

Medlog 200

User Manual



Introduction

Dear Customer,

Thank you for purchasing an Aipermon product. You have chosen a valuable and innovative product to record and analyse acceleration and pressure measurements. Please take the time to read this manual thoroughly before using your product for the first time.

Sincerely yours,

Aipermon GmbH & Co. KG

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1 Introduction to Medlog 200

Medlog 200 is able to record values deriving from different sources. The basic configuration is equipped with an acceleration sensor. Using this sensor it is possible to measure acceleration heading to three directions within the range of -2g to +2g.

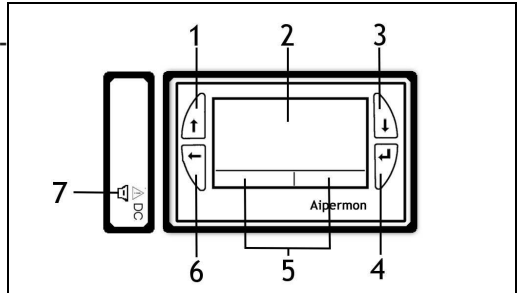
Greater insight on how to deal with your measurements will be given in the following chapters. Please have a look on the usage of the Medlog 200 at first. The handling will be discussed in the following chapter.

2 Installation and first-time use

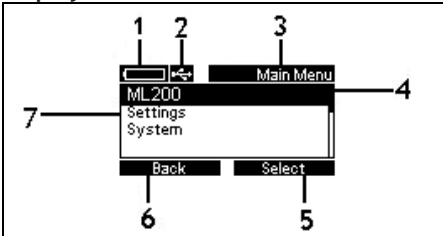
In this chapter some insight in handling issues concerning the Medlog 200 is given.

2.1 Basic description of keys and functions

No.	Description
1	Navigation button up
2	Display
3	Navigation button down
4	Functional button I
5	Menu Display
6	Functional button II
7	Computer and power connection



Display



No.	Description
1	Battery status
2	Indication of connection to computer or power
3	Menu title
4	The scrollbar shows that there are more options that can be seen by using the navigation buttons
5	Functional button I
6	Functional button II
7	Display

Hint:

- Please deactivate the Medlog 200 as soon as you recognize visible damages.
- If the device is out of order please contact Aipermon.
- Only run the device within the specified environmental conditions.

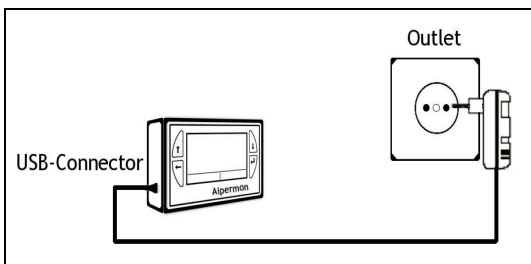
2.2 Charging the battery

The Medlog 200 uses a rechargeable battery. This battery must be fully charged before first time usage so that the battery status display can be calibrated.

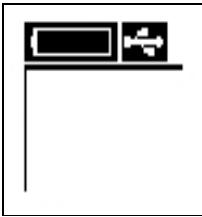
Hint:

- The device turns on automatically when plugged into a power source.
- Only use the included original power cord.
- Avoid charging the battery in a high-temperature environment.
- Do not let the Medlog 200 charge unsupervised. If the device becomes unusually warm, stop charging immediately and inform the retail agent.
- Do not cover the device during charging to avoid impeding air circulation around it.
- Do not place the device on flammable materials while charging.
- The battery must be fully charged before first time usage.
- Using a full battery load the Medlog 200 can be operated for at least four days.
- Please recharge the Medlog 200 from time to time even if it is not in use. Otherwise the battery can be damaged.

To charge the Medlog 200, please follow these instructions:



1. Plug the included power cord into the Medlog 200.
2. Plug the power supply into an outlet. If the Medlog 200 was off before charging, it will turn on automatically as soon as connected to a power source. Otherwise it will reboot in “USB connected” mode.
3. Now the device is charging.



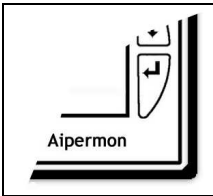
A battery symbol in the upper left corner of the display shows the current battery charge status.

If the battery is charging, the battery symbol is changing.

The initial battery charge can take up to 24 hours. Subsequent charges take an average of about 3 hours.

If the battery charge drops below a certain level, a 2-second beep will sound and the message “Device is shutting down!” will appear on the display. After this, the Medlog 200 will turn off itself. No more data will be recorded.

