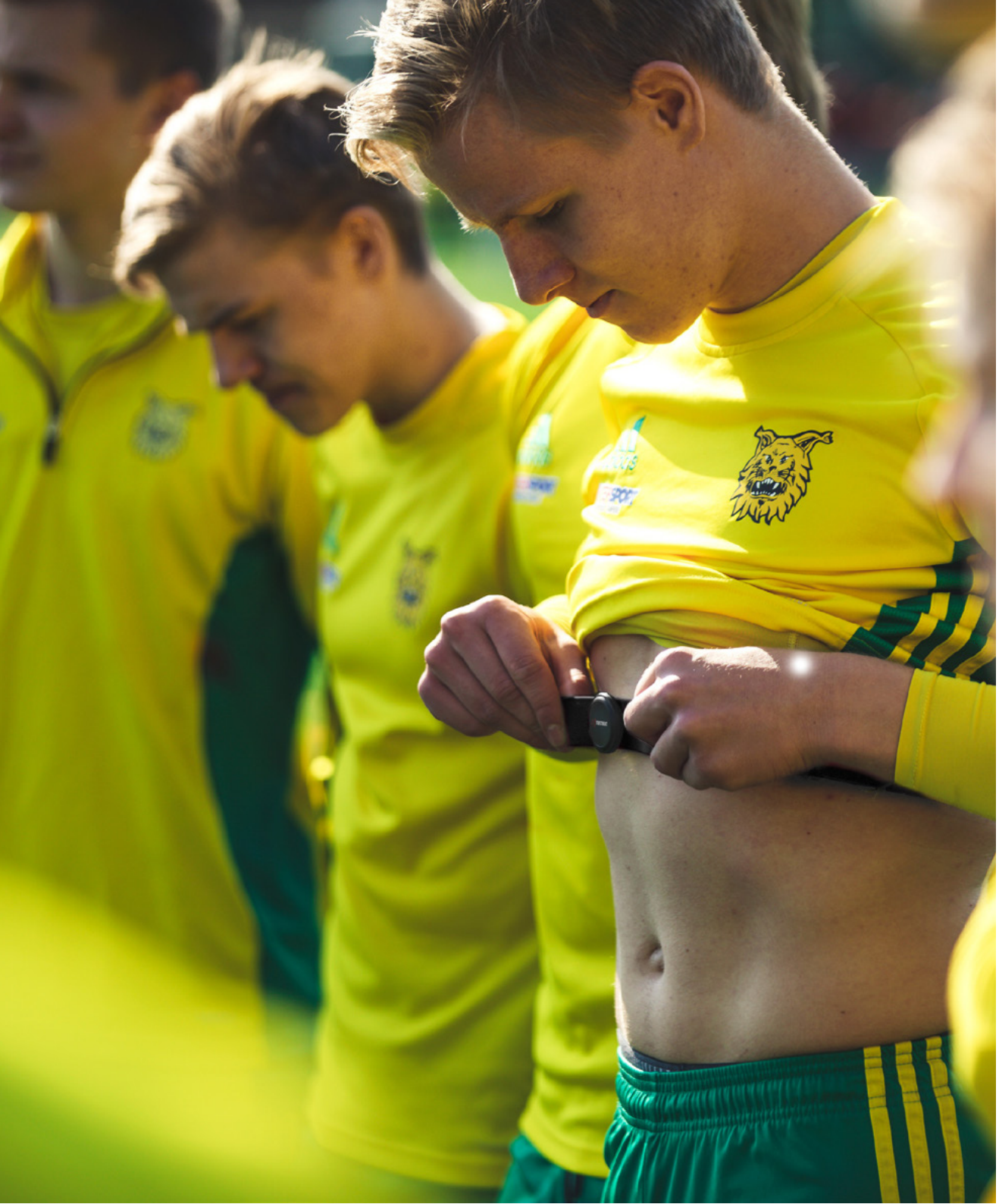


Firstbeat Sports Sensor

Technical specifications

The Firstbeat Sports Sensor's in-built memory frees coaches from a receiver or laptop during sessions, and an embedded processor ensures load calculations from multiple locations are readily available for post-session analysis.

