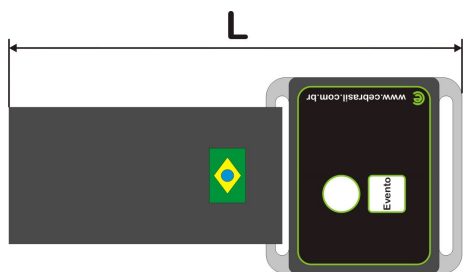


## BRACELET SIZE

There are 5 sizes of bracelets for the actigraphy. To find out which one meets your need, measure with a tape measure the circumference of the wrist and look at the table the corresponding size.

If the standard sizes of bracelets do not meet your needs, contact the Consultoria Eletrônica.

Size	Circumference (cm)	L (cm)
PP	11 a 14	23
P	14 a 17	28
M	17 a 20	33
G	20 a 23	38
GG	23 a 26	43



## NOTES

## FEATURES

Power Supply	3V Battery CR2032
Battery Lifetime	~30 days
Memory Size	4 Mbits
Header	256 Characters
Temperature	20.0 a 44.9 °C
Light	0 a 20 klx
Motion Sensibility	±1.5, 2, 4 e 6 G
Motion Axis	Axis X, Y, Z
Sample Rate	1 second and 1 minute
Event Accuracy	1 second
Clock Accuracy	20 ppm
Dimensions	43 x 43 x 11 mm
Weight	~35 g

The Consultoria Eletrônica reserves the right to update or modify any features of the equipment or this manual without prior notice or obligation.



**Consultoria Eletrônica**

## ACT10 Actigraphy



**User's Manual**



**Consultoria Eletrônica**

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Firmware version v1.10  
Preliminary Z0

## INTRODUCTION

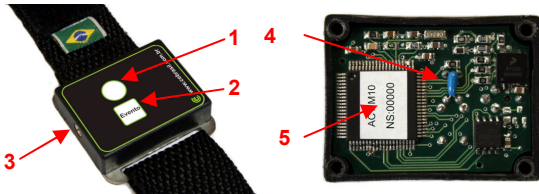
The Actigraphy ACT10 is an electronic device that is attached to the body of a person, like a wristwatch, capable of recording body temperature, intensity of motion, lighting and time of events, with the intention of assisting in the acquisition of data in biomedical experiments. All this information is stored in a memory-type non-volatile FLASH, together with the time from a real-time clock. The ability to record is about 30 days.

The system also has a programmable alarm according to the need of research.

To configure and download data from Actigraphy ACT10 is necessary an interface and software compatible with this model. Please visit [www.cebrasil.com.br](http://www.cebrasil.com.br) for more information about these products.

## LOCATING FUNCTIONS

1. Light sensor.
2. Event button.
3. Connector for communication with PC.
4. Temperature sensor.
5. Model and serial number.



## ACTIGRAPHY SETTINGS

Before the start of each experiment, the Actigraphy needs to be configured to meet the needs of the research. The parameters to be configured are described below.

**Current Date and Time.** The Actigraphy ACT10 has a real time clock responsible for the timing of events and data acquired.

**Record Start Date and Time.** The Actigraphy ACT10 can be programmed to start a record immediately or scheduled. The immediate option start recording sooner the Actigraphy is programmed and the schedule option start recording at 00:00 pm on the scheduled day. The record remains active until the connection of Actigraphy with the PC, until the end of the battery or until the end of memory.

The Actigraphy doesn't lose the information already recorded with the end of the battery.

**Alarm Clock.** The Actigraphy ACT10 can be programmed to ring at specific time. When enabled, it will beep every day at specified time. To stop the alarm, simply press the event button when it's beeping. The alarm rings for 20 seconds.

**Active Sensors.** The Actigraphy ACT10 may has its functions enabled or disabled as your needed for each experiment. The sensors that can be configured are: temperature, Brightness, Motion event.

**Header.** The actigraphy ACT10 has a free area of memory reserved for recording information about the experiment.

## BEEP

The Actigraphy ACT10 has 6 states that can be identified by the number of beeps that the equipment emits when pressed the button. They are:

State	Bip
Communicating with PC	Software Command
Recording	1
Programmed and awaiting start date	2
Memory erased	3
Memory with data	4
Error	5

The device also beeps at the beginning and the end of communication with the computer. This will be detailed in the topic Starting communication with PC

## COORDINATES X Y Z

The motion intensity is captured by an electronic component called accelerometer, whose axes X, Y and Z are arranged according to the following figure:



When at rest, the Actigraphy records the acceleration of gravity with a value close to 1G, which is the composition vector of the X, Y and Z.

## STARTING COMMUNICATION WITH PC

Follow the steps below to start communication with the PC:

1. Insert the communication cable interface in Actigraphy ACT10.
2. Press and hold the event button in Actigraphy to enable communication.
3. Wait a few seconds until the Actigraphy beeps and the program indicates that the connection was established at the top of its screen.

The Actigraphy ACT10 communicates with the PC even when no battery, because it is powered by the connector for communication with PC.

To end the communication with the PC, just remove the communication cable from Actigraphy. No need to close the program for this.

After a while the end of the communication, the Actigraphy beeps.

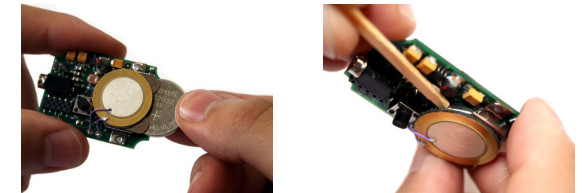
## REPLACING THE BATTERY

Battery replacement can be performed by anyone, provided that the steps contained in this manual are followed with caution.

In a clean desk and organized, loosen the 4 screws that are at the bottom of Actigraphy with the aid of a Phillips screwdriver # 2.

Hold the plastic box by the side and pull the tape to remove the circuit board.

Remove the battery by using your fingernail. If you prefer, use any **NON METALLIC** object to help push the battery, such as matchstick or toothpick.



Insert a new battery with the positive (+) up as shown above. The Actigraphy deliver the number of beeps corresponding to the state it is. Insert the circuit board inside the plastic box starting from the connector for communication with PC.

Place the metal cover and make sure it is in the right position. Fasten the 4 screws on the bottom of Actigraphy with the aid of a Phillips screwdriver # 2. Remove the battery when you store your Actigraphy for an extended period of time.

The Actigraphy drains energy in all states, except when it is "Communicating with PC" because the communication interface provides power and data.