

omegawave

PERSONAL
APPLE USER GUIDE

Thank you for purchasing Omegawave Personal!

Omegawave is the fastest and safest way to achieve your goals. Following the guidance of Omegawave Personal you can rest assured your next training is the most effective for you that day. The ability to quickly adapt your training plan based on daily changes in your body allows you to reach your training goals safer and more effortlessly.

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GETTING STARTED

Let's start by reviewing what's inside your package:

- Omegawave Bluetooth Low Energy (BLE) sensor. Model name: OW-CB2. Simultaneously measures both an electrocardiogram (ECG) and Direct Current (DC) Potential of the Brain.



- ECG chest strap



- DC Potential cable



- Pre-gelled electrodes for DC Potential measurement



- Micro-USB charging cable



In order to use the Omegawave Personal App, you will need to have an iPhone or iPad. You will need to be using iOS 8.0 or a newer mobile operating system and have downloaded the Omegawave App from the App Store.

Please check the following:

- Ensure that your device has an active Internet connection via WLAN or mobile data (3G/4G).
- Please fully charge the sensor before first use by connecting the micro-USB cable to a computer or USB compatible power source and attaching it to the sensor.
 - A red light on the sensor will appear to indicate that the sensor is being charged. Once the light turns off, the sensor is fully charged. A full charge will take approximately one hour.

IMPORTANT!

Please ensure that the white dot on the charging cable aligns with the sensor LED as illustrated.

Please do not force the cable into the sensor, otherwise you may break the sensor's micro-USB connector.

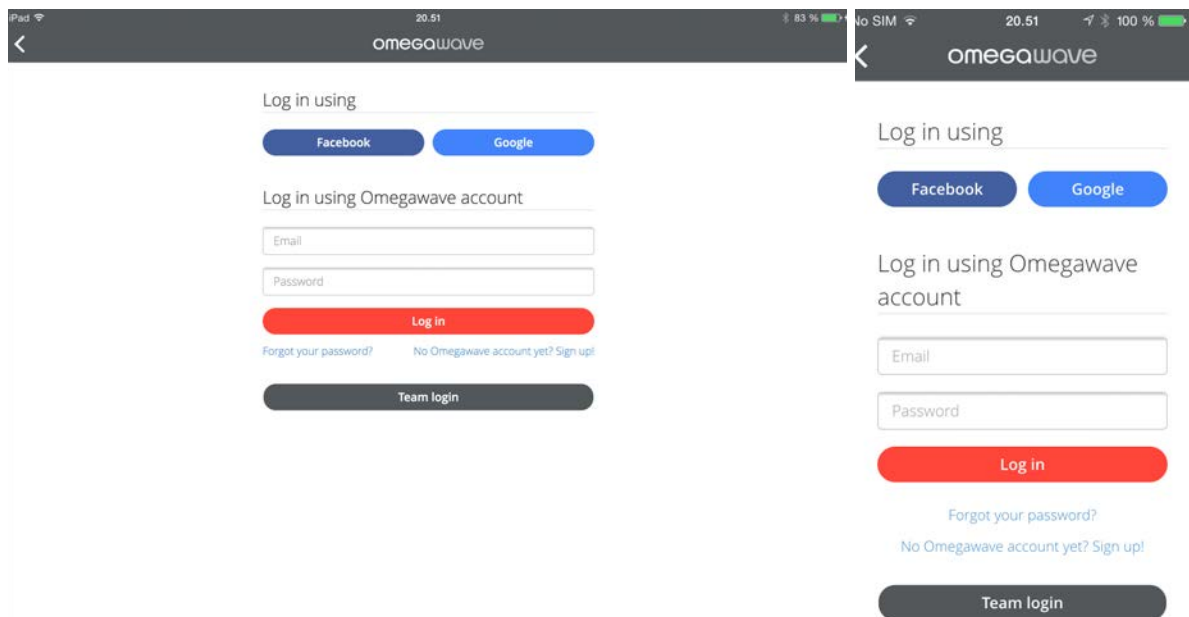


Support

If you have any questions or need technical assistance, please contact us through our community <http://community.omegawave.com>

LOGGING IN

Open the Omegawave App and tap the **Start** button.



If you made your purchase from the Omegawave web shop

Use the email address and password you set during the transaction to log in.

If you are an existing Omegawave user

Use the authentication type (Omegawave, Facebook or Google) that is linked to your account to log in.

If you do not have an Omegawave account yet

Use the Omegawave App to create an account if you do not already have one.

If you are an Omegawave Team athlete

When you have been added to a team, you should receive an email containing an automatic authentication link. Use your mobile device to open this link in order to log in.

If you did not receive an authentication link, select "Team login" and use the team key sent by your coach to log in.

NOTE

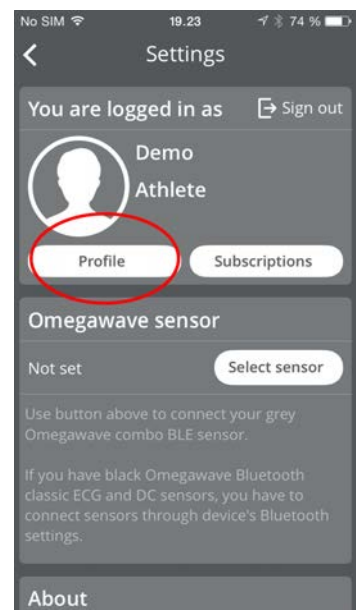
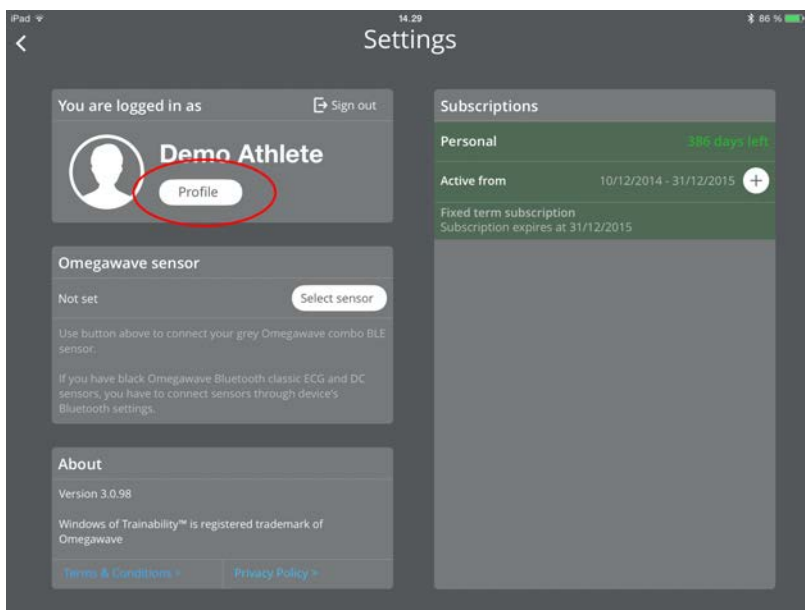
If you forget your Omegawave account password, you can request a new one from the login screen by tapping **Forgot your password**.

