED status indication
- ▶ Control the Axiamote

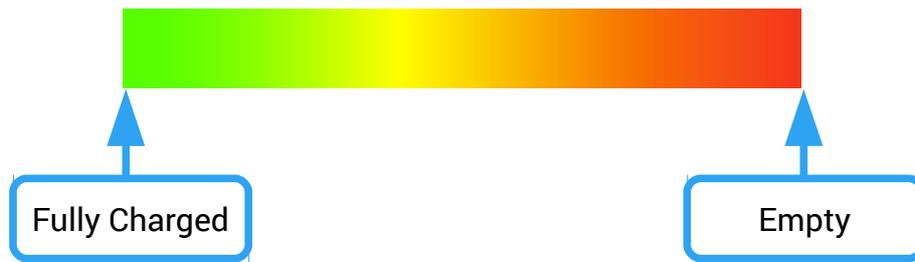


Charging

The Axiamote has an internal rechargeable Lithium battery. Connect the provided Micro USB cable to any USB Charger or Computer to start charging (5V / min. 100mA).

The LEDs will indicate the charging process with a color transition from **Red** to **Green**. When the battery is fully charged, this animation will stop and a periodic white blink will indicate the successful charging.

You always can check the current battery level by **short pressing** the push button. The LED will flash three times in a color indicating the current battery level.



A full charging process from Empty to Full needs about 2 to 3 hours. Although after 2 hours the battery is charged to around 90%.

If the battery gets low, the periodic **white blink** is changed to a periodic **red blink** to indicate charging is necessary.

Push Button

The push button has several functions:

- **Short pressing**

Indicate the current battery level. Described in chapter **Charging**.

- **Long pressing**

Power on the device. Press until the LED lights up in a color.

Power off the device. Press until the **Red** light goes off.

Color LED

The LED indicates the current device status:



periodical white blink

Device is in idle mode and ready to use. Power off if unused for long time.



blink in colors

Multiple combinations possible. Meaning of colors:

Green: Device is sampling

Red: Device is recording

Blue: Device is streaming over Bluetooth

Software Setup

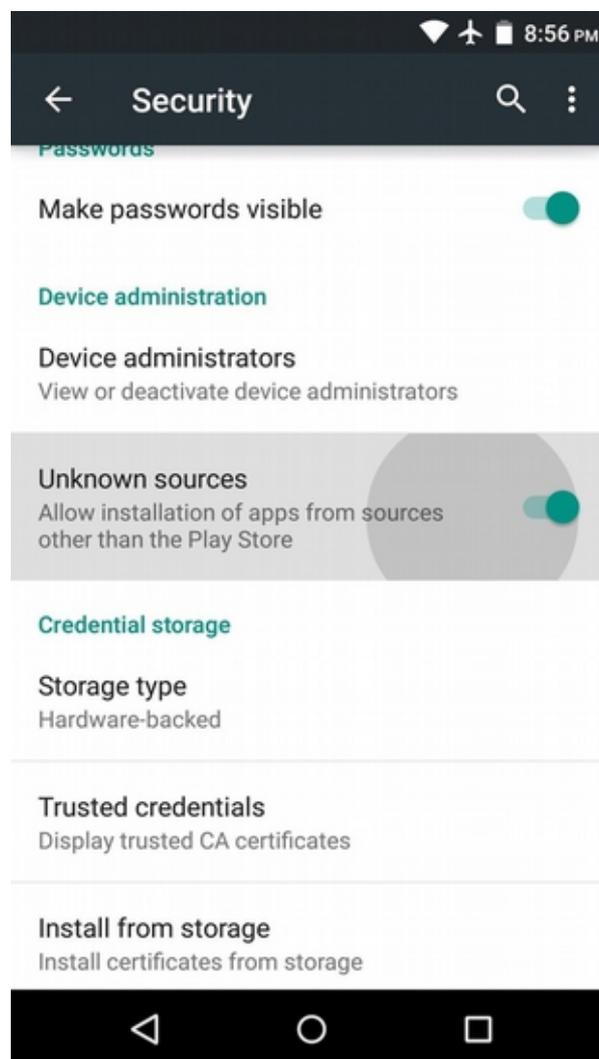
Android

Since the Axiomo App is not yet in the Play Store, it has to be downloaded and installed manually:

- a) Download the Axiomo App from the **Downloads** page.

<http://www.axiomo.com/downloads>

- b) Before installing the app, you will need to allow apps from Unknown sources.



- c) Then install the downloaded **.apk** application.

