Polar Vantage V3

USER MANUAL

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POLAR VANTAGE V3 USER MANUAL

This user manual helps you get started with your new watch. To see video tutorials and FAQs, go to support.polar.com/en/vantage-v3.

INTRODUCTION

Congratulations on your new Polar Vantage V3!

Polar Vantage V3 is a premium multisport watch for athletes looking for performance. It features a unique combination of advanced biosensing instruments, AMOLED display, dual-frequency GPS, and the most comprehensive suite of training and recovery tools on the market. It has a bright, high-resolution AMOLED touchscreen display that doubles as a flashlight for quick, convenient use when you need to navigate the darkness. With advanced navigation tools and detailed offline maps, you can explore the world with confidence. The ultra-long battery life will not let you down, giving you up to 8 full days in watch mode, up to 53 hours of training with GPS and heart rate tracking and even up to 140 hours of training with power save options.

The new Polar Elixir™ biosensing technology equips Polar Vantage V3 with the capability to measure skin temperature, blood oxygen level and the electrical signal of the heart with Wrist-ECG, and the most precise optical heart rate measurement in a Polar watch yet.

The training load and recovery tracking tools help you optimize your training and avoid overtraining. The unique recovery solution Recovery Pro helps you prevent overtraining and injuries. It measures how recovered your body is and offers you recovery feedback and guidance. Wrist-ECG allows you to perform Orthostatic test, which is an essentieal part of Recovery Pro, without a paired Polar heart rate sensor.

Reach the ideal amount of training to perform at your very best with Training Load Pro. Stay energized throughout your training session with the new FuelWise™ fueling assistant. FuelWise™ reminds you to refuel and helps you maintain adequate energy levels during your long sessions. See how your body uses different energy sources during a training session.

Track your progress over time with Polar tests. With the Running Performance Test you know where your running performance is now, and it allows you to personalize your heart rate, speed and power zones so that you'll always make the most of your runs. You can also find out your maximum heart rate with the test. The Cycling Performance Test allows you to personalize your power zones and tells you your personal functional threshold power. The Leg Recovery Test tells you whether your legs are ready for high intensity training in just a couple of minutes without any specialist equipment – all you need is your watch.

Vantage V3 provides a full analysis of your body's recovery overnight and a forecast of your energy and alertness for the day ahead. Sleep Plus Stages™ sleep tracking monitors your sleep stages (REM, light and deep sleep) and gives you sleep feedback and a numerical sleep score. Nightly Recharge™ is an overnight recovery measurement that shows you how well you recover from the demands of your day. The Sleepwise™ feature helps you grasp how sleep contributes to your daytime alertness level and readiness to perform.

Additional feature highlights include:

- Get a more comprehensive insight into the intensity of your running sessions with Running power.
- The Swimming metrics feature automatically detects your heart rate, swimming style, distance, pace, strokes and rest times. Distance and strokes get tracked also in open water swimming.
- Make your runs and rides more exciting with Strava Live Segments. Get alerts about nearby segments, see real-time performance data during a segment and check your results right after you finish.
- With the Hill Splitter™ feature, you'll know how you performed on the uphill and downhill sections of your session. Hill Splitter automatically detects all uphills and downhills by using your speed, distance and altitude data.

- The Work-Rest guide analyzes your heart rate while you do strength training to provide you with personalized guidance for optimizing your rest. It does this by notifying you when you're ready to start your next set, so you don't start before you recover adequately.
- The FitSpark™ training guide makes sure you're prepared for your pursuit to conquer the trails with ready-made daily workouts that match your recovery, readiness and training history.
- The Voice Guidance feature allows you to get real-time voice guidance via Polar Flow app with headphones or speakers during training.
- Polar Vantage V3 comes with the essential smart watch features: music controls, weather and phone notifications.
- With the changeable wristbands, you can personalize your watch to match every situation and style.
- Polar Vantage V3 supports over 150 different sports. Add your favorite sports to your watch in Polar Flow.

We are continuously developing our products for a better user experience. To keep your watch up to date and get the best performance, always make sure to update the firmware whenever a new version is available. The firmware updates enhance the functionality of your watch through improvements.

TAKE FULL ADVANTAGE OF YOUR POLAR VANTAGE V3

Get connected to the Polar ecosystem and get the most out of your watch.

POLAR FLOW APP

Get the Polar Flow app from the App Store® or Google Play™. Sync your watch with the Flow app after training, and get an instant overview and feedback on your training results and performance. In the Flow app you can also see how active you've been during the day, how your body has recovered from training and stress during the night and how well you have slept. Based on the Nightly Recharge automatic overnight measurement and other parameters we have measured from you, you get personalized tips in the Flow app on exercise, and tips on sleep and regulating your energy levels on those particularly rough days.

POLAR FLOW WEB SERVICE

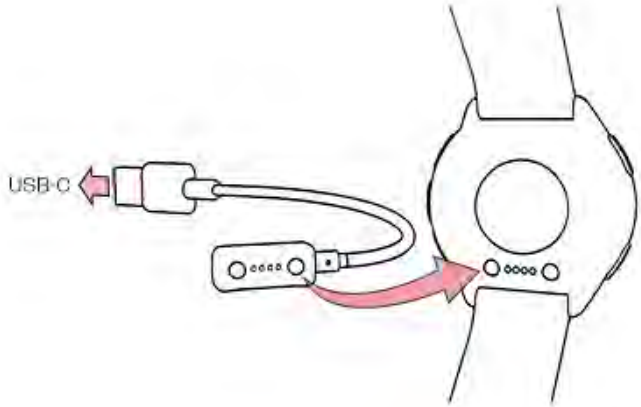
Sync your training data to the Polar Flow web service with the FlowSync software on your computer or via the Flow app. In the web service you can plan your training, track your achievements, get guidance and see a detailed analysis of your training results, activity and sleep. Let all your friends know about your achievements, find fellow exercisers and get motivation from your social training communities.

Find all this at flow.polar.com

GET STARTED

SETTING UP YOUR WATCH

To wake up and charge your watch, plug it into a powered USB port or a USB charger with the custom cable that came in the box. The cable magnetically snaps into place. Please note that it may take a while for the charging animation to appear on the display. We recommend that you charge the battery before you start using your watch. See Battery for detailed information on charging the battery.



Alternatively, you can wake up your watch by pressing and holding OK for 4 seconds.

To set up your watch, choose your language and preferred setup method. The watch gives you three options for setup: Browse to the option most convenient for you by swiping the display up or down. Tap the display to confirm your selection.

A. **On your phone**: Mobile setup is convenient if you don't have access to a computer with a USB port, but it might take longer. This method requires an internet connection.

B. **On your computer**: Wired computer setup is quicker and you can charge your watch at the same time, but you need a computer available. This method requires an internet connection.

> **The A and B options are recommended.** You can fill in all the physical details required for accurate training data at once. You can also choose your language and get the latest firmware for your watch.

C. **On your watch**: If you don't have a compatible mobile device and can't get to a computer with an internet connection right away, you can start from the watch. **Please note that when you do the setup from the watch, your watch is not yet connected with Polar Flow. It's important that you do the setup later via option A or B to get the latest firmware updates to your Vantage V3.** In Flow you can also see a detailed analysis of your training, activity and sleep data.

OPTION A: SET UP WITH A PHONE AND POLAR FLOW APP

> Please note that you have to do the pairing in the Flow app and **NOT in your phone's Bluetooth settings**.

1. Keep your watch and phone close to each other during setup.
2. Make sure your phone is connected to the internet and turn on Bluetooth.
3. Download the Polar Flow app from the App Store or Google Play on your phone.
4. Open the Flow app on your phone.
5. The Flow app recognizes your watch nearby and prompts you to start pairing it. Tap the **Start** button on the Flow app.

6. When the **Bluetooth Pairing Request** confirmation message appears on your phone, check that the code shown on your phone matches the code shown on your watch.
7. Accept the Bluetooth pairing request on your phone.
8. Confirm the pin code on your watch by tapping the display.
9. **Pairing done** is displayed once the pairing is completed.
10. Sign in with your Polar account or create a new one. We'll walk you through the sign-up and setup within the app.

When you're done with the settings, tap **Save and sync** and your settings are synced to your watch.

> If you're prompted to update the firmware, please plug your watch into a power source to ensure a flawless update operation, and then accept the update.

OPTION B: SET UP WITH YOUR COMPUTER

1. Go to flow.polar.com/start and download and then install the Polar FlowSync data transfer software onto your computer.
2. Sign in with your Polar account or create a new one. Plug your watch into your computer's USB port with the custom cable that came in the box. We'll walk you through the sign-up and setup within the Polar Flow web service.

OPTION C: SET UP FROM THE WATCH

Adjust the values by swiping the display and tap to confirm your selection. If you want to return and change a setting at any point, press the button until you reach the setting you want to change.

> Please note that when you do the setup from the watch, your watch is not yet connected with Polar Flow. Firmware updates for your watch are available only through Polar Flow. To make sure you get to enjoy your watch and the unique Polar features at their best, it's important that you do the setup later with the Polar Flow mobile app or in the Polar Flow web service by following the steps in option A or B.

BUTTON FUNCTIONS AND TOUCH DISPLAY

BUTTON FUNCTIONS

Your watch has five buttons that have different functionalities depending on the situation of use. See the tables below to find out what functionalities the buttons have in different modes.

TIME VIEW AND MENU

LIGHT / ECG	BACK	OK	UP/DOWN
Illuminate the display Press and hold to lock buttons and touch display When recording an ECG, place your finger on this button. For detailed instructions, see Wrist ECG measurement.	Enter the menu Return to the previous level Leave settings unchanged Cancel selections Press and hold to return to time view from menu In time view, press and hold to start pairing and syncing	Confirm the selection shown on the display Press and hold to enter pre-training mode Press to view more details about the information shown on the watch face	Change the watch face in time view Move through selection lists Adjust a selected value

PRE-TRAINING MODE

LIGHT	BACK	OK	UP/DOWN
Illuminate the display Press and hold to lock buttons Press to enter quick menu	Return to time view	Start a training session	Move through sports list

DURING TRAINING

LIGHT	BACK	OK	UP/DOWN
Illuminate the display Press and hold to lock buttons	Pause training by pressing once To stop the session, press and hold when paused	Mark a lap Open map settings in map navigation view Continue training recording when paused	Change training view

COLOR TOUCH DISPLAY

The color touch display lets you easily swipe between views, through lists and menus, as well as choose items by tapping the display.

- Tap the display to confirm selections and choose items.
- Swipe up or down to scroll the menu.
- Swipe left or right in time view to access the views.
- Swipe down from the top of the display in time view to access the quick settings menu.
- Swipe up from the bottom of the display in time view to see notifications.
- Tap the display to see more detailed information.

Note that the touch display is disabled during training sessions. To ensure proper function of the touch display wipe any dirt, sweat or water off the display with a cloth. The touch display won't respond properly when trying to use it wearing gloves.

GESTURES

Backlight activation

The backlight is automatically switched on when you turn your wrist to look at the watch.

View Notifications

View the notifications by swiping up from the bottom of the display or by turning your wrist to look at the watch immediately after the watch vibrates. The red dot at the bottom of the display indicates you have new notifications. For more information, see Phone notifications.

Mark a lap during training

Slap the display firmly with your fingers to mark a lap during a training session. For more information, see How to mark a lap during training.

WATCH FACE, VIEWS AND MENU

WATCH FACE

You can customize the Polar Vantage V3 watch face by choosing different styles and colors from a set of pre-defined options. In addition, you can choose the widgets displayed on the watch face. Widgets allow you to see information at a glance and they also provide quick access to functions. Find out more in Watch face settings.

VIEWS

Swipe left or right from the watch face to access Polar Vantage V3 views. In the views, you'll have a variety of timely and relevant data ready at your fingertips. Scroll through the views by swiping left or right and open a more detailed view by tapping the display. You can choose the views you want to be displayed. For more information, see Choose views.

MENU

Enter the menu by pressing the button and browse through the menu by swiping up or down. Confirm selections by tapping the display, and return with the button.

Start training

From here you can start your training sessions. Tap the display or press OK to enter the pre-training mode, then browse to the sport profile you want to use.

You can also enter the pre-training mode by pressing and holding OK in the time view.

See Start a training session for detailed instructions.

Serene guided breathing exercise

First, choose **Serene** and then choose **Start exercise** to start the breathing exercise.

For more information, see Serene™ guided breathing exercise.

Strava Live Segments

Strava live segments

View information about the Strava segments synced to watch. If you haven't connected your Flow account with a Strava account or haven't synced any segments to your watch, you can also find guidance here.

For more information see Strava live segments.

Fueling

Stay energized throughout your session with the FuelWise™ fueling assistant. FuelWise™ includes three reminders that remind you to refuel and help you maintain adequate energy levels during your long sessions. These are Smart carbs reminder, Manual carbs reminder and Drink reminder.

For more information see Fuelwise.

In **Timers** you'll find an alarm, a stopwatch and a countdown timer.

Alarm

Set alarm repetition: **Off, Once, Monday to Friday** or **Every day**. If you choose **Once, Monday to Friday** or **Every day**, also set the time for the alarm.

When the alarm is set on, a clock icon is displayed in the time view.

Stopwatch

To start the stopwatch, tap the top half of the display. To add a lap, tap again. To pause the stopwatch, press the button.

Countdown Timer

You can set the countdown timer to count down from a preset time.

Set the countdown time, and tap to confirm and start the countdown timer. The countdown timer is added to the top of the watch face.

At the end of the countdown, the watch notifies you by vibrating. Tap to restart the timer, or tap to cancel and return to the time view.

During training you can use interval timer and countdown timer. Add the timer views to training views in the sport profile settings in Flow and sync the settings to your watch. For more information on using timers during training, see During training.

Orthostatic test

You can take the Orthostatic test, view your latest results compared to your average and reset the test period.

See Orthostatic test for detailed instructions.

Leg recovery test

The Leg Recovery Test tells you whether your legs are ready for high intensity training in just a couple of minutes without any specialist equipment – all you need is your watch.

For more information see Leg Recovery Test.

SpO2

The SpO2 test measures your blood oxygen level (SpO2), which represents the percentage of oxygen in your blood. It can help you understand how your body adapts to certain situations, such as high altitudes.

For more information see SpO2 measurement.

ECG

The ECG test records the timing and strength of electrical signals generated by your heart. Based on this, we give you a graph of your ECG signal, as well as your average heart rate, heart rate variability, beat-to-beat interval and pulse transit times (PTT). You can track these to keep an eye on the health of your heart and arteries.

For more information see Wrist ECG measurement.

Walking test

You can use the Walking Test to keep track of how your aerobic fitness is developing. It's simple, safe and easy to repeat.

For more information see Walking Test.

Running test

The Running Performance Test helps you keep track of your progress and personalize your heart rate and speed zones.

For more information see Running Performance Test.

Cycling test

The Cycling Performance Test allows you to personalize your power zones and tells you your personal functional threshold power. Cycling power sensor required.

For more information see Cycling Performance Test.

Fitness test

Measure your fitness level easily with wrist-based heart rate while you lie down and relax.

For more information see Fitness Test with wrist-based heart rate.

You can edit the following settings on your watch:

- **General settings**
- **Choose views**
- **Watch face**
- **Time & Date**
- **Physical settings**

For more information, see Settings.

In addition to the settings available on your watch, you can edit Sport Profiles in the Polar Flow web service and app. Customize your watch with your favorite sports and the information you want to follow during your training sessions. See Sport Profiles in Flow for more information.

BACKLIGHT AND DISPLAY SETTINGS

BACKLIGHT ACTIVATION

The backlight is not constantly on to save the battery of your watch. The backlight is automatically switched on when you turn your wrist to look at the watch.

The backlight activation gesture is **disabled**, when **Do not disturb** is switched on. You can activate the backlight when **Do not disturb** is on by pressing the button. See **Quick settings** for further information.

BACKLIGHT BRIGHTNESS

You can adjust the backlight brightness from **General settings** by choosing **High**, **Medium** or **Low**.

Backlight brightness is set to **High** by default. You can save battery life by turning down the backlight brightness.

The display has an ambient light sensor that automatically adjusts brightness to suit the ambient light in your surroundings.

ALWAYS ON DISPLAY

You can choose whether you want the screen to dimly show the time or to turn off completely when it's inactive. By default, the screen turns off completely. To change the setting, go to **General Settings** > **Display always on** and choose **Show time**.

Please note that the always on (**Show time**) selection will drain your battery much faster than the default setting.

Always on display is **disabled**, when **Do not disturb** is switched on.

During training

You can find the **Display always on** setting from the quick menu in pre-training mode and during a session when paused. With always on chosen the watch display will be illuminated throughout your training session.

1. In pre-training mode, press the LIGHT button or tap ⚙ to enter the quick menu. During training: Press BACK to pause your session, and then press the LIGHT button to enter the quick menu.
2. Choose **Display always on**, and choose **Off**, **For this session only** or **For this sport**.

If you choose **For this session only**, the setting will default back to **Off** after you finish your training session. If you choose **For this sport**, the setting will also apply in future training sessions with this sport.

Please note that the always on setting will drain your battery much faster than the default setting, and may also impact the lifespan of your display. The default settings are optimized for battery life and display longevity.

PAIRING A PHONE WITH YOUR WATCH

Before you can pair a phone with your watch, you need to setup your watch in the Polar Flow web service or with the Polar Flow mobile app as described in chapter Setting up your watch. If you did the setup for your watch with a phone, your watch has already been paired. If you did the setup with a computer and would like to use your watch with Polar Flow app, please pair your watch and phone as follows:

Before pairing a phone:

- download Flow app from the App Store or Google Play
- make sure your phone has Bluetooth turned on, and airplane mode/flight mode is not turned on.
- **Android users:** make sure location is enabled for the Polar Flow app in the phone's application settings.

To pair a phone:

1. On your mobile device, open Flow app and sign in with your Polar account, which you have created when setting up your watch.

   ⓘ **Android users**: If you have several Flow app compatible Polar devices in use, make sure you have chosen Vantage V3 as the active device in the Flow app. This way Flow app knows to connect to your watch. In the Flow app, go to **Devices** and choose Vantage V3.

2. On your watch, press and hold BACK in time mode **OR** go to **Settings > General settings > Pair and sync > Pair and sync phone** and press OK.
3. **Open Flow app and bring your watch close to phone** is displayed on your watch.
4. When the **Bluetooth Pairing Request** confirmation message appears on your mobile device, check that the code shown on your mobile device matches the code shown on your watch.
5. Accept the Bluetooth pairing request on your mobile device.
6. Confirm the pin code on your watch by pressing the OK.
7. **Pairing done** is displayed once the pairing is completed.

DELETE A PAIRING

To delete a pairing with a phone:

1. Go to **Settings > General settings > Pair and sync > Paired devices** and press OK.
2. Choose the device you want to remove from the list and press OK.
3. **Remove pairing?** is displayed. Confirm by pressing OK.
4. **Pairing removed** is displayed when you are done.

UPDATING THE FIRMWARE

To keep your watch up to date and to get the best performance, always make sure to update the firmware whenever a new version is available. Firmware updates are performed to improve the functionality of your watch.

You won't lose any data due to the firmware update. Before the update begins, the data from your watch is synced to the Flow web service.

WITH PHONE OR TABLET

You can update the firmware with your phone if you're using the Polar Flow mobile app to sync your training and activity data. The app will let you know if there's an update available and will guide you through it. We recommend that you plug the watch into a power source before starting the update to ensure a flawless update operation.

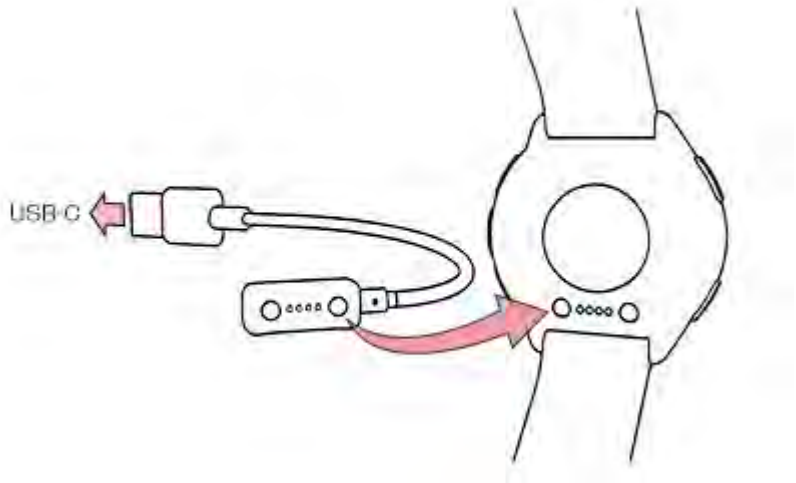
The wireless firmware update may take up to 20 minutes, depending on your connection.

WITH COMPUTER

Whenever a new firmware version is available, FlowSync will notify you when you connect the watch to your computer. The firmware updates are downloaded via FlowSync.

To update the firmware:

1. Plug your watch into your computer with the custom cable that came in the box. Make sure that the cable snaps into place. Align the ledge on the cable with the slot on your watch (marked with red).



2. FlowSync starts syncing your data.
3. After syncing, you are asked to update the firmware.
4. Choose **Yes**. The New firmware is installed (this may take up to 10 minutes), and the watch restarts. Please wait until the firmware update has been finalized before you detach the watch from your computer.

SETTINGS

GENERAL SETTINGS

To view and edit your general settings, go to **Settings > General settings**.

In **General settings** you'll find:

- **Pair and sync**
- **Bike settings** (Visible only if you have paired a cycling sensor with your watch)
- **Continuous HR tracking**
- **Recovery tracking**
- **Flight mode**
- **Display brightness**
- **Display always on**
- **Do not disturb**
- **Phone notifications**
- **Music controls**
- **Units**
- **Language**
- **Inactivity alert**
- **Vibrations**
- **I wear my watch on**
- **Positioning satellites**
- **About your watch**

PAIR AND SYNC

- **Pair and sync phone**/**Pair sensor or other device**: Pair sensors or phones with your watch. Sync data with the Flow app.
- **Paired devices**: View all the devices you have paired with your watch. These can include heart rate sensors and phones.

BIKE SETTINGS

Bike settings are visible only if you have paired a cycling sensor with your watch.

- **Wheel size**: Set the wheel size in millimeters. For instructions on measuring the wheel size, see Pairing sensors with your watch.
- **Crank length**: Set the crank length in millimeters. The setting is visible only if you have paired a power sensor.
- **Sensors in use**: View all the sensors you have linked to the bike.

CONTINUOUS HR TRACKING

Turn the Continuous Heart Rate feature **On**, **Off** or **Night-time only**. If you choose **Night-time only**, set heart rate tracking to begin at the earliest time you might go to bed.

For more information, see Continuous heart rate.

RECOVERY TRACKING

Choose how to track your recovery.

Use **Recovery Pro** for specific guidance on balancing your training load and recovery, based on Orthostatic tests and recovery questions. When set on the watch asks you to schedule an Orthostatic test for at least three days a week. Choose the days, and choose Save. For information, see Recovery Pro.

Choose **Nightly Recharge** for automatic recovery tracking and tips, based on overnight measurements. The watch asks you to turn on the Continuous heart rate tracking feature if it's not on already. Continuous heart rate tracking needs to

be enabled for Nightly Recharge to function. Choose **On** or **Night-time only**. If you choose **Night-time only**, set heart rate tracking to begin at the earliest time you might go to bed.

FLIGHT MODE

Choose **On** or **Off**.

Flight mode cuts off all wireless communication from your watch. You can still use it, but you can't sync your data with the Polar Flow mobile app or use it with any wireless accessories.

DISPLAY BRIGHTNESS

You can adjust the display brightness by choosing **High**, **Medium** or **Low**. Display brightness is set to **High** by default.

DISPLAY ALWAYS ON

Choose **Show time** if you want the screen to dimly show the time when it's inactive. Choose **Off** if you want the screen to turn off completely.

By default, the screen turns off completely. Please note that the always on (**Show time**) selection will drain your battery much faster than the default setting.

DO NOT DISTURB

Turn the Do not disturb feature **On**, **Off** or **On (-)**. Set the period when do not disturb is on. Choose when it **Starts at** and **Ends at**. When it is set on, you will not get any notifications or call alerts. Also, the backlight activation gesture and Always on display are disabled.

PHONE NOTIFICATIONS

Set phone notifications **Off**, **On, when not training**, **On, when training** or **Always on**. Notifications are available when not training and during training sessions.

MUSIC CONTROLS

Set music controls on for the training display and/or Watch face.

Choose where you want to control music in **Training display** or in **Watch face** or in both. The music controls are on by default but if you don't want to use them, you can turn them off by removing both selections. When you're done tap **Save.**

UNITS

Choose metric **(kg, cm)** or imperial **(lb, ft)**. Set the units used to measure weight, height, distance and speed.

LANGUAGE

You can choose the language you want to use on your watch. Your watch supports the following languages: **Bahasa Indonesia**, **Čeština**, **Dansk**, **Deutsch**, **English**, **Español**, **Français**, **Italiano**, **Nederlands**, **Norsk**, **Polski**, **Português**, **Русский**, **Suomi**, **Svenska**, 简体中文, 日本語 and **Türkçe**.

INACTIVITY ALERT

Set the inactivity alert **On** or **Off**.

VIBRATIONS

Set vibrations for scrolling menu items **On** or **Off**.

I WEAR MY WATCH ON

Choose **Left hand** or **Right hand**.

POSITIONING SATELLITES

Choose **Better accuracy** (dual-frequency GPS) or **Power save** (single-frequency GPS). For more information, see Positioning satellites.

ABOUT YOUR WATCH

Check the device ID of your watch, as well as the firmware version, HW model, A-GPS expiry date and the Polar Vantage V3-specific regulatory labels. Restart your watch, turn it off or reset all data and settings on it.

Restart: If you experience problems with your watch, you can try restarting it. Restarting the watch will not delete any of the settings or your personal data from the watch. You can also restart your watch by pressing and holding the button for 10 seconds.

Turn off: Turn your watch off. To turn it back on press and hold the button.

Reset all data and settings: Reset the watch back to factory settings. This will erase all data and settings on your watch.

CHOOSE VIEWS

The Polar Vantage V3 views provide you with a variety of timely and relevant data. You can access the views by swiping left or right on the watch face or using the UP and DOWN buttons. You can swipe left or right, or scroll through the watch faces with the UP and DOWN buttons and open more details by pressing the display or with the OK button. Choose the views you want to be shown from **Settings > Choose views**.

Daily activity

View your progress towards your daily activity goal and steps you've taken so far.

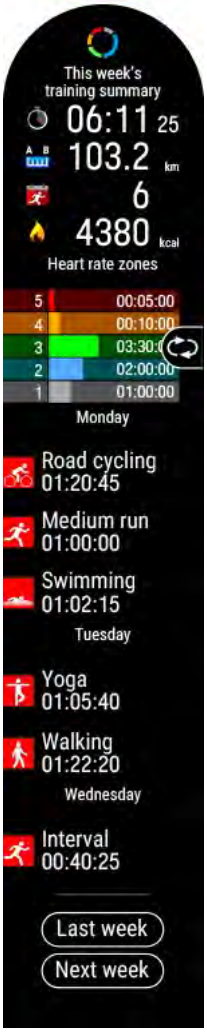
Your progress towards your daily activity goal is shown as a percentage and visualized with a circle that fills up as you are active. The amount and type of body movements are registered and turned into an estimation of steps.

In addition, when opening the details, you can see the following details of your day's accumulated activity:

- Active time tells you the cumulative time of body movements that benefit your health.
- When using the Continuous heart rate feature, you can check your current heart rate, your highest and lowest heart rate readings of the day, and also view what your lowest heart rate reading of the previous night was. You can turn the Continuous heart rate feature on, off or to night-time only mode on your watch in **Settings** > **General settings** > **Continuous HR tracking**.
- Calories you've burned through training, activity and BMR (Basal metabolic rate: the minimum metabolic activity required to maintain life).

For more information, see 24/7 Activity tracking.

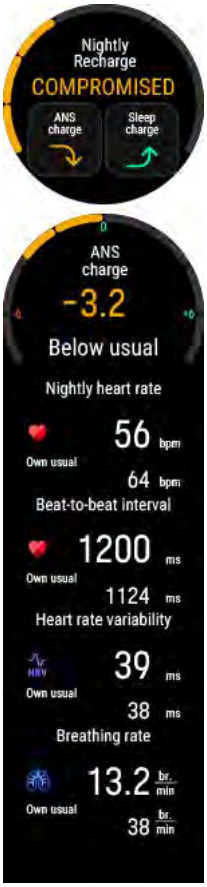
Weekly summary



View an overview of your training week. Your total training time for the week split into different training zones is illustrated on the display. Tap the display to open more details. You'll see distance, training sessions, total calories and time spent in each heart rate zone. To view more information about a single session, browse to the session you want to view and tap the display to open the summary.

In addition, you can view last week's summary and details as well as any sessions planned for next week.

Nightly Recharge



When you wake up you can see your **Nightly Recharge status**. Nightly Recharge status tells you how restorative your last night was. Nightly Recharge combines information on how well your autonomic nervous system (ANS) calmed down during the early hours of your sleep (**ANS charge**) and how well you slept (**sleep charge**). Tap **ANS charge** or **Sleep charge** to see more details.

For more information, see Nightly Recharge™ recovery measurement or Sleep Plus Stages™ sleep tracking.

Boost from sleep

The **Boost from sleep** graph shows how your recent sleep is expected to boost you throughout the day. The lighter the shade and higher the bar, the higher the boost level. **Boost score** summarizes the daily forecast into one number in order to make it easy to compare between days. Tap the display to see more details.

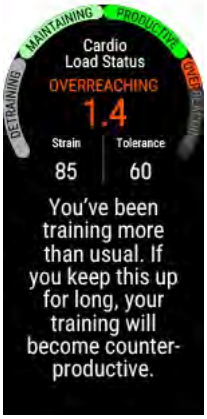
For more information, see Sleepwise™ guide to daytime alertness.

Nightly skin temperature

When your watch detects that you have woken up, it compares the skin temperature measured during sleep with your 28-day average, and shows the variation to that average. When you open the details, you'll see a graph showing the skin temperature measurements for the last 7 nights.

For more information, see Nightly skin temperature.

Cardio load status



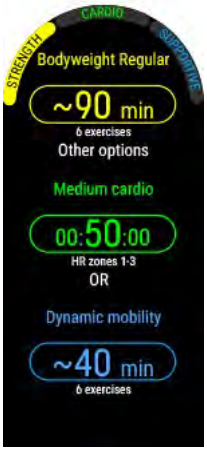
Cardio Load Status looks at the relation between your short term training load (**Strain**) and long term training load (**Tolerance**) and based on that tells you whether you are in a detraining, maintaining, productive or overreaching training load status.

In addition, you can see the numeric values for your Cardio Load Status, Strain and Tolerance, and when opening the details, also a verbal description of your Cardio load status.

- The numeric value for your Cardio load status is Strain divided by Tolerance.
- **Strain** shows you how much you have strained yourself with training lately. It shows your average daily cardio load from the past 7 days.
- **Tolerance** describes how prepared you are to endure cardio training. It shows your average daily cardio load from the past 28 days.
- Verbal description of your Cardio load status.

For more information, see Training Load Pro.

FitSpark training guide



Your watch suggests the most suitable training targets for you based on your training history, fitness level and current recovery status. Tap the display to see all the suggested training targets. Tap one of the suggested training targets to see detailed information about the training target.

For more information, see FitSpark daily training guide.

Navigation

The Navigation view shows your current altitude, the four cardinal directions, and your location on a map. Press OK to see more details.