MANAGING YOUR PERSONAL DATA

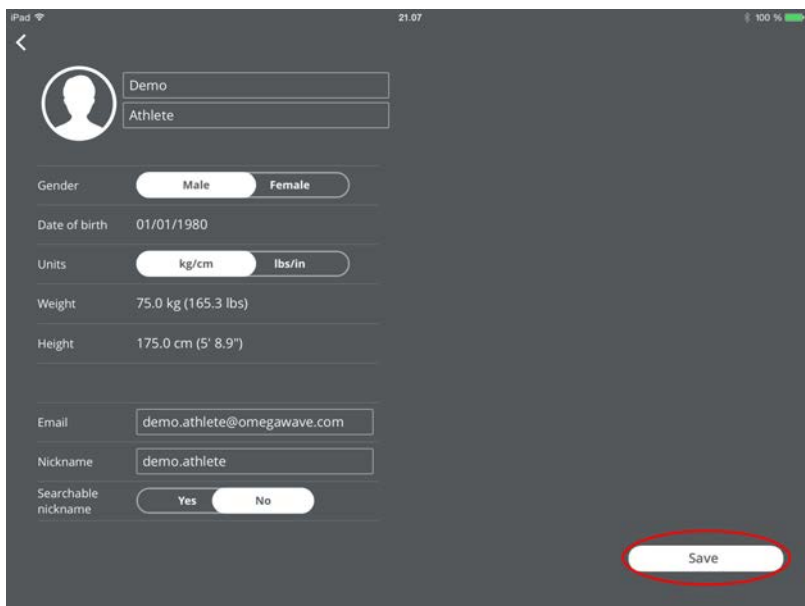
IMPORTANT!

The App needs to know your gender, date of birth, height and weight in order to calculate accurate results. It is important to always keep your personal data updated.

1. Go to **Settings**  and tap **Profile**



2. Update your personal data and tap **Save**



Note!

You cannot change your nickname.

NOTE

To perform measurements, you need to have a valid subscription.

Valid subscription types:

- free trial
- recurring subscription with monthly or yearly billing period
- team athlete subscription
- fixed term subscription with defined start and end dates

Starting a free trial period

If you are a new user and have bought Omegawave without a subscription, you can activate a free trial period in order to try the product. During the trial period you will have access to all Omegawave Personal features including ECG and DC measurements.

How to start a trial?

- Start a new measurement and the application will ask you if you want to start your free trial.

Recurring subscription with monthly or yearly billing

If you want to make any modifications to your recurring subscription, please go to the My Account page at: <http://app.omegawave.com/#/account>

To cancel your recurring subscription, please contact us by sending an email to: support@omegawave.com

Team athlete subscription

Your coach will manage your subscription.

Fixed term subscription

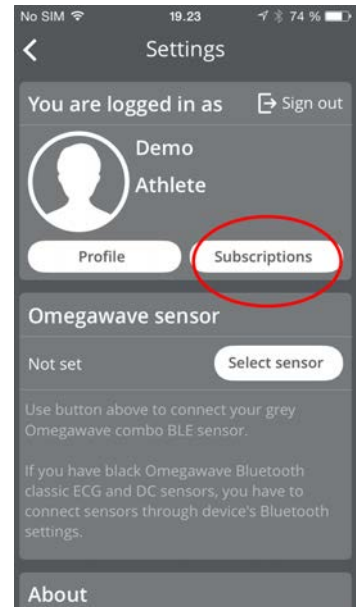
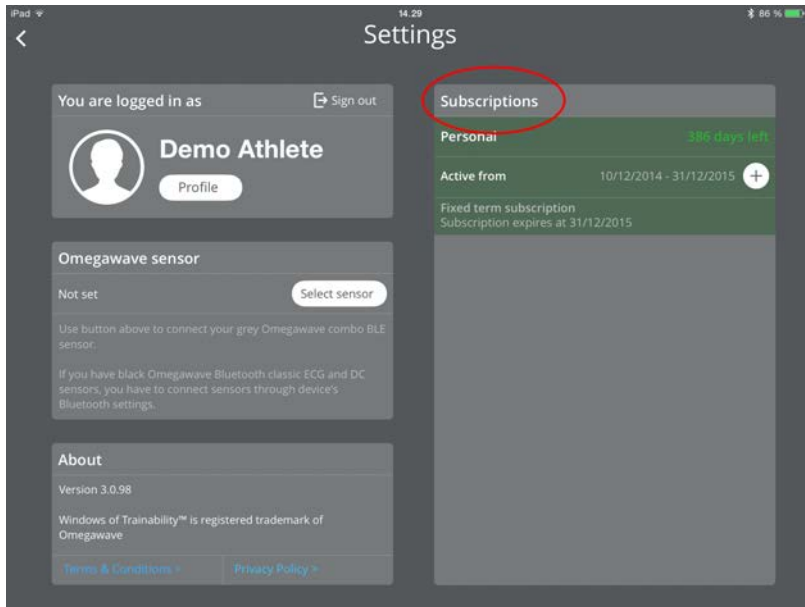
You can have a fixed term subscription if you have bought a subscription from an approved retailer. Your subscription will be valid until the end date. You can extend your subscription at any time by entering the new activation key purchased from your retail source. If you still have time left from your previous subscription, this remaining time will be added to your new subscription.


How to use your fixed term subscription?

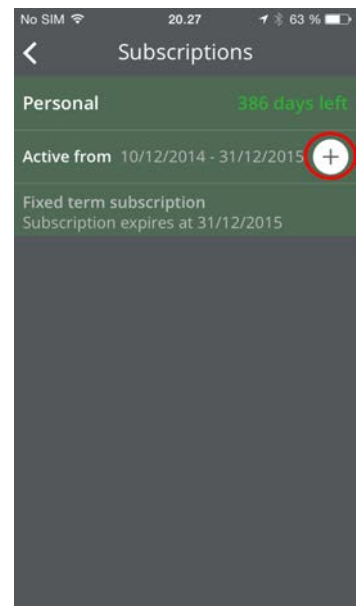
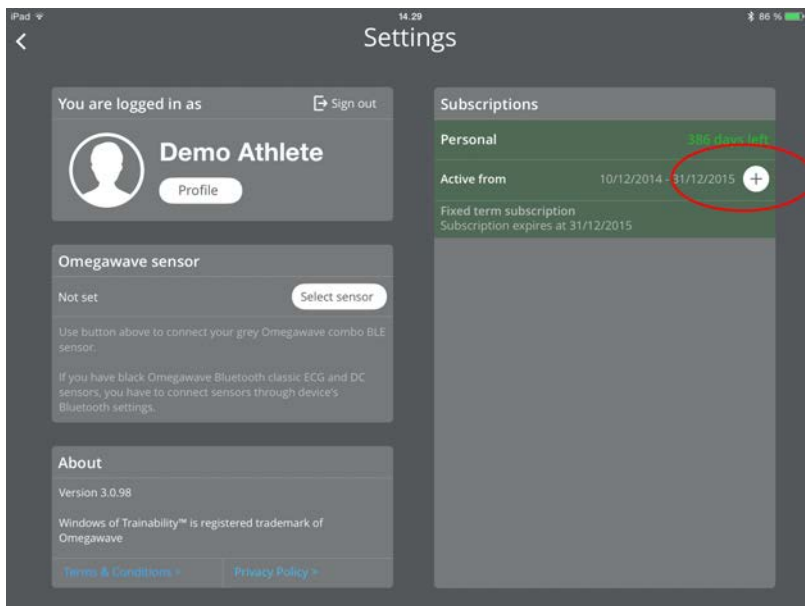
- If you are a new user and you do not have an old subscription, start your free trial (see instructions above). Then use your activation key to convert your free trial to a fixed term subscription.

- If you are a current user and you have a valid or expired fixed term subscription, use your activation key to extend your subscription.