Windows

- a) Download the Axiamo App from the **Downloads** page.
<http://www.axiamo.com/downloads>
- b) Unzip the file to your desired location.
- c) In the **bin** folder, double click on: **AxiaDesk.exe** to start the App.

Important note:

It is vital to check that the USB Win drivers have successfully been installed onto the PC.
To ensure this:

1. Close the Axiamo App and reconnect the Axiamote using the USB cable.
2. A pop up will ask for the proper driver, which you can find in the **recources** folder.
3. If no pop up appears, you can also initiate the driver installation process from the Device Manager in "Control Panel".

Linux

Axiamo supports Ubuntu as Linux distribution.

Prerequisites:

Before installing please make sure your user is member of the **plugdev** group:

```
$ sudo usermod -a -G plugdev <YourUserName>
```

Unless you need it, please uninstall the "modem-manager" software which comes with Ubuntu, since it interferes with the Axiamo USB devices:

```
$ sudo apt-get purge modem-manager
```

Then the normal installation process can be done with:

- a) Download the Axiamo App from the **Downloads** page.
<http://www.axiamo.com/downloads>
- b) Unzip the file to your desired location.
- c) In the **bin** folder, double click on **Axiamo** to start the App.

Getting Started

Powering On

To power on the Axiamote, **long press** the push button until the LED starts to illuminate. During boot up, different colors may be indicated. The Axiamote will regularly blink white as soon it has finished the boot up routine.

You can power off the sensor anytime by **long pressing** the button. Keep pressing the button until the **Red** LED goes off.

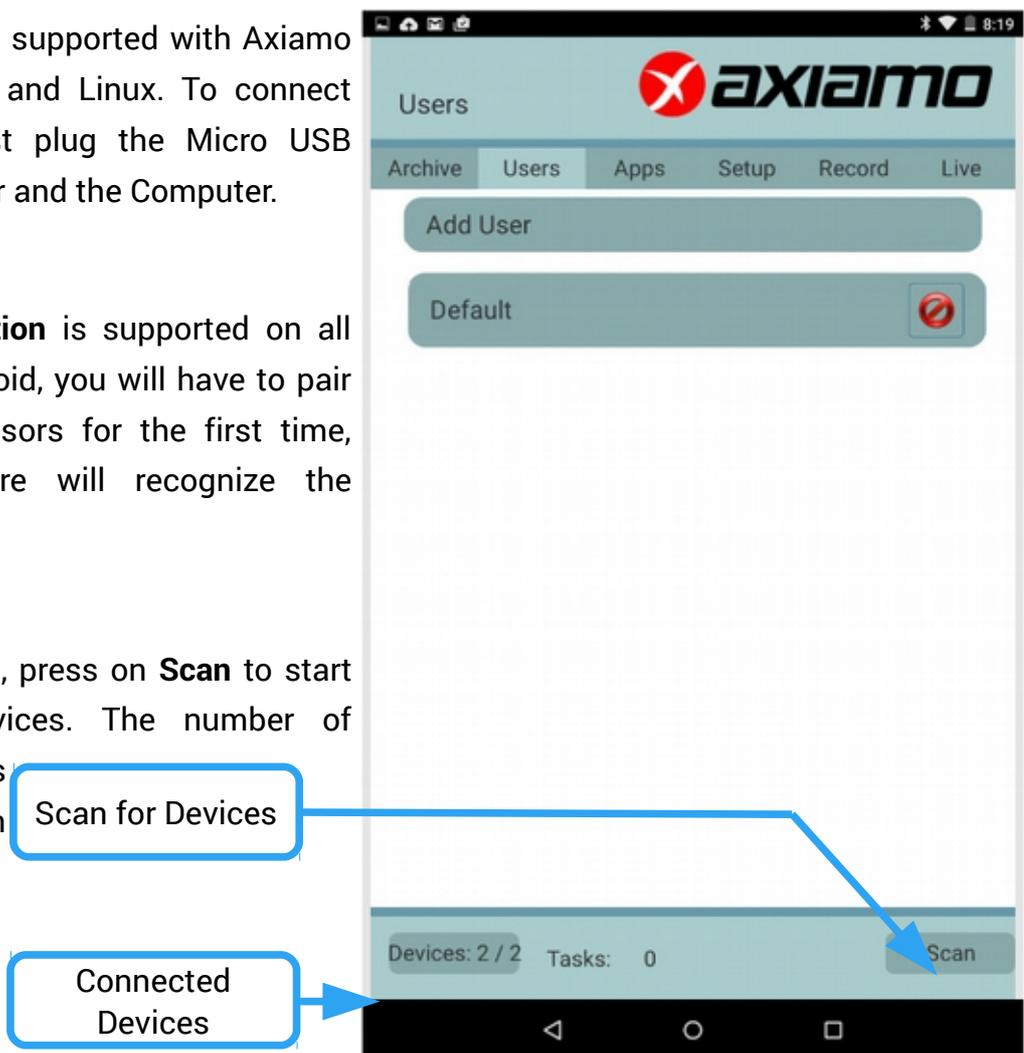
Connecting The Axiamote Sensors

The Axiamote Motion Sensor is capable of **USB** as well as **Bluetooth** for data connection. Both ways offer exactly the same functionality for data connection. However charging requires the USB to be connected to a powered USB plug.