- **Memory capacity:** 12-18h R-R data
- **Battery life:** 160h with CR2025 user replaceable coin cell battery
- **Weight:** 10g (0.35 oz.) including the battery
- **Transmission protocol:** Bluetooth Smart
- **Compatibility:** Full feature support only with Firstbeat Sports app; Works as a standard Bluetooth device with watches and mobile apps
- **R-R recording accuracy:** < 2ms
- 9-Axis motion sensor (accelerometer, gyroscope and magnetometer)
- Wireless firmware update
- Firstbeat software + analysis library
- Textile strap (Movesense connector)
- Water resistant 30m / 100ft
- Developed, designed and manufactured in Finland

Firstbeat Sports Sensor

In practice

The Firstbeat Sports Sensor starts automatically with RR-I validation algorithms. If R-R data is not detected, Sensor powers off after one minute allowing enhanced battery life and accurate measurements.

Each Sensor is paired with an athlete profile visible in the Firstbeat Sports app. Profile background information is stored to the Sensor for real-time analysis.

While recording, the following real-time training metrics are tracked:

- Heart rate (HR), Average HR, Lowest HR, Peak HR
- Time in highest zone
- Excess Post-Exercise Oxygen Consumption (EPOC)
- Training Impulse (TRIMP), TRIMP/min
- Training Effect (aerobic, anaerobic)
- Calories
- Movement Load and Movement Intensity*

*Firstbeat Sports Premium

When the Firstbeat Sports Sensor is taken off, the recording stops after a few minutes and enters standby mode, from which it then powers off completely after 15 minutes. When in standby mode, you can download measurement data to the Firstbeat Sports Cloud via the Firstbeat Sports app, providing quick, effortless and accurate data for post-analysis.

Firstbeat Bodyguard 3

Technical specifications

The Firstbeat Bodyguard 3 (BG3) is a reliable R-R interval recording device for short and long-term measurements.

The device is lightweight and easy to use: Attach the device directly to the skin with two chest electrodes and the BG3 starts recording data automatically.

- **RR-interval measurement**: BG3 measures beat-by-beat intervals as time between consecutive R-peaks in ECG. Measurement resolution: 1ms.
- **1-Channel ECG**
  - 256 Hz
  - 18-bit per sample
- Motion noise suppression with HP 4.4Hz
  → optimal for wearable rhythm monitoring
- **Data Export*** to CSV (ECG, ACC, RRI) format.
- **IP class:** IP54 (in recording mode)
- **Weight:** 26 g
- **Size:** 54mm x 38mm x 7,7mm

*Configuration and data transfer via USB interface. Data exporter/uploader software included (macOS, Windows).

Firstbeat Bodyguard 3

Technical specifications

Accelerometer provides measurement data for three (3) dimensions (X, Y, Z). When device is attached to a person to correct position, the dimensions are as follows (see the picture on right):

- Dimension X measures acceleration right and left.
- Dimension Y measures acceleration up and down.
- Dimension Z measures acceleration forward and backward.