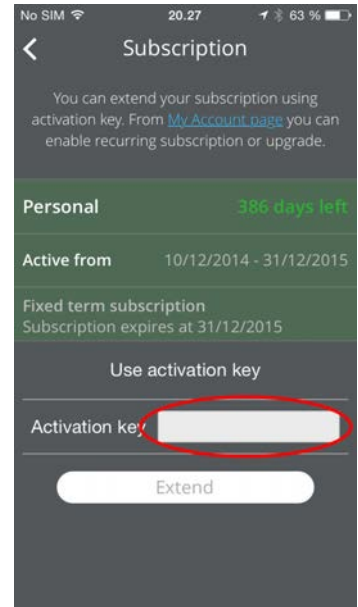
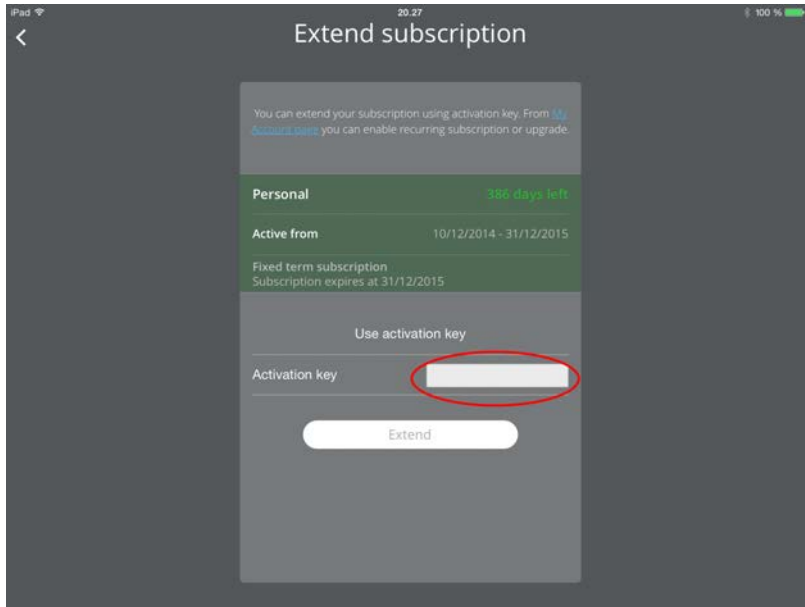
1. Go to **Settings**  and look for **Subscriptions**



2. Tap  symbol to open subscription extension view.



3. Fill in your activation key and tap **Extend**



If your activation key is valid, the application will extend your subscription and you will see a new expiration date.

USING THE MEASUREMENT HARDWARE

ECG measurement

An ECG recording is used to assess your cardiac and metabolic state.

The sensor should be attached to the ECG chest strap and must be placed at the bottom of the sternum. Soak the ECG chest strap electrode pads with water. The micro-USB port on the sensor needs to be facing down; if you attach the sensor upside-down, your ECG will appear inverted and will cause inaccurate assessment results.

The electrode pads on the inside of the chest strap must be aligned with the midaxillary line of the body (position V6, shown as a red dot in the picture below). The chest strap should be tight around the chest and it should not move out of position during normal breathing.



Female users should place the chest strap directly below or under a sports bra support band. When possible, remove undergarments to ensure optimal placement of the chest strap.

DC Potential measurement

A DC Potential of the Brain recording is used to assess the state of your CNS.

One single-use, pre-gelled electrode should be used to connect the sensor to your forehead via the DC Potential cable (please see the next page for illustrations). The other electrode should be attached to the palm of your dominant hand at the base of the thumb, and also connected to the sensor via the DC Potential cable. **Each measurement requires a new set of gelled electrodes;** using old or standard ECG electrodes will result in inaccurate assessment results.

NOTE

Keep unused electrodes in their original pouch.

Always seal an opened pouch by tightly folding the top of the pouch to prevent the electrodes from drying.

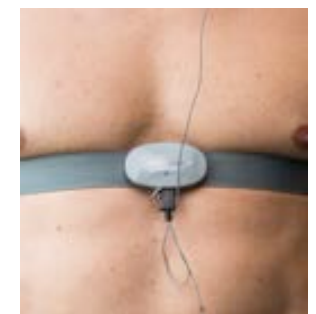
The DC Potential cable with a head symbol connects to your forehead.



The DC Potential cable with a hand symbol connects to the base of the thumb of your dominant hand.



The DC Potential cable connects to the micro-USB port of the sensor. Please ensure that the white dot on the cable aligns with the sensor LED as illustrated.



NOTE

Follow this protocol when dressing the chest strap, sensor and DC electrodes to avoid bending the micro-USB connector:

1. Thoroughly wet the chest strap electrodes and wear it
2. Attach the DC electrodes to the hand and the forehead
3. Attach the DC cable to the DC electrodes on the body
4. Attach the DC cable to the sensor
5. Go to **Measure** view
6. Attach the sensor to the chest strap
7. Wait until the application detects data from the sensor
8. Lay down
9. Start the measurement immediately
10. After the measurement is done, take the sensor from the chest strap before standing up
11. Remove the DC cable from the sensor

The picture below shows an athlete with the hardware properly attached (left hand dominant).

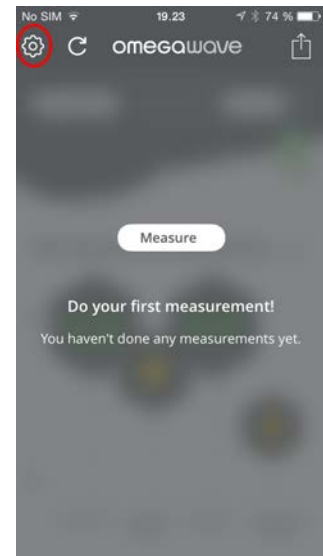
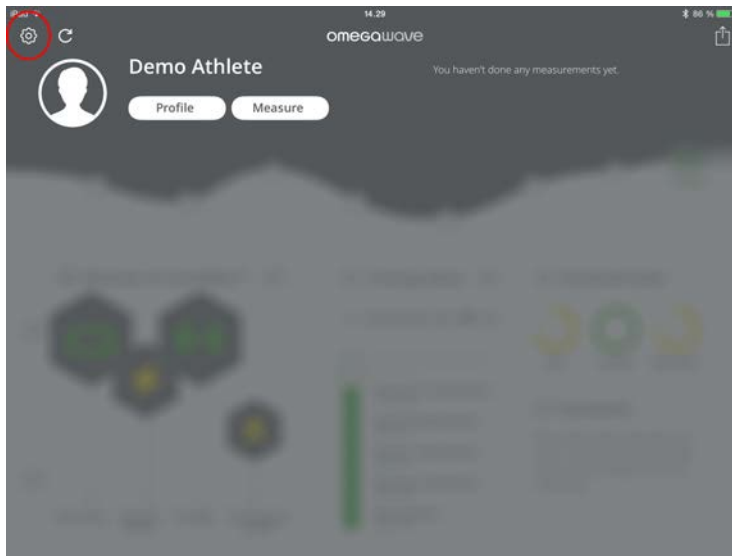