USB Connection is supported with Axiamo App for Windows and Linux. To connect the Axiamote, just plug the Micro USB cable to the Sensor and the Computer.

Bluetooth Connection is supported on all platforms. In Android, you will have to pair the Axiamote Sensors for the first time, then the Software will recognize the Axiamote Sensors.

In the Axiamo App, press on **Scan** to start scanning for devices. The number of connected devices will be indicated on the bottom left.



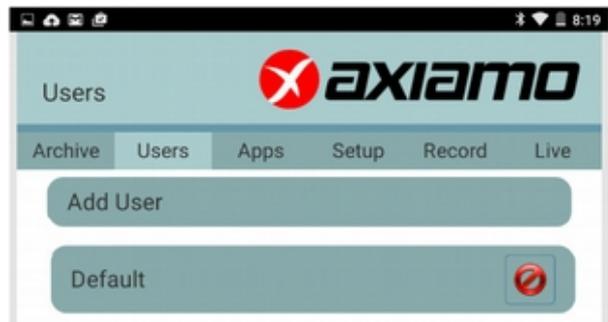
Using Axiamote

Measurements

The procedure to configure and start measurements is the same for all measurement types:

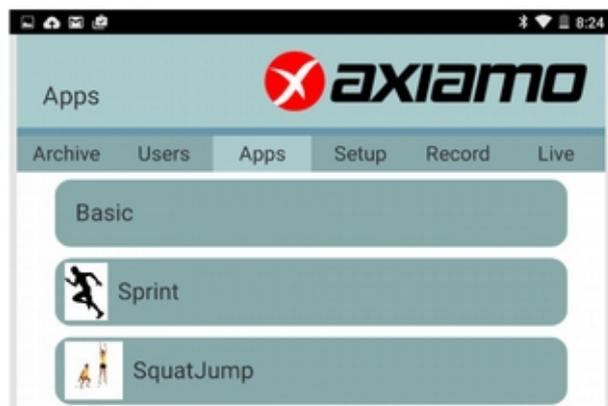
- a) Create your User (only required once)

To allow multiple users using the Axiamote, the measurements are separated to individual users.

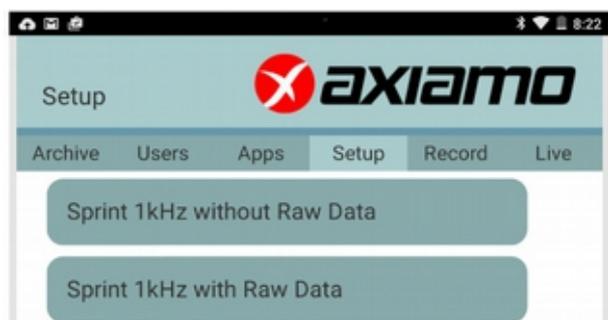


- b) Select your User

- c) Select the measurement type



- d) Configure the measurement parameters



- e) Start recording / streaming



Device Calibration

To get the best precision, it is recommended to calibrate the device before every measurement. Every IMU has a small long term drift which can be largely eliminated through pre measurement calibration.

To calibrate your device, make sure it is positioned **horizontally** on a flat surface and it is **not moved** at all while calibration.

Then open the Axiomo App and press the **calibration** button. The device will indicate the calibration with a color burst from red to green. When the animation has finished your device has compensated all offsets and is ready for the measurement.

Data Storage

The Axiamote has internal flash memory of 1GB (1024 Megabytes) enough for numerous measurements (strongly dependent on the measurement configuration).