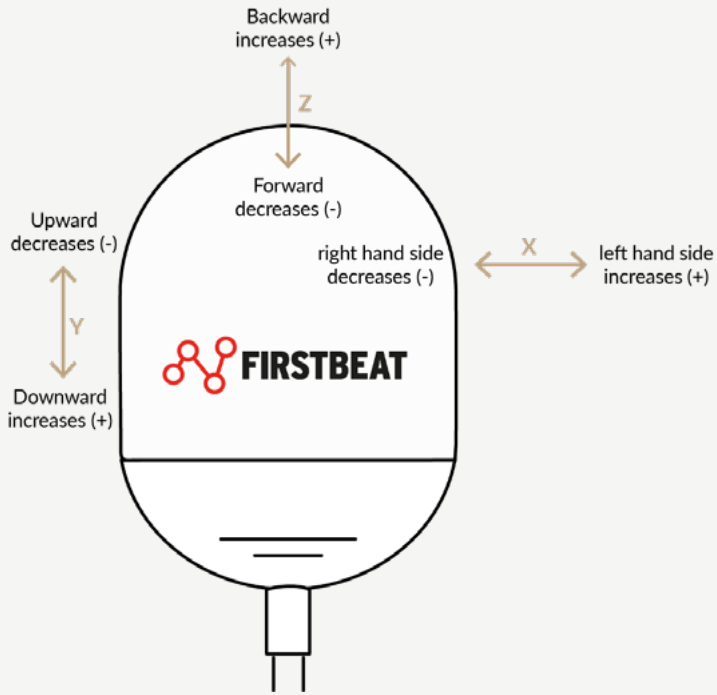
3D ACC: 25.6Hz, +-8G, 16- bit integer per channel, 1G corresponds to 1024 LSB

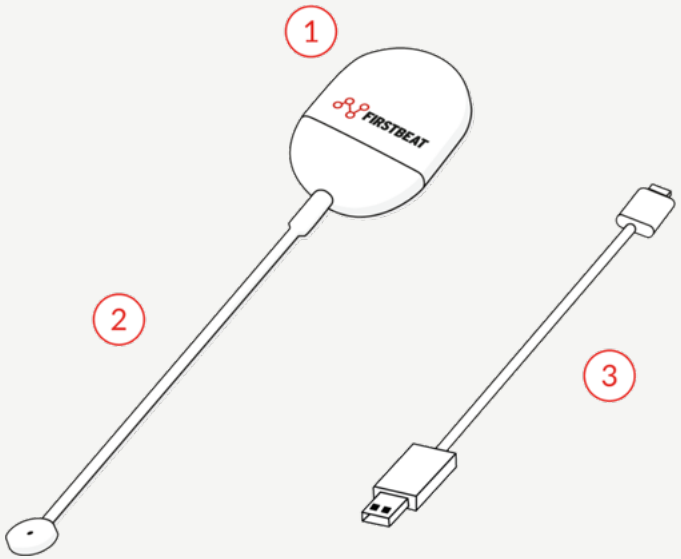
Battery and charging procedures:

- Battery life: up to 7 days in a continuous 24/7 measurement, 6 months in standby mode
- Charging time from empty to full: approximately 75 minutes

Measurement and storage

- Measurement temperature: +5 - +45 C°
- Storage temperature: -20 - +60 C°
- Storage capacity: Up to 36 hours of full RAW data (ECG, ACC, RRI). Up to one month of RRI recording only.