PAIRING THE SENSOR WITH YOUR MOBILE DEVICE

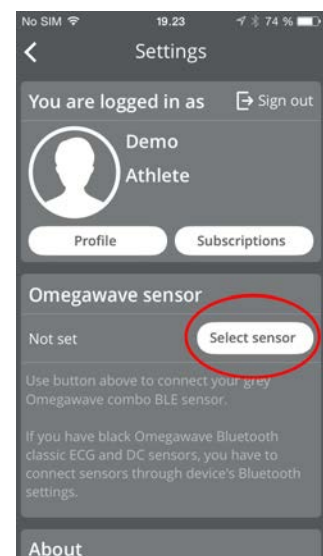
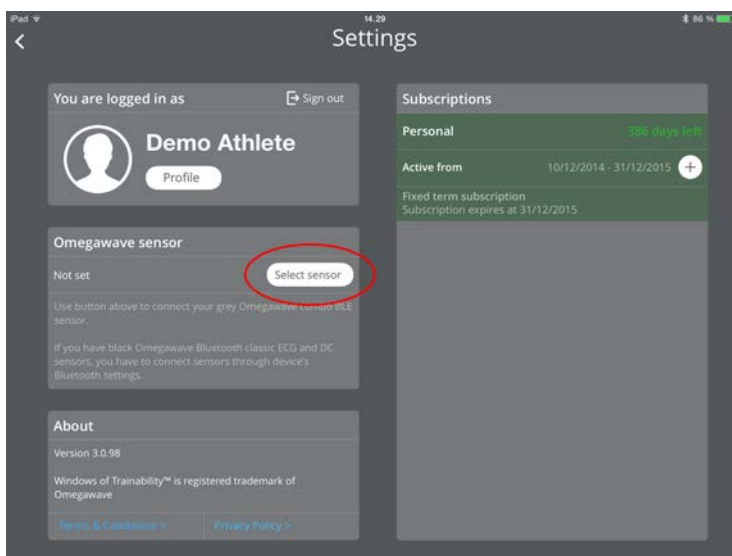
NOTE

Before proceeding with the following steps, please put on the chest strap and attach the sensor to the strap as previously described. Please ensure that your device's Bluetooth is switched on. The sensor's Bluetooth connection will be activated and the LED will start blinking blue only when the sensor is connected to the chest strap.

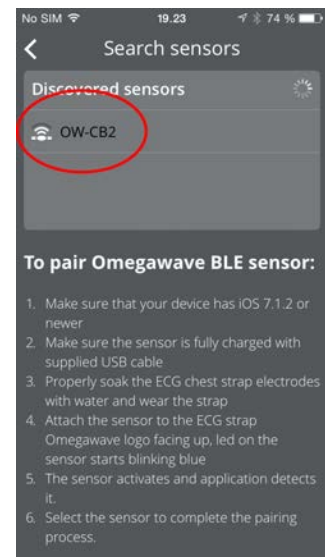
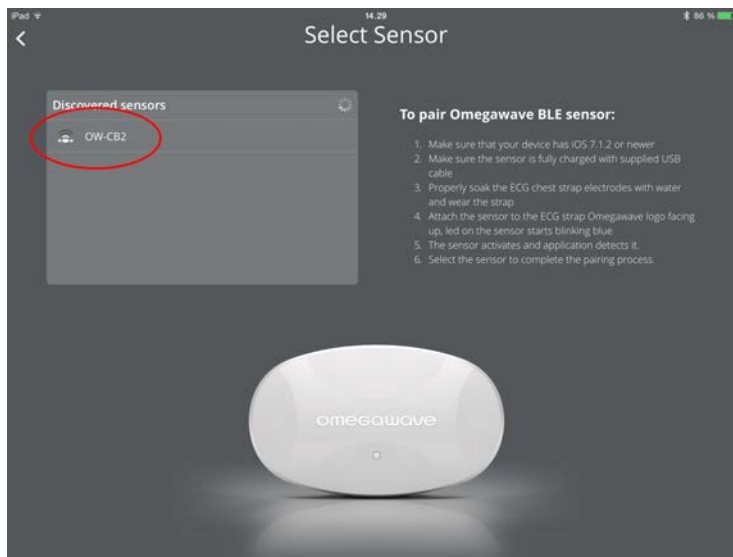
1. Open the Omegawave App and go to the **Settings**.



2. Tap **Select Sensor**.



3. The Omegawave sensor should now become visible in the device list. Select the sensor from the list by tapping the line saying OW-CB2 in order to complete the pairing process.



Now the Omegawave BLE sensor is paired to the application.

IMPORTANT!

Do not pair the sensor via your device's Bluetooth settings.

If you have an old black sensor however, pairing is to be conducted via your device's Bluetooth settings.

MEASURING – QUICK GUIDE

General rules

- **To achieve comparable results, measure yourself in the same way each time.**
- If interrupted for any reason, cancel the measurement.
- If measuring after exercise, wait at least 30 minutes.

Measurement instructions

1. Pair the Omegawave sensor **in the application** (needs to be done only once).
2. Thoroughly wet the ECG chest strap pads with water and only use new gelled electrodes.
3. Attach the belt and sensor as instructed.
4. Lie down flat on your back, relax and breathe normally.
5. Begin the measurement immediately upon lying down.
6. The application will sound when the measurement is complete.

NOTE

There are two measurement types available:

- ECG only
- ECG + DC Potential (requires a subscription that allows you to measure DC Potential)

Completing only a DC Potential measurement is not supported.

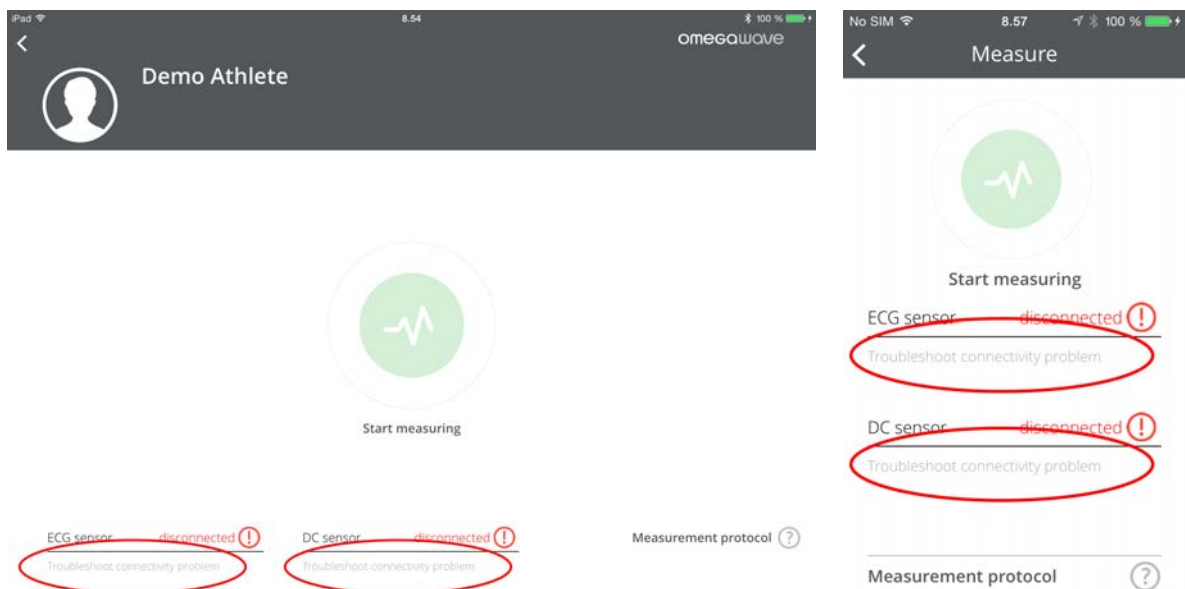
NOTE

You can do measurements without Internet connection, but the results will be calculated only when the connection is available. You will see a blue dot indicator next to sync button indicating that you have done measurement(s) which are not yet calculated.