- Tap **Map info** to view current maps on your watch and check the space used. You can also change the map or set it to be chosen automatically based on your location.
- View your current altitude, and your altitude profile for the past 6 hours.
- To calibrate your current altitude choose **Calibrate** and the calibration method: **I'll add my current altitude**, **Let my phone calibrate** or **Use watch location**.
- When not training, you can access the compass through the navigation view. To calibrate the compass scroll all the way down and choose **Calibrate**. To lock your current bearing, press **OK** in the compass view. The display will then show the deviation from your locked bearing in red.

Sunrise & sunset

Check when the sun rises, sun sets and the length of day for your current location. Tap the display to see more details.

- Sunset - dusk
- Dawn - sunrise
- Length of day

Sunrise & sunset data is automatically updated via the Flow app if you've paired your watch with it. You can also update it manually via GNSS by choosing Update.

Note that sunrise & sunset information can only be found from the sunrise & sunset view.

Weather

View the current day's hourly forecast straight from your wrist. Tap the display to view more detailed weather information including for example wind speed, wind direction, humidity and chance of rain as well as tomorrow's 3-hour and the day after tomorrow's 6-hour forecast.

For more information, see Weather.

Music controls

Control music and media playing on your phone with your watch from the Music controls view.

For more information, see Music controls.

WATCH FACE SETTINGS

Choose the watch face style and the information that appears on the watch face. Swipe up or down to view the options and confirm your choices by tapping . If at any point you want to return and change your choice, press the button to return to previous level.

LAYOUT

Choose the watch face layout from a set of pre-defined options:

- Analog watch face with four widgets
- Digital watch face with three widgets
- Digital watch face with four widgets
- Digital watch face with two widgets

HANDS AND BACKGROUND

Choose hands and/or background style. The options include, for example, the following styles:

COLOR THEME

Choose the color theme for your watch face. The available colors you can choose from are red, orange, yellow, green, blue, purple, pink and gray.

WIDGETS

Tap the plus icon to add a widget to your watch face. Scroll the list of available widgets, and tap to choose the one you want to use. When you're ready with your design, swipe up, and then tap to confirm the design.

The **Activity** widget shows your progress towards your daily activity goal as a percentage. Your daily activity goal is also visualized with a circle that fills up as you are active. By tapping the widget, you can quickly access the Daily activity view.

The **Steps** widget shows the steps you've taken so far. The amount and type of body movements are registered and turned into an estimation of steps. By tapping the widget, you can quickly access the Daily activity view.

The **Current heart rate** widget allows you to see your current heart rate on the watch face when using the Continuous Heart Rate feature. By tapping the widget, you can quickly access the Daily activity view. From the Daily activity view, you can check your current heart rate, your highest and lowest heart rate readings of the day, and also view what your lowest heart rate reading of the previous night was.

The **Calories** widget shows how much calories you've burned through training, activity and BMR (Basal metabolic rate: the minimum metabolic activity required to maintain life). By tapping the widget, you can quickly access the Daily activity view.

The **Weather** widget shows the current temperature. By tapping the widget, you can quickly access the Weather view.

By tapping the **SpO2** widget, you can quickly access the SpO2 test on your watch.

By tapping the **Navigation** widget, you can quickly access the Navigation view.

By tapping the **ECG** widget, you can quickly access the ECG test on your watch.

By tapping the **Breathing exercise** widget, you can quickly access the Serene™ guided breathing exercise on your watch.

By tapping the **Flashlight** widget you can activate flashlight mode. The display will light up at maximum brightness. To turn off the flashlight, press the BACK button.

By tapping the **Countdown timer** widget, you can quickly access the countdown timer setting. Set the countdown time, and tap the green tick to confirm and start the countdown timer. At the end of the countdown, the watch notifies you by vibrating. Tap ✓ to restart the timer, or tap ✕ to cancel and return to the time view.

The **Battery status** widget shows how much charge is left in the battery.

The **Alarm** widget shows the time for your next alarm. Tap the widget to set the alarm. Set alarm repetition: **Off, Once, Monday to Friday** or **Every day**. If you choose **Once, Monday to Friday** or **Every day**, also set the time for the alarm.

Other widget options you can choose from include **Analog seconds**, **Digital seconds**, **Date**, **Polar logo** and **Your initials**:

TIME & DATE

TIME

Set the time format: **24 h** or **12 h**.Then set the time of day.

When syncing with the Flow app and web service, the time of day is automatically updated from the service.

DATE

Set the date.

DATE FORMAT

Also set the **Date format**, you can choose **dd.mm.yyyy, dd/mm/yyyy, dd-mm-yyyy, yyyy.mm.dd, yyyy/mm/dd, yyyy-mm-dd, mm.dd.yyyy, mm/dd/yyyy** or **mm-dd-yyyy**.

When syncing with the Flow app and web service, the date is automatically updated from the service.

FIRST DAY OF WEEK

Choose the starting day of each week. Choose **Monday, Saturday** or **Sunday**.

When syncing with the Flow app and web service, the week's starting day is automatically updated from the service.

PHYSICAL SETTINGS

To view and edit your physical settings, go to **Settings > Physical settings**. It is important that you are precise with the physical settings, especially when setting your weight, height, date of birth and sex, as they have an impact on the accuracy of the measuring values, such as the heart rate zone limits and calorie expenditure.

In **Physical settings** you'll find:

- **Weight**
- **Height**
- **Date of birth**
- **Sex**
- **Training background**
- **Activity goal**
- **Preferred sleep time**
- **Maximum heart rate**
- **Resting heart rate**
- **VO_{2max}**

WEIGHT

Set your weight in kilograms (kg) or pounds (lbs).

HEIGHT

Set your height in centimeters (metric) or in feet and inches (imperial).

DATE OF BIRTH

Set your birthday. The order in which the date settings are depends on which time and date format you have chosen (24h: day - month - year/12h: month - day - year).

SEX

Select **Male** or **Female**.

TRAINING BACKGROUND

Training background is an assessment of your long-term physical activity level. Select the alternative that best describes the overall amount and intensity of your physical activity during the past three months.

- **Occasional (0-1h/week)**: You do not participate regularly in programmed recreational sport or heavy physical activity, e.g. you walk only for pleasure or exercise hard enough to cause heavy breathing or perspiration only occasionally.
- **Regular (1-3h/week)**: You participate regularly in recreational sports, e.g. you run 5-10 km or 3-6 miles per week or spend 1-3 hours per week in comparable physical activity, or your work requires modest physical activity.
- **Frequent (3-5h/week)**: You participate at least 3 times a week in heavy physical exercise, e.g. you run 20-50 km/12-31 miles per week or spend 3-5 hours per week in comparable physical activity.
- **Heavy (5-8h/week)**: You participate in heavy physical exercise at least 5 times a week, and you may sometimes take part in mass sports events.
- **Semi-pro (8-12h/week)**: You participate in heavy physical exercise almost daily, and you exercise to improve performance for competitive purposes.
- **Pro (>12h/week)**: You are an endurance athlete. You participate in heavy physical exercise to improve your performance for competitive purposes.

ACTIVITY GOAL

Daily activity goal is a good way to find out how active you really are in your everyday life. Choose your typical activity level from three options and see how active you need to be to reach your daily activity goal.

The time you need to complete your daily activity goal depends on the level you have chosen and the intensity of your activities. Age and gender also affect the intensity you need to reach your daily activity goal.

Level 1

If your day includes only a little sports and a lot of sitting, commuting by car or public transport and so on, we recommend you pick this activity level.

Level 2

If you spend most of your day on your feet, perhaps due to the type of work you do or your daily chores, this is the right activity level for you.

Level 3

If your work is physically demanding, you're into sports or otherwise tend to be on the move and active, this is the activity level for you.

PREFERRED SLEEP TIME

Set **Your preferred sleep** time to define how long you aim to sleep every night. By default, it is set to the average recommendation for your age group (eight hours for adults from 18 to 64 years). If you feel that eight hours of sleep is too much or too little for you, we recommend you adjust your preferred sleep time to meet your individual needs. By doing this, you'll get accurate feedback on how much sleep you got in comparison to your preferred sleep time.

MAXIMUM HEART RATE

Set your maximum heart rate, if you know your current maximum heart rate value. Your age-predicted maximum heart rate value (220-age) is displayed as a default setting when you set this value for the first time.

HR_{max} is used to estimate energy expenditure. HR_{max} is the highest number of heartbeats per minute during maximum physical exertion.The most accurate method for determining your individual HR_{max} is to perform a maximal exercise stress test in a laboratory. HR_{max} is also crucial when determining training intensity. It is individual and depends on age and hereditary factors. To find out your maximum heart rate you can take the Running Performance Test.

RESTING HEART RATE

Your resting heart rate is the lowest number of heartbeats per minute (bpm) when fully relaxed and without distractions. Your age, fitness level, genetics, health status and sex affect the resting heart rate. A typical value for an adult is 55–75 bpm, but your resting heart rate can be significantly lower than that, for example, if you're very fit.

It's best to measure your resting heart rate in the morning after a good night's sleep, right after you wake up. It's OK to go to the bathroom first if it helps you to relax. Don't do any strenuous training leading up to the measurement and make sure you're fully recovered from any activity. You should do the measurement more than once, preferably on consecutive mornings, and calculate your average resting heart rate.

To measure your resting heart rate:

1. Wear your watch. Lie down on your back and relax.
2. After about 1 minute, start a training session on your wearable. Choose any sport profile, for example Other indoor.
3. Lie still and breathe calmly for 3–5 minutes. Don't look at your training data during the measuring.
4. Stop the training session on your Polar device. Sync the wearable with the Polar Flow app or web service and check the training summary for the value of your lowest heart rate (HR min)—this is your resting heart rate. Update your resting heart rate to your physical settings in Polar Flow.

VO_{2MAX}

Set your $VO2_{max}$.

$VO2_{max}$ (maximal oxygen uptake, maximal aerobic power) is the maximal rate at which oxygen can be used by the body during maximal exercise; it is related directly to the maximal capacity of the heart to deliver blood to the muscles. $VO2_{max}$ can be measured or predicted by fitness tests (e.g. maximal exercise tests and submaximal exercise tests). To find out your $VO2_{max}$ you can take the Running Performance Test or the Cycling Performance Test.

QUICK SETTINGS

Quick settings menu

Swipe down from the top of the display in time view to pull down the **Quick settings** menu. Swipe left or right to browse and tap to choose a feature.

Tap ⊕ to customize what features you want to see in the quick settings menu. Choose from **Screen lock**, **Alarm**, **Countdown timer**, **Do not disturb**, **Flight mode** and **Flashlight**.

- **Alarm**: Set alarm repetition: **Off, Once, Monday to Friday** or **Every day**. If you choose **Once, Monday to Friday** or **Every day**, also set the time for the alarm.
- **Countdown timer**: Swipe up or down to set the countdown time, and tap the green tick to confirm and start the countdown timer.
- **Do not disturb**: Tap the do not disturb icon to switch it on and tap again to switch it off. When do not disturb is switched on, you will not get any notifications or call alerts. Also, the backlight activation gesture is disabled.
- **Flight mode**: Tap the flight mode icon to switch it on and tap again to switch it off. Flight mode cuts off all wireless communication from your watch. You can still use it, but you can't sync your data with the Polar Flow mobile app or use it with any wireless accessories.
- **Flashlight**: Tap the flashlight icon to activate flashlight mode. The display will light up at maximum brightness. To turn off the flashlight, press the BACK button.

Battery status icon shows how much charge is left in the battery.

DISPLAY ICONS

Flight mode is on. Flight mode cuts off all wireless communication from your watch. You can still use it, but you can't sync your data with the Polar Flow mobile app or use it with any wireless accessories.

Do not disturb mode is on. When do not disturb is switched on, you will not get any notifications or call alerts. Also, the backlight activation gesture is disabled.

Vibrating alarm is set. To set the alarm, go to **Timers > Alarm**.

Your paired phone is disconnected and you have notifications and/or music controls turned on. Check that your phone is within Bluetooth range from your watch and Bluetooth is enabled on your phone.

Button lock is on. You can unlock the buttons by pressing and holding the LIGHT button.

RESTARTING AND RESETTING

If you experience problems with your watch, you can try restarting it. Restarting the watch will not delete any of the settings or your personal data from the watch.

TO RESTART THE WATCH

1. On your watch, press the BACK button, and go to **Settings** > **General settings** > **About your watch**.
2. Scroll all the way down and choose **Restart your watch**.

You can also restart your watch by pressing and holding the button for 10 seconds.

TO RESET THE WATCH TO FACTORY SETTINGS

If restarting your watch didn't help, you can reset the watch back to factory settings. Note that resetting the watch back to factory settings empties all personal data and settings from the watch, and you will need to set it up again for your personal use. All data that you have synced from your watch to your Flow account is safe. You can do the factory reset via FlowSync or from the watch.

Factory reset via FlowSync

1. Go to flow.polar.com/start and download and then install the Polar FlowSync data transfer software onto your computer.
2. Connect your watch to the computer's USB port.
3. Open settings in FlowSync.
4. Press the **Factory Reset** button.
5. If you use Flow app to sync, check the list of paired Bluetooth devices on your phone, and remove your watch from the list if it's there.

Factory reset from the watch

1. On your watch, press the BACK button, and go to **Settings** > **General settings** > **About your watch**.
2. Scroll all the way down and choose **Reset data**.

After resetting back to factory settings you need to set up your watch again, either via mobile or computer. Just remember to use the same Polar account in the setup you've used before resetting.

WRIST-BASED HEART RATE MEASUREMENT

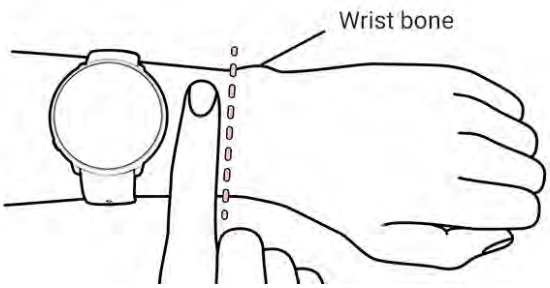
Your watch measures your heart rate from the wrist with the **Polar Precision Prime**™ sensor fusion technology. This new heart rate innovation combines optical heart rate measurement with skin contact measurement, ruling out any disturbances to the heart rate signal. It tracks your heart rate accurately even in the most demanding conditions and training sessions.

Although there are many subjective clues as to how your body is doing during exercise (perceived exertion, breathing rate, physical sensations), none of them are as reliable as measuring heart rate. It is objective and affected by both internal and external factors—meaning that you will have a dependable measure of your physical state.

WEARING YOUR WATCH WHEN MEASURING HEART RATE FROM YOUR WRIST OR TRACKING YOUR SLEEP

To measure wrist-based heart rate accurately during training, when using the Continuous heart rate and Nightly Recharge features or while tracking your sleep with Sleep Plus Stages make sure that you wear the watch correctly:

- Wear your watch on top of your wrist, at least a finger's width up from the wrist bone (see the picture below).
- Tighten the wristband firmly around your wrist. The sensor on the back must be in constant touch with your skin and the watch should not be able to move on your arm. A good way to check that the wristband is not too loose is if you push the wristband lightly up from both sides of your arm and make sure the sensor doesn't lift from your skin. When pushing the wristband up you shouldn't see the LED light shining from the sensor.
- For most accurate heart rate measurement, we advise you to wear your watch for a few minutes prior to starting the heart rate measurement. Also it's a good idea to warm up the skin if your hands and skin get cold easily. Get the blood going before starting your session!



During training you should slide the Polar device further up from the wrist bone and wear the wristband a bit more tightly to try to minimize any extra moving of the device. Give your skin a few minutes to adapt to the Polar device before starting a training session. After the training session, loosen the wristband a bit.

If you have tattoos on the skin of your wrist, avoid placing the sensor right on them as they may prevent accurate readings.

In sports where it's more challenging to keep the sensor stationary on your wrist or where you have pressure or movement in muscles or tendons near the sensor, we recommend using a Polar heart rate sensor with a chest strap if you're looking for supreme accuracy in your training. Your watch is compatible with Bluetooth® heart rate sensors, like Polar H10. The Polar H10 heart rate sensor is more responsive to rapidly increasing or decreasing heart rate, so it's the ideal option also for interval type of training with quick sprints.

To maintain the best possible performance of the wrist-based heart rate measurement, keep your watch clean and prevent scratches. After a sweaty training session, we recommend that you wash the watch under running water with a mild soap and water solution. Then wipe it dry with a soft towel. Let it fully dry before charging.

WEARING YOUR WATCH WHEN NOT MEASURING HEART RATE FROM YOUR WRIST OR TRACKING YOUR SLEEP/NIGHTLY RECHARGE

Loosen the wristband a bit for a more comfortable fit and to let your skin breathe. Wear the watch just as you would wear a normal watch.

> Every once in a while it's a good idea to let your wrist have a breather, especially if you have sensitive skin. Take off your watch and recharge it. This way both your skin and your watch can have a rest, and be ready for your next training event.

START A TRAINING SESSION

1. Wear your watch and tighten the wristband.
2. To enter the pre-training mode, press and hold OK in time view or press BACK to enter the main menu and choose **Start training**

From the pre-training mode, you can access quick menu by tapping the icon or with the LIGHT button. The options displayed in the quick menu depend on the sport you have chosen and whether you are using GPS.

You can, for example, choose a favorite training target or route you want to perform and add timers to your training views. Power save options are also set on from here. For more information, see Quick menu.

After your choice the watch returns to the pre-training mode.

3. Browse to your preferred sport.
4. Stay in the pre-training mode until the watch has found your heart rate and the GPS satellite signals (if applicable to your sport) to make sure your training data is accurate. To catch GPS satellite signals, go outdoors and away from tall buildings and trees. Keep your watch still with the display upwards and avoid touching the watch during the GPS signal search.

> If you have paired an optional Bluetooth sensor with your watch, the watch will automatically start searching for the sensor signal as well.

~ 38h Estimated training time with current settings. By using power save settings, the estimated training time can be extended.

89 The watch has found your heart rate when your heart rate is shown.

89 When you're wearing a Polar heart rate sensor that's paired with your watch, the watch automatically uses the connected sensor to measure your heart rate during training sessions. A blue circle around the heart rate symbol indicates that your watch uses the connected sensor to measure your heart rate.

The circle around the GPS icon will turn orange when the minimum amount of satellites (4) needed for the GPS fix are found. You can start your session but for better accuracy wait until the circle turns green.

The circle around the GPS icon will turn green when the GPS is ready. The watch notifies you with a vibration.

Your paired phone is connected and phone notifications, music controls or the voice guidance feature is turned on.

5. When all signals are found, press OK to start training recording.

See During Training for more information on what you can do with your watch during training.

START A PLANNED TRAINING SESSION

You can plan your training and create detailed training targets in the Polar Flow app or the Polar Flow web service and sync them to your watch.

To start a planned training session scheduled for the current day:

1. Enter the pre-training mode by pressing and holding OK in time view.
2. You'll be prompted to start a training target you've scheduled for the day.

3. Press OK to view the target information.
4. Press OK to return to pre-training mode, and choose the sport profile you want to use.
5. When the watch has found all the signals, press OK. **Recording started** is displayed and you can start training.

Your watch will guide you towards completing your target during training. See During Training for more information.

Your planned training targets will also be included in the FitSpark training suggestions.

START A MULTISPORT TRAINING SESSION

Multisport allows you to include multiple sports in one training session, and seamlessly switch between sports without interrupting your training recording. During a multisport training session your transition times between sports are automatically monitored, allowing you to see how long it took you to switch from one sport to another.

There are two different ways to perform a multisport training session: fixed multisport and free multisport. In a fixed multisport (multisport profiles in the Polar sports list) like triathlon, the order of the sports is fixed, and they must be

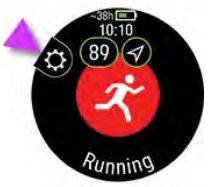
performed in that specific order. In free multisport, you can choose what sports you perform and in which order you perform them by selecting them from the sport list. You can also switch back and forth between sports.

Before starting a multisport training session, make sure that you have set the sport profile settings for each of the sports that you are going to use for the training session. For more information, see Sport profiles in Flow.

1. Press BACK to enter the main menu, choose **Start training**, and then browse to a sport profile. Choose Triathlon, Free multisport or any other multisport profile (can be added in the Flow web service).
2. Once your watch has found all the signals, press OK. **Recording started** is displayed and you can start training.
3. To change the sport press BACK to go to transition mode.
4. Choose your next sport, and press OK (your transition time is shown) and continue training.

QUICK MENU

You can access the quick menu from pre-training mode, during a session when paused and during transition mode in multisport sessions. In pre-training mode it can be accessed by tapping the icon or with the LIGHT button. In pause and transition mode it can only be accessed with the LIGHT button.



The options displayed in the quick menu depend on the sport you have chosen and whether you are using GPS.

Power save settings:

The power save settings allow you to extend your training time by changing the **GPS recording rate** and setting **Wrist-based heart rate** off. These settings let you optimize battery usage and get more training time for extra long sessions or when the battery is running low.

For more information, see Power save settings

Display always on:

Choose **Display always on**, and choose **Off**, **For this session only** or **For this sport**

With always on chosen the watch display will be illuminated throughout your training session. If you choose **For this session only**, the setting will default back to **Off** after you finish your training session. If you choose **For this sport**, the setting will also apply in future training sessions with this sport.

Please note that the always on setting will drain your battery much faster than the default setting.

Share HR with other devices:

In heart rate sensor mode you can turn your watch into a heart rate sensor and share your heart rate with other Bluetooth devices like training apps, gym equipment or cycling computers. For more information, see HR sensor mode.

Calibrate compass

Follow the instructions on the display to calibrate the compass.

Training suggestions:

Training suggestions shows you the daily FitSpark training suggestions.

Pool length:

When using the Swimming/Pool swimming profile, it's important that you choose the correct pool length, as it affects pace, distance and stroke calculation, as well as your SWOLF score. Tap **Pool length** to access the Pool length setting and change the previously set pool length if necessary. The default lengths are 25 meters, 50 meters and 25 yards, but you can also set it manually to a custom length. The minimum length that can be chosen is 17 meters/yards.

> The pool length setting is only available in the pre-training mode from the quick menu.

Calibrate power sensor:

If you have paired a third-party cycling power sensor with your watch, you can calibrate the sensor from the quick menu. First, choose one of the cycling sport profiles and wake up the transmitters by rotating the cranks. Then choose **Calibrate power sensor** from the quick menu and follow the on-screen instructions to calibrate your sensor. For calibration instructions specific to your power sensor, see the manufacturer's instructions.

Calibrate stride sensor:

There are two ways to manually calibrate your stride sensor via the quick menu. Choose one of the running sport profiles and then choose **Calibrate stride sensor** > **Calibrate by running** or **Calibration factor**.

- **Calibrate by running**: Start the training session and run a distance you know. The distance has to be more than 400 meters. When you have ran the distance, press OK to take a lap. Set the actual distance you have ran and press OK. The calibration factor is updated.

  > Please note that interval timer cannot used during the calibration. If you have set the interval timer on, the watch will ask you to turn it off to enable manual stride sensor calibration. You can turn the timer on from the pause mode quick menu after calibration.

- **Calibration factor**: Set the calibration factor manually if you know the factor which gives you accurate distance.

For detailed instructions on manual and automatic calibration of a stride sensor, see Calibrating a Polar stride sensor with Grit X/Vantage V/Vantage M.

> This option is shown only if you have paired a stride sensor with your watch.

Favorites:

In Favorites you'll find training targets that you have saved as favorites in the Flow web service, and synced to your watch. Choose a favorite training target you want to perform. After your choice, the watch returns to the pre-training mode where you can start the training session.

For more information, see Favorites.

Race pace:

The Race Pace feature helps you keep a steady pace and achieve your target time for a set distance. Define a target time for the distance - 45 minutes for a 10k run for example and follow how far behind or ahead you are compared to your pre-set target. You can also check what the steady pace/speed to meet your target is.

Race Pace can be set on your watch. Just choose the distance and target duration and you're ready to go. You can also set a Race Pace target in the Flow web service or app, and sync it to your watch.

For more information, see Race Pace.

Interval timer:

You can set time and/or distance based interval timers to precisely time work and recovery phases in your interval training sessions.

To add interval timer to your training views for the session, choose **Timer for this session** > **On**. You can use a previously set timer or create a new timer by returning to the quick menu and choosing **Interval timer** > **Set interval timer**:

1. Choose **Time-based** or **Distance-based**: **Time-based**: Define minutes and seconds for the timer and press OK. **Distance-based**: Set the distance for the timer and press OK. **Set another timer?** is shown. To set another timer, press OK.
2. When completed, the watch returns to pre-training mode where you can start the training session. The timer starts when you start the training session.

For more information, see During Training.

Countdown timer:

To add countdown timer to your training views for the session, choose **Timer for this session** > **On**. You can use a previously set timer or create a new timer by returning to the quick menu and choosing **Countdown timer** > **Set timer**. Set the countdown time, and press OK to confirm. When completed, the watch returns to pre-training mode where you can start the training session. The timer starts when you start the training session.

For more information, see During Training.

Routes:

In **Routes**, you'll find the routes that you have saved as favorites in the analysis view of your training session in the Flow web service, and synced to your watch. Komoot routes are also found here.

Choose the route from the list, and then choose where you want to start the route: **Start point** (original direction), **Mid-route** (original direction), **End point to reverse direction** or **Mid-route to reverse direction**.

For more information, see Route Guidance.

Routes are only available in the pre-training mode quick menu if GPS is set on for the sport profile.

Back to start:

Turn on the Back to Start (**Via beeline**) or Track back (**Via same route**) feature.

For more information, see Track back and Back to start.

The back to start feature is only available if GPS is set on for the sport profile.

When you choose a training target for your session, the **Favorites**, **Training suggestions** and **Routes** options are crossed out in the quick menu. This is because you can only choose one target for the session. And if you choose a route for your session, the **Back to start** feature will be crossed out in the quick menu because **Routes** and **Back to start** features cannot be chosen at the same time. To change the target, choose the crossed out option and you will be asked if you want to change your target or route. Confirm with OK to choose another target.

DURING TRAINING

BROWSE THE TRAINING VIEWS

During training you can browse through the training views by swiping the display left or right. Note that the available training views and the information you see on the training views depend on the sport you've chosen and on any edits you've done to the chosen sport profile.

You can add sport profiles onto your watch and define the settings for each sport profile in the Polar Flow app and web service. You can create tailored training views for each sport you do and choose what data you want to follow during your sessions. For more information, see Sport profiles in Flow.

For example, your training views can have the following information:

Your heart rate and the heart rate ZonePointer

Distance

Duration

Pace/Speed

Your heart rate and the heart rate ZonePointer

Duration

Calories

Inclinometer

Altitude graph and your current altitude (press OK to calibrate altitude manually)

Ascent

Descent

Distance of current segment (flat, uphill or downhill)

Ascent/descent

Speed/Pace

Uphill/downhill count

Your bearing

Cardinal directions

Heart rate graph and your current heart rate

Average heart rate

Maximum heart rate

Power graph and your current power

Average power

Maximum power

Time of day

Duration

Music controls

For more information, see Music controls.

SET DISPLAY ALWAYS ON

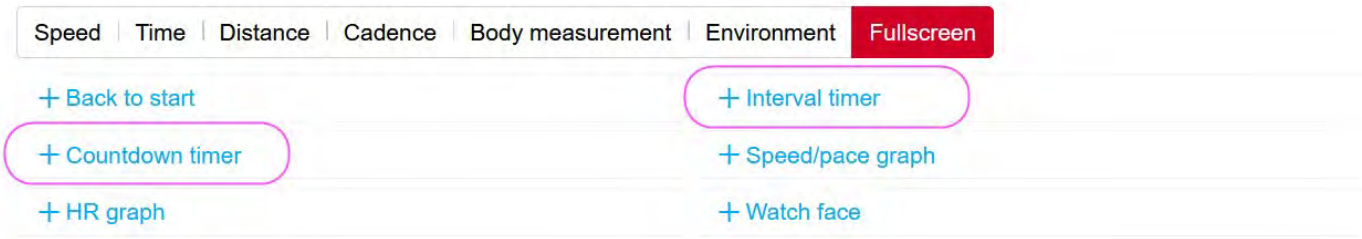
You can find the **Display always on** setting from the quick menu when the session is paused. With always on chosen the watch display will be illuminated throughout your training session.

1. Press BACK to pause your session, and then press the LIGHT button to enter the quick menu.
2. Choose **Display always on**, and choose **Off**, **For this session only** or **For this sport**. If you choose **For this session only**, the setting will default back to **Off** after you finish your training session. If you choose **For this sport**, the setting will also apply in future training sessions with this sport.

Please note that the always on setting will drain your battery much faster than the default setting, and may also impact the lifespan of your display. The default settings are optimized for battery life and display longevity.

SET TIMERS

Before you can use timers during training, you need to add the timers to your training views. You can do this either by setting the timer view on for your current training session from the Quick menu or by adding the timers to the training views of the sport profile in the Flow web service sport profile settings and syncing the settings to your watch.



See Sport Profiles in Flow for more information.

Interval Timer

> If you set the timer view on for your training session from the Quick menu, the timer starts when you start the training session. You can stop the timer and start a new timer as instructed below.

If you have added the timer in the training views of the sport profile you are using, you can start the timer as follows:

1. Browse to the **Interval timer** view and press OK. Choose **Start** to use a previously set timer or create a new timer in **Set interval timer**:
2. Choose **Time-based** or **Distance-based**: **Time-based**: Define minutes and seconds for the timer and press OK. **Distance-based**: Set the distance for the timer and press OK.
3. **Set another timer?** is shown. To set another timer, press OK.
4. When completed, choose **Start** to start the interval timer. At the end of each interval, the watch notifies you by vibrating.

To stop the timer, press OK and choose **Stop timer**.

Countdown Timer

> If you set the timer view on for your training session from the Quick menu, the timer starts when you start the training session. You can stop the timer and start a new timer as instructed below.

If you have added the timer to the training views of the sport profile you are using, start the timer as follows:

1. Browse to the **Countdown timer** view and press OK.
2. Choose **Start** to use a previously set timer or choose **Set countdown timer** to set a new countdown time. When completed, choose **Start** to start the countdown timer.
3. At the end of the countdown, the watch notifies you by vibrating. If you want to restart the countdown timer, press OK and choose **Start**.

To stop the timer, press OK and choose **Stop timer**.

LOCK A HEART RATE, SPEED OR POWER ZONE

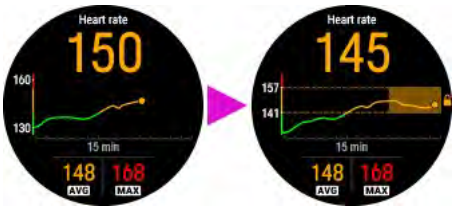
With the ZoneLock feature you can lock the zone you're currently in based on heart rate, speed/pace or power, and make sure you stay in the chosen zone during training without having to check your watch. If you go outside the locked zone during training, your watch notifies you with a vibration.

The ZoneLock feature for heart rate, speed/pace and power zones must be set on for each sport profile individually. You can set it on in the Flow web service sport profile settings under the Heart rate, Speed/Pace or Power settings.

In order to use ZoneLock to lock your speed/pace or power zone, you will also need to add the fullscreen **Speed/pace graph** or **Power graph** view to the training views of the sport profile.

Lock a heart rate zone

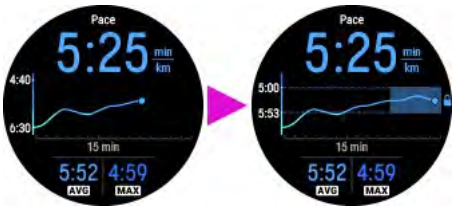
To lock the heart rate zone you are currently in, **press and hold OK** in the fullscreen **HR graph** view or in any of the views that are editable in Flow.



To unlock the zone, press and hold the OK button again.