2.3 Turning on the device



Press and hold the *Function button 1* for three seconds.

A start screen comes up and various system messages will appear.



2.4 Configuration

There are a few settings that can be modified in the Medlog 200. These are described in the following sectors.

2.4.1 Date and time

MENU -> SETTINGS -> DATE & TIME

This menu allows the user to set the date, date format, time and time format for the Medlog 200.

To set the date and time, please follow these instructions:



1. Press *Menu* to enter the Main Menu.
2. Afterwards select *Settings*.
3. Enter the Date & Time Menu by choosing *Date & Time*.

To set the current date select the option **Set Date** and proceed as follows:



1. Increase or decrease the value by pressing the navigation buttons. The **Next** button moves to the next entry field.
2. Save by pressing the **Save** button.

The current time can be set analogously by selecting **Set Time** in the Date & Time Menu.

To set the date format, please follow these instructions:



1. Choose **Set Date** in the Date & Time Menu.
2. Use the navigation buttons to select a menu option.
3. Save by pressing the **Save** button.
4. Cancel your changes and get back to the Date & Time Menu by selecting **Back**.

The time format can be set analogously by selecting **Time Format** in the Date & Time Menu.

2.4.2 Language

MENU -> SETTINGS -> LANGUAGE

To change the menu language, please follow these instructions:



1. Press **Menu** to enter the Main Menu.
2. Afterwards select **Settings**.
3. Enter the Language Menu by choosing **Language**.
4. Use the navigation buttons to select a menu option.
5. Save by pressing the **Save** button.
6. Cancel your changes and get back to the Date & Time Menu by selecting **Back**.



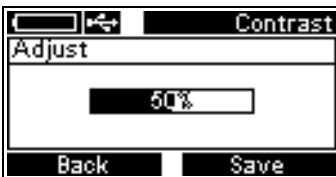
2.5 Contrast

MENU -> SYSTEM -> CONTRAST

To set the contrast for the display, please follow these instructions:



1. Press **Menu** to enter the Main Menu.
2. Afterwards select **System**.
3. Enter the Contrast Menu by choosing **Contrast**.
4. Use the navigation buttons to raise or lower the contrast.
5. Save by pressing the **Save** button.
6. Cancel your changes and get back to the System Menu by selecting **Back**.



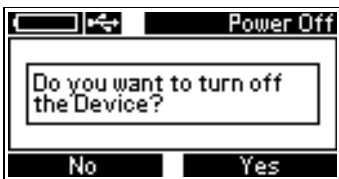
2.6 Turning off the device

MENU -> SYSTEM -> POWER OFF

To turn off the Medlog 200, please follow these instructions:



1. Press **Menu** to enter the Main Menu.
2. Afterwards select **System**.
3. Select **Power Off** to open the Power Off Dialogue.
4. Press **Yes** to confirm. The message “Device is shutting down!” appears and a beep sounds.
5. Get back to the System Menu by pressing **No**.



To restart the Medlog 200, press the **Function button 1** for about 3 seconds.

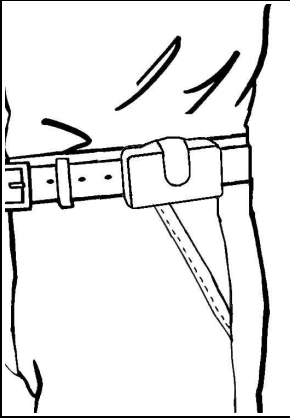
Hint:

If the Medlog 200 is not moved within the last 10 minutes the display is turned off but the recorder (if running) is not stopped.

3 General Usage

This chapter gives a description on the usage of the main functions of the Medlog 200.

3.1 Wearing the device

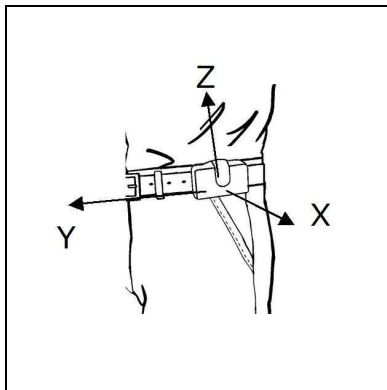


The Medlog 200 is worn on the left hip inside the included case. The screen should face away from the body. This is a principle to make comparisons between different tests and different persons useful. Besides scientific studies say that expressive acceleration can be measured at best at focus of the body. This why the hip is well suited as the wearing position of the device.