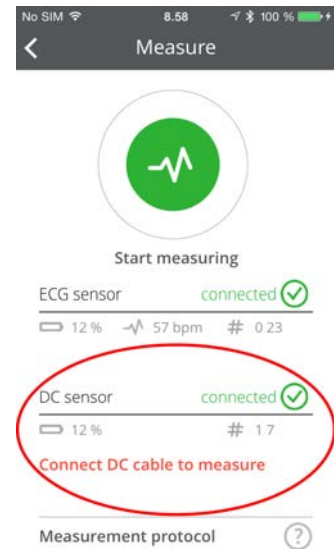
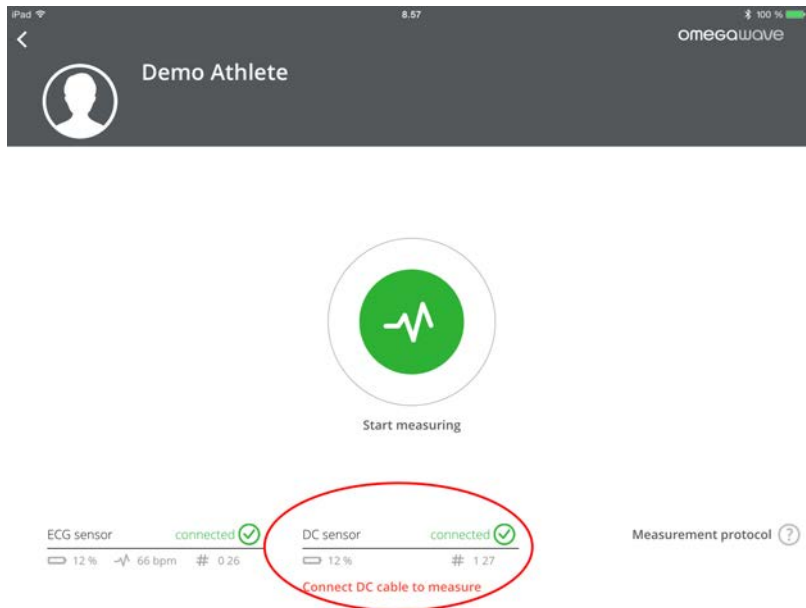
MEASURING – DETAILS

1. Make sure that you have an active Internet connection via Wi-Fi or mobile data.
2. Make sure that your device has the volume switched on.
3. Make sure you have paired the Omegawave sensor in the application.
4. Make sure that you are correctly wearing the chest strap, sensor and electrodes as previously described.
5. Tap the **Measure** button.

The application will automatically find the paired Omegawave sensor. If the sensor does not appear, tap “Troubleshoot connectivity problem” on the screen to review possible reasons, see screenshots below. The most common reason is that the ECG chest strap electrodes have not been properly moistened.

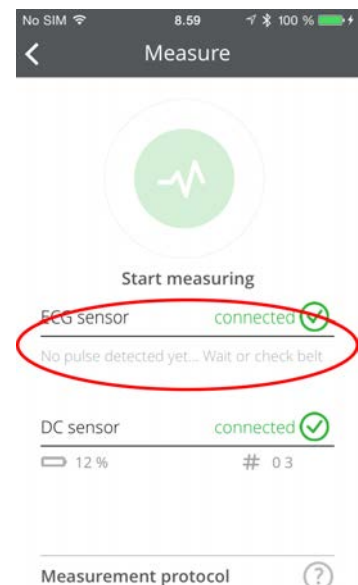
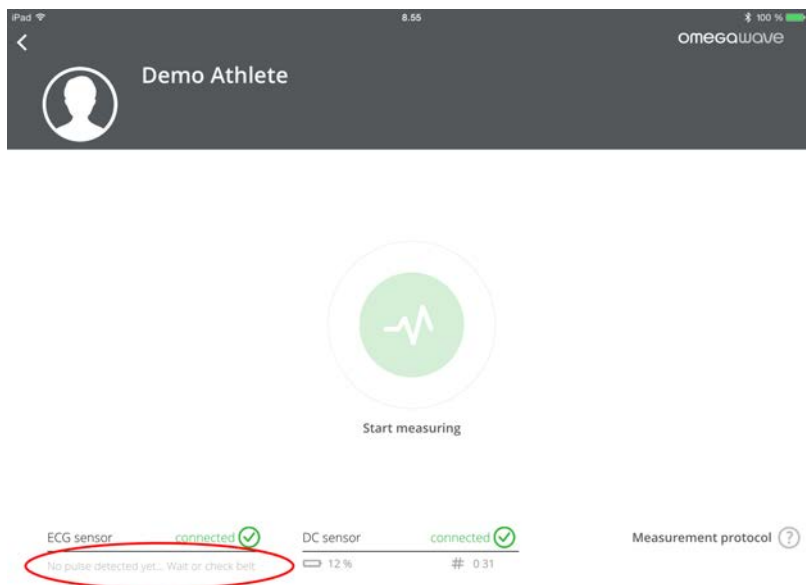


If you want to do an ECG only measurement, do not connect the DC cable. See screenshots below.

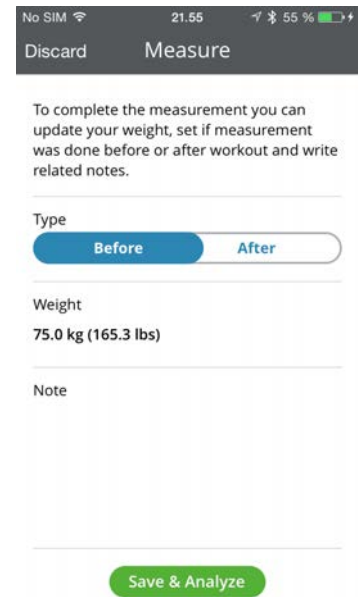
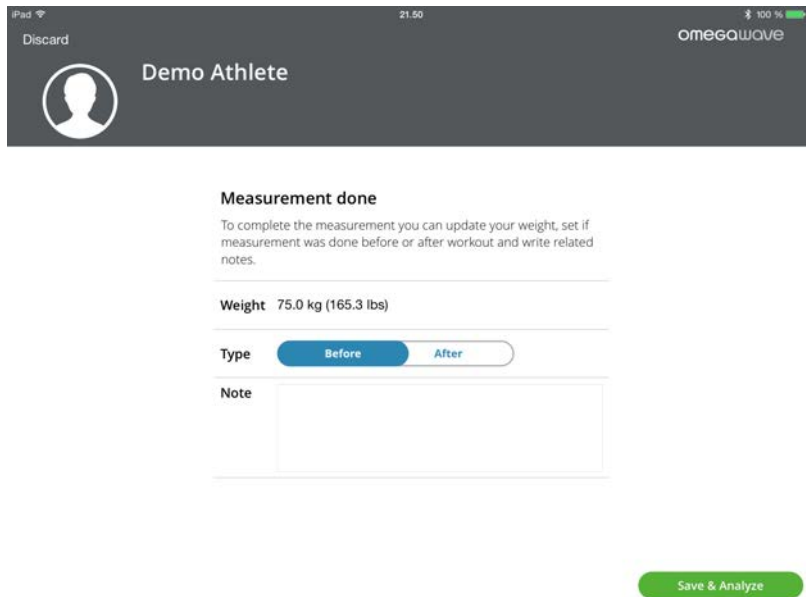


- When the sensor is ready to start a measurement, the Start button will turn green. To begin the measurement, tap **Start measuring**.