Lock a speed/pace zone

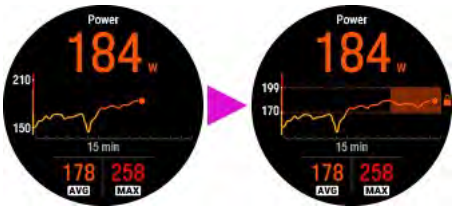
To lock the speed/pace zone you are currently in, **press and hold OK** in the fullscreen **Speed/pace graph** view .



To unlock the zone, press and hold the OK button again.

Lock a power zone

To lock the power zone you are currently in, **press and hold OK** in the fullscreen **Power graph** view.

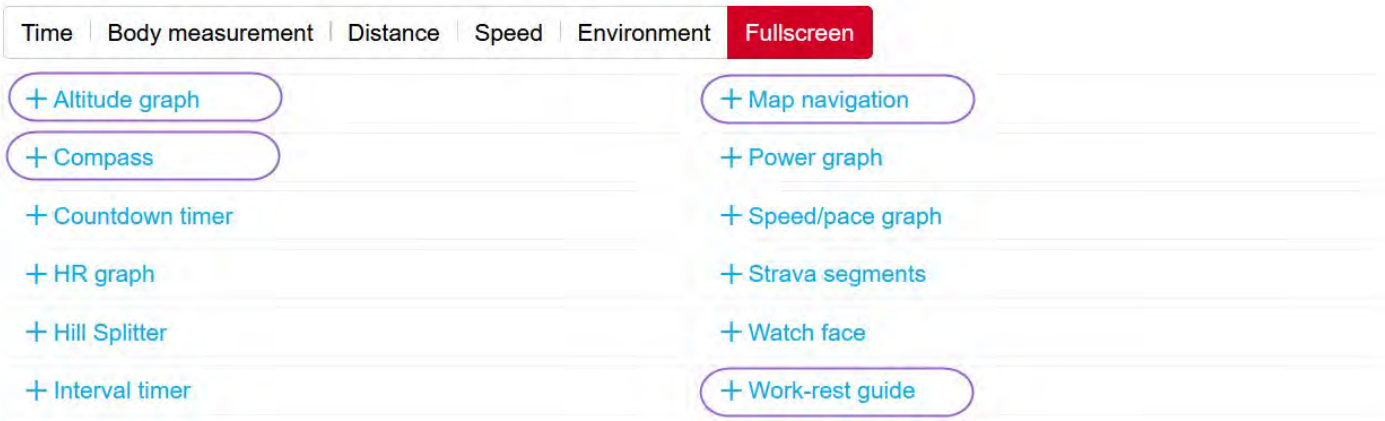


To unlock the zone, press and hold the OK button again.

MARK A LAP

Laps can be marked both manually and automatically.

To mark a lap manually, press the OK button or slap the display firmly with your fingers. You can turn the **Slap** function on in the sport profile settings in the Polar Flow app or web service. Note that in the following fullscreen views, the OK button is used for a different function. In these views, you can manually mark the lap by slapping the display.



Automatic laps can be taken based on distance, duration, or location. You can turn the automatic lap function on in the sport profile settings in the Polar Flow app or web service. If you choose **Lap distance**, set the distance after which each lap is taken. If you choose **Lap duration**, set the duration after each lap is taken. If you choose **Location-based**, a lap is taken every time you arrive at the point where you started the session.

SWITCH SPORT DURING A MULTISPORT SESSION

Press BACK, and choose the sport you want to switch to. Confirm your selection with OK.

TRAINING WITH A TARGET

If you have created a **quick training target** based on duration, distance or calories in the Flow app or web service and synced it to your watch, you have the following training target view as the default first training view:

If you've created a target based on duration or distance, you can see how much of your target you still have remaining before you reach it.

OR

If you've created a target based on calories, you can see how many calories of your target you have left to burn.

If you have created a **phased training target** in the Flow app or web service and synced the target to your watch, you have the following training target view as the default first training view:

- Depending on the chosen intensity, you can see either your heart rate or speed/pace and the lower and upper heart rate or speed/pace limit of the current phase.
- Phase name and phase number/total number of phases
- Duration/distance covered so far
- Target duration/distance of the current phase

The Voice guidance feature helps you focus on your training target by providing guidance during training phases straight to your headphones.

See Planning your training for instructions on creating training targets.

Change phase during a phased session

If you chose **manual phase change** when you created the phased target, tap the display to continue to the next phase after finishing a phase.

If your chose **automatic phase change**, the phase will change automatically when you have finished a phase. The watch notifies you by vibrating when the phase changes.

> Note that when setting very short phases (under 10 seconds) you will not get a vibration alarm when the phase is over.

View training target information

To view the training target information during training, press and hold OK in the training target view.

Notifications

If you are training outside the planned heart rate zones or speed/pace zones, your watch notifies you with a vibration.

PAUSING/STOPPING A TRAINING SESSION

Press the button to pause your training session.

To continue training, press OK. To stop the session, press and hold BACK.

> If you stop your session after pausing, the time elapsed after pausing is not included in the total training time.

Press and hold the button to stop your training session

To stop the session, press and hold BACK. You'll get a summary of your training session on your watch right after you've stopped training.

TRAINING SUMMARY

AFTER TRAINING

You'll get a summary of your training session on your watch right after you've stopped training. Get a more detailed and illustrated analysis in the Polar Flow app or in the Polar Flow web service.

The information shown in your summary depends on the sport profile and data collected. For example, your training summary can include the following information:

Start time and date

Duration of the session

Distance covered in the session

Heart rate

Your average and maximum heart rate during the session.

Your Cardio load from the session

Heart rate zones

Training time spent in different heart rate zones

Energy used

Energy used during the session

Carbs

Protein

Fat

For more information, see Energy Sources

Pace/Speed

Average and maximum pace/speed of the session

Running Index: Your running performance class and numerical value. Find out more from chapter Running Index.

Speed zones

Training time spent in different speed zones

Cadence

Your average and maximum cadence for the session

Running cadence is measured with a built-in accelerometer from your wrist movements. Cycling cadence is shown if you have a Polar Cadence Sensor Bluetooth® Smart in use.

Altitude

Maximum altitude during the session

Ascended meters/feet during the session

Descended meters/feet during the session

Power

Average power

Maximum power

Muscle load

Power zones

Training time spent in different power zones

Running power is measured from the wrist when using a running type sport profile and GPS is available. Cycling power is shown when using a cycling type sport profile and you have an external cycling power sensor in use.

Hill Splitter

Total number of uphills and downhills

Total uphill and downhill distance

Press OK to view ascent/descent details per hill

For more information, see Hill Splitter

Laps/Automatic laps

The number of laps, your best lap and average duration of laps.

You can scroll through the following details by pressing OK:

- Duration of each lap (the best lap is highlighted in yellow)
- Distance of each lap
- Average and maximum heart rate of each lap in the color of the heart rate zone
- Average speed/pace of each lap

Multisport Summary

Multisport summary includes an overall summary of the session as well as sport specific summaries, which include duration and distance covered in the sport.

To view your training summaries later on your watch:

From the watch face, swipe left or right to navigate to the **Weekly summary** view, and then tap the display. Browse to the training session you want to view by swiping up or down and tap the training session to open the summary. Your watch can contain a maximum of 20 training summaries.

TRAINING DATA IN THE POLAR FLOW APP

Your watch syncs with the Polar Flow app automatically after you finish a training session if your phone is within the Bluetooth range. You can also sync your training data manually from the watch to the Flow app by pressing and holding the button of your watch when you're signed in to the Flow app and your phone is within the Bluetooth range. In the app you can analyze your data at a glance after each session. The app allows you to see a quick overview of your training data.

For more information, see Polar Flow App.

TRAINING DATA IN THE POLAR FLOW WEB SERVICE

Analyze every detail of your training and learn more about your performance. Follow your progress and also share your best sessions with others.

For more information, see Polar Flow Web Service.

FEATURES

SMART COACHING

Whether it's balancing training and recovery, assessing your day-to-day fitness levels, creating individual training plans, working out at the right intensity or receiving instant feedback, Smart Coaching offers a choice of unique, easy-to-use features, personalized to your needs and designed for maximum enjoyment and motivation when training.

Your watch includes the following Polar Smart Coaching features:

- Nightly Recharge™ recovery measurement
- Sleep Plus Stages™ sleep tracking
- Sleepwise™ guide to daytime alertness
- Nightly Skin Temperature
- FitSpark™ daily training guide
- Work-rest guide based on your heart rate
- Serene™ guided breathing exercise
- Fitness Test with wrist-based heart rate
- Walking Test
- Running Performance Test
- Running Program
- Running Index
- Training Load Pro
- FuelWise™
- Smart calories
- Energy sources
- Training benefit
- Continuous heart rate
- 24/7 Activity tracking
- Activity Guide
- Activity Benefit

TRAINING LOAD PRO

The new Training Load Pro™ feature measures how your training sessions strain your body and helps to understand how it impacts your performance. Training Load Pro gives you a training load level for your cardiovascular system **Cardio Load**, and with **Perceived Load** you can rate how strained you feel. Training Load Pro also gives you a training load level for your musculoskeletal system (**Muscle Load**). When you know how strained each body system is, you can optimize your training by working the right system at the right time.

Cardio Load

Cardio Load is based on training impulse calculation (TRIMP), a commonly accepted and scientifically proven method to quantify training load. Your Cardio Load value tells you how much strain your training session put on your cardiovascular system. The higher the Cardio Load, the more strenuous the training session was for the cardiovascular system. Cardio Load is calculated after every workout from your heart rate data and session duration.

Perceived Load

Your subjective feeling is one useful method of estimating training load for all sports. The **Perceived Load** is a value that takes into account your own subjective experience of how demanding your training session was and the duration of your session. It's is quantified with **Rate of Perceived Exertion (RPE)**, a scientifically accepted method to quantify subjective training load. Using the RPE scale is especially useful for sports where measuring training load based on heart rate alone has its limitations, for example strength training.

Rate your session in the Flow mobile app to get your **Perceived Load** for the session. You can choose from a scale from 1-10, in which 1 is very, very easy and 10 is maximum effort.

Muscle Load

Muscle Load tells you how much your muscles were strained during your training session. Muscle Load helps you quantify your training load in high-intensity training sessions, such as short intervals, sprints and hill sessions, when your heart rate doesn't have enough time to react to the changes in the intensity.

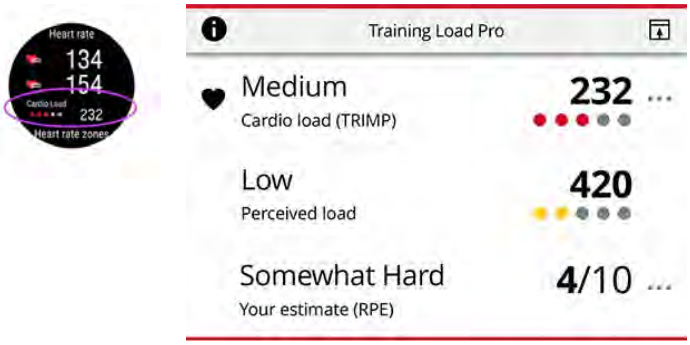
Muscle load shows the amount of mechanical energy (kJ) that you produced during a running or cycling session. This reflects your energy output, not the energy input it took you to produce that effort. In general, the fitter you are, the better the efficiency between your energy input and output. Muscle load is calculated based on power and duration. In case of running, also your weight counts.

Muscle Load is calculated from your power data, so you only get a Muscle Load value for your running workouts, and cycling sessions if you're using a separate cycling power sensor.

Training Load from a single session

Your Training Load from a single session is shown in the summary of your training session on your watch, in the Flow app and in the Flow web service.

You'll get an absolute training load number for each measured load. The higher the load, the more strain it caused to your body. In addition, you can see a visual bullet scale interpretation and a verbal description of how hard your training load from the session was compared to your 90 days training load average.



The scale of bullets and verbal descriptions adapts according to your progress: the smarter you train, the higher loads you tolerate. As your fitness and tolerance for training improves, a training load that was ranked worth 3 bullets (Medium) a couple of months ago, could rank for only 2 bullets (Low) later on. This adaptive scale reflects the fact that the same kind of training session can have a different impact on your body depending on your current condition.

- ●●●●● **Very high**
- ●●●●○ **High**
- ●●●○○ **Medium**
- ●●○○○ **Low**
- ●○○○○ **Very low**

Strain and Tolerance

In addition to the Cardio load from individual training sessions, the new Training Load Pro feature measures your short term Cardio load (Strain) and long term Cardio load (Tolerance).

Strain shows you how much you have strained yourself with training lately. It shows your average daily load from the past 7 days.

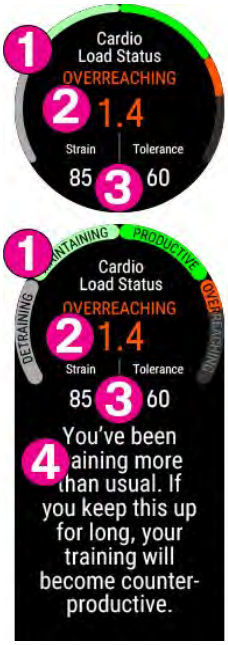
Tolerance describes how prepared you are to endure cardio training. It shows your average daily load from the past 28 days. To improve your tolerance for cardio training, you need to slowly increase your training over a longer period of time.

Cardio load status

Cardio load status looks at the relation between your **Strain** and **Tolerance** and based on that shows you whether you are in a detraining, maintaining, productive or overreaching Cardio load status. Cardio load status guides you in evaluating the impact your training has on your body and how it affects your progress. Knowing how your past training affects your performance today allows you to keep your total training volume in control and optimize the timing of training at different intensities. Seeing how your training status changes after a session helps you understand how much load was caused by the session.

Cardio load status on your watch

From the watch face, swipe left or right to view the **Cardio Load Status** view.



1. Cardio load status graph
2. **Cardio load status** and the numeric value for your Cardio load status (=Strain divided by Tolerance.)

   Overreaching (Load much higher than usual):

   Productive (Load slowly increasing)

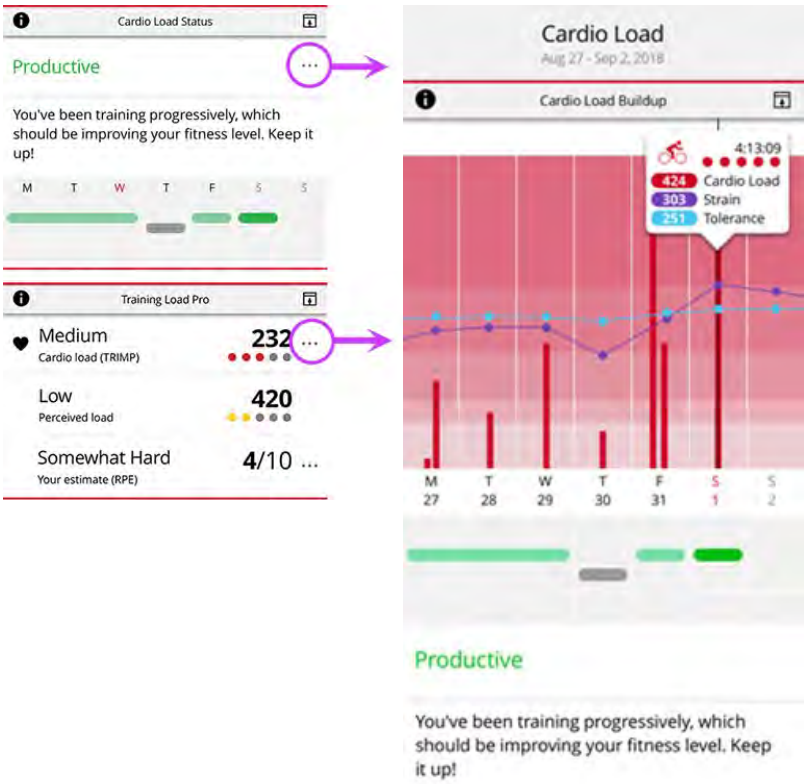
   Maintaining (Load slightly lower than usual)

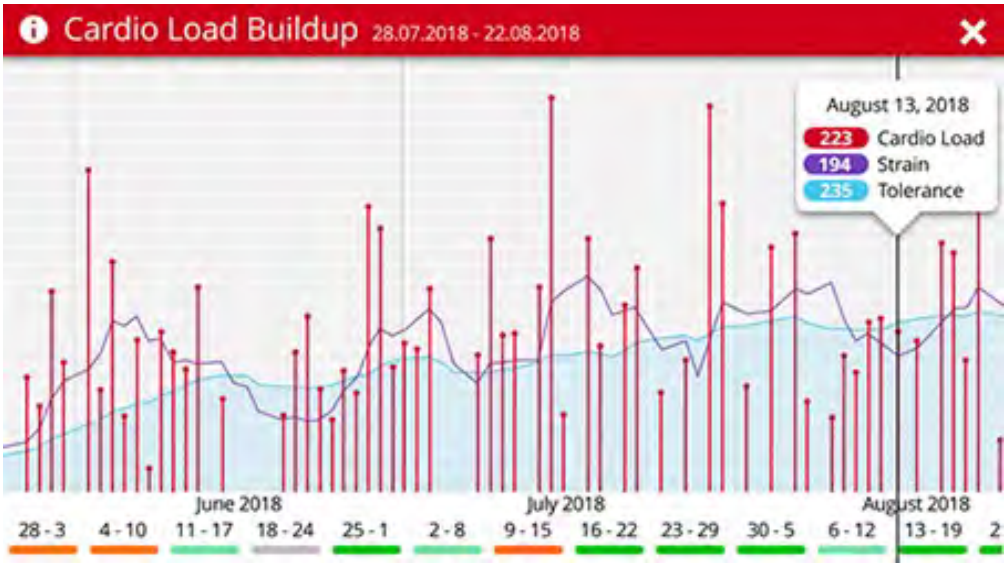
   Detraining (Load way lower than usual)

3. **Strain** and **Tolerance**
4. Verbal description of your Cardio load status

Long term analysis in the Flow app and web service

In the Flow app and web service you can follow how your Cardio Load builds up over time and see how your Cardio loads have varied over the past week or months. To view your Cardio Load Buildup in the Flow app, tap the three dots icon in the training summary (Training Load Pro module).





To view your Cardio load status and Cardio load buildup in the Flow web service, go to **Progress** > **Cardio Load report**.

Cardio load status

Overreaching (Load much higher than usual):

Productive (Load slowly increasing)

Maintaining (Load slightly lower than usual)

Detraining (Load way lower than usual)

The red bars illustrate the cardio load from your training sessions. The higher the bar, the harder the session was on your cardio system.

The background colors show how hard a session was compared to your session average from the past 90 days, just like the scale of five bullets and verbal descriptions (Very low, Low, Medium, High, Very high).

Strain shows how much you have strained yourself with training lately. It shows your average daily cardio load from the past 7 days.

Tolerance describes how prepared you are to endure cardio training. It shows your average daily cardio load from the past 28 days. To improve your tolerance for cardio training, slowly increase your training over a longer period of time.

Learn more about the Polar Training Load Pro feature in this in-depth guide.

RECOVERY PRO

Recovery Pro is a unique recovery tracking solution that lets you know if your cardio system is recovered and ready for cardio training. In addition, it offers recovery feedback and training recommendations based on your short and long-term training and recovery balance.

Recovery Pro works together with Training Load Pro that gives you a holistic view on how your training sessions strain different systems. Recovery Pro then tells you how your body is coping with this strain, and how it affects your daily readiness for cardio training, and short and long-term recovery.

Recovery and readiness for cardio training

Your cardio system's recovery, which affects your daily readiness for cardio training is measured with the Orthostatic test. Your heart rate variability values measured with the test are compared to your individual baseline to spot if there are any deviations from your average range.

Training and recovery balance

Recovery Pro combines your measured and subjective long-term recovery data with your long-term training load (Cardio Load) to monitor the balance between training and recovery. In addition to training-induced factors affecting your recovery, Recovery Pro also takes into account other factors such as poor sleep and mental stress with subjective recovery questions asking about your muscle soreness, how strained you feel and how you slept.

Recovery feedback and daily training recommendation

With Recovery Pro you get feedback for both your cardio system's current recovery and your longer-term training and recovery balance. Your daily personalized training recommendation is based on these both. It takes into account your heart rate variability values from the Orthostatic test and your recovery questions within your personal baseline and normal range for both together with your Cardio Load status from your training sessions.

Get started with Recovery Pro

When you start using Recovery Pro, you need to gather data for a while to build up your personal baseline and typical range before we can give you accurate feedback on your recovery. Recovery feedback is available when:

- Your Cardio load status is available (you've done training sessions with heart rate monitoring on at least three days)
- You've taken at least three Orthostatic tests in the previous seven-day window
- You have answered the perceived recovery questions three times in a seven-day window

1. Set Recovery Pro on

Start using the Recovery Pro feature by setting recovery feedback on. This is done on your watch. Go to **Settings > General Settings > Recovery tracking > Recovery Pro**, and set it **on**. The Recovery Pro feature and the recovery tracking setting is available on your watch only, it is not shown in the Flow web service or app.

2. Schedule an Orthostatic test for at least three mornings a week

When Recovery Pro is set on, the watch asks you to schedule an Orthostatic test for at least three mornings per week (e.g. on Mondays, Thursdays and Saturdays). For the most accurate recovery information, we recommend you take the Orthostatic test every morning if possible. By doing this you'll get your cardio system's recovery information every day in addition to daily recovery feedback.

3. Take the Orthostatic test on the scheduled mornings

The Orthostatic test measures your heart rate and heart rate variability (HRV). Heart rate variability is responsive to training overload and to stress outside of training. Its affected by stress factors such as mental stress, sleep, latent illness and environmental changes (temperature, altitude) to mention a few. Recovery Pro uses your resting heart rate variability (RMSSD rest) and standing heart rate variability (RMSSD stand) measured with the test and compares them to your individual normal range. If your heart rate variability values deviate from your normal range, this could mean that something is interfering with your recovery.

Your normal range is calculated from your individual mean and standard deviation of your test results from the past four weeks. If you've taken the test more than four times during this period, standard deviation is calculated based in your own individual values. If you've taken the test less four than times during the past four weeks, the standard deviation is calculated based on population norms. At least one test is result is needed during this four-week period.

The more frequently you take the test, the more accurate the results are. To make sure that your results are as reliable as possible, perform the test in similar conditions every time – we recommend that you take the test in the morning before breakfast.

In the evening before a scheduled test you'll get a reminder about it. On the scheduled mornings, you'll get a notification to take the test. From the time view on your watch, swipe up from the bottom of the display to view your notifications which include your Orthostatic test reminder. The test can be started directly from the reminder. See detailed instructions for taking the Orthostatic test here.

4. Answer the recovery questions daily

Your watch will ask the recovery questions via a reminder every day, whether there is an Orthostatic test scheduled for the day or not. From the time view on your watch, swipe up from the bottom of the display to view your notifications

which include your recovery question reminder. On days you have an Orthostatic test, the recovery questions pop up on your watch straight after the test. Ideally, they should be answered about 30 minutes after waking up.

The questions are designed to help establish if anything is affecting your recovery. Some examples of factors affecting recovery are excessive muscle fatigue, mental pressure or maybe just a bad night's sleep. See the recovery questions below:

- **Are your muscles more sore than usual? No, Somewhat, Much more**
- **Are you feeling more strained than usual? No, Somewhat, Much more**
- **How did you sleep? Very well, Well, Okay, Poorly, Very poorly.**

View your Recovery feedback

Recovery feedback is viewed on your watch. You can conveniently see your daily training recommendation on the Cardio Load status view on your watch face. Swipe left/right or scroll with the UP/ DOWN buttons until you reach it.

1. Press the display or press the OK button to see more details. First, you'll see your Cardio Load status (Detraining, Maintaining, Productive or Overreaching), which is a part of Training Load Pro. When you've gathered enough recovery data you'll see your daily training recommendation on this view.
2. Swipe or scroll down with the buttons to Recovery feedback. Tap More or press the OK button to view more detailed recovery feedback. It's made up of:

An icon illustrating your readiness for cardio training today that reflects the daily training recommendation stating how we advise you to train. An increased injury or illness alert icon replaces the training advice icon when your risk for injury or illness is increased. The short training advice can be:

Daily feedback stating if your cardio system is recovered or not*, followed by your daily training recommendation based on that day's Orthostatic test result, and if available, your recovery question answers and your history for these together with your training data (Cardio Load) over a longer period of time. The recommendation can contain a warning about an increased risk of overtraining, or it can alert you about an increased injury and illness risk.

*To know if your cardio system is recovered or not you need to perform the Orthostatic test on that day.

Feedback about your long-term training habits and recovery. This can contain information about how you're responding to training, if you've been training more than or less than usual or if you're at risk to get injured or fall ill because you've been training more than usual. It can also contain feedback if you seem to have too much stress from something else than training. Your long-term feedback is based on:

- Your average mood score of past of the seven days calculated from your perceived recovery question answers
- Your seven-day rolling average of your heart rate variability values measured with the Orthostatic test compared

to your individual normal values from the past four weeks
- Your training history (Cardio Load status)

A disclaimer if we don't have enough data yet to give you accurate feedback. The more you use this feature the more accurate recovery feedback you'll get.

ORTHOSTATIC TEST

The Orthostatic test is a generally used tool for monitoring the balance between training and recovery. It allows you to track how your body responds to training. In addition to training induced changes, there are many other factors that can affect your Orthostatic test results, such as mental stress, sleep, latent illness and environmental changes (temperature, altitude) to mention a few.

The test is based on measuring heart rate and heart rate variability. Changes in heart rate and heart rate variability reflect changes in the autonomic regulation of the heart.

Performing the test

You can perform the test using either a paired Polar heart rate sensor or the wrist-ECG measurement on your watch. **//Japanese:** You can perform the test using either a paired Polar heart rate sensor or your watch. The test lasts for four minutes, and to make sure that your results are as reliable as possible, you need to perform the test in similar conditions every time – we recommend that you take the test in the morning before breakfast. Do the test regularly to establish your individual baseline. Sudden deviations from your averages could signify that something is off-balance. See the instructions below:

How to take the Orthostatic test using the wrist-ECG measurement on your watch **//Japanese:** How to take the Orthostatic test using your watch

- You should be relaxed and calm during the test.
- There should be no disturbing noises (for example, television, radio or telephone) or other people talking to you.
- It is recommended to perform the test regularly and at the same time of day in the morning after waking up to get comparable test results.

On your watch, choose **Tests > Orthostatic test > Start test**. The watch starts searching for your heart rate. When your heart rate is found **Lie down & relax** is shown on the display.

- Keep your finger still on the top left button (LIGHT) of your watch. Don't press it.
- You can be seated in a relaxed position or lying in bed. The position should always be the same when you do the test.
- The first part of the test lasts for two minutes. Try to keep as still as possible.
- After two minutes, you'll be notified to stand up. Stand up and remain standing **for another two minutes** until the watch beeps again, and the test is finished.

> When you get up, you can let go of the watch button. Be sure to return your finger to the button as soon as possible after you've gotten up.

You can interrupt the test in any phase by pressing BACK. Test canceled is then displayed.

How to take the Orthostatic test using a paired Polar heart rate sensor

For the Orthostatic test, you need to use a Polar H9/H10 heart rate sensor (an H6 or H7 heart rate sensor can also be used if you have one).

- Moisten the electrode area of the strap and wear the strap snugly around your chest.
- You should be relaxed and calm during the test.
- There should be no disturbing noises (for example, television, radio or telephone) or other people talking to you.
- It is recommended to perform the test regularly and at the same time of day in the morning after waking up to get comparable test results.

On your watch, choose **Tests > Orthostatic test > Start test**. The watch starts searching for your heart rate. When your heart rate is found **Lie down & relax** is shown on the display.

- You can be seated in a relaxed position or lying in bed. The position should always be the same when you do the test.
- The first part of the test lasts for two minutes. Try to keep as still as possible.
- After two minutes, you'll be notified to stand up. Stand up and remain standing **for another two minutes** until the watch beeps again, and the test is finished.

You can interrupt the test in any phase by pressing BACK. Test canceled is then displayed.

If your watch cannot receive your heart rate signal, Test failed is displayed. In which case, you should check that the heart rate sensor electrodes are wet, and that the textile strap fits snugly.

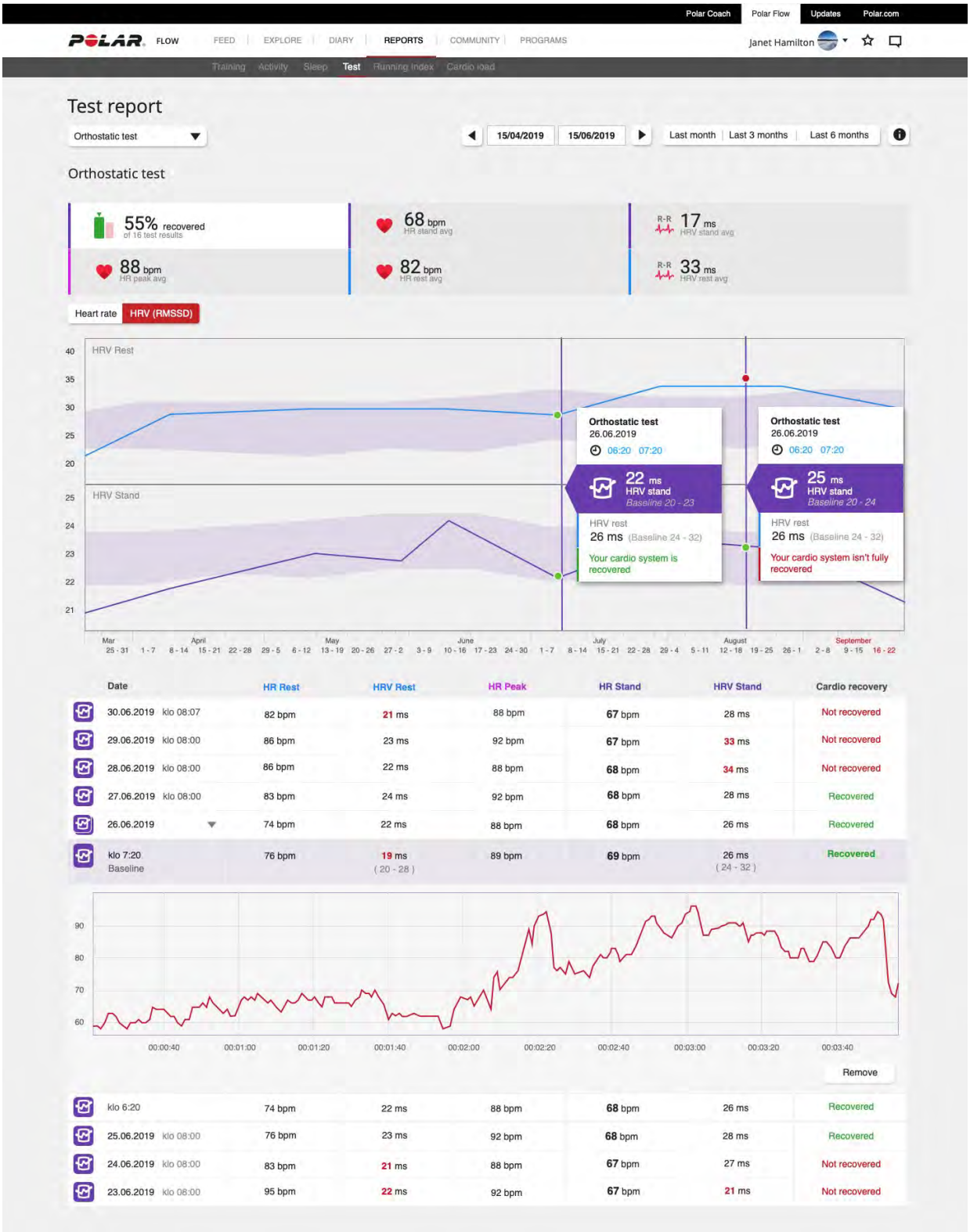
Test results

The test gives you five different heart rate and heart rate variability values. These are:

- HR rest: Average heart rate when lying down
- HRV rest (RMSSD rest): Heart rate variability when lying down
- HR peak: This is the one highest heartbeat that occurs after you stand up.
- HR stand: Average heart rate when standing still.
- HRV stand (RMSSD stand): Heart rate variability when standing still

View your latest test result on your watch in **Tests > Orthostatic test > Latest results**. Only your most recent result is shown, and only your first successful test for the day is taken into account as a part of Recovery Pro. The difference of your HR rest, HR peak and HR stand values to your averages are shown in parentheses next to your latest result.

