

# MLE120X BioHarness Telemetry System

## System

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### Description

The ADInstruments BioHarness Telemetry Systems combine ADInstruments' software with hardware developed by Zephyr™ Technology Ltd. for the measurement and analysis of a range of human biopotentials. Data are transmitted wirelessly via radio frequency.



### Hardware

- Three BioHarness Chest Straps (small, medium and large)
- BioHarness ISM Module
- BioHarness Short Range Dongle
- BioHarness Charging Cradle

### Software

- MLS060 LabChart Software
- BioHarness™ Extension (requires LabChart 6.1.3 or later for Windows only)

### Applications

The system is designed for any application that requires wireless physiological monitoring and collection of high-quality, field-based data on human performance. The BioHarness technology extracts information from the patented Smart Fabric sensors on the body while ignoring noise and other environmental factors. The Smart Fabric sensors ensure user comfort without sacrificing accuracy.

Typical applications include:

- Teaching
- Research
- Sports Medicine
- Exercise Physiology
- Defense/Military Exercises

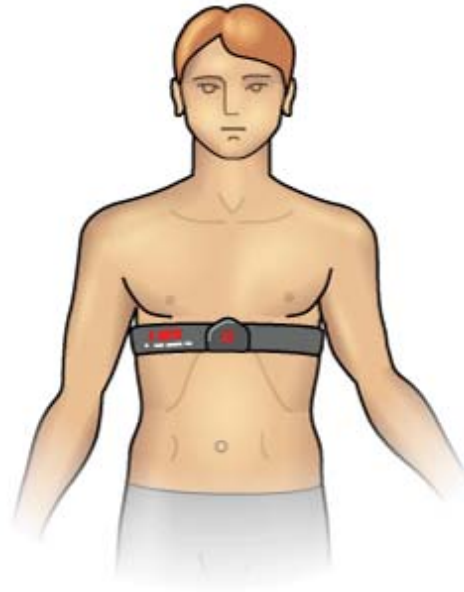
### Operation

The system can operate in two modes:

- RF (radio frequency) transmitting mode for live recording of data
- “Data-logging” mode for remote monitoring of data when the BioHarness ISM Module is out-of-range of the Short Range Dongle.

## Wearing the BioHarness

- 1) Lightly moisten the ECG sensor pads for best performance.
  - Do not use distilled water.
  - Tap water is adequate; however an electrolyte solution of 2-3 teaspoons of table salt in one liter of water is ideal.
  - The ECG will work when dry but will be more susceptible to noise.
- 2) Attach the BioHarness device to the strap.
- 3) Put on the strap with the Velcro fastening facing the front for easier adjustment of tension and alignment.
  - Adjust the tension so that the strap is firm but comfortable and will not move during activity.
  - Position the strap so that it is just below the chest muscles.
- 4) Rotate the strap so that the fasteners are centered on the torso. Make sure the middle snap is above the sternum. The middle snap is aligned with the LED indicator on the device.



## Battery Life

As with all rechargeable cells, the battery's performance duration for each re-charge will shorten as the battery reaches the end of its life expectancy. The expected life of the battery is ~ 500 cycles. The battery is not user replaceable and must be returned to ADInstruments for replacement. Contact your nearest ADInstruments representative for more information.

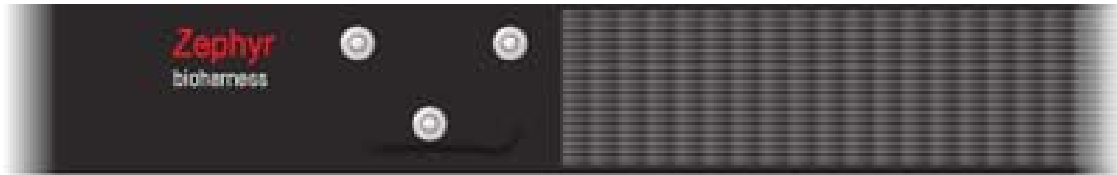
## Maintenance

### Cleaning the BioHarness ISM Module

- This device is O-ring sealed and water resistant. However, do not place the device underwater.
- Wipe with a soft damp cloth and towel dry.
- Gently clean the sensor window with a cotton bud.
- Do not leave in direct sunlight for long periods.



## Cleaning the BioHarness Chest Strap



- When cleaning, detach the BioHarness ISM Module from Chest Strap.
- Rinse the strap in fresh water after use to remove physiological residue.
- Hand wash or machine wash (on the cold-delicate setting) after 30 days of use.
- Do not spin or tumble dry.
- Hang to dry out of direct sunlight.
- Do not bleach.
- Do not iron.
- The Velcro fastenings may damage other garments if they are not firmly attached together. Use a washing pouch, if possible.

## Warranty

Zephyr Technology Ltd warrants to the original end purchaser that

- the BioHarness™ hardware shall be free from defects in material and workmanship for a period of one (1) year from the original date of purchase (the “Hardware Warranty Period”)
- the BioHarness Chest Straps shall be free from defects in material and workmanship for a period of three (3) months from the date of purchase under normal wear and tear conditions (the “Chest Strap Warranty Period”)

## Caution

Read “Statement of Intended Use” on our website or in “Getting Started with PowerLab” before use.

## Specifications

### BioHarness Chest Strap

Material: Fabric with Velcro® fastening  
(incorporates Zephyr’s patented smart fabric technology sensors)

Width: 50 mm

Weight: 50 grams

### BioHarness ISM Module

Weight: 35 grams

Dimensions: 80 x 40 x 15 mm

Frequency: ISM radio band (868.2 [EURO] or 915 MHz [USA])

Maximum Sampling Rate: 250 Hz maximum (signal-dependent)

Memory Capacity: 240 MB; approximately 480 hours recording

Transmission Range: Up to 100 meters clear line-of-sight, environment and antenna dependent

Battery Life: Up to 8 hours in data-logging mode

Up to 5 hours in data transmission mode

All specifications were tested at the time of printing and are subject to change.

## Ordering Information

MLE1201 BioHarness Telemetry System (EURO)

MLE1202 BioHarness Telemetry System (USA)