If the Start button is not turning green, check the messages under the ECG and DC sensor to review possible reasons.



- The measurement will take approximately 4 minutes. If the application detects any errors or connectivity issues with the sensor, you will hear a sound and the measurement will be cancelled. Review the error message and follow the instructions provided then initiate a new measurement according to the protocol.
- You will hear a sound when the measurement is complete. Please ensure that your device's volume is switched on.
- Before the results are calculated, you can update your weight, mark whether the measurement was taken "Before" or "After" training and also record additional notes.



10. Tap **Save & Analyze**. After the calculation is complete, the assessment results will be presented.
 - a. If you do not have Internet connection available, the application will ask if you want to save the measurement data and calculate the results later when you have connection available.
 - b. If you tap **Discard**, the measurement will be deleted without calculating any results.
 - c. The application will automatically analyze the quality of the measurement data. If the quality is poor (for example, due to a dry ECG chest strap or DC electrodes), it will give a notification and cancel the on-going measurement. In this case, you need to check that you are doing the measurement according to the protocol and verify that you are using the chest strap, sensor and electrodes as instructed. Then, perform a new measurement.
11. After the measurement, remove the sensor from the ECG chest strap and the DC cable from the sensor to prevent battery drain. The sensor should be charged approximately once a week. You can also check the battery level from the measurement screen.

IMPORTANT!

Please wait at least 10 minutes before initiating a new measurement. During this time stand up and continue your daily activities to return your body's functional state back to an active level of wakefulness.

If you maintain a resting position and initiate a new measurement without following this protocol, your functional state will change from active to reduced wakefulness. Omegawave's algorithms are designed to analyze your functional state at an active level of wakefulness. Doing a measurement while in a state of reduced wakefulness will therefore distort your measurement results.

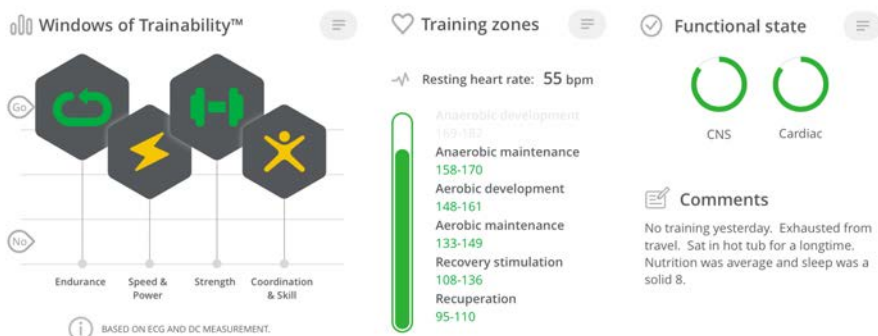
ANALYZING RESULTS

A successful assessment will display the results as indicated by the iPad view below:



Overall Readiness score for the selected measurement, timestamp and Before/After tag.

Overall Readiness history based on previous measurements.



Functional state of Central Nervous and Cardiac systems.


Your additional notes for the measurement.

Windows of Trainability™ broken down to 4 physical qualities: Endurance, Speed & Power, Strength, and Coordination & Skill.

Resting heart rate and heart rate training zones for a spectrum of recovery and development activities.

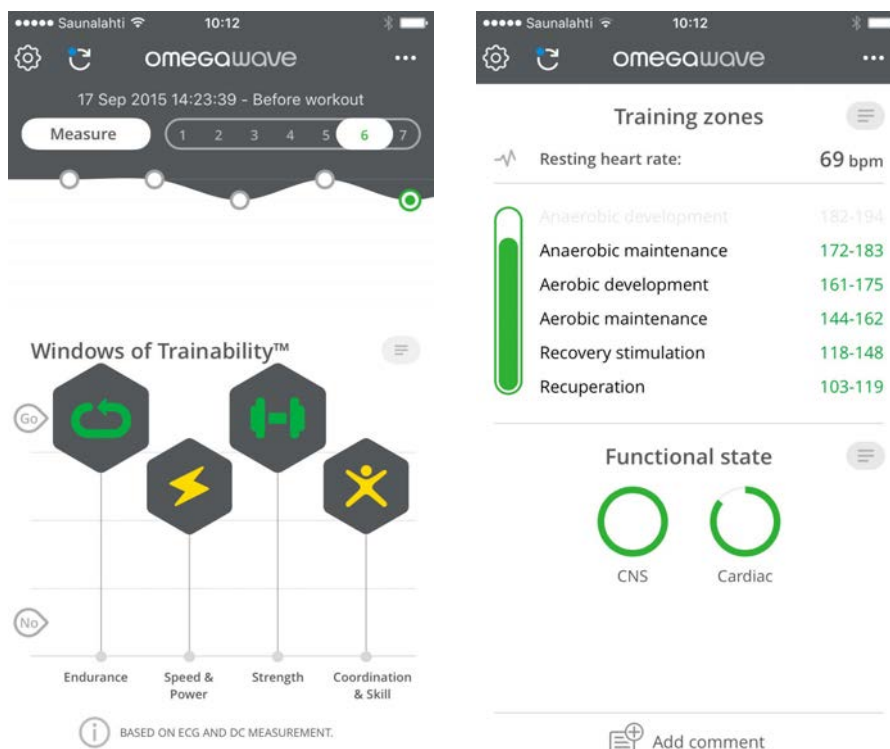
An indication of which measurements were conducted: ECG & DC.

You can view your measurement history by swiping the Overall Readiness graph to the left or right.

To select a measurement from the history, tap one data point  from the Overall Readiness graph.

For a detailed breakdown of CNS, Cardiac and Energy Supply System indices as well as their historical data, simply swipe the screen up or down.

If you are using an iPhone, the results are divided into two separate views:



The left & right and up & down swiping functions described for the iPad work in the same way for the iPhone.

Windows of Trainability™

Windows of Trainability™ represents an innovative approach to preparation, one that can be easily integrated into any system of training. OmegaWave's approach centers on the concept that the amount of the load should not be the primary focus of the training process, but rather the timing of when the load is applied.

Utilizing the Windows of Trainability™ approach will allow for the optimization of the training process by addressing and providing comprehensive answers to the fundamental dilemmas of training:

- Are you ready for another workout, and at what volume and intensity?
- Which physical qualities should be developed to produce the greatest training effect – endurance, speed & power, strength, or coordination & skill?
- How can the training process be optimized to achieve the best results in the shortest period of time and with the least amount of physiological cost?

From the Windows of Trainability™ graph, you can see four hexagons that will change dynamically based on your measurement results. Each hexagon represents a different physical quality: Endurance, Speed & Power, Strength, and Coordination & Skill. The positioning of the hexagons on the graph provides an easy visual interpretation: the higher the hexagon, the more open the Window of Trainability™ for that index. This status is also reflected by the color of the symbols inside the hexagons: at the highest position the symbol will be green, in the middle-range it will be yellow, and at the lowest-levels the color will be red.

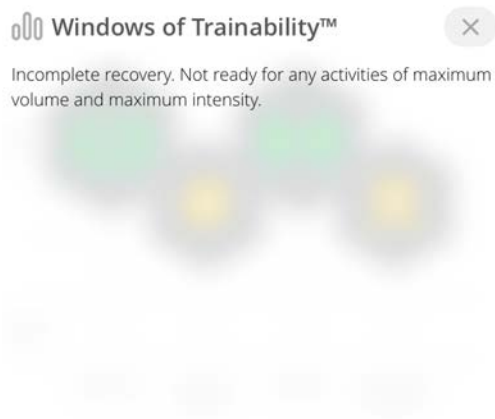
Beneath the graph, there is an indicator that tells which measurements have provided the basis for the results.