For a visual analysis of your Orthostatic test results, go to the Flow web service and choose the test from your Diary to view details from it. You can also follow your test results in the long-term and spot any deviations from your baseline.



When you've performed at least two Orthostatic tests during 28-day period, you'll get feedback on your cardio system's recovery on your watch after the test.

After performing at least four tests in a 28-day period your latest Orthostatic test result is compared to your individual normal heart rate variability (RMMS) range. Your normal range is calculated from the standard deviation of the test results from the past 4 weeks. As heart rate variability values are very individual, the accuracy of the test result becomes more accurate the more measurements are done.

Orthostatic test with Recovery Pro

The Orthostatic test is also an integral part of the Recovery Pro feature that tells if your cardiovascular system is recovered or not. It compares your Orthostatic test results to your baseline gathered over time, and also takes into

account your subjective recovery, as well as your long-term training history.

WALKING TEST

The walking test is a simple, safe and repeatable way to measure your VO_{2max}, and to keep track of how your aerobic fitness is developing. Understanding your aerobic fitness level is the cornerstone of efficient training. This makes the walking test a valuable tool for anyone from occasional to regular trainers. We recommended taking the test when starting a training program, and repeating the test every three months. However, there's no reason why you shouldn't take it more often if you wish.

The idea is to walk as far as you can in fifteen minutes - at a steady pace. This means faster than your usual, comfortable walking speed. Aim at raising your heart rate above 65% of your maximum during the warmup, and keep it there throughout the test by walking at a fast, brisk pace. Your VO_{2max} result is based on the distance you walk, your heart rate during the test, and personal characteristics (age, sex, height and weight). In principle, the higher your walking speed and the lower your heart rate, the better your aerobic fitness.

Performing the test

Before taking the test, read the Health and Training section in this user manual or in the Important information sheet that came in the product package. Do not take the test during illness, injury or if you have any doubts over your health. Also make sure your physical settings – including height, weight, age as well as which hand you wear your watch on – are up to date. We use them in calculating the result. GPS (GNSS) is used to track your speed, therefore the test needs to be taken outdoors.

Take the test in flat terrain, track or road in a location that has an unobstructed view of the sky for optimal GPS (GNSS) performance. Avoid routes with traffic lights or other possible hindrances that might force you to stop or slow down. Tall buildings, tunnels, partially covered stadiums and trees can also affect GPS (GNSS) accuracy.

The conditions before testing should be fairly similar each time. For instance, you can mess up the results if you have an intense training session the day before or a heavy meal right before testing. During the test, you should walk as fast as you can, at a steady pace. Running is not allowed. Try to keep your heart rate above 65% of your maximum heart rate. There's no upper limit. The longer your walking distance, the better your result. If your heart rate is too low, the watch will alert you. It means you need to walk faster to raise your heart rate.

The walking test including warmup and cool down phases takes about 25 minutes to perform. It's comprised of warmup (5 minutes) , test (15 minutes) and cool down (5 minutes) phases. Have a look at the instructions on your watch in **Tests > Walking test > How to** once more before starting to see a detailed breakdown of the test, and instructions on performing it.

1. Go to **Tests > Walking test > Start**, and scroll down to see an overview of the test. When you're ready to start the test, choose **Next**.
2. Check the questions concerning your health and accept to go to the pre-training mode.
3. The walking sport profile is used for the test. It's shown in a purple color in the test view. Stay in the pre-training mode until the watch has found your heart rate and the GPS satellite signals (GPS icon turns green).
4. Get started with a proper warmup. Aim at raising your heart rate above 65% of your maximum heart rate by walking at a fast, brisk pace. Follow the guidance on the display to complete the warmup.
5. When you've reached at least 65% of your maximum heart rate or warmed up for at least three minutes the test can be started. Choose **Start test** to start the actual test.
6. Keep your heart rate above 65% of your maximum heart rate during the test.
7. The test phase ends after 15 minutes. Press the OK button to confirm and continue to the cool down phase.
8. Cool down by walking slowly to promote your recovery.
9. After finishing the cool down you'll see the distance you walked on the display.
10. Press the BACK button once to pause your session, once paused press and hold the BACK button to end the session.

During the test: Your current heart rate and the heart rate value above which you need to stay are shown at the top of the display. At the bottom of the display you'll see the time elapsed.

Test results

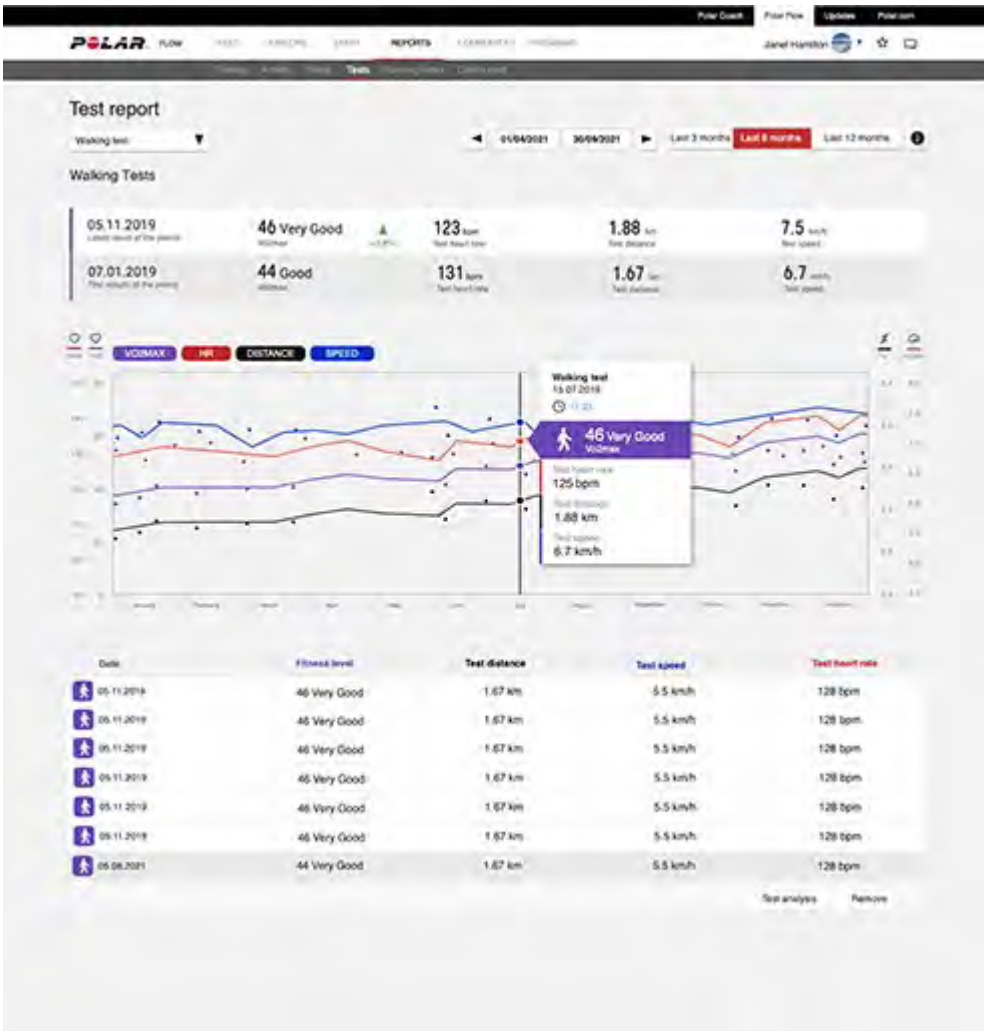
- The test summary shows your VO_{2max}. The result is also classified based on gender and age group ranging from very low to elite.
- Test distance (the distance you walked during the test)
- Test heart rate (your average heart rate from the last 5 minutes of the test)
- Test speed/pace (your average speed/pace during the test)
- Tips for next time (these tips are meant to enhance the repeatability of the test and they're only shown on your watch)

You can view your latest result in **Tests > Walking test > Latest result**.

Note that to update your VO_{2max} value based on your test result you need to sync the results to the Flow app. When opening the Flow app after syncing you'll be asked if you want to update it.

Detailed analysis in the Flow web service and app

Remember to sync your test result to Polar Flow. To help long-term follow up, we’ve gathered all the test data in one place in the Polar Flow web service. In the Tests page you can see all the tests you’ve performed and compare their results. You can see your long-term progress and easily view changes in your performance.



LEG RECOVERY TEST

The Leg Recovery Test helps you see how your leg muscles have recovered from training, and also how your explosive strength is developing. You can use it to check if you're ready for speed and strength training. It's a widely-used, easy and safe test you can take anywhere, with no other equipment needed apart from your Polar watch.

In the test you perform three countermovement jumps with a short pause in between each jump. You first squat down rapidly right before launching yourself straight up into the air, as high as possible. This two-way motion gives your muscles spring-like elastic energy for maximal explosive strength. It also makes the test more easily repeatable and less prone to errors.

To get feedback on the recovery of your leg muscles you need to take at least two tests in a 28-day-period to establish a baseline. From the third test onwards in a 28-day-period, you'll get feedback about your leg muscle recovery. Essentially, if you jump to a considerably lower height than what your baseline is, your leg muscles aren't entirely recovered. We recommend taking the test as often as possible as the more results your baseline is calculated from, the more reliable it is.

When giving you verbal feedback the test also takes into account the recovery of your cardio system, provided either by the Recovery Pro feature or the Nightly Recharge feature if you are using either of them.

Performing the test

If you're feeling sick or have an injury, you shouldn't take the test. However, feeling tired from training doesn't stop you from taking the test, as one of the points of taking it is to see how well you've recovered from training. If you've been training a lot and have an increased risk for injury or illness, you can take the Leg recovery test daily to find out when you're good to go for some more serious training.

Have a look at the instructions on your watch in **Tests > Leg recovery test > How to** once more before starting to see a detailed breakdown of the test with instructions and animations.

When you're ready to start go to **Tests > Leg recovery test**, and choose **Start**. You need to perform three jumps. Repeatability is key with this test, so make sure you perform the test each time with the same correct technique.

1. Stand with your back and legs straight, with your hands on your hips. Play close attention to the placement of your hands as it is crucial for accuracy and repeatability. Always keep your hands on your hips during the test. This ensures each jump is measured correctly.
2. When you hear a beep. Squat down rapidly and jump explosively straight up, and come down on the balls of the feet, with your legs straight. You have 40 seconds to jump after each beep.
3. **WAIT** is displayed before each jump. Wait until **JUMP** is displayed and you hear a beep before jumping.
4. **Test completed** is displayed, after you've successfully performed all three jumps.

Test results

After the test, you'll see the height of each jump, and the average of the three jumps which is used to calculate your baseline. You can view your latest result in **Tests > Leg recovery test > Latest result**.

Your leg recovery is measured by comparing your test result to your individual baseline, which is the rolling average of your test results from the previous 28 days. Only one result per day is used for baseline calculation. If you do the test several times only your best result of the day is taken into account.

Essentially, if you jump considerably lower than your baseline, your leg muscles aren't entirely recovered. Your leg muscles aren't considered recovered:

- If your baseline is 28 cm or higher: When your test result is 7% or more less than your baseline.
- If your baseline under 28 cm: When your test result is 2 centimeters or more less than your baseline.

Your readiness for speed and strength is illustrated with an icon and feedback.

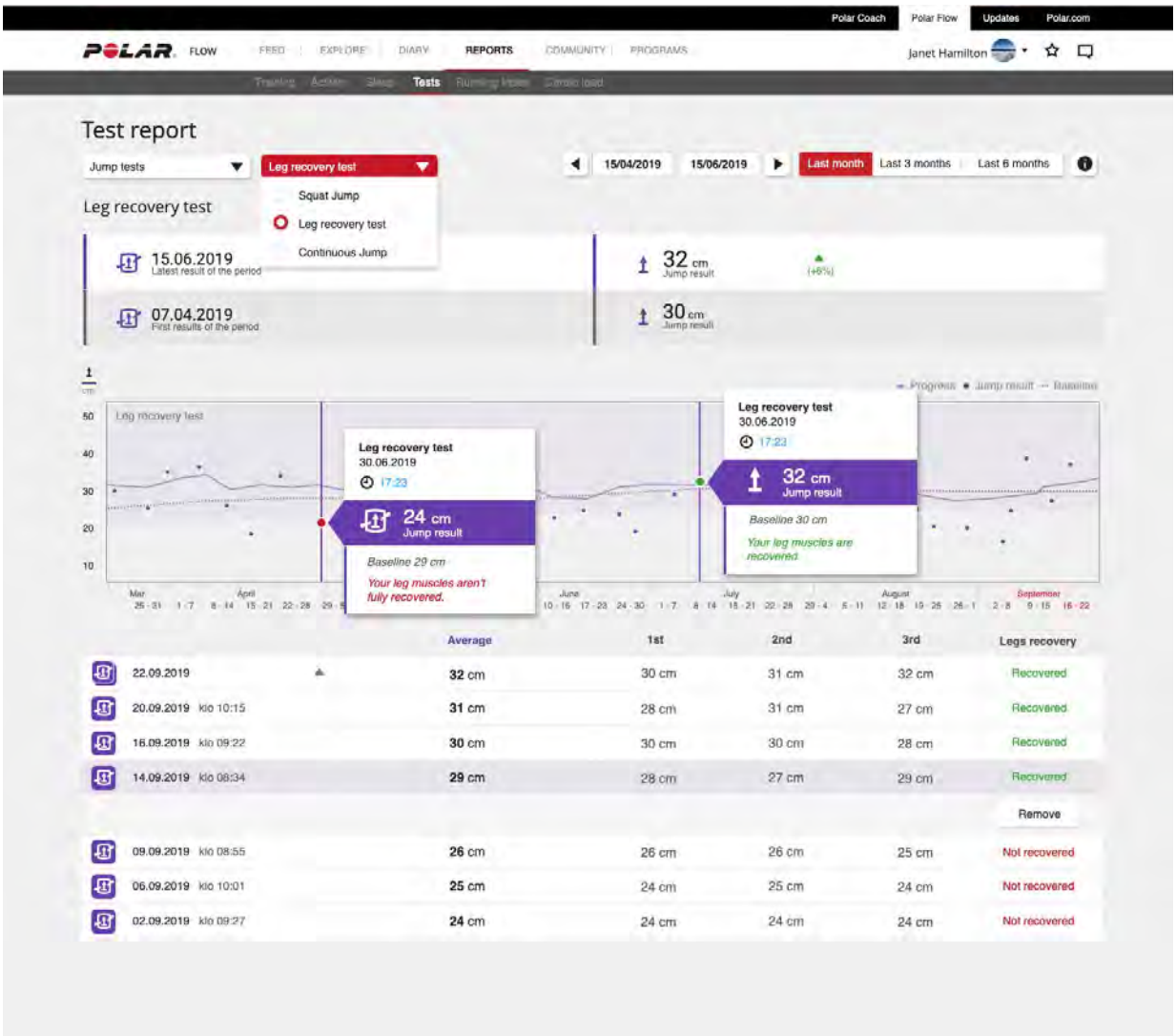
- Green if you're ready
- Orange if you're ready with some considerations
- Red if you're not ready

Your leg muscle recovery information is complemented with information about the recovery of your cardio system. This information is provided by the following features: Injury and illness risk (based on your Cardio Load from Training Load Pro), Recovery Pro, Orthostatic test and Nightly recharge. What this means is that first your watch checks if you're injury & illness risk is activated. If it's not available, your watch checks if you're using Recovery Pro, and after that if you've

performed an Orthostatic test and finally if you're using Nightly Recharge. If any of these features spot anything affecting the recovery of your cardio system it'll be taken into account in your feedback.

Detailed analysis in the Flow web service and app

Remember to sync your test result to Polar Flow. To help long-term follow up, we've gathered all the test data in one place in the Polar Flow web service. In the Tests page you can see all the tests you've performed and compare their results. You can see your long-term progress and easily view changes in your performance.



CYCLING PERFORMANCE TEST

The Cycling Performance Test measures the maximum average power you can maintain for 60 minutes. It's also known as the functional threshold power, FTP-test. The test can be used to determine your individual cycling power zones. When you have your individual power zones figured out, it's easier to optimize your training. The test is also good for tracking your cycling performance development over time.

In addition to the 60-minute FTP-test, you can also take a shorter test that lasts for 20, 30 or 40 minutes, in which case we'll estimate the 60-minute result. Note that with the shorter tests the result may not be as precise as with the 60-minute test. A shorter test is better for inexperienced cyclists or if you're recovering from an injury. Always take the same type of test to make the results comparable over time.

We recommend using an indoor bike with a power sensor to get the most reliable results, but you can take the test outdoors as well. If you take the test outdoors, it's wiser to take a shorter one in order to minimize stopping and power changes. Choose a route on flat terrain, and avoid traffic lights or any other reasons to stop.

To take the Cycling Performance Test you need a compatible cycling power sensor. For a complete list a compatible cycling power sensors see Which third-party power sensors are compatible with Grit X/Pacer/Vantage? The power sensor also needs to be paired with your watch. For detailed pairing instructions see Pairing sensors with your watch.

Performing the test

Before taking the test, read the Health and Training section in this user manual or in the Important information sheet that came in the product package. The test is very demanding so do not take the test if you do not feel recovered from training. Wear cycling shoes and clothes that allow freedom of movement.

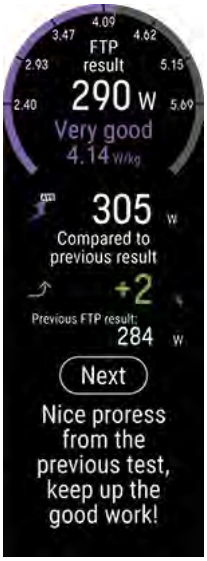
Also, check that your weight is set correctly in your physical settings. This is important so that you can compare your results over time. In your first test, we'll guide you with a power target that's based on your background information. This helps you maintain a steady power throughout the test. When you repeat the test, the target is based on your earlier results.

The cycling test includes warmup, test and cool down phases. The warmup phase is power-based, and the cool down phase is based on heart rate. Note that the warmup and cooldown phases are optional. You can skip them if you wish.

1. On your watch go to **Tests > Cycling test > Duration**, and choose 20, 30, 40 or 60 minutes.
2. Then go to **Tests > Cycling test > Start** and scroll down to see an overview of the test. When you're ready to start the test, choose **Next**.
3. Check the questions concerning your health and accept to go to the pre-training mode.
4. The sport profile is shown in a purple color in the test view. Choose an appropriate indoor or outdoor cycling sport profile. Stay in the pre-training mode until the watch has found your cycling power sensor.
5. Tap the display or press the OK button to begin.
6. The test begins with a warmup phase. The warmup should be about 20 minutes of easy riding in the beginning. Include 2-3 full-on sprints in the middle of the warmup, about 1-minute each with recovery. Now you should be well warmed up and ready to take the full-on test. If you choose to do a shorter warmup, make sure to include the fast sprints and recovery moments nonetheless. The warmup also allows you to check that everything works as it should and that your bike is adjusted optimally for you.
7. After a proper warmup, choose **Start test**.
8. Speed up and find the maximum power you believe you can keep up for the whole test. The test view shows your power in watts. The red value tells your current power and the white value your estimated target power. Try to keep your pace close to the target, and make sure you stay on the same power level throughout the test. Slowing down will make the results less reliable.
9. The test phase ends after the pre-defined time is over.

We recommend performing the cooldown phase after the test.

Test results



The test summary shows your FTP value which shows power in watts, your maximum heart rate and your maximal oxygen uptake known as VO2max. You can view your latest result in **Tests > Cycling test > Latest result**.

Dividing FTP with a cyclist's weight produces a comparable value, called power-to-weight ratio- which can be compared with other cyclists of the same sex. The more power you can produce in your current weight, the better your power-to-

weight ratio is. This reflects your aerobic fitness. We use a simplified, 8-tiered result table ranging from untrained to world-class when giving you feedback based on your power-to-weight ratio.

Class	FTP (W/kg)	
	Men	Women
World-class	>5,69	>5,03
Exceptional	5,69-5,15	5,03-4,54
Excellent	5,14-4,62	4,53-4,05
Very Good	4,61-4,09	4,04-3,55
Good	4,08-3,47	4,03-2,98
Moderate	3,46-2,93	2,97-2,49
Fair	2,92-2,40	2,48-1,99
Untrained	<2,40	<1,99

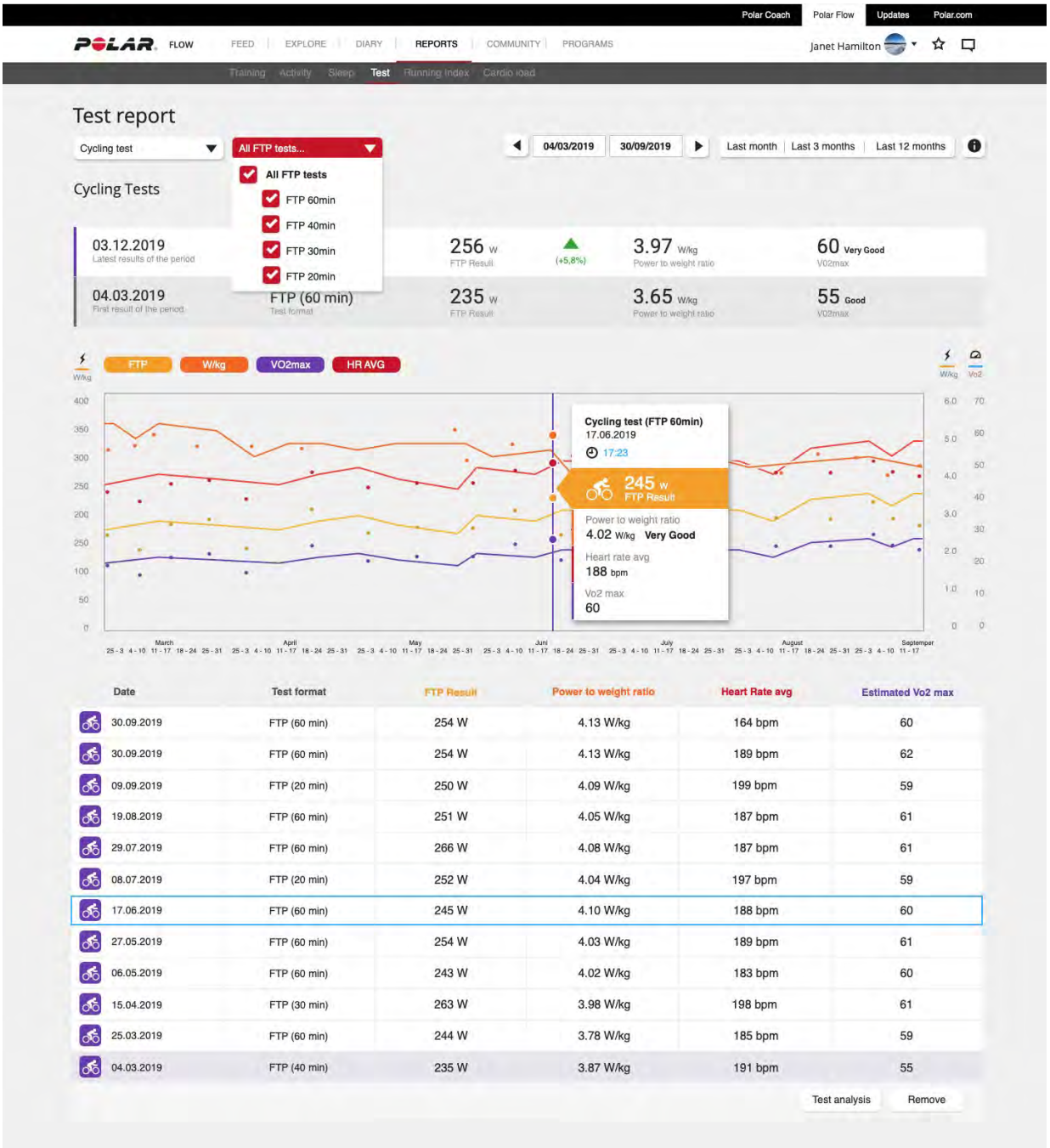
In your first test, the result is compared with other cyclists of the same sex as you. When you repeat the test, the result is compared to your previous test results and test feedback is also based on them.

If you want to use the Cycling Performance Test to track your progress and help you choose the right training intensities, we recommend that you repeat the maximal test every three months to ensure that your training zones are always up to date.

Note that to update your training zones and HR max value you need to sync the results to the Flow app. When opening the Flow app after syncing you'll be asked if you want to update your values. The sport profile settings for all cycling type sports will be updated with the new values.

Detailed analysis in the Flow web service and app

Remember to sync your test result to Polar Flow. To help long-term follow up, we’ve gathered all the test data in one place in the Polar Flow web service. In the Tests page you can see all the tests you’ve performed and compare their results. You can see your long-term progress and easily view changes in your performance.



RUNNING PERFORMANCE TEST

The Running Performance Test is a tool especially designed for runners allowing them to track their progress and find out their unique training zones (heart rate, speed and power zones) for running sports. Regular and frequent testing helps you plan your training wisely and follow changes in your running performance

You can take the test as maximal or submaximal (at least 85 % of your maximum heart rate). The maximal test requires all-out effort, but it gives you more accurate results. Taking the maximal test is a good way to find out your current individual maximum heart rate, and get your settings up to date. The load of the maximal running test is considerably heavier compared to the submaximal test. Therefore, it's recommended that you include only light training sessions in your plan for the next 1-3 days after the maximal test.

The submaximal test, which requires that at least 85% of HR_{max} is exceeded, is a reproducible, safe and non-exhaustive alternative to the maximal test. You can repeat the submaximal test as often as you wish, and you can also perform it as a warmup before a training session. It's important that your maximum heart rate is set correctly in your physical settings in order to get accurate results from the submaximal test as the submaximal test uses your HR_{max} when calculating your results. If you don't know your HR_{max}, you could benefit from doing maximal test first to find out your maximum heart rate.

The idea of the test is to run at a steadily increasing speed, following the given target speed as precisely as possible. To complete the test successfully you have to run for at least six minutes and reach at least 85 % or your maximum heart rate. If you have trouble reaching this, your current HR_{max} value might be too high. You can change it manually in your physical settings.

Performing the test

Before taking the test, read the Health and Training section in this user manual or in the Important information sheet that came in the product package. Do not take the test during illness, injury or if you have any doubts over your health. Take the test only when you feel recovered. Avoid exercise that causes fatigue on the day preceding the test. Wear running shoes and clothes that allow freedom of movement.

Take the test in flat terrain, track or road, and repeat it regularly under similar conditions. Run at a steadily increasing speed, following the given target speed as precisely as possible. Also, the conditions before testing should be fairly similar each time. For instance, an intense training session the day before or a heavy meal right before testing can influence your test result. You need to run for at least six minutes and reach at least 85 % or your maximum heart rate to complete the test.

By default the test uses GPS to track your speed but you can also perform the test with a Polar Stride Sensor Bluetooth® Smart or a STRYD running power meter. In this case your speed is measured with the sensor.

Check heart rate sensor is shown if your heart rate cannot be detected during the test.

Speed unavailable, GPS signal lost is shown if the satellite signals cannot be detected during the test.

Have a look at the instructions on your watch in **Tests > Running test > How to** once more before starting to see a detailed breakdown of the test, and instructions on performing it.

1. First, define your initial speed for the test in **Tests > Running test > Initial speed**. The initial speed can be set between 4-10 min/km. Note that if you set the initial speed too high, you may have you to quit the test too soon.
2. Then go to **Tests > Running test > Start** and scroll down to see an overview of the test. When you're ready to start the test, choose **Next**.
3. Check the questions concerning your health and accept to go to the pre-training mode.
4. The sport profile is shown in a purple color in the test view. Choose an appropriate indoor or outdoor running sport profile. Stay in the pre-training mode until the watch has found your heart rate and the GPS satellite signals (GPS icon turns green).
5. Tap the display or press the OK button to begin. The watch guides you through the test.
6. The test begins with a warmup phase (~ 10 min). Follow the guidance on the display to complete the warmup.
7. After a proper warmup, choose **Start test**. Then you need to reach the initial speed for the actual test to start.

During the test: The blue value shows the steadily increasing target speed that you should follow as precisely as possible. The white value below it shows your current speed. The watch gives you an audible alarm if you go too fast or too slow.

The blue curve with the speed values at each end illustrates the allowed range.

At the bottom, you can see your current heart rate, the minimum heart rate required for the submaximal test and your current maximum heart rate value.

Your watch will ask **Was this your maximum effort?** if didn't reach or exceed your maximum heart rate value. Your test is considered submaximal, if your effort wasn't maximal but you reached at least 85 % of your maximum heart rate. Your test is automatically considered maximal, if you reach or exceed your current maximum heart rate value.

Test results

The Running Performance Test gives you your maximum aerobic power (MAP), maximum aerobic speed (MAS) and maximal oxygen uptake (VO2max) as results. In addition, if you performed the maximal test you get your maximum heart rate (HR_{max}) value. You can view your latest result in **Tests > Running test> Latest result**.

- Your maximum aerobic power (MAP) is the lowest exercise intensity where your body reaches its maximum ability to consume oxygen ($VO2_{max}$). Maximum aerobic power can usually be sustained for a few minutes only.
- Your maximum aerobic speed (MAS) is the lowest exercise intensity where your body reaches its maximum ability to consume oxygen ($VO2_{max}$). Maximum aerobic speed can usually be sustained for a few minutes only.
- Your maximal oxygen uptake ($VO2_{max}$) is your body's maximum capacity to consume oxygen during maximum effort.

If you choose to update your sport profile settings with your new MAP, MAS and $VO2_{max}$ results, your speed, pace and power zones, as well as calorie calculation are updated to match your current condition. If you performed the maximal test you can also update your heart rate zones based on your new HR_{max} value.

Note that to update your training zones and HR_{max} value you need to sync the results to the Flow app. When opening the Flow app after syncing you'll be asked if you want to update your values. The sport profile settings for all running type sports will be updated with the new values.

Whether you should follow power zones, speed/pace zones or heart rate zones in your training, depends on your goals and training routines. Power zones work in all types of terrains – flat or hilly. Speed zones are reliable only when you run in flat terrain. Speed or power zones are also a good choice for interval training.