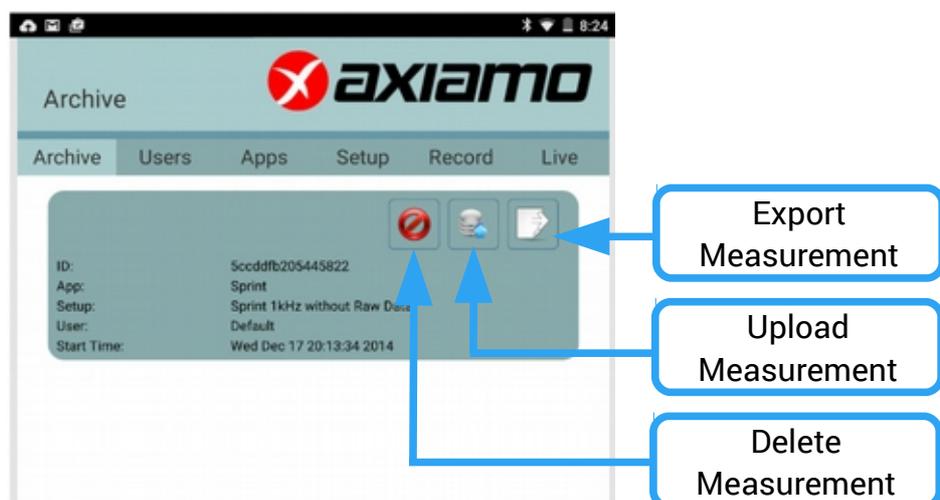
Normally previous measurements are not deleted when starting a new measurement. From time to time it is necessary to clean up the internal flash memory to free memory. This can be done by clicking on **Delete internal memory** in **Apps → Basic**.

Managing Data

After measuring (clicking **Stop Measurement**) the data can be uploaded to the Axiomo Software by clicking on the corresponding icon.

All recorded and streamed data is saved in the database of the Axiomo App. For external processing, all data can be exported in either Matlab or standard Comma Separated Values (csv).

To export a measurement, click on the export symbol in the **Archive** tab.



Maintaining the Axiamote

Battery Care

Axiamote Sensors contain rechargeable lithium polymer batteries. Follow these instructions and guidelines to maintain the battery lifespan.

Warning: If you do not follow these guidelines, the battery life could be shortened and there is risk of damage to your Axiamote, risk of fire, risk of electrolyte leaks and chemical burns or even risk of injury.

Battery Care Guidelines

- Recharge the battery at least once every 6 months
- Do not expose Axiamote Sensors to high temperatures (> 60°C) or high humidity (> 90% RH)
- Do not disassemble, puncture or incinerate the Axiamote device.

If the casing of the device breaks and the battery is exposed, keep the battery away from children. Contact your local recycling authority to properly dispose of the device & battery.

Battery Lifespan

- The battery lasts for approximately 300 charge cycles. If charged on a weekly basis, the battery should last for at least 5 years.
- The battery is non-replaceable. If the battery charge length is noticeably much shorter than before, your Axiamo product may have reached its end of life. Contact your local recycling authority to properly dispose of the device and battery.

Water Damage

The Axiamote Sensor is **not waterproof!** Do not use under water or it will be irreparably damaged. Water damage is not part of the warranty and will not be replaced.

Cleaning

To clean the device, use a moist tissue. Be sure to not put any water into the device.

Warranty & Service

Be sure to visit our support pages to find online help, FAQs and manuals for your product.

Axiamo Limited Warranty Information

This product is warranted to the original purchaser to be free from defects of quality, materials or workmanship at the time of delivery for the Limited Warranty Period (see below). During the Limited Warranty Period, Axiamo GmbH will, at its sole discretion, remedy such defects free of charge either by a) repairing, or b) replacing, or c) refunding the original purchase price (excluding taxes, shipping, handling, duties, and similar amounts), subject to the terms and conditions of this Limited Warranty.

Warranty Period

The Limited Warranty Period will automatically expire without notice, and this Limited Warranty is not enforceable, if:

1. the product has been opened or otherwise tampered with
2. the product has been serviced by a person other than Axiamo GmbH
3. the serial number has been removed, altered or made illegible in any way
4. the product was not purchased from Axiamo GmbH or any authorized resellers

Exclusions and Limitations

This Limited Warranty does not cover, and customers will not be entitled to any claim under this Limited Warranty or otherwise for:

- problems arising from abuse or rough, careless, or improper handling (and without limiting the foregoing, damage resulting from bending or dropping the product will be deemed the result of abuse or improper use)
- problems arising from misuse contrary to intended or recommended use
- problems arising from alteration of the Axiamo product, such as moisture or water damage sufficient to affect the proper function of the product, and damage to the product case or visible cracking of the face

Regulations And Conformity



EU RESIDENTS: Do not dispose of this product as unsorted municipal waste. It is your responsibility to return this product to your local recycling service.

If there are electrostatic disturbances in the environment, the product may malfunction or display an error. In this case, reset the product or relocate to an area without such disturbances.

Designed and produced in Switzerland