IMPORTANT!

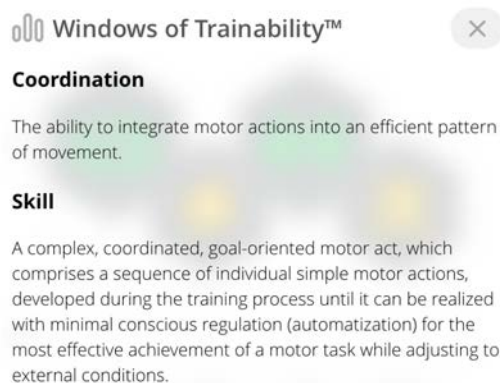
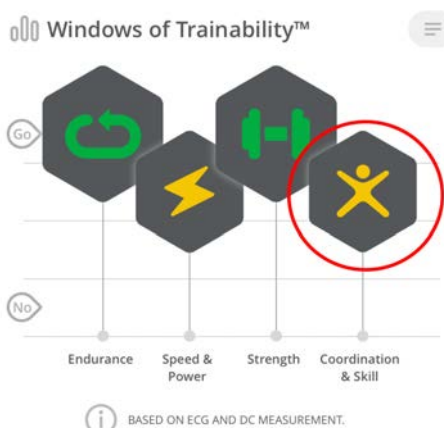
If you have only measured the ECG, the state of your Central Nervous System is assumed to be optimal.

To get the most accurate results for Windows of Trainability™, we advise you to complete the full Omegawave assessment, which includes both ECG and DC Potential measurements.

If you want to see the textual conclusion of the Windows of Trainability™ scale, tap the paragraph symbol ☰.



If you want to see the definition of each physical quality, tap the individual hexagon.




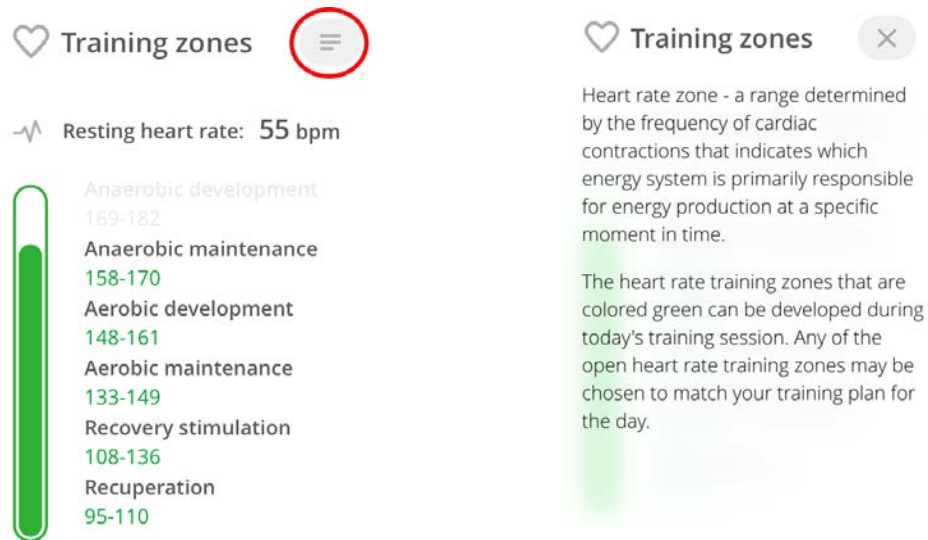
Training zones


The graph in the middle of the screen shows both your resting heart rate and the suggested heart rate training zones as those levels relate to cardiac and metabolic training. The numerical heart rate values in these training zones can change from one measurement to the next, reflecting changes in your current functional state.

IMPORTANT!

The height of the green bar will indicate all of the training zones you are ready to train in at that moment in time – the highest zone in green is the maximum recommended training zone. In general, whenever multiple zones are in the green, it is up to you to choose the intensity-level of your next training session.


If you want to see a definition for the training zones scale, tap the paragraph symbol .



Training zones 

Resting heart rate: 55 bpm

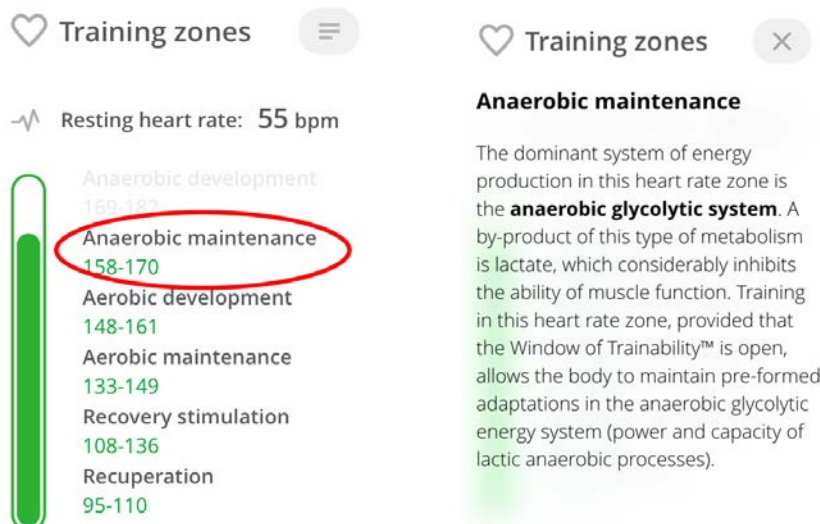
- Anaerobic development 169-182
- Anaerobic maintenance 158-170
- Aerobic development 148-161
- Aerobic maintenance 133-149
- Recovery stimulation 108-136
- Recuperation 95-110


Training zones 

Heart rate zone - a range determined by the frequency of cardiac contractions that indicates which energy system is primarily responsible for energy production at a specific moment in time.

The heart rate training zones that are colored green can be developed during today's training session. Any of the open heart rate training zones may be chosen to match your training plan for the day.


If you want to see a definition for each heart rate zone, tap the name of the individual zone.



Training zones 

Resting heart rate: 55 bpm

- Anaerobic development 169-182
- Anaerobic maintenance 158-170
- Aerobic development 148-161
- Aerobic maintenance 133-149
- Recovery stimulation 108-136
- Recuperation 95-110

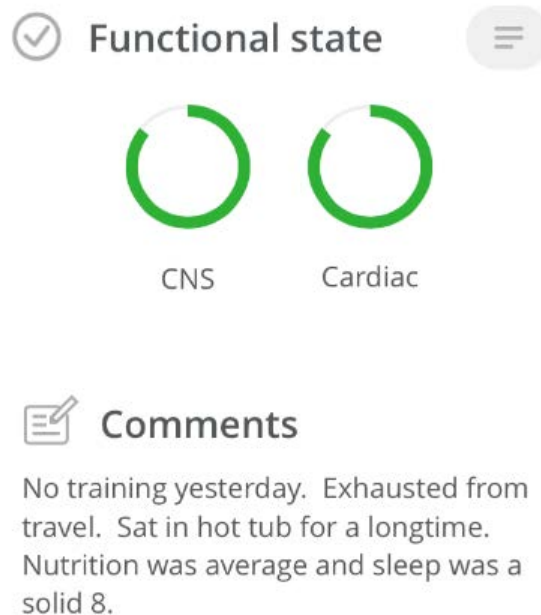
Training zones 

Anaerobic maintenance

The dominant system of energy production in this heart rate zone is the **anaerobic glycolytic system**. A by-product of this type of metabolism is lactate, which considerably inhibits the ability of muscle function. Training in this heart rate zone, provided that the Window of Trainability™ is open, allows the body to maintain pre-formed adaptations in the anaerobic glycolytic energy system (power and capacity of lactic anaerobic processes).