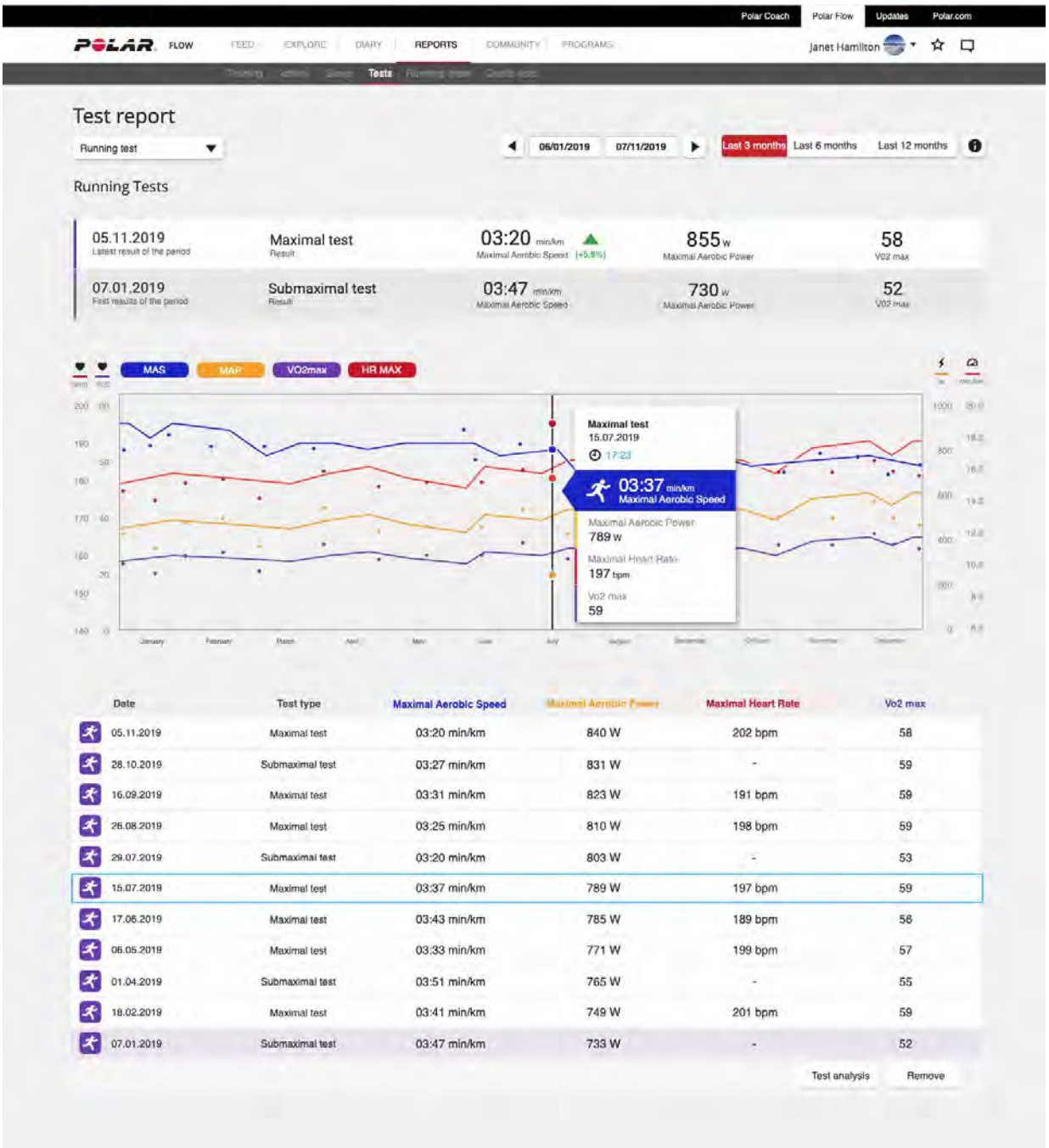
If you want to use the Running Performance Test to track your progress and help you choose the right training intensities, we recommend that you repeat the maximal test every three months to ensure that your training zones are always up to date. If you want to follow your progress more closely, you can repeat the submaximal test as often as you wish in between the maximal tests.

Note that you will not get a Running Index result from your Running Performance Test.

Your weight is used as one input in the Running Performance Test. Note that if you change your weight setting, it also affects the comparability of your test results.

Detailed analysis in the Flow web service and app

Remember to sync your test result to Polar Flow. To help long-term follow up, we've gathered all the test data in one place in the Polar Flow web service. In the Tests page you can see all the tests you've performed and compare their results. You can see your long-term progress and easily view changes in your performance.



FITNESS TEST WITH WRIST-BASED HEART RATE

The Polar Fitness Test with wrist-based heart rate is an easy, safe and quick way to estimate your aerobic (cardiovascular) fitness at rest. It's a simple 5-minute fitness level assessment that gives you an estimate of your maximal oxygen uptake (VO2max). The Fitness Test calculation is based on your resting heart rate, heart rate variability and your personal information: gender, age, height, weight, and self-assessment of your physical activity level called the training background. The Polar Fitness Test is developed for use by healthy adults.

Aerobic fitness relates to how well your cardiovascular system works to transport oxygen to your body. The better your aerobic fitness, the stronger and more efficient your heart is. Good aerobic fitness has many health benefits. For

example, it helps in decreasing the risk of high blood pressure and your risk of cardiovascular diseases and stroke. If you want to improve your aerobic fitness it takes, on average, six weeks of regular training to see a noticeable change in your fitness test result. Less fit individuals see progress even more rapidly. The better your aerobic fitness, the smaller the improvements in your result.

Aerobic fitness is best improved by training types that use large muscle groups. Such activities include running, cycling, walking, rowing, swimming, skating, and cross-country skiing. To monitor your progress, start by performing the test a couple of times during the first two weeks in order to get a baseline value, and then repeat the test approximately once a month.

To make sure the test results are reliable, the following basic requirements apply:

- You can perform the test anywhere - at home, at the office, at a health club - provided the testing environment is peaceful. There should be no disturbing noises (e.g. television, radio, or telephone) and no other people talking to you.
- Always take the test in the same environment and at the same hour.
- Avoid eating a heavy meal or smoking 2-3 hours prior to testing.
- Avoid heavy physical exertion, alcohol, and pharmaceutical stimulants on the test day and the previous day.
- You should be relaxed and calm. Lie down and relax for 1-3 minutes before starting the test.

Before the test

Before starting the test, make sure your physical settings including training background are accurate in **Settings > Physical settings**.

Wear your watch snugly on top of your wrist, at least a finger's width up from the wrist bone. The heart rate sensor on the back of your watch must be in constant touch with your skin.

Performing the test

On your watch, choose **Fitness test** > **Relax and start the test**. The watch starts searching for your heart rate.

When your heart rate is found **Lie down & relax** is shown on the display. Stay relaxed and limit body movements and communication with other people.

You can interrupt the test in any phase by pressing BACK. **Test canceled** is shown.

If the watch cannot receive your heart rate signal, the message **Test failed** is shown. In which case, you should check that the heart rate sensor on the back of the watch is in constant touch with your skin. See Wrist-based heart rate measurement for detailed instructions on wearing your watch when measuring heart rate from your wrist.

Test results

When the test is over, your watch notifies you by vibrating and shows a description of your fitness test result and your estimated VO_{2max}.

Update to $VO2_{2max}$ to physical settings? is shown.

- Press OK to save the value to your **Physical settings**.
- Press BACK to cancel only if you know your recently measured VO_{2max} value, and if it differs more than one fitness level class from the result.

Your latest test result is shown in **Tests > Fitness test > Latest result**. Only your most recently performed test result is shown.

For a visual analysis of your Fitness test results, go to the Flow web service and select the test from your Diary to view details from it.

Your watch syncs with the Flow app automatically after the test if your phone is within the Bluetooth range.

Fitness level classes

Men

Age / Years	Very low	Low	Fair	Moderate	Good	Very good	Elite
20-24	< 32	32-37	38-43	44-50	51-56	57-62	> 62
25-29	< 31	31-35	36-42	43-48	49-53	54-59	> 59
30-34	< 29	29-34	35-40	41-45	46-51	52-56	> 56
35-39	< 28	28-32	33-38	39-43	44-48	49-54	> 54
40-44	< 26	26-31	32-35	36-41	42-46	47-51	> 51
45-49	< 25	25-29	30-34	35-39	40-43	44-48	> 48
50-54	< 24	24-27	28-32	33-36	37-41	42-46	> 46
55-59	< 22	22-26	27-30	31-34	35-39	40-43	> 43
60-65	< 21	21-24	25-28	29-32	33-36	37-40	> 40

Women

Age / Years	Very low	Low	Fair	Moderate	Good	Very good	Elite
20-24	< 27	27-31	32-36	37-41	42-46	47-51	> 51
25-29	< 26	26-30	31-35	36-40	41-44	45-49	> 49
30-34	< 25	25-29	30-33	34-37	38-42	43-46	> 46
35-39	< 24	24-27	28-31	32-35	36-40	41-44	> 44
40-44	< 22	22-25	26-29	30-33	34-37	38-41	> 41
45-49	< 21	21-23	24-27	28-31	32-35	36-38	> 38
50-54	< 19	19-22	23-25	26-29	30-32	33-36	> 36
55-59	< 18	18-20	21-23	24-27	28-30	31-33	> 33
60-65	< 16	16-18	19-21	22-24	25-27	28-30	> 30

The classification is based on a literature review of 62 studies where VO_{2max} was measured directly in healthy adult subjects in the USA, Canada and 7 European countries. Reference: Shvartz E, Reibold RC. Aerobic fitness norms for males and females aged 6 to 75 years: a review. Aviat Space Environ Med; 61:3-11, 1990.

VO_{2max}

A clear link exists between maximal oxygen consumption ($VO2_{max}$) of the body and cardiorespiratory fitness because oxygen delivery to tissues is dependent on lung and heart function. $VO2_{max}$ (maximal oxygen uptake, maximal aerobic power) is the maximal rate at which oxygen can be used by the body during maximal exercise; it is related directly to the maximal capacity of the heart to deliver blood to the muscles. $VO2_{max}$ can be measured or predicted by fitness tests (e.g. maximal exercise tests, submaximal exercise tests, Polar Fitness Test). $VO2_{max}$ is a good index of cardiorespiratory fitness and a good predictor of performance capability in endurance events such as distance running, cycling, cross-country skiing, and swimming.

$VO2_{max}$ can be expressed either as milliliters per minute (ml/min = ml ■ min-1) or this value can be divided by the person's body weight in kilograms (ml/kg/min = ml ■ kg-1■ min-1).

NIGHTLY RECHARGE™ RECOVERY MEASUREMENT

Nightly Recharge™ is an overnight recovery measurement that shows you how well you recover from the demands of your day. Your **Nightly Recharge status** is based on two components: how you slept (**sleep charge**) and how well your autonomic nervous system (ANS) calmed down during the early hours of your sleep (**ANS charge**). Both components are formed by comparing your last night to your usual levels from the past 28 days. Your watch automatically measures both sleep charge and ANS charge during the night.

You can see your Nightly Recharge status on your watch and in the Polar Flow app. Based on what we've measured from you, you get personalized daily tips in Polar Flow app on exercise, and tips on sleep and regulating your energy levels on those particularly rough days. Nightly Recharge helps you make optimal choices in your everyday life to maintain overall well-being and reach your training goals.

How to start using Nightly Recharge?

1. Continuous heart rate tracking needs to be enabled for Nightly Recharge to function. To enable Continuous HR tracking go to **Settings** > **General Settings** > **Continuous HR tracking** and choose **On** or **Night-time only**.
2. Tighten the wristband firmly around your wrist and wear the watch when you sleep. The sensor on the back of the watch must be in constant touch with your skin. For more detailed wearing instructions, see Wrist-based heart rate measurement.
3. You need to wear your watch for **three nights** before you start to see the Nightly Recharge status on your watch. This is how long it takes to establish your usual level. Before you get your Nightly Recharge you can view your sleep and ANS measurement details (heart rate, heart rate variability and breathing rate). After three successful nightly measurements you can see your Nightly Recharge status on your watch.

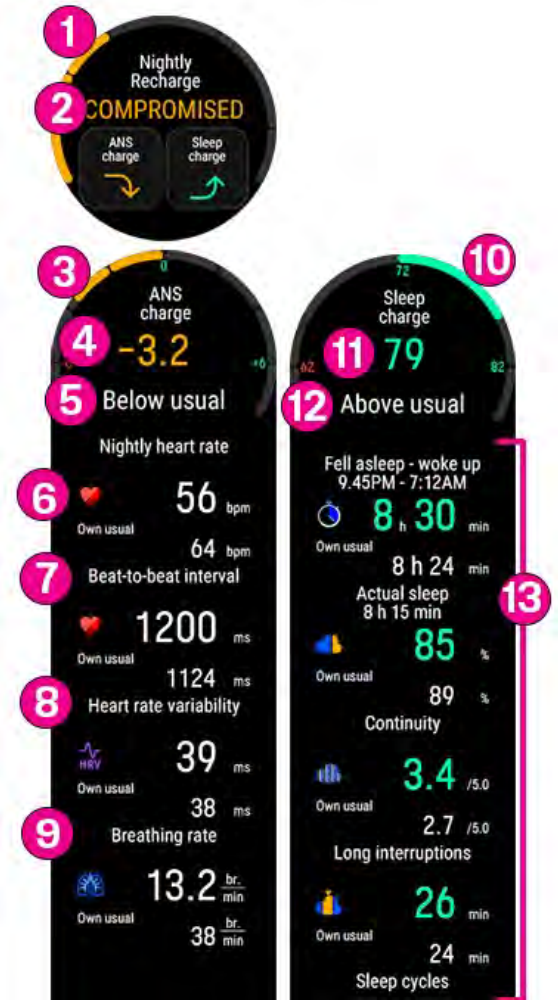
Nightly Recharge on your watch

When your watch detects that you've woken up, it will show your **Nightly Recharge status** on the Nightly Recharge view. Navigate to the Nightly Recharge view by swiping left or right from the watch face.

The Nightly Recharge status tells you how restorative last night was. Scores for both **ANS charge** and **sleep charge** are taken into account when calculating your Nightly Recharge status. Nightly Recharge status has the following scale: very poor – poor – compromised – OK – good – very good.

> You can also stop the sleep tracking manually if you watch has not yet summarized your sleep. **Already awake?** is shown on the Nightly Recharge view when your watch has detected a minimum of four hours of sleep. Confirm by tapping ✓ and the watch summarizes your Nightly Recharge instantly.

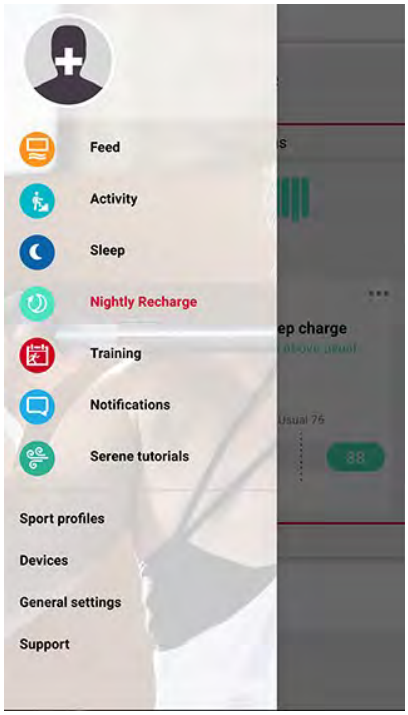
Tap **ANS charge** or **Sleep charge** to see more details.

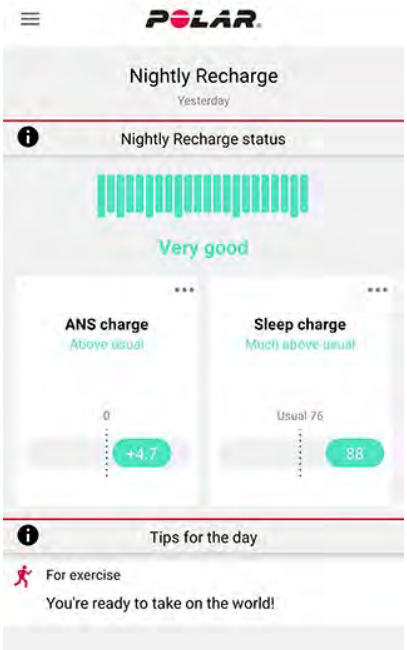


1. **Nightly Recharge status graph**
2. **Nightly Recharge status** Scale: very poor – poor – compromised – OK – good – very good.
3. **ANS charge graph**
4. **ANS charge** The scale is from -10 to +10. Around zero is your usual level.
5. **ANS charge status** Scale: much below usual – below usual – usual – above usual – much above usual.
6. **Heart rate bpm (4 h average)**
7. **Beat-to-beat interval ms (4 h average)**
8. **Heart rate variability ms (4 h average)**
9. **Breathing rate br./min (4 h average)**
10. **Sleep score graph**
11. **Sleep score (1 - 100)** A score that summarizes your sleep time and sleep quality into a single number.
12. **Sleep charge status** = Sleep score compared to your usual level. Scale: much below usual – below usual – usual – above usual – much above usual.
13. **Sleep data details.** See "Sleep data on your watch" on page 80 for more detailed information.

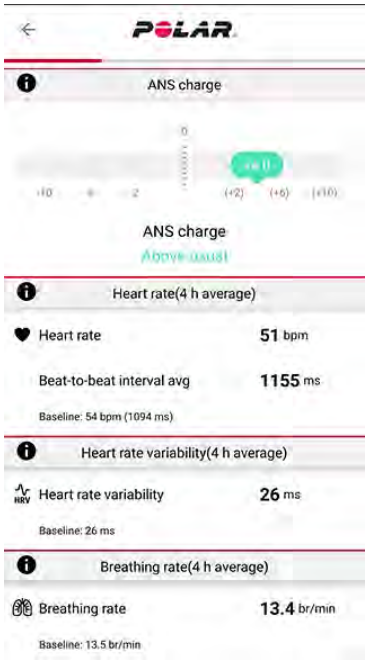
Nightly Recharge in the Flow app

You can compare and analyze your Nightly Recharge details from different nights in the Polar Flow app. Choose **Nightly Recharge** from the Flow app menu to see the details of your last night's Nightly Recharge. Swipe the display right to see the Nightly Recharge details for previous days. Tap the **ANS charge** or **sleep charge** box to open detailed view of ANS charge or sleep charge.





ANS charge details in the Flow app



ANS charge gives you information on how well your autonomic nervous system (ANS) calmed down during the night. The scale is from -10 to +10. Around zero is your usual level. The ANS charge is formed by measuring your **heart rate**, **heart rate variability** and **breathing rate** during roughly the first four hours of sleep.

A normal **heart rate** value for adults can range between 40 and 100 bpm. It is common for your heart rate values to vary between nights. Mental or physical stress, exercising late at night, illness, or alcohol can keep your heart rate up during the early hours of your sleep. It's best to compare your last night's value to your usual level.

Heart rate variability (HRV) refers to the variation between successive heart beats. In general, high heart rate variability is linked to general good health, high cardiovascular fitness and resilience to stress. It can vary greatly from person to person, ranging from 20 to 150. It's best to compare your last night's value to your usual level.

Breathing rate shows your average breathing rate during roughly the first four hours of sleep. It is calculated from your beat-to-beat interval data. Your beat-to-beat intervals shorten when you breathe in and lengthen when you breathe out. During sleep, breathing rate slows down and varies mainly along with sleep stages. Typical values for a healthy adult at rest range from 12 to 20 breaths per minute. Higher values than usual may indicate a fever or impending illness.

Sleep charge details in Polar Flow

For sleep charge information in the Polar Flow app, see "Sleep data in the Flow app and web service" on page 81.

Personalized tips in the Flow app

Based on what we've measured from you, you get personalized daily tips in the Polar Flow app on exercise, and tips on sleep and regulating your energy levels on those particularly rough days. Tips for the day are displayed on the opening view of Nightly Recharge in the Flow app.

For exercise

You get an exercise tip every day. It tells you if you should take it easy or go for it. The tips are based on:

- Nightly Recharge status
- ANS charge
- Sleep charge
- Cardio load status

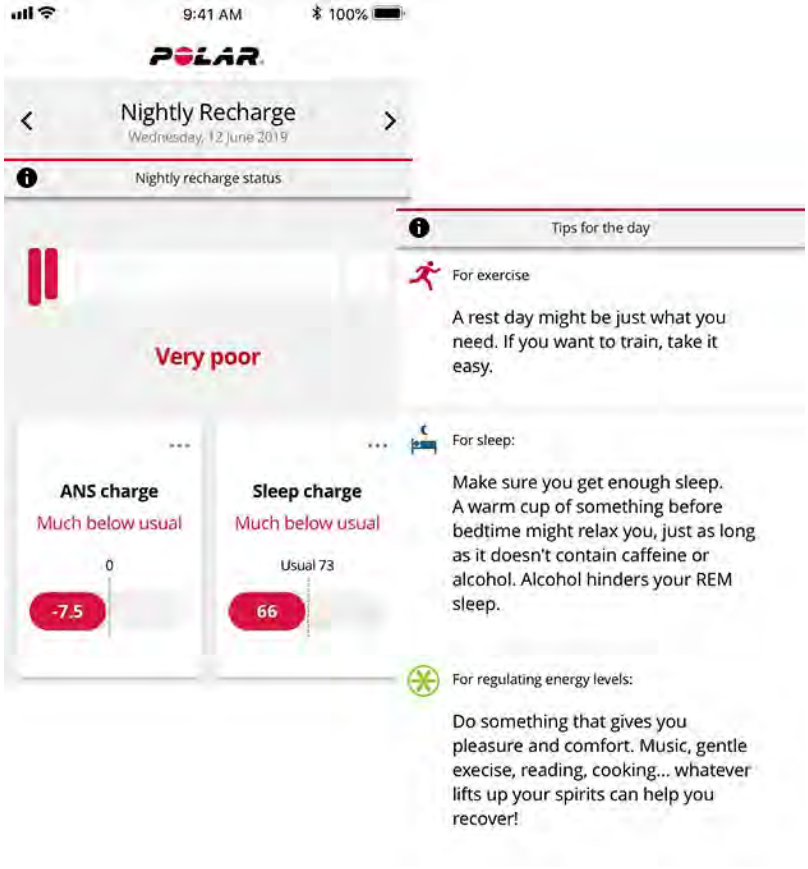
For sleep

If you didn't sleep as well as usual, you get a sleep tip. It tells you how to improve the aspects of your sleep that weren't as good as usual. Besides parameters we measure from your sleep, we take into account:

- sleep rhythm over a longer period of time
- Cardio load status
- exercise on the previous day

For regulating energy levels

If your ANS charge status or sleep charge is particularly low, you get a tip that helps you get through the days with a lower recharge. They are practical tips on how to calm down when you're in overdrive, and how to energize when you need a boost.



Learn more about the Nightly Recharge in this in-depth guide.

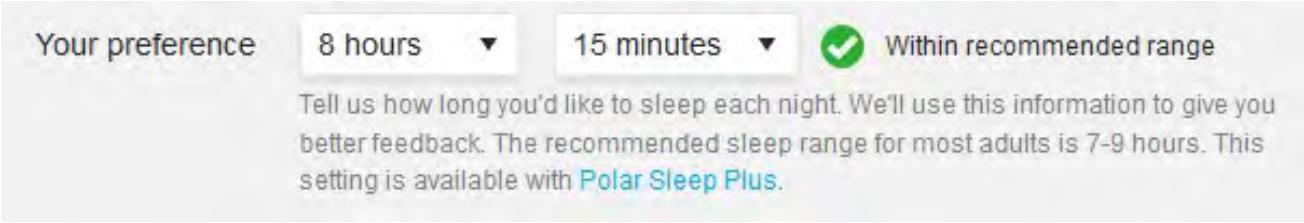
SLEEP PLUS STAGES™ SLEEP TRACKING

Sleep Plus Stages automatically tracks the **amount** and **quality** of your sleep and shows you how long you spent in each **sleep stage**. It gathers your sleep time and sleep quality components into one easily glanceable value, **sleep score**. Sleep score tells you how well you slept compared to the indicators of a good night's sleep based on the current sleep science.

Comparing the components of the sleep score to your own usual level help you recognize which aspects of your daily routine may affect your sleep and may need adjusting. Nightly breakdowns of your sleep are available on your watch and in the Polar Flow app. Long-term sleep data in the Polar Flow web service helps you analyze your sleep patterns in detail.

How to start tracking your sleep with Polar Sleep Plus Stages™

1. The first thing you need to do is **set your preferred sleep time** in the Polar Flow or on your watch. In the Flow app, tap your profile, and choose **Your preferred sleep time**. Choose your preferred time and tap **Done**. Or sign into your Flow account or create a new one at flow.polar.com, and choose **Settings > Physical settings > Your preferred sleep time**. Set your preferred time and choose **Save**. Set your preferred sleep time on your watch from **Settings > Physical settings > Your preferred sleep time**.



   Sleep time preference is the amount of sleep you want to get each night. By default, it is set to the average recommendation for your age group (eight hours for adults from 18 to 64 years). If you feel that eight hours of sleep is too much or too little for you, we recommend you adjust your preferred sleep time to meet your individual needs. By doing this, you'll get accurate feedback on how much sleep you got in comparison to your preferred sleep time.

2. Continuous heart rate tracking needs to be enabled for Sleep Plus Stages to function. To enable Continuous HR tracking go to **Settings** > **General Settings** > **Continuous HR tracking** and select **On** or **Night-time only**. Tighten the wristband firmly around your wrist. The sensor on the back of the watch must be in constant touch with your skin. For more detailed wearing instructions, see Wrist-based heart rate measurement.
3. Your watch detects when you fall asleep, when you wake up and how long you spent sleeping. The Sleep Plus Stages measurement is based on recording the movements of your non-dominant hand with a built-in 3D acceleration sensor and recording your heart's beat-to-beat interval data from your wrist with an optical heart rate sensor.
4. In the morning you can see your **sleep score** (1-100) from your watch. You get sleep stages information (light sleep, deep sleep, REM sleep) and a sleep score after one night, including feedback on sleep themes (amount, solidity and regeneration). After the third night, you get a comparison to your usual level.
5. You can record your own perception of your sleep quality in the morning by rating it on your watch or in the Flow app. Your own rating is not taken into account in the sleep charge calculation, but you can record your own perception and compare it to the sleep charge assessment you get.

Sleep data on your watch

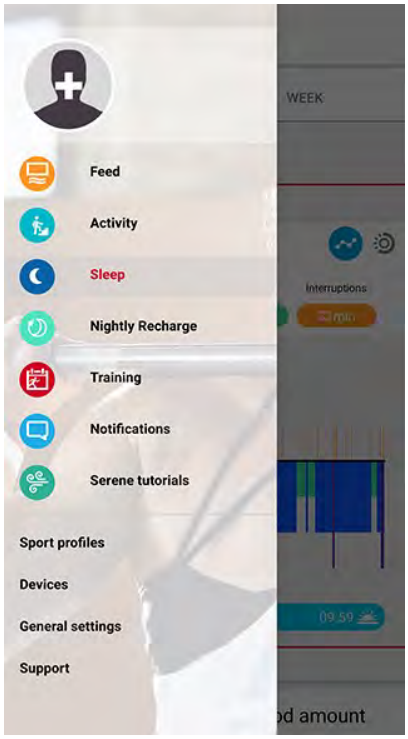
When you wake up you can access your sleep details via the Nightly Recharge view. Navigate to the Nightly Recharge view by swiping left or right from the watch face. Tap **Sleep charge** to see more details. The sleep charge details view displays the following information:

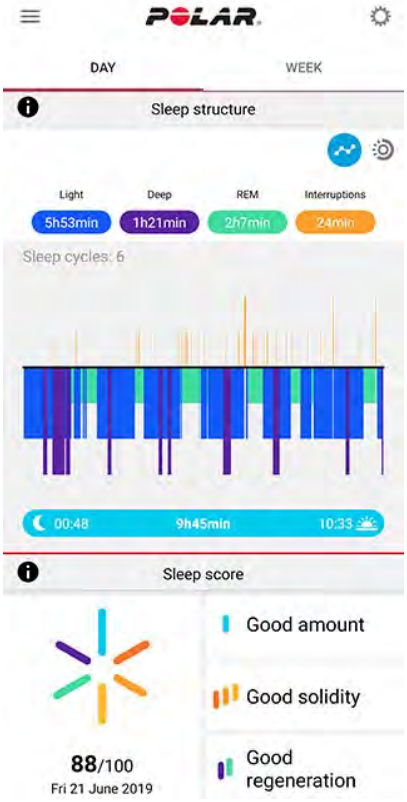
1. **Sleep score status graph**
2. **Sleep score (1-100)** A score that summarizes your sleep time and sleep quality into a single number.
3. **Sleep charge** = Sleep score compared to your usual level. Scale: much below usual – below usual – usual – above usual – much above usual.
4. **Sleep time** tells you the total duration between when you fell asleep and when you woke up.
5. **Actual sleep (%)** tells the time spent asleep between the time you fell asleep and when you woke up. More specifically, it is your sleep time minus the interruptions. Only the time you actually spend asleep is included in actual sleep.
6. **Continuity (1-5)**: Sleep continuity is a rating of how continuous your sleep time was. Sleep continuity is evaluated on a scale from one to five: fragmented – fairly fragmented – fairly continuous – continuous – very continuous.
7. **Long interruptions (min)** tells the time you spent awake during the interruptions longer than one minute. During a normal night's sleep there are numerous short and long interruptions when you actually awaken from your sleep. Whether you remember these interruptions or not depends on their duration. The shorter ones we don't usually remember. The longer ones, for instance when one might get up for a sip of water, we can remember. Interruptions are illustrated as yellow bars on your sleep timeline.
8. **Sleep cycles**: A normal sleeper typically goes through 4-5 sleep cycles over the course of a night. This equals to a sleep time of approximately 8 hours.
9. **REM sleep %**: REM stands for rapid eye movement. REM sleep is also called paradoxical sleep as your brain is active but your muscles are inactive to avoid acting out dreams. Just as deep sleep restores your body, REM sleep restores your mind, and enhances memory and learning.
10. **Deep sleep %**: Deep sleep is the stage of sleep in which it is hard to be awakened since your body is less responsive to environmental stimuli. Most deep sleep occurs during the first half of the night. This sleep stage restores your body and supports your immune system. It also affects certain aspects of memory and learning. The stage of deep sleep is also called slow wave sleep.
11. **Light sleep %**: Light sleep serves as a transition stage between wakefulness and the deeper stages of sleep. You can be easily awoken from light sleep since your responsiveness to the environmental stimuli remains quite high. Light sleep also promotes mental and physical recovery, although REM and deep sleep are the most important sleep stages in that regard.

Sleep data in the Flow app and web service

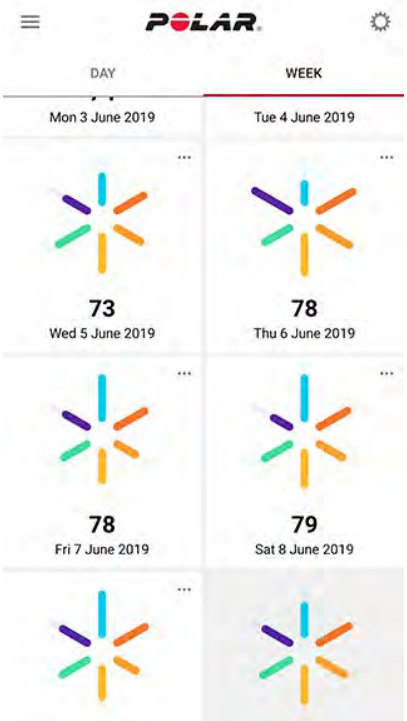
How you sleep is always individual — instead of comparing your sleep stats to others, follow your own long-term sleeping patterns to get a full understanding of how you sleep. Sync your watch with the Flow app after waking up to see your last night's sleep data in Polar Flow. Follow your sleep on a daily and weekly basis in the Flow app, and see how your sleeping habits and activity during the day affect your sleep.

Choose **Sleep** from the Flow app menu to see your sleep data. In the Sleep structure view you see how your sleep has progressed through different sleep stages (light sleep, deep sleep and REM sleep) and any interruptions to your sleep. Usually sleep cycles proceed from light sleep into deep sleep and then to REM sleep. Typically, a night's sleep consists of 4 to 5 sleep cycles. This equals to approximately 8 hours of sleep. During a normal night's sleep there are numerous short and long interruptions. The long interruptions are displayed with the tall orange bars in the sleep structure graph.





The six components of the sleep score are grouped under three themes: amount (sleep time), solidity (long interruptions, continuity and actual sleep) and regeneration (REM sleep and deep sleep). Each bar in the graph represents the score for each component. Sleep score is the average of these scores. By choosing the weekly view you can see how your sleep score and sleep quality (solidity and regeneration themes) vary during the week.



The Sleep rhythm section provides a weekly view of your sleep time and sleep stages.