Of course this convention has major effect only on the accelerations measured by the Medlog 200 and does not really influence the pressure measurements. But be aware of the fact that the pressure is calculated upon the current temperature and make sure that the device is not unnecessarily covered by clothes or anything else.

3.2 Acceleration directions

The following figure shows the directions the sensor is heading to, when the Medlog 200 is worn correctly on the left hip:



The x-axis covers the movements heading sideways, the y-axis measures the back and forth motions. Up and down is recorded on the z-axis.

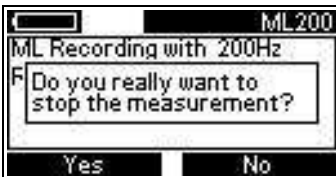
3.3 Start recording

MENU -> ML200 -> START RECORDING



To start recording, please follow these instructions:

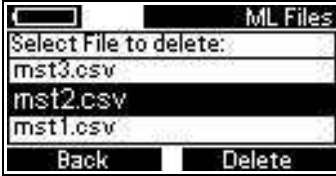
1. Enter the Main Menu by pressing **Menu**.
2. Select **ML200** to open the ML200 Menu.
3. Press **Start Recording** to begin your measurement.
4. The following screen shows details about the configuration concerning the current measurement.
5. Acceleration measurements are taken at 50 Hz or 200 Hz. This information is given in the first row.
6. The second row tells you if pressure is recorded asides acceleration.
7. To stop the measurement press **Stop**.
8. You will be prompted to confirm ending the measurement.
9. Hit **Functional button II** to stop recording (and to go back to the ML200 Menu), pressing **Functional button I** results in continuing your measurement.
10. The prompt disappears automatically after several seconds.



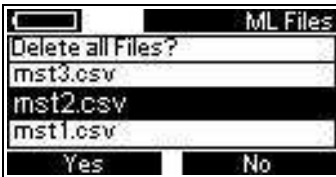
3.4 View and delete files stored on the device

MENU -> ML200 -> FILES

To open the file browser, proceed as follows:



1. Enter the Main Menu by pressing **Menu**.
2. Select **ML200** to open the ML200 Menu.
3. Open the file browser by selecting **Files** in the ML200 Menu.
4. Now the files stored on your device are displayed.
5. Delete one file by pressing **Delete**. You will be prompted to confirm the deletion.
6. Press **Back** to get back to the ML200 Menu.



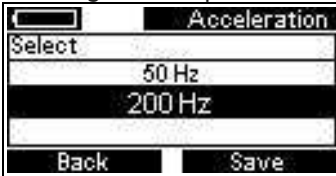
Hint:

- Delete all files by pressing **Delete** for several seconds. You will be prompted to confirm the operation.
- Alternatively delete all files by using the entry in the ML200 Menu.

3.5 Set acceleration sample rate

MENU -> ML200 -> ACCELERATION SETTINGS -> ACCELERATION BANDWIDTH

To change the sample rate of the acceleration sensor, please follow these instructions:



1. Enter the Main Menu by pressing **Menu**.
2. Select **ML200** to open the ML200 Menu.
3. Choose **Acceleration Settings**.
4. Select **Acceleration Bandwidth**.
5. Now you have the choice between 50 Hz and 200 Hz as your sampling frequency.
6. Save by pressing the **Save** button.
7. Cancel your changes and get back to the Acceleration Settings Menu by selecting **Back**.

4 Data

This chapter deals with the data that contains the recorded measurements.

4.1 Transferring data to your PC



To download data from the Medlog 200 the supplied USB cable has to be connected to the computer and power connection of the device. As soon as the Medlog 200 is connected to your computer it is restarted in a special mode. The device will be displayed as a mass storage device on your computer just like any USB stick. The stored files can now be copied to your computer.

Hint:

Please note that the files on the device cannot be modified from your computer. To delete files please follow the instructions argued in chapter 3.4.

4.2 File format

The data is recorded in a human readable, comma separated value file format. It looks as follows:

Timestamp	Milliseconds	X	Y	Z
469312	130	62	251	44
469312	150	61	250	44
469312	170	61	251	44
469312	190	61	252	44
469312	210	61	251	44
469312	230	61	251	44
469312	250	62	252	44
469312	270	62	252	44
469312	290	62	250	44
469312	310	62	250	45

Timestamp: seconds since 01-01-2000 (UTC)

Milliseconds: milliseconds within the current second

X: acceleration in x direction (1g = 256, -1g = -256, range -2g ... +2g)

Y: acceleration in y direction (1g = 256, -1g = -256, range -2g ... +2g)

Z: acceleration in z direction (1g = 256, -1g = -256, range -2g ... +2g)

5 Maintenance

5.1 System information

This menu shows technical information about the Medlog 200 as well as the serial number.