1 Firstbeat BG3 recorder | 2 Firstbeat BG3 electrode cable | 3 USB charging cable

Firstbeat Bodyguard 3

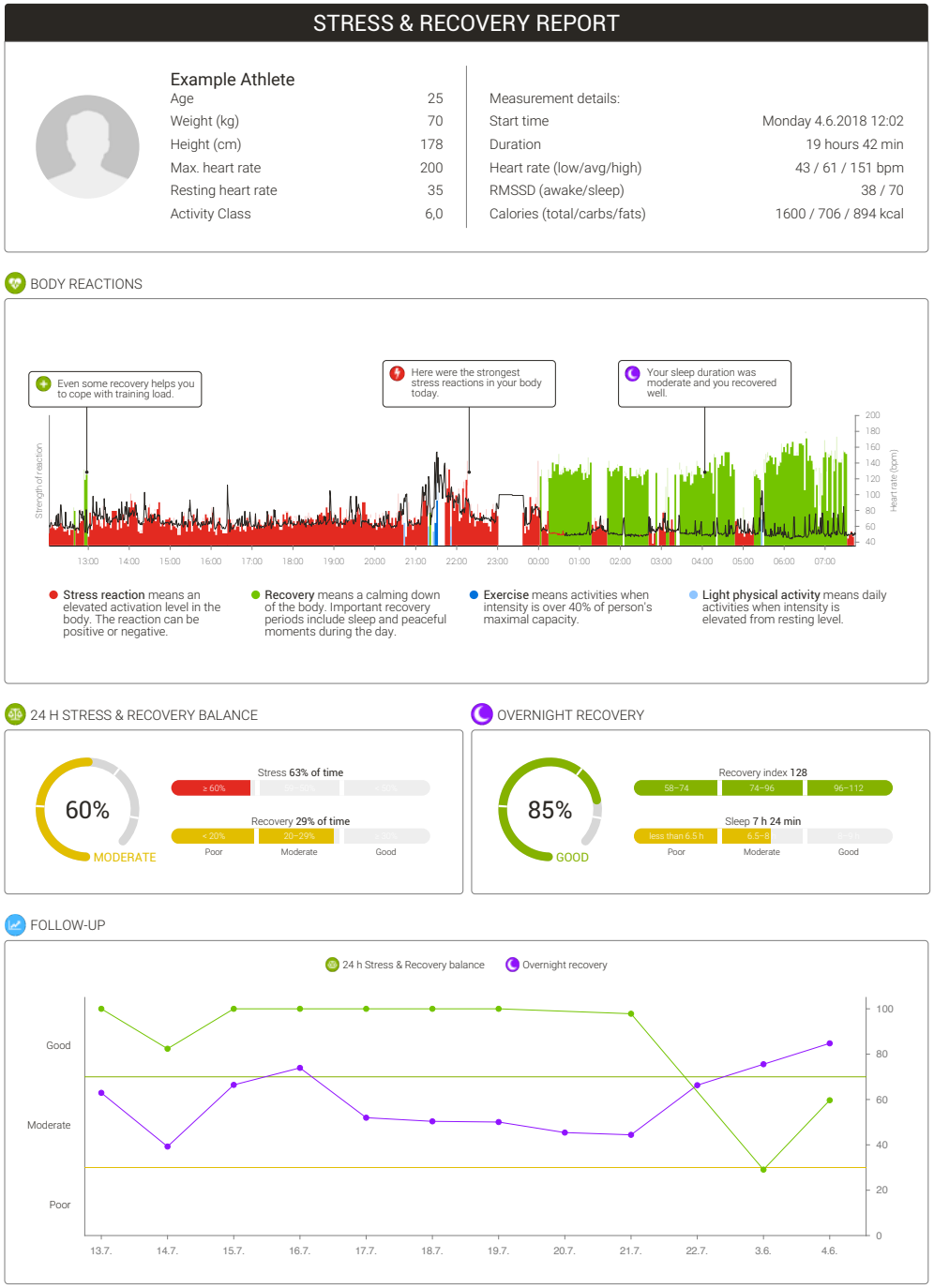
In practice

Collect data over a full 24-hour period to provide insights into stress and recovery beyond training.

The high-performance device records R-R interval and movement data through unobtrusive electrodes and can be used during exercise, leisure time and sleep to give a true ‘big picture’ view of your athletes.

Key benefits:

- Get the big picture of your athletes’ stress and recovery beyond practice or games
- Use to follow-up on red-flag situations (e.g. an athlete complaining of poor sleep)
- Support athlete mental health and well-being through actionable data
- Easy to use: Athletes attach device and continue with everyday routine
- Measurement data uploads directly to Sports software



More information available on Firstbeat Sports hardware at support.firstbeatsports.com

PHYSIOLOGICAL ANALYSIS FOR PROFESSIONAL COACHING

Firstbeat Sports is the only solution supporting 24/7 training optimization in a single platform. Our stress and recovery analysis is based on identifying individualized patterns of HRV and heart rate. Tracking of body functions includes; Oxygen consumption, respiration rate, EPOC and energy expenditure. With superior range and actionable feedback reporting, Firstbeat allows you to effectively collect, analyze and interpret player performance data on the go!

Ask for more information

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firstbeat.com/sports