To view your long-term sleep data with sleep stages in the Flow web service go to **Progress**, and choose the **Sleep report** tab.

Sleep report gives you a long-term view to your sleep patterns. You can choose to view your sleep details for a 1-month, 3-month or 6-month period. You're able to see averages for the following sleep data: fell asleep, woke up, sleep time, REM sleep, deep sleep and interruptions to your sleep. You can view a nightly breakdown of your sleep data by hovering your mouse over the sleep graph.

Learn more about the Polar Sleep Plus Stages in this in-depth guide.

SLEEPWISE™ GUIDE TO DAYTIME ALERTNESS

Polar SleepWise™ helps you grasp how sleep contributes to your daytime alertness level and readiness to perform. In addition to the amount and quality of your recent sleep, we also take the effect of sleep rhythm into account. SleepWise shows how your recent sleep boosts your daytime alertness and readiness to perform. This is what we call **Boost from sleep**. It helps you reach and maintain a healthy sleep rhythm and it describes how your recent sleep affects your daytime alertness. Better alertness adds up to better readiness to perform by improving reaction time, accuracy, judgement and decision-making.

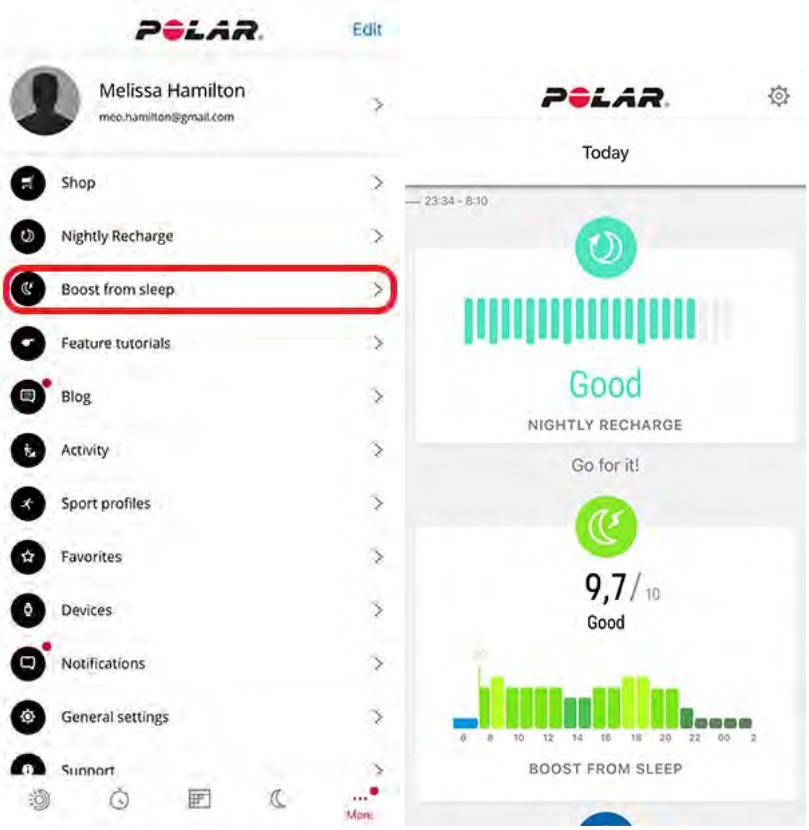
To ensure personalized feedback, please make sure that your **Preferred sleep time** setting matches your real sleep need.

SleepWise is completely automatic and all you need to do is to track your sleep with Sleep Plus Stages compatible Polar watch. It is available in the Polar Flow app.

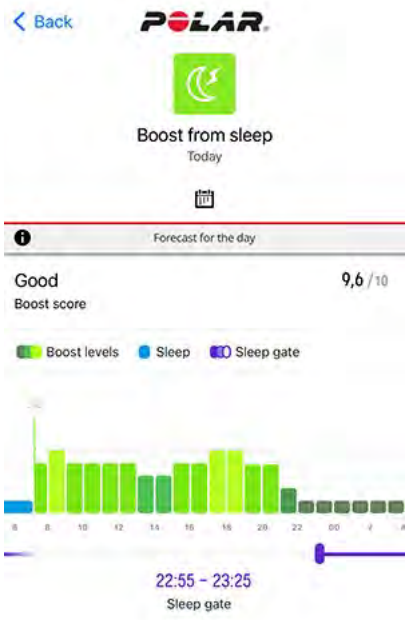
Daily Boost from sleep in the Polar Flow app

Note that you need to have at least five sleep results within the last seven days in order to see your Boost from sleep forecasts. In case you haven't worn your watch or if the sleep tracking was not successful, you can also add sleep times manually in the app to increase your sleep result count.

To see your Boost from sleep forecasts in the Polar Flow app, choose **Boost from sleep** from the menu or get a glance of the daily Boost from sleep forecast from the card in the **Diary**. Tapping the card opens the daily **Boost from sleep** view.



Boost from sleep view opens:



In the morning, you can see a forecast for how your sleep boost is expected to vary throughout the day, and plan alertness boosting activities accordingly (such as naps, coffee, or a walk outside). This provides simple visual and numeric feedback on any changes in your sleep rhythm. This way, you can easily recognize if the changes are for better or for worse. This helps helps you understand how the effects of sleep accumulate in the long run. It makes the impact of sleep debt and irregular sleep-wake rhythm visible.

Boost score summarizes the daily forecast into one number in order to make it easy to compare between days. Your boost score may be **excellent**, **good**, **fair**, or **modest**. Excellent boost score means that you get all the benefits of good sleep to support your day. Your boost score may be modest if you, for example, have a lot of sleep debt. You might see repeating patterns in the trend, for instance, because of weekends.

The daily **Forecast graph** shows how your recent sleep is expected to boost you throughout the day.

The lighter the shade and higher the bar, the higher the **boost level**. It means you're likely to feel sharp and ready to perform. The darker the shade and lower the boost. It means you may feel less alert – even drowsy.

Boost levels

Please notice that our forecast is based on sleep only. It doesn't react to anything else you might or might not do during the day. In other words, the graph won't react to the cups of coffee you might consume or the cold showers or brisk walks you might take. Inner motivation also plays a role in how sharp you feel. No matter how high your sleep-based boost level, you're likely to start feeling drowsy during the course of a very boring lecture. On the other hand, you might feel quite sharp even after a bad night's sleep, if you have a truly interesting task at hand. By following the daily forecast, you'll learn that your boost level tends to dip in the afternoon for some time and then go up again. There's no reason to worry about this afternoon slump though. It's regulated by your internal rhythm and is natural to all human beings. By studying the course of your past forecasts, you can learn how today's boost levels are not only affected by last night's sleep but also your recent sleep history. Staying up late on weekends, for example, can affect several days.

Sleep gate anticipates the time when your body is ready to fall asleep. However, your body's internal rhythm might not always align with your everyday commitments. That's why your sleep gate is not always your ideal bedtime in real life. This could be the case, for example, when you go back to work after a break – be it a longer vacation or just a weekend break.

Daily Boost from sleep on Polar Vantage V3

When your watch detects that you've woken up, it will show your Boost from sleep forecasts on the **Boost from sleep** view. Navigate to the Boost from sleep view by swiping left or right from the watch face.

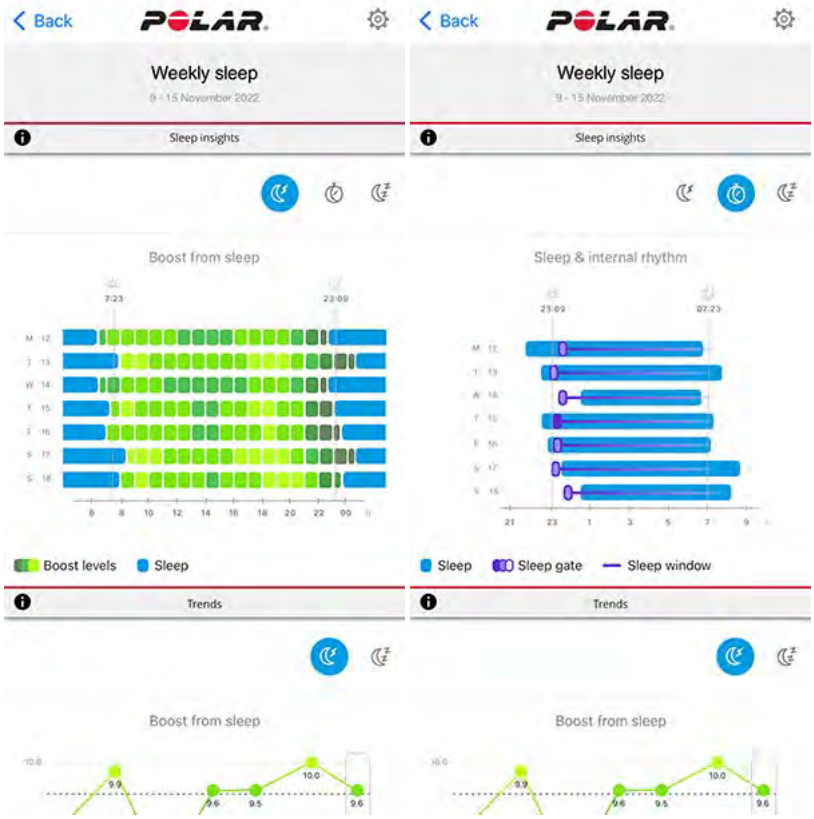
You can also stop the sleep tracking manually if you watch has not yet summarized your sleep. **Zzz** is shown on the Boost from sleep view when your watch has detected a minimum of four hours of sleep. **Already awake?** appears if you tap the display. Confirm by tapping and the watch summarizes your sleep instantly.

The information displayed on the **Boost from sleep** view includes:

1. **Boost from sleep** graph shows how your recent sleep is expected to boost you throughout the day. The lighter the shade and higher the bar, the higher the boost level. Tap the display to see more details.
2. **Boost score** summarizes the daily forecast into one number in order to make it easy to compare between days. Your boost score may be **excellent**, **good**, **fair**, or **modest**. Excellent boost score means that you get all the benefits of good sleep to support your day. Your boost score may be modest if you, for example, have a lot of sleep debt. You might see repeating patterns in the boost score trend, for instance, because of weekends.
3. **Sleep time** tells you the total duration between when you fell asleep and when you woke up.
4. **Sleep score (1-100)**: A score that summarizes your sleep time and sleep quality into a single number.
5. **Sleep gate** anticipates the time when your body is ready to fall asleep. This may be clearly recognizable from your data or not. Irregular sleep rhythm or unusual sleeping hours can mess your internal rhythm and make sleep gate less prominent.
6. **Sleep gate recognizability** (1/3, 2/3 or 3/3): You can expect your sleep gate to be clearly recognizable (3/3), if your sleep rhythm is regular. In case your sleep rhythm changes drastically, your sleep gate is difficult to recognize.

Weekly sleep

In the **Weekly sleep** view you can compare and analyze your Sleep details from different nights. Tap the calendar icon to access it.

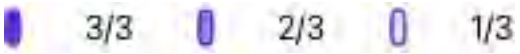


Boost from sleep graph shows how your sleep has affected your days lately. Based on this, you can consider making changes to your sleep schedule.

Sleep & Internal rhythm graph shows how much your actual sleep rhythm deviates from your body's internal circadian rhythm. Syncing these two rhythms – actual and internal – has many health benefits. Sticking to regular bedtimes and wake-up times can help you sync them. You can see how your behavior affects your internal rhythm. For example, staying up late on weekends or traveling over time zones may upset the sync of your rhythms.

Sleep gate anticipates the time when your body is ready to fall asleep. This may be clearly recognizable from your data or not. Irregular sleep rhythm or unusual sleeping hours can mess your internal rhythm and make sleep gate less prominent.

Sleep gate recognizability



You can expect your sleep gate to be clearly recognizable (3/3), if your sleep rhythm is regular. In case your sleep rhythm changes drastically, your sleep gate is difficult to recognize.

Internal rhythm

Your body's internal rhythm means there are times when your body naturally wants to be asleep or awake. The purple lines in the graph show your **sleep window** – the time span when your body would've naturally wanted to be asleep. The blue bars show your actual sleep rhythm. Syncing these two rhythms – actual and internal – has many health benefits. Sticking to regular bedtimes and wake-up times can help you sync them.

Many people working office hours tend to stay up late and sleep in on weekends. This is how they end up shifting their sleep gate towards staying up late on Sunday night as well. In this very typical case of social jet lag, trouble falling asleep on Sunday night may result in starting a new working week sleep-deprived. Going by the book, the trick to avoid Sunday insomnia and sleep-deprived Mondays is to go to bed and get up at the same time every day. However, if

you've ended up staying up late, you should rather compensate that with a nice early afternoon nap instead of sleeping in.

Scientific background

Polar SleepWise feature utilizes sleep tracking and biomathematical modeling for predicting daytime alertness based on how one has slept recently. To predict how sleep boosts one's alertness, Polar model evaluates sleep amount, quality, and timing against personal sleep need and one's body's internal circadian rhythm. The model predicts one's boost levels hour-by-hour, daily boost score, sleep gate, and sleep window. A sleep gate marks the start of one's sleep window - the time when one's body would naturally want to be asleep. It takes from 1 to 2 weeks for SleepWise to collect enough data to reach full reliability.

Biomathematical modeling is a generally accepted means to predict how different sleep schedules impact on alertness during waking hours. Several biomathematical models have been introduced in the scientific literature. While the details and terminology between the models differ, the models typically consider time awake, sleep-wake history, and the circadian rhythm. The outputs of the models have typically been validated against a psychomotor vigilance task after modest or severe sleep restrictions. The psychomotor vigilance task is a simple task where one presses a button as soon as the light appears on a screen. Results from such a task correlate with maintaining attention, problem solving, and decision making.

NIGHTLY SKIN TEMPERATURE

The **Nightly Skin Temperature** measurement automatically tracks your skin temperature when you sleep. It then compares the result with your 28-day average, and shows the variation to that average. Tracking the variations in your skin temperature can help you detect changes in your body's state.

In contrast to core body temperature, which is usually quite stable around +37 degrees Celsius (98.6 °F), the temperature of your skin can vary much more. This is because the body regulates its core temperature through changing the blood flow of the skin. Also, environmental factors affect the skin temperature. A variation of +-1 degrees Celsius / +-1.8 degrees Fahrenheit is considered usual in skin temperature. Lower temperatures can occur quite often due to environmental factors, such as colder room temperature or sleeping with your hand outside the covers. Higher temperatures might be a sign of oncoming illness. Higher temperatures can also indicate being in the latter part of the menstrual cycle (ovulation and luteal phase).

The skin temperature feature can't be used as a thermometer, as it doesn't show any absolute temperature values, only the variation to your average skin temperature. If you're feeling under the weather, double-check your temperature with a thermometer.

> The temperature measurement feature and data is not intended for medical purposes, diagnosis or treatment.

How to start using the Nightly skin temperature feature

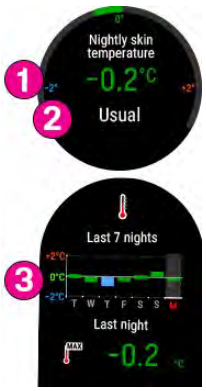
1. Continuous heart rate tracking needs to be enabled for Nightly skin temperature measurement to function. To enable Continuous HR tracking go to **Settings** > **General Settings** > **Continuous HR tracking** and choose **On** or **Night-time only**.
2. Tighten the wristband firmly around your wrist and wear the watch when you sleep. For detailed wearing instructions, see Wrist-based heart rate measurement.
3. You need to wear your watch for **three nights** before you start to see your Nightly skin temperature results on your watch. After three nights, we know your average skin temperature and show it as **baseline** (zero). When calculating the baseline, the past 28 nights are taken into account.

Nightly skin temperature on your watch

When your watch detects that you have woken up, it compares the skin temperature measured during sleep to your average skin temperature, and shows the variation to that average. Navigate to the **Nightly skin temperature** view by

swiping left or right from the watch face.

> You can also stop the sleep tracking manually if you watch has not yet summarized your sleep. **Zzz...** is shown on the Nightly skin temperature view when your watch has detected a minimum of four hours of sleep. **Already awake?** appears when you tap the display. Confirm by tapping ✓ and the watch summarizes your sleep instantly. If sleep isn't recognized, skin temperature won't be available.



The information displayed on the Nightly skin temperature view includes:

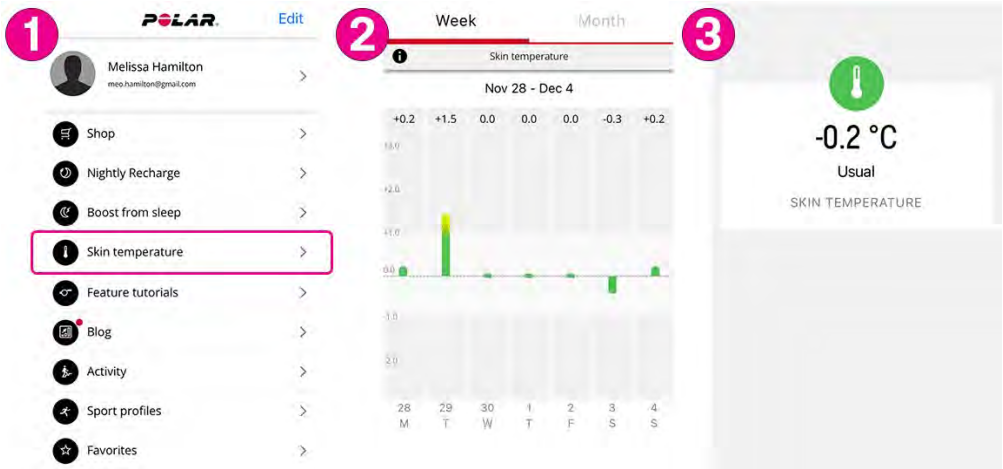
1. Variation to your average skin temperature.
2. Your skin temperature compared to usual level. Scale: **Below usual** – **Usual** – **Above usual** – **Much above usual**.

   Variation within +-1 degrees Celsius or +-1.8 degrees Fahrenheit is considered **Usual**. If the variation to your average skin temperature is more than +2 degrees Celsius or +3.6 degrees Fahrenheit, it is considered **Much above usual**.
3. A graph showing your skin temperature measurements from the last 7 nights.

Nightly skin temperature in the Polar Flow app

Sync your watch with the Polar Flow app to see your skin temperature data in the app. Note that you must sync your watch using the Flow app. Skin temperature data cannot be synced using the Polar FlowSync software on your computer.

In the Polar Flow app, choose **Skin temperature** from the menu (1). From the **Skin temperature** view (2), you can check the result of last night's measurement and also see how your skin temperature varies over the course of a **week** or **month**. You can also check the result of last night's measurement from the card in the **Diary** (3). Tapping the card opens the **Skin temperature** view.



FITSPARK™ DAILY TRAINING GUIDE

The FitSpark™ training guide offers ready-made **daily on-demand workouts** available easily right on your watch. The workouts are built to match your fitness level, training history and your recovery and readiness, based on your Nightly Recharge status from the previous night. FitSpark gives you 2-4 different workout options every day: one that suits you best and 1-3 other options to choose from. You get a maximum of four suggestions per day and there are 19 different workouts in total. Suggestions include workouts from the **cardio**, **strength** and **supportive** training categories.

FitSpark workouts are ready-made training targets defined by Polar. The workouts include instructions on how to perform the exercises and real-time step-by-step guidance to ensure you exercise safely and with proper technique. All workouts are time-based, and they are adjusted based on your current fitness level, making the sessions suitable for everyone, regardless of fitness level. The FitSpark workout suggestions are updated after each training session (including training sessions done without FitSpark), at midnight and when you wake up. FitSpark keeps your training versatile with different types of daily workouts to choose from.

How is your fitness level determined?

Your fitness level is determined for every workout suggestion based on your:

- Training history (average weekly heart rate zone realization from the previous 28 days)
- VO2max (from the Fitness test on your watch)
- Training background

You can start using the feature without any training history. However, FitSpark will work optimally after 7 days of use.

The higher the fitness level is, the longer the durations of the training targets are. The most demanding strength targets are not available at low fitness levels.

What type of exercises are included in the training categories?

In cardio sessions you're guided to train in different heart rate zones for different durations. Sessions include time-based warm-up, work and cool-down phases. Cardio sessions can be completed with any sport profile on your watch.

Strength sessions are circuit training type workouts consisting of strength training exercises with time-based guidance. Bodyweight workouts can be done using your own body as resistance - there is no need for additional weights. In circuit training workouts you need a bumper plate, a kettlebell or dumbbells to perform the exercises.

Supportive sessions are circuit training type workouts consisting of strength **and** mobility exercises with time-based guidance.

FitSpark on your watch

From the watch face, swipe left or right to navigate to the **FitSpark training guide** view.

Tap the display to see the suggested workouts. The most suitable workout for you based on your training history and fitness level is shown first. Swipe up to see other optional workout suggestions.

Tap the suggested workout to see a detailed breakdown of the workout. Swipe up to see the exercises included in the workout (strength and supportive workouts) and tap the individual exercise to see detailed instructions on how to perform the exercise.

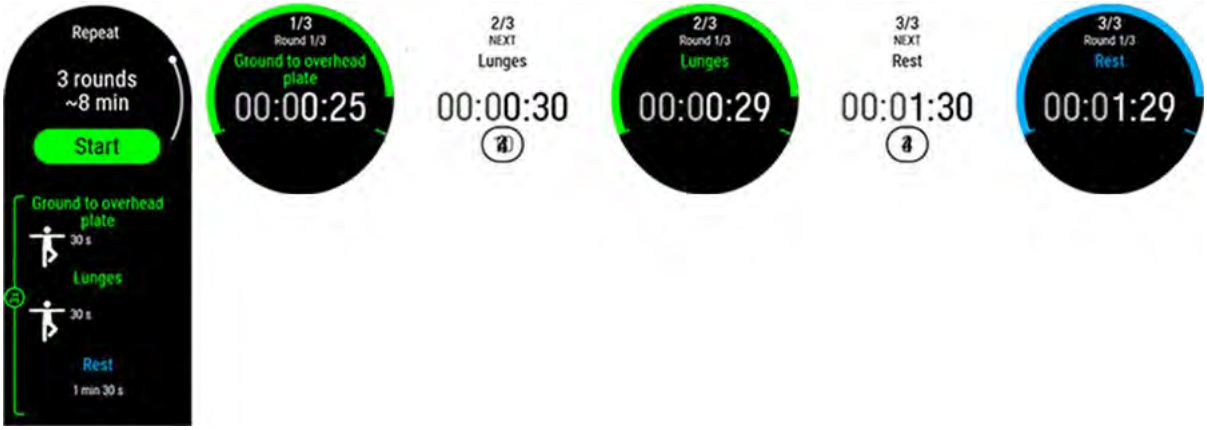
Tap **Start** to choose the suggested workout, and then tap the sport profile you want to use to start the training session.

If you have an active Running Program in Polar Flow your FitSpark suggestions are based on the Running Program training targets.

During training

Your watch gives you guidance during training, which includes training information, time-based phases with heart rate zones for cardio targets and time-based phases with exercises for strength and supportive targets.

Strength training and supportive training sessions are based on ready-made workout plans with exercise animations and real-time step-by-step guidance. All sessions include timers and vibrations that let you know when it's time to switch to the next phase. Continue each movement for 40 seconds, then rest until the minute is full and start the next movement. When you've completed all rounds of the first set, start the next set manually. You can end a training session any time you like. You cannot skip or re-arrange training phases.

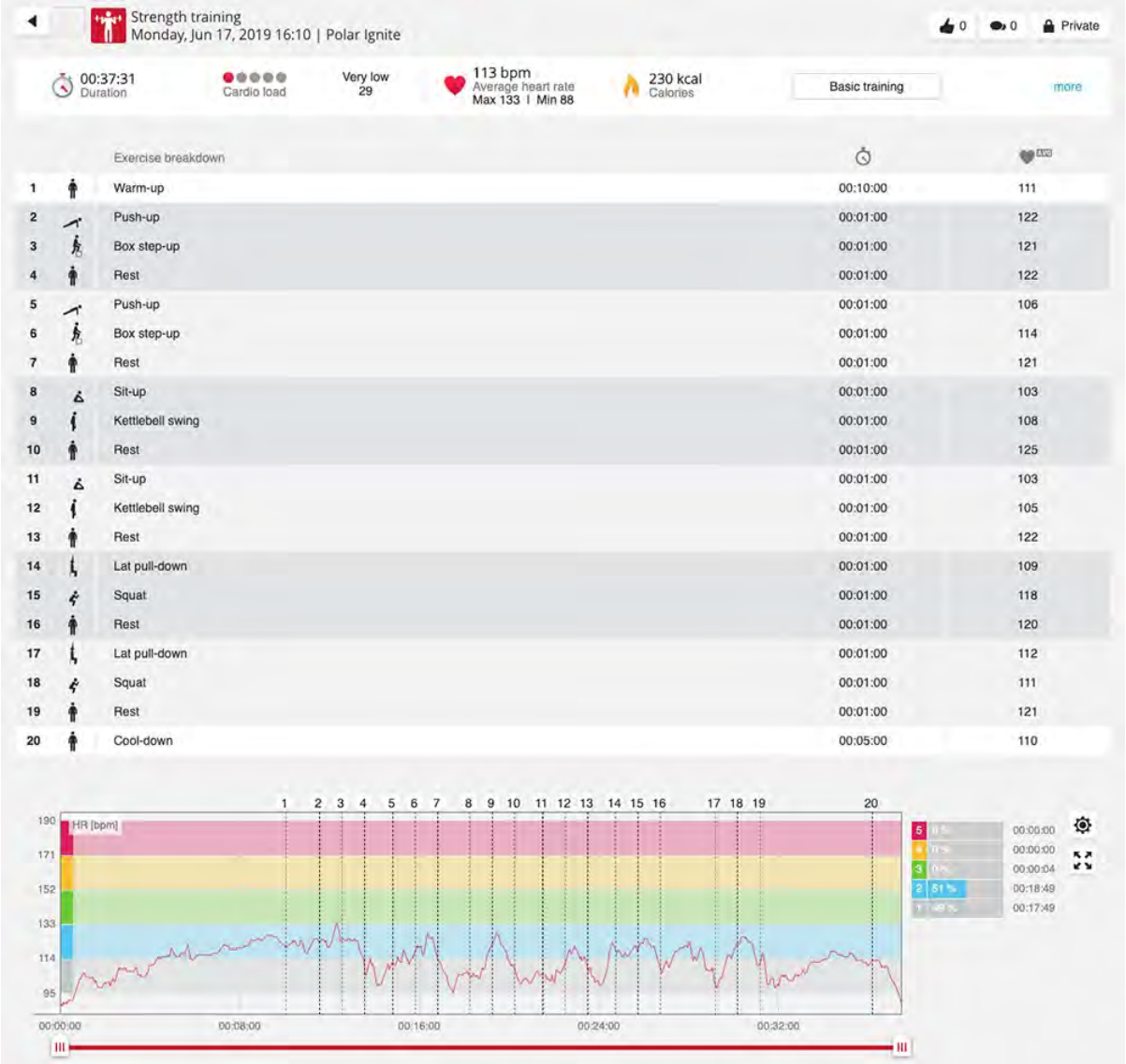


The Voice guidance feature helps you focus on your training target by providing guidance during training phases straight to your headphones.

Backlight always on during training: Swipe down from the top of the display to pull down the **Quick settings** menu. Tap the Backlight icon to select **Always on** or **Automatic**. With always on the watch display will be illuminated throughout your training session. The backlight setting will default back to automatic after you finish your training session. Please note that selecting always on will drain your battery much faster than the default setting.

Training results on your watch and in Polar Flow

You'll get a summary of your training session on your watch right after you've finished the session. You'll get a more detailed analysis in the Polar Flow app or in the Polar Flow web service. For cardio training targets you get a basic training result, which shows the phases of the session with heart rate data. For strength and supportive training targets you get detailed training results, which include your average heart rate and time spent on each exercise. These are displayed as a list, and each exercise is also displayed on the heart rate curve.



Training may include some risk. Before beginning a regular training program please read the Minimizing risks when training guidance.

WORK-REST GUIDE BASED ON YOUR HEART RATE

Optimize your training rhythm and efficiency to get the best possible impact from your workouts. The Work-rest guide analyzes your heart rate during the work and rest phases of a training session to give you personalized guidance on the optimal time to start the work phase again. It automatically detects your highest heart rate during a set, and also monitors your heart rate during rest, and tells you when you are recovered enough to start your next set.

To use the Work-rest guide feature during training sessions you need to have the Work-rest guide training view added to the sport profile you wish to use it in. By default, the Work-rest guide training view is on in following sport profiles: Strength Training, Circuit Training, High-intensity interval training, Functional training, Bootcamp and Kettlebell. You can add the training view to any sport profile in the sport profile settings in the Polar Flow app or web service.

Training with Work-rest guide

Start your training session with a proper warmup to maximize the benefits of your workout. Warming up improves the effectiveness of your workout and reduces your risk of injury. **Set the Work-rest guide on when you are ready to start the work phase of your training session.** Use the UP and DOWN buttons to navigate to the Work-rest guide training view and press OK to turn the feature on.

Guidance on the display

The Work-rest guide training view shows your current heart rate and your real-time heart rate graph. The different colors indicate the heart rate zone in which you are training in. The following instructions guide you through the work and rest phases of your session.

Raise your HR is shown if you need to raise your heart rate to start the work phase. When your heart rate rises to a sufficient level for the work phase, the text on the display changes to **Work**. After completing the set, your watch automatically detects that the work phase has ended, and it also automatically detects the highest heart rate reached during the work phase. You can also manually end the work phase by pressing OK.

Rest until your HR is low enough is shown on the display and the watch notifies you by vibrating when it has defined your target recovery heart rate. During the rest phase, you can see your current heart rate and target recovery heart rate on the display. The dashed line on the real-time heart rate graph represents the target heart rate. The minimum rest time is 20 seconds - if you reach the target recovery heart rate sooner, **Rest for a few seconds more** is displayed.

> If the rest phase cannot be determined based on your heart rate, a time-based rest phase is shown. **Work time ended. Time to rest.** appears on the display, after which a 30-second countdown timer appears.

Work! is shown on the display and the watch notifies you by vibrating when you have recovered enough and it's time for your next set.

To turn the feature off, press the BACK button in the Work-rest guide view. **Stop Work-rest guide?** is displayed. Press OK to confirm. Stopping the Work-rest guide does not stop the training session.

Especially in strength training, when you are performing activities that cause extreme pressure on your wrists, such as weightlifting or pull-ups, your heart rate may be harder to detect with sufficient accuracy from the wrist. For this reason, we recommend using a Polar H10 heart rate sensor or a Polar Verity Sense optical heart rate sensor to ensure accurate heart rate measurement, and optimal function of the Work-rest guide feature.

Learn more about Work-rest guide.

SERENE™ GUIDED BREATHING EXERCISE

Serene™ is a **guided deep breathing exercise** that helps you relax your body and mind and manage stress. Serene guides you to breathe at a slow, regular rhythm – **six breaths per minute**, which is the optimal breathing rate for **stress-relieving effects**. When you breathe slowly, your heart beat starts to synchronize with the rhythm of your breathing and your heart's beat-to-beat intervals start to vary more.

During the breathing exercise your watch helps you maintain a regular slow breathing rhythm with an animation on the watch display and by vibrating. Serene measures your body's response to the exercise and gives you real-time biofeedback on how you're doing. After the exercise, you get a summary of the time you spent on the three **serenity zones**. The higher the zone, the better the synchronization with the optimal rhythm was. The more time you spend in the higher zones, the more benefits you can expect to feel in the long-term. When you use the Serene breathing exercise regularly, it can help you **manage stress**, improve the **quality of your sleep** and give you a sense of improved **overall well-being**.