MENU -> SYSTEM -> SYSTEM INFO

To view the system information, please follow these instructions:



1. Press **Menu** to enter the Main Menu.
2. Afterwards select **System**.
3. Select **System Info** to show system information.
4. Get back to the System Menu by pressing **Back**.

Hint:

- The first row shows the product name.
- The version number is displayed in the second row.
- The device ID is written to the third row.
- The fourth row shows the CRC.

5.2 System uptime

MENU -> SYSTEM -> SYSTEM UPTIME

To view the system runtime, please follow these instructions:

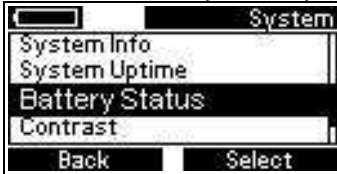


1. Press **Menu** to enter the Main Menu.
2. Afterwards select **System**.
3. Select **System Uptime** to get the system runtime information.
4. Get back to the System Menu by pressing **Back**.

5.3 Battery status

MENU -> SYSTEM -> BATTERY STATUS

To view the battery status, please follow these instructions:



1. Press *Menu* to enter the Main Menu.
2. Afterwards select *System*.
3. Select *Battery Status* to display the Battery Status Screen.
4. Get back to the System Menu by pressing *Back*.

V	Voltage
I	Current (>0: Battery is charging; <0: Battery is discharging)
Rel	Actual capacity in %
Maxim Full	The battery is completely charged
Learning...	Calculating the capacity of the battery
Maxim Active	Control of charging / discharging.

5.4 Cleaning

To clean the Medlog 200, please follow these instructions:

1. Disconnect any cables and the power cord from the Medlog 200.
2. Turn off the Medlog 200.

Use a soft, slightly damp, non-piling cloth. Take care to not to let any moisture get into the device. Do not use household products such as glass cleaner, surface cleaner, solvents, alcohol or ammonia-based products or scouring agents to clean the device. These can damage the Medlog 200.

5.5 Device disposal






Dispose of the device following national specifications for disposal of electronic devices. The European Directive 2002/96/EC (WEEE) requires that old electronics shall be disposed off separately from normal household garbage for optimal recycling and reuse of the material inside the devices and to reduce the negative effects on health and the environment. The crossed-out garbage symbol serves as a reminder of the responsibility to dispose off the device correctly. For more detailed information regarding the available disposal systems please consult the local recycling center or the retailer from whom the device was acquired.

6 Specifications

Measurements	75 x 48 x 20 mm
Weight	72 g
Display	High-resolution LCD matrix display with a resolution of 128 x 64 pixels Size: 50 x 30 mm (3 x 1,2 in)
Sensor	Three-dimensional digital acceleration sensor
Memory size	1 GB / 2 GB SD card
Recording time	1GB: 40 hours at 200Hz / 160 hours at 50Hz 2GB: 80 hours at 200Hz / 320 hours at 50Hz
Battery	Lithium-ion battery, 700 mAh, 3.7 V Run time approx. 4 days of continuous use. The built-in battery cannot be replaced by the user. The battery has a life of 300 charge cycles.
Power use	5 V/ 500 mA, 2.5 W
Conditions for use	-10 °C to 40 °C; 14 °F to 104 °F 700 hPa to 1060 hPa 10% - 90% relative humidity
Conditions for storage / transport	-20 °C to 40 °C; -4 °F to 104 °F 700 hPa to 1060 hPa 10% - 90% relative humidity
IP-Rating	IP-30: Resistant to solid bodies with a diameter of ≥ 2.5 mm (0,1 in); not water resistant.
Licenses used	All Licenses can be found in the root directory of the CD-Rom.

6.1 Symbols

The following symbols appear on the Medlog 200

Symbol	Description
	Manufacturer
SN	Serial number
REF	Article number and product name
	Year of production
	Consult owners manual
	Device falls into protection class II, protective isolation
	Do not dispose of in household garbage

Declaration of conformity



The Medlog 200 complies to the Council Directive 2004/108/EG of electro-magnetic tolerance

7 Accessories

	Article-No.
Standardaccessories:	
Medlog 200	1559
containing:	
Medlog 200	
User manual Medlog 200	
Power-supply	
USB-Cable	
Case	

8 Warranty information

The warranty is valid for two years from the date of purchase. The warranty only covers damages resulting from material or production defects.

Manufacturer

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