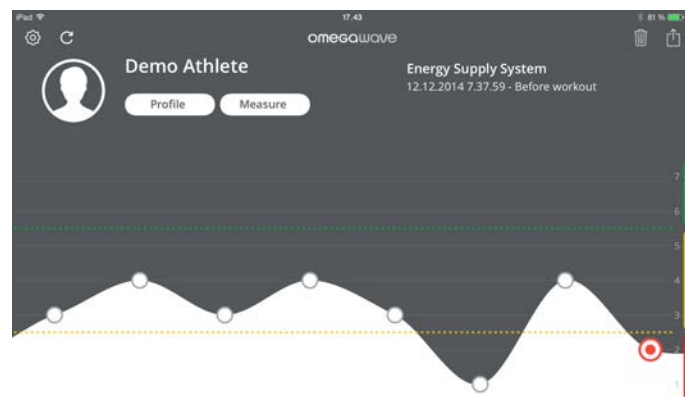
Functional state



In this graph, Overall Readiness is divided into two subsystems: Central Nervous System and Cardiac System. The measurement results will determine the color and completeness of the circles. The color scale for these circles is the same as that of the hexagons in the Windows of Trainability™ scale: green, yellow, and red. By observing these results, you can see with greater detail the functional state of the systems and gain a better sense of what your body will be ready for in the next session.



Swiping up/down from the main screen you will be able to access a detailed view of each system:

- Central Nervous System (CNS)
 - System Readiness
 - DC Potential
- Cardiac System
 - System Readiness
 - Resting heart rate
 - Recovery pattern
 - Stress
 - Adaptation reserves
- Energy Supply System
 - System Readiness
 - MRI (metabolic reaction index)
 - Aerobic readiness
 - Anaerobic readiness



- Each data point on the graph represents one measurement. Tap the data point  to see the associated index values.
- Analyze your full measurement history by swiping the graph left or right.
- Switch between indices by tapping on the names.
- Get more information about the index by tapping the paragraph symbol .

OTHER FUNCTIONS

The following functions can be accessed from the application title bar:



Settings:


- Profile
- Subscriptions
- Connecting the sensor (BLE)
- Terms & Conditions
- Privacy policy



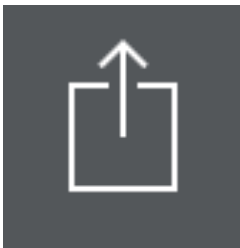
Synchronize:


- Synchronize your measurements with the Omegawave cloud
- Can be used to sync measurements between different devices



Delete measurement (can be found under  button in iPhone):

- Delete currently selected measurement
- If you delete a measurement, you are not able to undo this operation. If you accidentally deleted a measurement, please contact customer support.



Share (can be found under  button in iPhone):

- Share a screenshot of the currently selected measurement view via email, message, Twitter or Facebook.

The Omegawave App cannot find the BLE sensor when trying to pair?

Pre-condition: Verify that the sensor is fully charged and the device's Bluetooth is on.

- Verify that your device has the latest iOS version.
- Verify that you have NOT paired the BLE sensor via iOS Bluetooth settings.
- The sensor's Bluetooth activates only when attached to the ECG chest strap and when the strap is placed around your chest. Verify that the ECG chest strap is properly moisturized and that the sensor is correctly attached to the strap. When the sensor's Bluetooth is activated, the LED starts to blink blue a light at a fast pace. When the sensor is connected to Omegawave App and is ready for a measurement, the LED blinks slower.
- Connect the sensor to a power supply using the micro-USB charging cable for a few seconds. Check that the sensor's LED light turns red. This will reset the sensor. → Try to set the sensor again.
- If that doesn't work, shut down the App completely. Double tap the Home button to open the app switcher and swipe the app up. → Repeat the steps above and try to set the sensor again.
- If that doesn't work, turn off Bluetooth from the Settings menu, and then turn it back on. → Repeat the steps above and try to set the sensor again.
- If that doesn't work, repeat all the steps above first, and then do a hard reset by pressing the Home button and the power button at the same time for more than 7 seconds. This will reboot your device. → Try to set the sensor again.

Application cannot find the BLE sensor when in measurement view?

- Verify that the sensor is charged and that the device's Bluetooth is on.
- Verify that you have configured the BLE sensor via the Omegawave App settings and that you have NOT paired the BLE sensor via iOS Bluetooth settings.
- The sensor's Bluetooth activates only when attached to the ECG chest strap and the strap is properly placed around your chest. Verify that the ECG chest strap is properly moisturized and that the sensor is attached to the strap.

I'm getting really low scores for metabolic values compared to old ones?

Ensure that you have placed the sensor the right way up in relation to the ECG chest strap; the Micro-USB port needs to be facing down.

Results cannot be calculated because not a valid measurement?

Omegawave's algorithms analyse the quality of the data, if issues are detected in relation to the measurement, results cannot be calculated. Often, the underlying reason is that the ECG chest strap is the wrong size or the strap's electrodes are not properly moisturized with water. Also, if you did not follow the measurement protocol (for example moving excessively or coughing during the measurement), it may cause an invalid measurement.

You have completed a measurement but cannot see results?

A working Internet connection is required in order for the measurement results to be calculated. If there is a blue dot indicator next to sync button, it indicates that you have done measurement(s) without Internet connection. To calculate and see results, make sure that you have a working Internet connection and then tap the sync button.

If you have measured yourself with some other device, tap the sync button to retrieve measurements from the Omegawave cloud.

ECG graph appears odd?

If your ECG graph looks like the illustration below, cancel the measurement and connect the sensor to your charger using the micro-USB charging cable for a few seconds. Check that the sensor's LED light turns red. This will reset the sensor and the problem should disappear.



Measurement was cancelled because the DC Potential values were out of range?

This may happen if you are reusing old electrodes or they have dried due to improper storage. Always use unused electrodes and make sure that you properly seal the electrode bag to prevent drying.

DC Potential signal is not detected?

Ensure that you are using unused electrodes and that you have connected the DC cable to your forehead and palm electrodes. If the application still indicates that it is unable to detect the DC Potential signal, it can mean that the micro-USB connector of the sensor may be broken. In this case, contact Omegawave support for further assistance: <http://community.omegawave.com>

The sensor cannot be charged?

If you cannot see the LED light turning red when the sensor is connected to a power supply with the micro-USB cable, it means that the sensor is already fully charged. It can also mean that the micro-USB connector of the sensor may be broken. In this case contact Omegawave support for further assistance: <http://community.omegawave.com>

How can I cancel my recurring subscription?

Please contact us by sending an email to: support@omegawave.com

Can I wash the ECG chest strap?

Yes, and it's recommended to do so regularly. The washing recommendations are printed on the strap care label (40°C / 104°F, no fabric softener).

REGULATORY INFORMATION

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

THIS DEVICE COMPLIES WITH INDUSTRY CANADA LICENCE-EXEMPT RSS STANDARD(S). OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION OF THE DEVICE.

CAUTION! CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.