Serene breathing exercise on your watch

The Serene breathing exercise guides you to **breathe deeply and slowly** to calm down the body and mind. When you breathe slowly, your heart beat starts to synchronize with the rhythm of your breathing. Your heart's beat-to-beat intervals vary more when your breathing is deeper and slower. Deep breathing produces measurable responses in the heart's beat-to-beat intervals. When you breath in, intervals between consecutive heart beats shorten (heart rate speeds up) and when you breath out, intervals between consecutive heart beats lengthen (heart rate slows down). The variance of your heart's beat-to-beat intervals is greatest when you are closest to the **6 breathing cycles per minute** rhythm (inhale + exhale = 10 seconds). This is the optimal rate for **stress-relieving effects**. This is why your success is measured not only from the synchronization, but also from how close you were to the optimal breathing rate.

The default duration of Serene breathing exercise is 3 minutes. You can adjust the duration of the breathing exercise in range between 2-20 minutes. You can also adjust inhale and exhale durations if needed. Fastest breathing frequency can be 3 seconds for inhale and 3 seconds for exhale resulting 10 breaths per minute. Slowest breathing frequency is 5 seconds for inhale and 7 seconds for exhale resulting 5 breaths per minute.

Check that your position allows you to keep your arms relaxed and your hands still throughout the entire breathing exercise. This allows you to relax properly and ensures that your Polar watch can accurately measure the effects of the session.

1. Wear your watch snugly just behind the wrist bone.
2. Sit or lie down comfortably.
3. On your watch, choose **Serene** and then choose **Start** to start breathing exercise. Exercise starts with a 15 seconds preparatory phase.
4. Follow the breathing guidance on the display or through the vibration.
5. You can end the exercise by pressing the BACK button at any time.
6. The main guiding element in the animation **changes color** according to which serenity zone you're currently in.
7. After the exercise, you'll see your results displayed on your watch as time spent in the different serenity zones.

The **serenity zones** are Amethyst, Sapphire and Diamond. The serenity zones tell you how well your heartbeat and breathing are in sync and how close you are to the optimal breathing rate of six breaths per minute. The higher the zone, the better the synchronization with the optimal rhythm. For the highest serenity zone, Diamond, you need to sustain a slow target rhythm of around six breaths per minute, or slower. The more time you spend in the higher zones, the more benefits you can expect to feel in the long-term.

Breathing exercise result

After the exercise, you get a summary of the time you spent on the three serenity zones.

Learn more about the Serene™ guided breathing exercise in this in-depth guide.

FUELWISE™

Stay energized throughout your session with the FuelWise™ fueling assistant. FuelWise™ includes three features that remind you to refuel and help you maintain adequate energy levels during your long sessions. These features are **Smart carbs reminder**, **Manual carbs reminder** and **Drink reminder**.

It's crucial for any serious endurance athlete to maintain adequate energy levels and stay hydrated throughout a long performance. To perform at your best, you need to fuel your system with carbohydrates and drink regularly in the course of a long race or a training session. With two useful tools, carbs reminder and drink reminder, FuelWise helps you find the optimal way to fuel and stay hydrated.

Carbohydrates are ideal for fueling because they can be absorbed and converted into glucose quickly, unlike fat or protein. Glucose is the primary source of energy used during training. The higher your training intensity, the more glucose you use in proportion to fat. If your session is shorter than 90 minutes, you don't usually need to fuel with carbs. However, extra carbs may help you stay more alert and focused even during a shorter session.

Training with Fuelwise

FuelWise™ is located in the main menu under **Fueling**, and consists of three types of reminders during training sessions. These are **Smart carbs reminder**, **Manual carbs reminder** and **Drink reminder**. The Smart carbs reminder calculates your refueling need from your estimated session intensity and duration taking your training background and physical details into account. The Manual carbs reminder and Drink reminder are time-based, which means you'll get a reminder at preset intervals, every 15 or 30 minutes for example.

When using any of the fueling features the training session is started from the **Fueling** menu. After setting your reminder and choosing **Next** , you'll be taken straight to the pre-training mode. Then choose your sport profile and start your session.

Smart carbs reminder

When using the smart carbs reminder, set the estimated session duration and intensity, and we'll estimate the amount of carbs you'll need for refueling during your session. When estimating your carbohydrate need for refueling we take your training background and physical settings including age, gender, height, weight, maximum heart rate, resting heart rate, VO2max, aerobic heart rate threshold and anaerobic heart rate threshold into account.

Your capability to absorb carbohydrates is estimated from your training background. This limits the maximum amount of carbohydrates (grams per hour) that the smart carbs reminder can give you. This data is used to pre-calculate the relationship between your heart rate and carbohydrate consumption rate based on your physical settings. The recommended carbohydrate intake rate is then adjusted up or down (within min/max limits) based on your heart rate data and the pre-calculated heart rate vs. carbohydrate consumption rate relationship.

During training, your watch will track your actual energy expenditure and adjust the frequency of the reminders accordingly but the portion size (carbs in grams) is always the same during a session.

Set smart carbs reminder

1. In the main menu choose **Fueling > Smart carbs reminder**.
2. Set the estimated duration of your session. The minimum is 30 minutes.
3. Set the estimated intensity of your session. The intensity is set with heart rate zones. See heart rate zones to learn more about different training intensities.
4. Set the **carbs per serving** (5 -100 grams) of your preferred sports fuel.
5. Choose **Next**

After setting the reminder you'll see an overview of your selection. At this point you can still remove the reminder you just set or add a drink reminder. When you're ready to start your session choose **Use now** to go to pre-training mode.

When adding a drink reminder to a smart carbs reminder, you'll also get an estimation of your hydration need per reminder. This is based on the average sweat rate in moderate conditions

Take ( ) g carbs! is shown on the display including vibration and sound when it's time to take some carbs.

Manual carbs reminder

A time-based reminder that helps you stay fueled by reminding you to take some carbs at preset intervals. Can be set to remind you in 5 to 60-minute intervals.

Set manual carbs reminder

1. In the main menu choose **Fueling > Manual carbs reminder**.
2. Set the interval (5-60 minutes) of the reminder.

After setting the reminder you'll see an overview of your selection. At this point you can still remove the reminder you just set or add a drink reminder. When you're ready to start your session choose **Use now** to go to pre-training mode.

Take carbs! is shown on the display including vibration and sound when it's time to take some carbs.

Drink reminder

A time-based reminder that helps you stay hydrated by reminding you to drink. Can be set to remind you in 5 to 60-minute intervals.

Set drink reminder

1. In the main menu choose **Fueling > Drink reminder**.
2. Set the interval (5-60 minutes) of the reminder.

After setting the reminder you'll see an overview of your selection. At this point you can still remove the reminder you just set or add a carbs reminder. When you're ready to start your session choose **Use now** to go to pre-training mode.

Drink! is shown on the display including vibration and sound when it's time to drink.

Learn more about FuelWise™

RUNNING POWER FROM THE WRIST

Running power is a great complement to heart rate monitoring – it helps you monitor the external load of your running. Power responds to changes in intensity faster than your heart rate, which is why Running Power is a great guiding metric in interval and hill sessions. You can also use it to maintain a steady effort level during your run, for example in a race.

The calculation is done with Polar's proprietary algorithm, and it is based on your GPS and barometer data. Your weight also affects the calculation, so make sure its up-to-date.

Running power and muscle load

Polar uses running power to calculate Muscle load, one parameter of Training Load Pro. Running causes musculoskeletal stress, and Muscle load tells you how much your muscles and joints were strained during your training session. It shows the amount of mechanical work (kJ) that you produced during your running sessions (and cycling sessions if you're using a cycling power meter). Muscle load helps you quantify your training load in high-intensity running training sessions, such as short intervals, sprints and hill sessions, when your heart rate doesn't have enough time to react to the changes in the intensity.

How running power is shown on your watch

Running power is automatically calculated for your running sessions done with running type sport profiles with GPS available.

Choose the power data you want to view during your sessions by customizing your training views in the Flow web service sport profile settings.

During your run you can view the following data:

- Maximum power
- Average power
- Lap power
- Maximum lap power
- Automatic lap power average
- Automatic lap power maximum

Choose how power is shown during sessions and in the Flow web service and app:

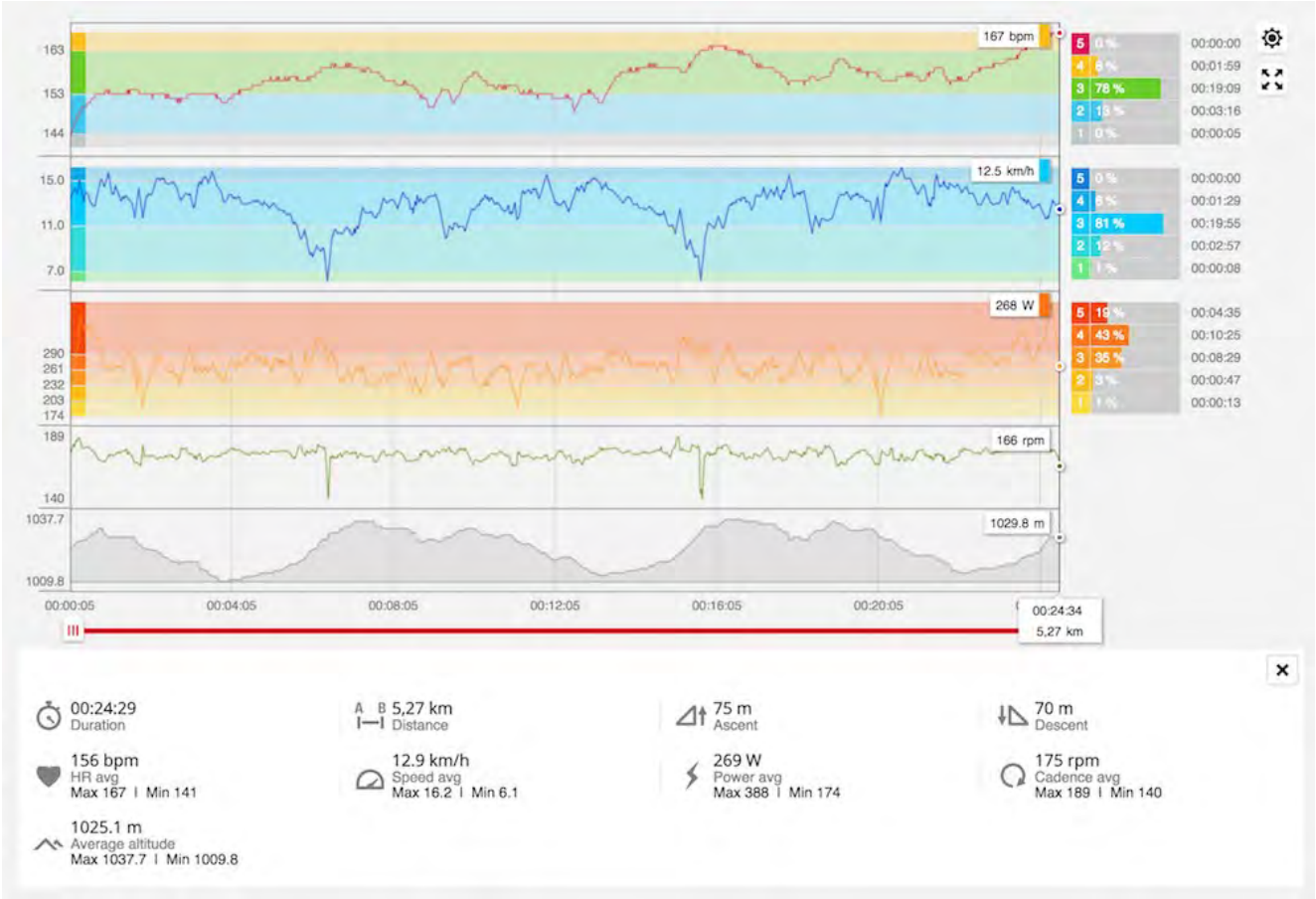
- Watts W
- Watts per kilogram W/kg
- Percentage of MAP (% of MAP)

After your session in the training summary on your watch you'll see:

- Your average power as Watts
- Your maximum power as Watts
- Muscle Load
- Time spent in power zones

How running power is shown in the Polar web service and app

Detailed graphs for analysis are available in the Flow web service and app. See your power values from your session, and how they were distributed compared to heart rate, and how incline, decline and different speeds affected them.



POLAR RUNNING PROGRAM

Polar Running program is a personalized program based on your fitness level, designed to make sure that you train right and avoid overreaching. It's intelligent, and adapts based on your development, and lets you know when it might be a good idea to cut back a little and when to step it up a notch. Each program is tailored for your event, taking your personal attributes, training background and preparation time into account. The program is free, and available in the Polar Flow web service at flow.polar.com.

Programs are available for 5k, 10k, half marathon and marathon events. Each program has three phases: Base building, Build-up and Tapering. These phases are designed to gradually develop your performance, and make sure you're ready on race day. Running training sessions are divided into five types: easy jog, medium run, long run, tempo run and interval. All sessions include warm-up, work, and cool-down phases for optimal results. In addition, you can choose to do strength, core, and mobility exercises to support your development. Each training week consists of two to five running sessions, and the total running training session duration per week varies from one to seven hours depending on your fitness level. The minimum duration for a program is 9 weeks, and the maximum is 20 months.

Learn more about the Polar Running Program in this in-depth guide. Or read more about how to get started with the Running Program.

To see a video, click on one of the following links:

Get Started

How to use

Create a Polar Running Program

1. Log into the Flow web service at flow.polar.com.
2. Choose **Programs** from the Tab.
3. Choose your event, name it, set the event date, and when you wish to start the program.
4. Fill in the physical activity level questions.*
5. Choose if you want to include supporting exercises in the program.
6. Read and fill in the physical activity readiness questionnaire.

7. Review your program, and adjust any settings if necessary.
8. When you're done, choose **Start program**.

*If four weeks of training history is available, these will be pre-filled.

Start a running target

Before starting a session, make sure you've synced your training session target to your device. The sessions are synced to your device as training targets.

To start a training target scheduled for the current day:

1. Enter the pre-training mode by pressing and holding OK in time view.
2. You'll be prompted to start a training target you've scheduled for the day.

3. Press OK to view the target information.
4. Press OK to return to pre-training mode, and choose the sport profile you want to use.
5. When the watch has found all the signals, press OK. **Recording started** is displayed and you can start training.

Follow your progress

Sync your training results from your device to the Flow web service via the USB cable or the Flow app. Follow your progress from the **Programs** tab. You'll see an overview of your current program, and how you've progressed.

RUNNING INDEX

Running Index offers an easy way to monitor running performance changes. The Running index score is an estimate of your maximal aerobic running performance (VO2max). By recording your Running Index over time, you see how efficient your running is and how you improve your running performance. Improvement means that running at a given pace requires less of an effort, or that your pace is faster at a given level of exertion.

To receive the most accurate information on your performance, make sure you have set your HR_{max} value.

Running Index is calculated during every training session when heart rate and the GPS function is on/Stride Sensor is in use, and when the following requirements apply:

- Sport profile used is a running type sport (Running, Road Running, Trail running etc.)
- Pace should be 6 km/h / 3.7 mph or faster and duration 12 minutes minimum.

Calculation begins when you start recording the session. During a session, you may stop twice, for example, at traffic lights without interrupting the calculation. After your session, your watch displays a Running Index value and stores the result in the training summary.

When using a Polar Stride Sensor Bluetooth Smart in a running session and GPS is set off, the sensor needs to be calibrated in order to get a Running Index result.

You can view your Running Index in the summary of your training session on your watch. Follow your progress and see race time estimations in the Polar Flow web service.

Compare your result to the table below.

Short-term analysis

Men

Age/Years	Very low	Low	Fair	Moderate	Good	Very good	Elite
20-24	< 32	32-37	38-43	44-50	51-56	57-62	> 62
25-29	< 31	31-35	36-42	43-48	49-53	54-59	> 59
30-34	< 29	29-34	35-40	41-45	46-51	52-56	> 56
35-39	< 28	28-32	33-38	39-43	44-48	49-54	> 54
40-44	< 26	26-31	32-35	36-41	42-46	47-51	> 51
45-49	< 25	25-29	30-34	35-39	40-43	44-48	> 48
50-54	< 24	24-27	28-32	33-36	37-41	42-46	> 46
55-59	< 22	22-26	27-30	31-34	35-39	40-43	> 43
60-65	< 21	21-24	25-28	29-32	33-36	37-40	> 40

Women

Age/Years	Very low	Low	Fair	Moderate	Good	Very good	Elite
20-24	< 27	27-31	32-36	37-41	42-46	47-51	> 51
25-29	< 26	26-30	31-35	36-40	41-44	45-49	> 49
30-34	< 25	25-29	30-33	34-37	38-42	43-46	> 46
35-39	< 24	24-27	28-31	32-35	36-40	41-44	> 44
40-44	< 22	22-25	26-29	30-33	34-37	38-41	> 41
45-49	< 21	21-23	24-27	28-31	32-35	36-38	> 38
50-54	< 19	19-22	23-25	26-29	30-32	33-36	> 36
55-59	< 18	18-20	21-23	24-27	28-30	31-33	> 33
60-65	< 16	16-18	19-21	22-24	25-27	28-30	> 30

The classification is based on a literature review of 62 studies where VO_{2max} was measured directly in healthy adult subjects in the USA, Canada and 7 European countries. Reference: Shvartz E, Reibold RC. Aerobic fitness norms for males and females aged 6 to 75 years: a review. Aviat Space Environ Med; 61:3-11, 1990.

There may be some daily variation in the Running Indexes. Many factors influence Running Index. The value you receive on a given day is affected by changes in running circumstances, for example different surface, wind or temperature, in addition to other factors.

Long-term analysis

The single Running Index values form a trend that predicts your success in running certain distances. You can find your Running Index report in the Polar Flow web service under the **PROGRESS** tab. The report shows you how your running performance has improved over a longer time period. If you're using the Polar Running program to train for a running event, you can follow your Running Index progress to see how your running is improving towards the goal.

The following chart estimates the duration that a runner can achieve in certain distances when performing maximally. Use your long-term Running Index average in the interpretation of the chart. The prediction is best for those Running Index values that have been received at speed and running circumstances similar to the target performance.

Running Index	Cooper test (m)	5 km (h:mm:ss)	10 km (h:mm:ss)	21.098 km (h:m-m:ss)	42.195 km (h:m-m:ss)
36	1800	0:36:20	1:15:10	2:48:00	5:43:00

Running Index	Cooper test (m)	5 km (h:mm:ss)	10 km (h:mm:ss)	21.098 km (h:m-m:ss)	42.195 km (h:m-m:ss)
38	1900	0:34:20	1:10:50	2:38:00	5:24:00
40	2000	0:32:20	1:07:00	2:29:30	5:06:00
42	2100	0:30:40	1:03:30	2:21:30	4:51:00
44	2200	0:29:10	1:00:20	2:14:30	4:37:00
46	2300	0:27:50	0:57:30	2:08:00	4:24:00
48	2400	0:26:30	0:55:00	2:02:00	4:12:00
50	2500	0:25:20	0:52:40	1:57:00	4:02:00
52	2600	0:24:20	0:50:30	1:52:00	3:52:00
54	2700	0:23:20	0:48:30	1:47:30	3:43:00
56	2800	0:22:30	0:46:40	1:43:30	3:35:00
58	2900	0:21:40	0:45:00	1:39:30	3:27:00
60	3000	0:20:50	0:43:20	1:36:00	3:20:00
62	3100	0:20:10	0:41:50	1:32:30	3:13:00
64	3200	0:19:30	0:40:30	1:29:30	3:07:00
66	3300	0:18:50	0:39:10	1:26:30	3:01:00
68	3350	0:18:20	0:38:00	1:24:00	2:55:00
70	3450	0:17:50	0:36:50	1:21:30	2:50:00
72	3550	0:17:10	0:35:50	1:19:00	2:45:00
74	3650	0:16:40	0:34:50	1:17:00	2:40:00
76	3750	0:16:20	0:33:50	1:14:30	2:36:00
78	3850	0:15:50	0:33:00	1:12:30	2:32:00

SMART CALORIES

The most accurate calorie counter on the market calculates the number of calories burned based on your individual data:

- Body weight, height, age, gender
- Individual maximum heart rate (HR_{max})
- The intensity of your training or activity
- Individual maximal oxygen uptake ($VO2_{max}$)

The calorie calculation is based on an intelligent combination of acceleration and heart rate data. The calorie calculation measures your training calories accurately.

You can see your cumulative energy expenditure (in kilocalories, kcal) during training sessions, and your total kilocalories of the session afterwards. You can also follow your total daily calories.

TRAINING BENEFIT

Training Benefit gives you textual feedback on the effect of each training session helping you to better understand the effectiveness of your training. **You can see the feedback in Flow app and Flow web service.** To get the feedback, you

need to have trained at least a total of 10 minutes in the heart rate zones.

Training Benefit feedback is based on heart rate zones. It reads into how much time you spend and how many calories you burn in each zone.

The descriptions of different training benefit options are listed in the table below

Feedback	Benefit
Maximum training+	What a session! You improved your sprint speed and the nervous system of your muscles, which make you more efficient. This session also increased your resistance to fatigue.
Maximum training	What a session! You improved your sprint speed and the nervous system of your muscles, which make you more efficient.
Maximum & Tempo training	What a session! You improved your speed and efficiency. This session also significantly developed your aerobic fitness and your ability to sustain high intensity effort for longer.
Tempo & Maximum training	What a session! You significantly improved your aerobic fitness and your ability to sustain high intensity effort for longer. This session also developed your speed and efficiency.
Tempo training+	Great pace in a long session! You improved your aerobic fitness, speed, and ability to sustain high intensity effort for longer. This session also increased your resistance to fatigue.
Tempo training	Great pace! You improved your aerobic fitness, speed, and ability to sustain high intensity effort for longer.
Tempo & Steady state training	Good pace! You improved your ability to sustain high intensity effort for longer. This session also developed your aerobic fitness and the endurance of your muscles.
Steady state & Tempo training	Good pace! You improved your aerobic fitness and the endurance of your muscles. This session also developed your ability to sustain high intensity effort for longer.
Steady state training +	Excellent! This long session improved the endurance of your muscles and your aerobic fitness. It also increased your resistance to fatigue.
Steady state training	Excellent! You improved the endurance of your muscles and your aerobic fitness.
Steady state & Basic training, long	Excellent! This long session improved the endurance of your muscles and your aerobic fitness. It also developed your basic endurance and your body's ability to burn fat during exercise.
Steady state & Basic training	Excellent! You improved the endurance of your muscles and your aerobic fitness. This session also developed your basic endurance and your body's ability to burn fat during exercise.
Basic & Steady state training, long	Great! This long session improved your basic endurance and your body's ability to burn fat during exercise. It also developed the endurance of your muscles and your aerobic fitness.
Basic & Steady state training	Great! You improved your basic endurance and your body's ability to burn fat during exercise. This session also developed the endurance of your muscles and your aerobic fitness.
Basic training, long	Great! This long, low intensity session improved your basic endurance and your body's ability to burn fat during exercise.
Basic training	Well done! This low intensity session improved your basic endurance and your body's ability to burn fat during exercise.

Feedback	Benefit
Recovery training	Very nice session for your recovery. Light exercise like this allows your body to adapt to your training.

CONTINUOUS HEART RATE

The Continuous heart rate feature measures your heart rate around the clock. It enables a more accurate measurement of daily calorie consumption and your overall activity because also physical activities with very little wrist movement, such as cycling, can now be tracked.

You can turn the Continuous heart rate feature on, off or to night-time only mode on your watch in **Settings** > **General settings** > **Continuous HR tracking**. If you choose Night-time only mode, set heart rate tracking to begin at the earliest time you might go to bed.

> The feature is **on** by default. Keeping the Continuous Heart Rate feature on in your watch will drain the battery quicker. Continuous heart rate tracking needs to be enabled for Nightly Recharge to function. If you want to save battery and still use Nightly Recharge, set the continuous heart rate tracking to be on only at night.

Continuous heart rate on your watch

The **Heart rate** widget allows you to see your current heart rate on the watch face when using the Continuous Heart Rate feature. You can add it to the watch face in the Watch face settings.

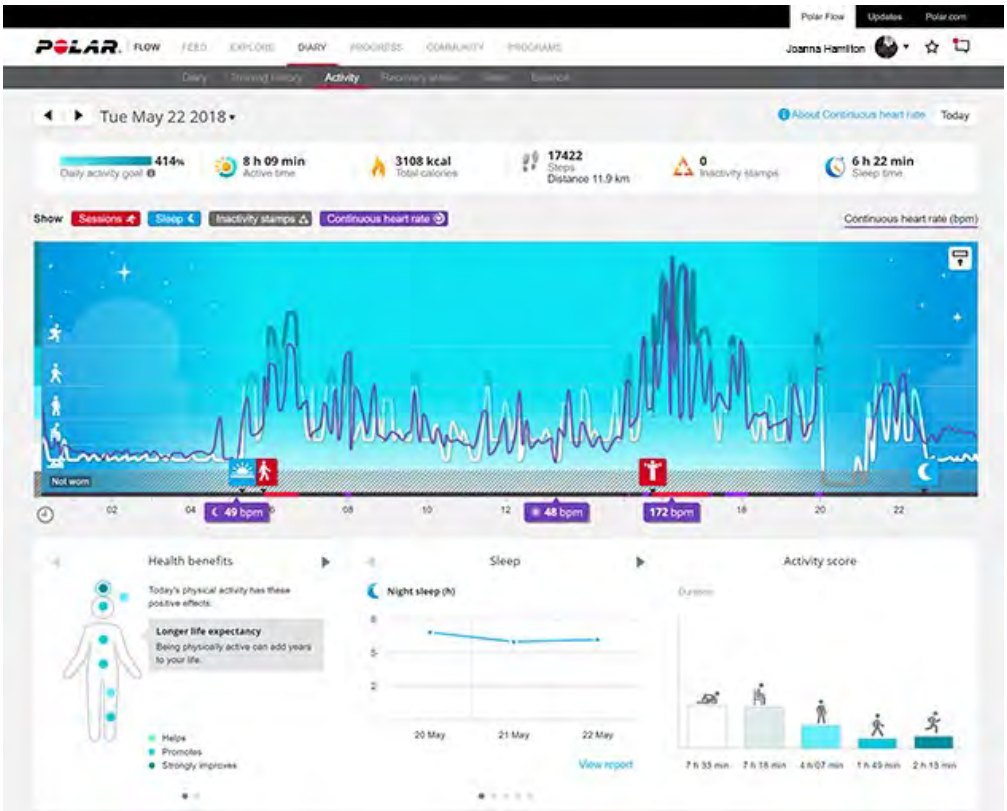
By tapping the widget, you can access the **Daily activity** view. From the Daily activity view, you can check your current heart rate, your highest and lowest heart rate readings of the day, and also view what your lowest heart rate reading of the previous night was. For more information, see 24/7 Activity tracking.

The watch tracks your heart rate in 5-minute intervals and records the data for later analysis in the Flow app or web service. If the watch detects that your heart rate is elevated, it starts to record your heart rate continuously. Continuous recording can also start based on your wrist movements, for example, when you're walking with a fast enough pace for at least one minute. The continuous recording of your heart rate stops automatically when your activity level drops low enough. When your watch detects that your arm is not moving or when your heart rate is not elevated it tracks your heart rate in 5-minute cycles to find your lowest reading of the day.

In some cases, it is possible that you've seen a higher or lower heart rate on your watch during the day than is shown in the continuous heart rate summary as the highest or lowest reading of your day. This can happen if the reading you've seen falls outside the tracking interval.

> The LEDs on the back of your watch are always on when the continuous heart rate feature is on and the sensor on the back is in touch with your skin. For instructions on how to wear your watch for accurate heart rate readings from the wrist, see Wrist-based heart rate measurement.

You can follow the Continuous Heart Rate data in more detail and in longer periods in Polar Flow, either in web or in the mobile app. Learn more about the Continuous Heart Rate feature in this in-depth guide.



24/7 ACTIVITY TRACKING

Your watch tracks your activity with an internal 3D accelerometer that records your wrist movements. It analyzes the frequency, intensity and regularity of your movements together with your physical information, allowing you to see how active you really are in your everyday life, on top of your regular training. You should wear your watch on your non-dominant hand to ensure you get the most accurate activity tracking.

Activity Goal

You'll get your personal activity goal when you set up your watch. The activity goal is based on your personal data and activity level setting, which you can find on your watch (**Settings > Physical settings > Activity level**), in the Polar Flow app or in the Polar Flow web service.

If you want to change your goal, open your Flow app, tap your name/profile photo in the menu view, and swipe down to see **Activity goal**. Or go to flow.polar.com and sign in to your Polar account. Then click your name > **Settings** > **Activity goal**. Choose one of the three activity levels that best describes your typical day and activity. Below the selection area, you can see how active you need to be to reach your daily activity goal on the chosen level.

The time you need to be active during the day to reach your activity goal depends on the level you have chosen and the intensity of your activities. Meet your goal faster with more intense activities or stay active at a slightly more moderate pace throughout the day. Age and gender also affect the intensity you need to reach your activity goal. The younger you are, the more intense your activity needs to be.

Activity data on your watch

From the watch face, swipe left or right to navigate to the **Daily activity** view.

View your progress towards your daily activity goal and steps you've taken so far.

Your progress towards your daily activity goal is shown as a percentage and visualized with a circle that fills up as you are active. The amount and type of body movements are registered and turned into an estimation of steps.

In addition, when opening the details, you can see the following details of your day's accumulated activity:

- Active time tells you the cumulative time of body movements that benefit your health.
- When using the Continuous heart rate feature, you can check your current heart rate, your highest and lowest heart rate readings of the day, and also view what your lowest heart rate reading of the previous night was. You can turn the Continuous heart rate feature on, off or to night-time only mode on your watch in **Settings** > **General settings** > **Continuous HR tracking**.
- Calories you've burned through training, activity and BMR (Basal metabolic rate: the minimum metabolic activity required to maintain life).

Inactivity alert

It's widely known that physical activity is a major factor in maintaining health. In addition to being physically active, it's important to avoid prolonged sitting. Sitting for long periods of time is bad for your health, even on those days when you train and gain enough daily activity. Your watch spots if you're being inactive for too long during your day and this way helps you to break up your sitting to avoid the negative effects it has on your health.

If you've been still for 55 minutes, you'll get an inactivity alert: **It's time to move** is shown along with a small vibration. Stand up and find your own way to be active. Take a short walk, stretch, or do some other light activity. The message goes away when you start moving or press the button. If you don't get active in five minutes, you'll get an inactivity stamp, which you can see on the Flow app and Flow web service after syncing. The Flow app and Flow web service show you the whole history of how many inactivity stamps you have received. This way you can check back on your daily routine and make changes towards a more active life.

Activity data in the Flow App and web service

With the Flow app you can follow and analyze your activity data on the go and sync it wirelessly from your watch to the Flow web service. The Flow web service gives you the most detailed insight into your activity information. With the help of the activity reports (under the **REPORTS** tab), you can follow the long-term trend of your daily activity. You can choose to view either daily, weekly or monthly reports.

Learn more about the 24/7 Activity tracking feature in this in-depth guide.

ACTIVITY GUIDE

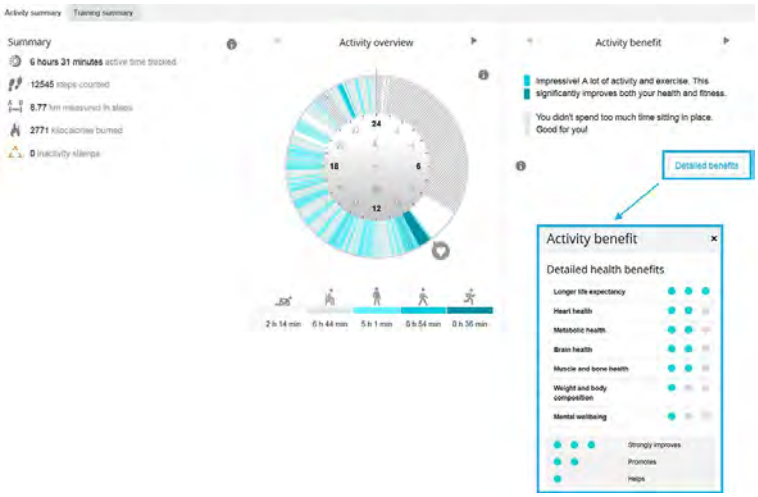
The Activity Guide feature shows how active you've been during the day, and tells you how much you need to still do to reach the recommendations for physical activity per day. You can check how you're doing in reaching your activity goal for the day either from your watch, from the Polar Flow app or web service.

For more information, see 24/7 Activity Tracking.

ACTIVITY BENEFIT

Activity benefit gives you feedback on the health benefits that being active has given you, and also on what kind of unwanted effects sitting for too long has caused to your health. The feedback is based on international guidelines and research on the health effects of physical activity and sitting behavior. The core idea is: the more active you are, the more benefits you get!

Both the Flow app and Flow web service show the activity benefit of your daily activity. You can view the activity benefit on daily, weekly and monthly basis. In the Flow web service, you can also view the detailed information on health benefits.



For more information, see 24/7 Activity Tracking.

POSITIONING SATELLITES

Your watch has built-in GPS (GNSS) that provides speed, pace, distance and altitude measurement for a range of outdoor sports, and allows you to see your route on map in the Flow app and web service after your session. The watch uses GPS, GLONASS, Galileo, BeiDou and QZSS systems simultaneously for maximum accuracy around the globe. By default, the watch also utilizes dual-frequency GPS for improved positioning accuracy especially in difficult use conditions. Alternatively, you can use a power-saving single-frequency GPS mode on your watch. Single-frequency GPS mode does not give as accurate results in difficult use conditions, but it will improve the battery lifetime during exercise. The setting is located in **General settings** > **Positioning satellites**. Choose **Better accuracy** (dual-frequency GPS) or **Power save** (single-frequency GPS).

ASSISTED GPS

The watch uses Assisted GPS (A-GPS) to acquire a fast satellite fix. The A-GPS data tells your watch the predicted positions of the GPS, Glonass, Galileo, BeiDou and QZSS satellites. This way the watch knows where to search for the satellites and thus makes defining your initial location faster and improves the accuracy of the positioning data.

The A-GPS data updates once a day. The latest A-GPS data file is automatically updated to your watch each time you sync it with the Flow web service via FlowSync software or via the Flow app.

A-GPS expiry date

The A-GPS data file is valid for up to 14 days. Positioning accuracy is relatively high during the first three days, and progressively decreases during the remaining days. Regular updates help to ensure a high level of positioning accuracy.

You can check the expiry date for the current A-GPS data file from your watch. Go to **Settings** > **General settings** > **About your watch** > **Assisted GPS expires**. If the data file has expired, sync your watch with the Flow web service via FlowSync software or with the Flow app to update A-GPS data.

Once the A-GPS data file has expired, more time may be required for acquiring your current position and the positioning data accuracy may decrease.

For best GPS performance, wear the watch on your wrist with the display facing up. Due to the location of the GPS antenna on the watch, it is not recommended to wear it with the display on the underside of your wrist. When wearing it on the handlebars of a bike, make sure the display is facing up.

NAVIGATION

Explore the world with confidence with advanced navigation tools, offline maps, and route guidance. The track back and back to start features both guide you back to the starting point of your session. With route and elevation profiles you know your current position, how much you've ascended or descended, and how much you still have left to go. With the third-party app Komoot, you can plan your route for all adventures and easily import the route to your watch, and let turn-by turn guidance keep you on the right track.

Your watch includes the following navigation features:

- Offline maps
- Track back and Back to start
- Komoot
- Route Guidance
- Compass

OFFLINE MAPS

You can download offline maps from the Polar Flow web service and transfer them to your watch using a computer. The maps available on the Flow web service include detailed (countries and regions) and basic maps (continents and large areas). Basic maps of North America and Europe are pre-installed on your watch. Offline maps are available as a full-screen map navigation training view on your watch. The training view is enabled by default for most outdoor sport profiles and can be added to any sport profile that uses GPS.

Using offline maps during training

After starting your session, scroll to the map navigation view with the UP/DOWN buttons.

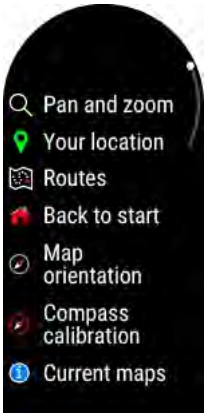
In the map navigation view,

- the arrow shows your current location and heading.
- the four cardinal directions shown around the map help you navigate.
- the map scale helps you identify the distance between places.

You can use offline maps with other navigation features including Route Guidance, Komoot routes, Back to Start and Track back.

Map navigation menu

Press OK in the map navigation view to open the menu. The following options are displayed in the menu.



- **Pan and zoom**: Activate the pan and zoom mode. Use the UP (+) and DOWN (-) buttons to adjust the view, and pan by swiping. Press OK to accept the new zoom level and exit the pan and zoom mode. Your location on the map is centered automatically. Note that if you exit the pan and zoom mode by pressing BACK, the map view will return to the previous zoom level.
- **Your location**: View the coordinates of your current location.
- In **Routes**, you'll find the routes that you have saved as favorites in the analysis view of your training session in the Flow web service, and synced to your watch with the Polar Flow app. Komoot routes are also found here. Choose the route from the list, and then choose where you want to start the route: **Start point** (original direction), **Mid-route** (original direction), **End point to reverse direction** or **Mid-route to reverse direction**. For more information, see Route Guidance.
- **Back to start**: Turn on the Back to Start (**Via beeline**) or Track back (**Via same route**) feature. For more information, see Track back and Back to start.
- **Map orientation**: Choose **North up** or **Track up**. When set to **North up**, the map is oriented so that North is always at the top of the screen. If set to **Track up**, the top of the screen is always the direction you are headed in, and when your heading changes, the map will rotate accordingly.

> Track up stops working with furthest zoom levels, and the map orientation automatically changes to North up. The map orientation returns to Track up when you choose a close enough zoom level. The map orientation also changes to North up when the pan and zoom mode is enabled.

- **Compass calibration**: Follow the instructions on the display to manually calibrate the compass.
- **Current maps**: View current maps and check the space used. You can also change the map or set it to be chosen automatically based on your location.

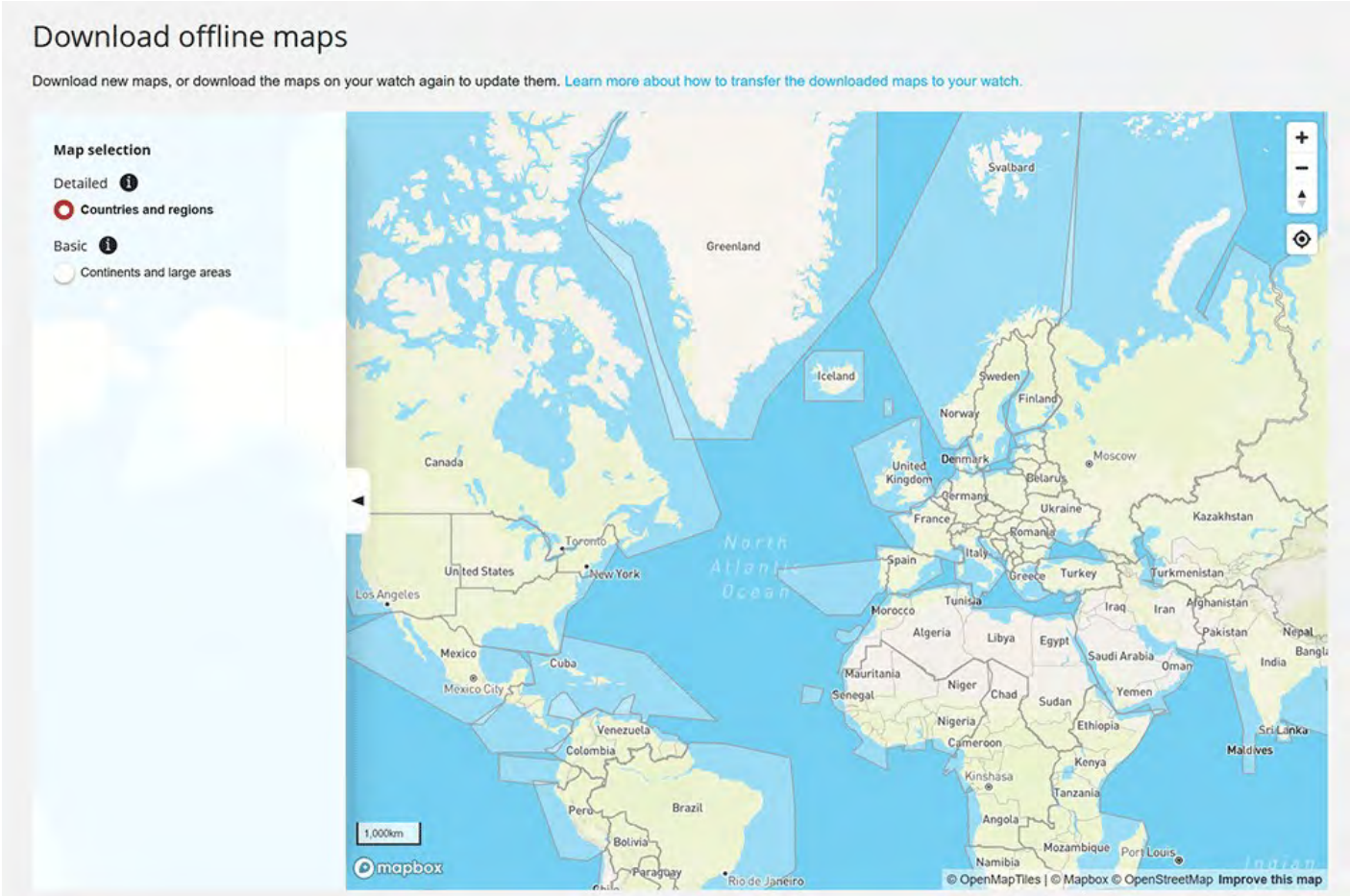
Download and transfer maps to your watch

To download and transfer maps to your watch, you need a computer, and your watch must be connected to your Flow account. First, download the map file from the Polar Flow web service, and then transfer it to the watch on your computer using **File Explorer** (Windows) or **Android File Transfer and Finder** (Mac).

1. Download a map file from the Polar Flow web service

In the Flow web service, you can access the map download page by clicking your name/profile photo in the upper right corner and choosing **Download maps**. You can also use the direct link: flow.polar.com/maps.

You can download new maps or download the maps on your watch again to update them. You can choose maps that are smaller and more detailed, or larger and more basic.



- **Detailed** maps (**Countries and regions**) show for example smaller trails and contour lines.

- **Basic** maps (**Continents and large areas**) show for example main roads and tracks. Basic maps of North America and Europe are pre-installed on your watch.

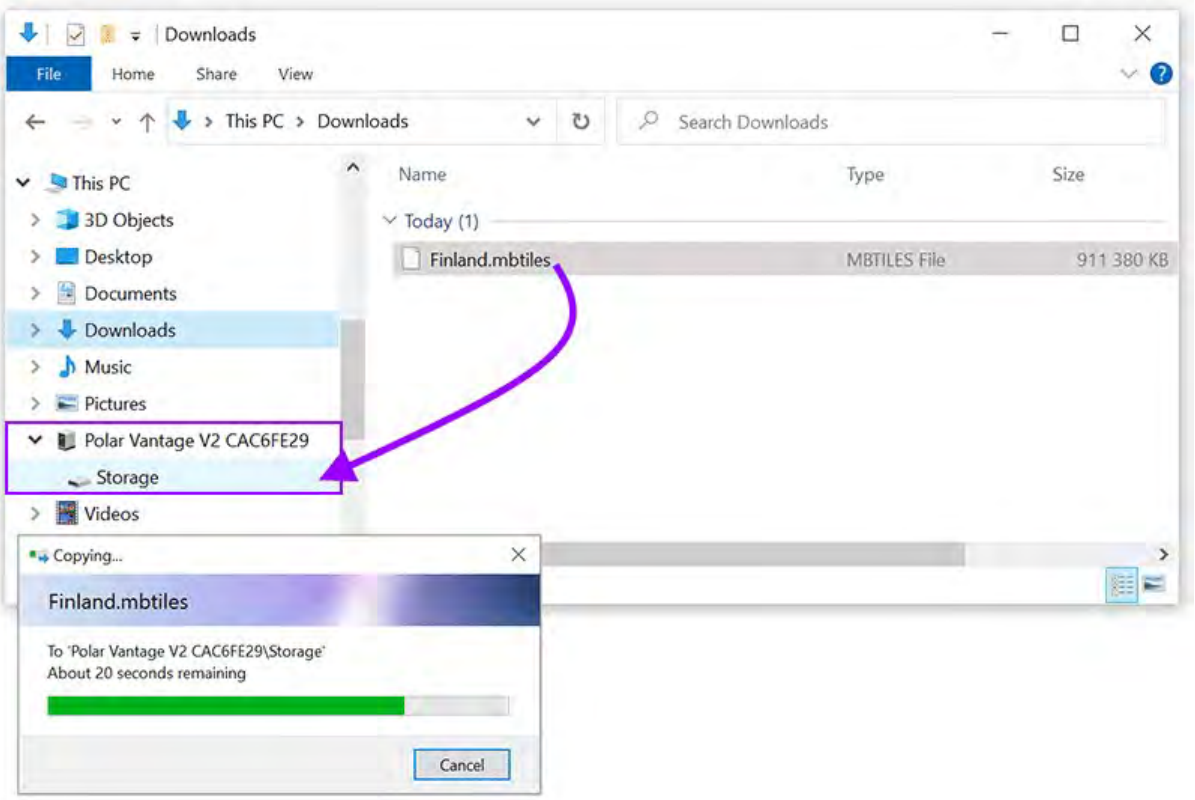
When you click on a region on the map, you will see the size of the map and when it was last updated. To download the map, click on the **Download** button.

2. Transfer the downloaded map file to your watch

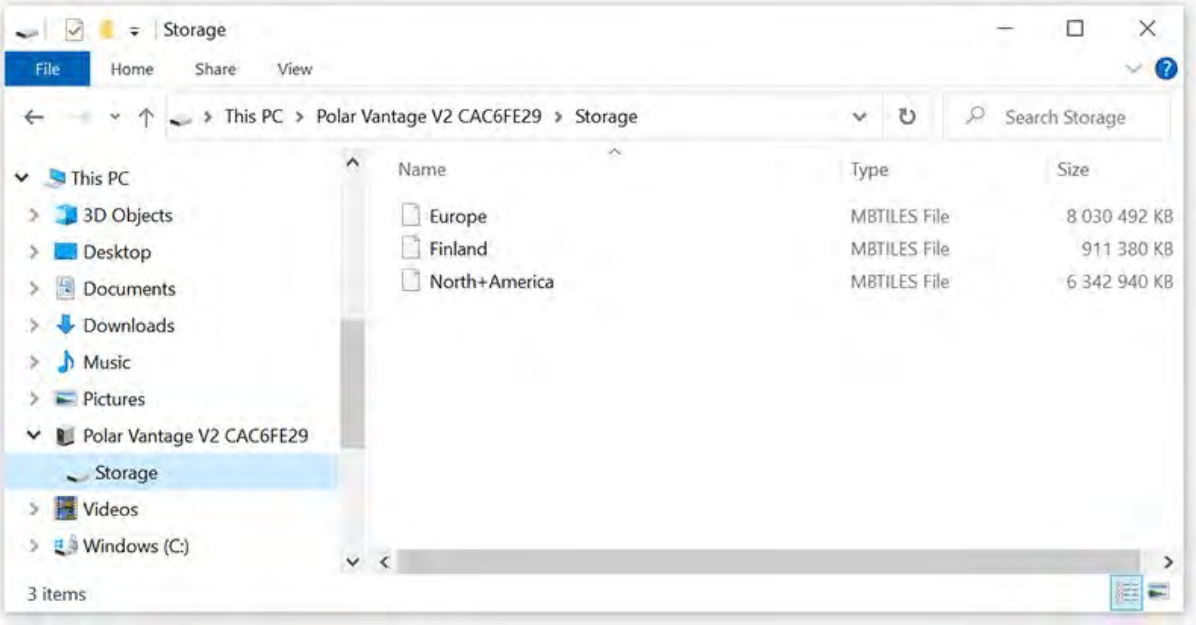
How to transfer map files to your watch on Windows

Plug your watch into your computer with the custom cable that came in the box. Make sure that the cable snaps into place.

Drag the downloaded map file from the **Downloads** folder to the **Storage** folder on your watch.



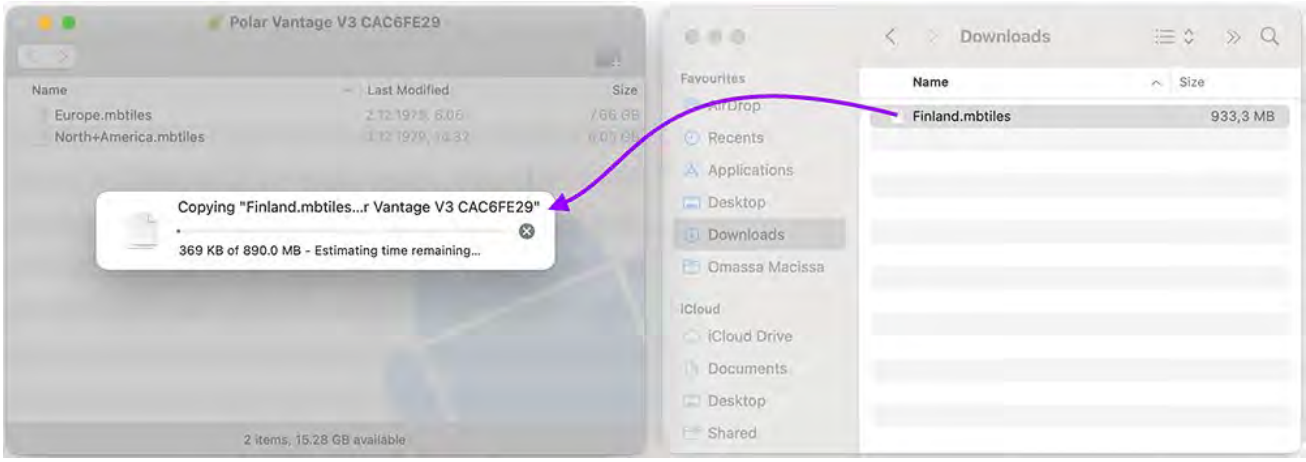
Once the map file is copied to the storage folder on your watch, you can access the map during training via the map navigation view. If you want to delete a map from your watch, you can do so from this folder when your watch is connected to your computer. Click on the map file with the right mouse button and choose Delete.

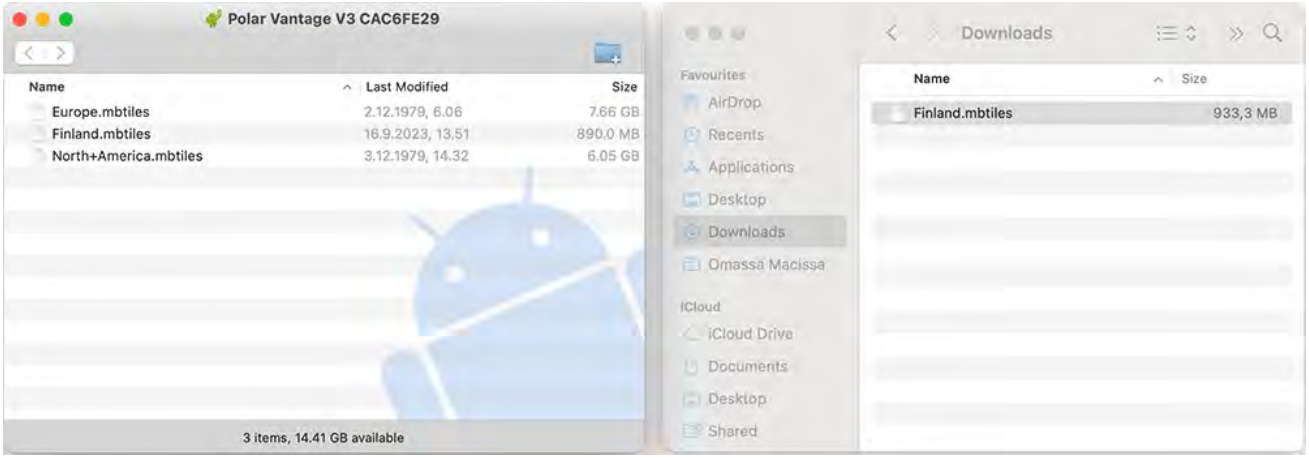


How to transfer map files to your watch on Mac

To transfer map files to your watch, you need to install Android File Transfer (https://www.android.com/filetransfer/) on your Mac. After that:

- Plug your watch into your computer with the custom cable that came in the box. Make sure that the cable snaps into place.
- Open Android File Transfer. On the Android File Transfer window you can see the storage folder on your watch.
- Go to Finder and open the Downloads folder.
- Drag the downloaded map file from the Downloads folder to the storage folder on your watch.





Once the map file is copied to the storage folder on your watch, you can access the map during training via the map navigation view. If you want to delete a map from your watch, you can do so from this folder when your watch is connected to your computer. Choose map file with and then choose Delete.

Add the Map navigation view to a sport profile

By default, the map navigation training view is on in most outdoor sport profiles, but it can be added to any sport profile that uses GPS.

In the Flow web service:

1. Click your name/profile photo in the upper right corner. Go to **Sport Profiles**, and choose **edit** on the sport profile you wish to add it to.
2. Choose **Related to device**.
3. Choose **Vantage V3** > **Training views** > **Add new > Fullscreen > Map navigation** and save.

In the Flow mobile app:

1. Go to the main menu, and choose **Sport profiles**.
2. Choose a sport profile and tap **Edit** to open the sport profile settings.
3. If you have more than one device in your Flow account, make sure V3 is chosen at the top of the page. You can change the device by swiping.
4. Scroll down to **Training views**, and under **Additional views**, choose the **Map navigation** view.
5. When you're ready, tap **Done**.

Remember to sync the settings to your watch.

TRACK BACK AND BACK TO START

The **track back** and **back to start** navigational features both guide you back to the starting point of your session. Track back guides you back to your starting point via the same route you came whereas Back to start shows the direction to your starting point. Both features show the distance to the starting point of your session. With Track back you can also zoom in or out on the route.

Track back can be set on after starting a session and can be used only after you've gone far enough from your starting point. Back to start can be set on before the session has been started in the pre-training mode. The display then shows the distance and direction to your starting point throughout your training session. Both features can be accessed during a training session from the **Map navigation** view (if it's enabled in the sport profile you are using) and from the **Quick menu** when pausing your session.

Note that GPS must be set on for the sport profile to be able to use these features.

Track back (Go back via the same route)

To set track back on from the Map navigation view:

1. Browse to the **Map navigation** view and press OK.
2. Choose **Back to start**, and choose **Via same route**.

To set Track back on from the Quick menu:

1. Press BACK to pause your session, and then press the LIGHT button to enter the quick menu.
2. Choose **Back to start**, and choose **Via same route**.
3. If the map navigation view is not included in the training views of the sport profile you are using, it will be added to the training views for this session.

Follow the guidance on the display to the starting point of your session. On the display you'll see the distance to the starting point of your session via the route.

Zoom

Zoom in or out on your route. Press **OK** in the **Map navigation** view and choose **Pan and zoom**, and then use the UP and DOWN buttons to adjust the view. Press OK to accept the new zoom level and exit the Pan and zoom mode. If you exit the Pan and zoom mode by pressing BACK, the map view will return to the previous zoom level.

Back to start (Go back via beeline)

Directs you to your starting point in the shortest distance possible (straight line distance), as well as shows the distance to your starting point. Back to start is handy when you want to find the shortest way back to where you started your session.

To set the back to start feature on from the Map navigation view:

1. Browse to the **Map navigation** view and press OK.
2. Choose **Back to start**, and choose **Via beeline**.

To set the back to start feature on from the Quick menu:

1. In pre-training mode, press the LIGHT button or tap to enter the quick menu. During training: Press BACK to pause your session, and then press the LIGHT button to enter the quick menu.
2. Choose **Back to start**, and choose **Via beeline**.
3. If the map navigation view is not included in the training views of the sport profile you are using, it will be added to the training views for this session.

To return to your starting point via beeline:

- Keep your watch in a horizontal position in front of you.
- Keep moving in order for your watch to determine which direction you are going. An arrow will point in the direction of your starting point.
- To get back to the starting point, always turn in the direction of the arrow.
- Your watch also shows the bearing and the direct distance (beeline) between you and the starting point.

When in unfamiliar surroundings, always keep a map at hand in case the watch loses the satellite signal or the battery runs out.

KOMOOT

Plan detailed routes on maps with komoot and transfer the routes to your watch for turn-by-turn route guidance on the go! Whether road cycling, hiking, bikepacking or mountain biking, komoot's superior planning and navigation technology allows you to easily discover more of the great outdoors.

Create a komoot account if you don't have one. When you sign up for komoot, you get a free region to test all of their core features. Komoot recommends to unlock your home region as your free region. Then connect komoot to Polar Flow, and get your komoot routes on your watch.

For help using Komoot, see their support site at support.komoot.com/hc/en-us

Komoot routes require 1 second GPS recording rate. It cannot be used with 1 minute or 2 minute recording rates.

Connect your komoot and Polar Flow accounts

First, make sure you have a polar Flow account and a komoot account. You can connect your komoot and Polar Flow accounts in the Polar Flow web service or in the Polar Flow app.

In the Polar Flow web service go to **Settings > Partners > Komoot > Connect**.

or

In the Polar Flow app go to **General Settings > Connect > Komoot** (swipe the button to connect).

After connecting your komoot and Polar Flow accounts, all of your planned komoot tours that start in a region that you have unlocked in your Komoot account will be synced to your favorites in Flow.

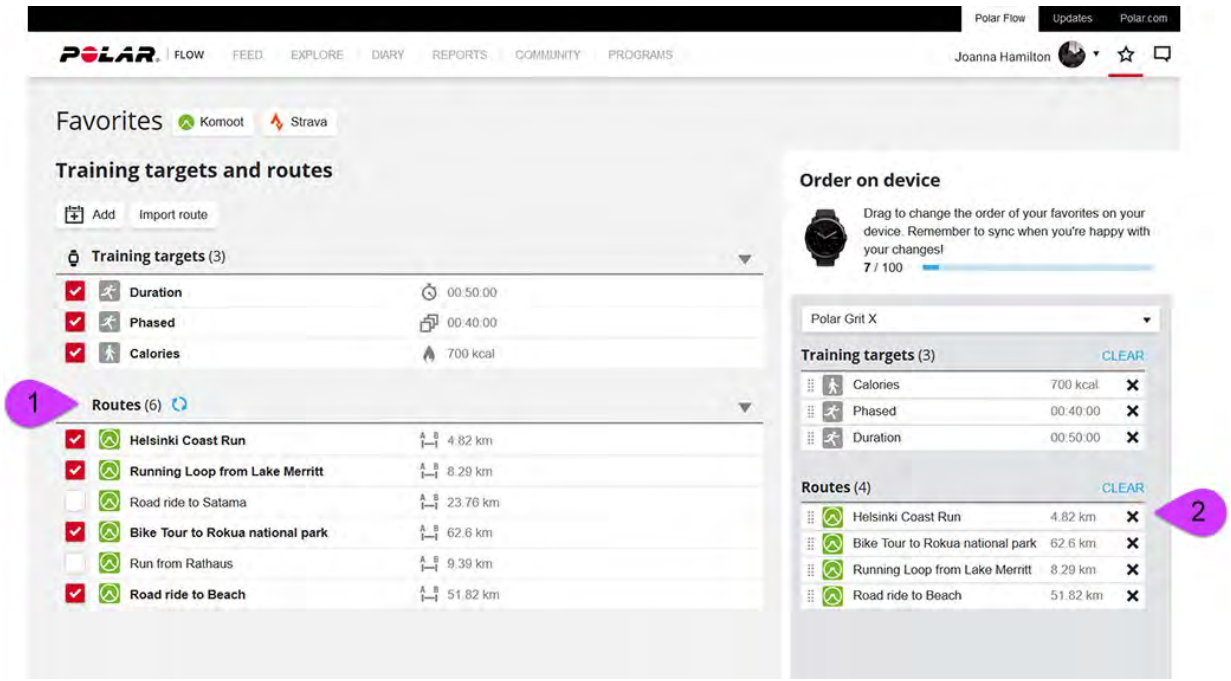
Sync komoot routes to your watch

You can choose the routes you want to transfer to your watch in the Polar Flow app or web service. Your watch can have a maximum of 100 favorites at a time.

Note that you must sync the routes to your watch using the Polar Flow app. Routes cannot be synced to your watch using the Polar FlowSync software on your computer.

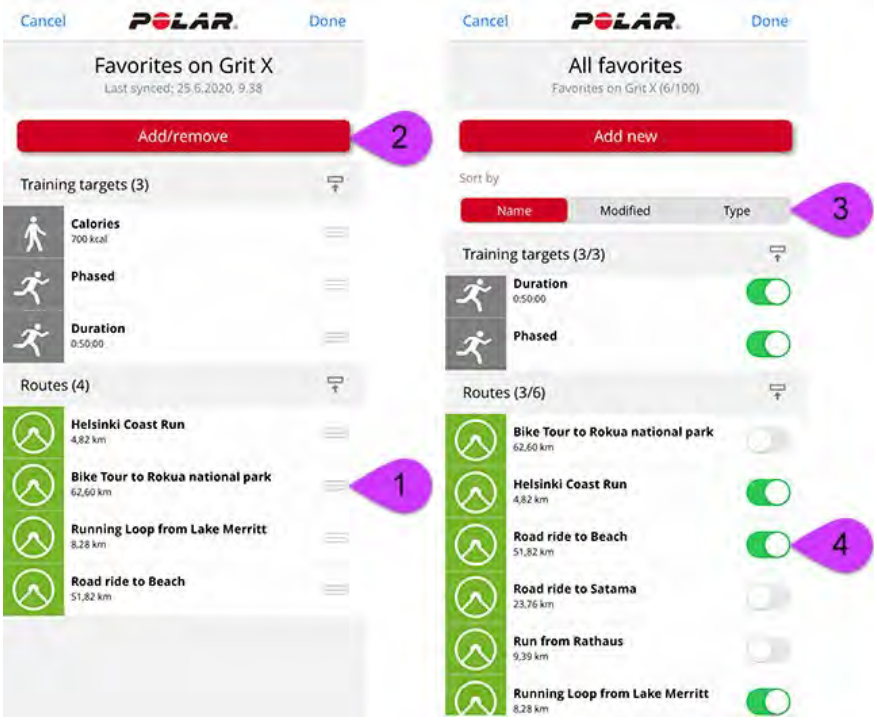
In the Flow web service, click the Favorites icon ☆ on the menu bar on top of the page to enter your Favorites page.

1. Choose the routes by clicking the selection boxes on the left of the routes list to move them to the sync list for your watch on the right. If you have planned new routes with komoot, you can update them to the routes list by clicking the button.
2. You can change the order of the routes on the watch by dragging and dropping them. You can remove individual routes by clicking X or all routes at once by clicking **CLEAR**. Note that they still remain available in your favorites even if you remove them from your watch.
3. **Sync your watch with the Polar Flow app** to save your changes to it.



In the Flow app, go to **Devices** menu and onto the device page. Scroll down the page and tap **Add/remove** to see your current favorites on the watch.

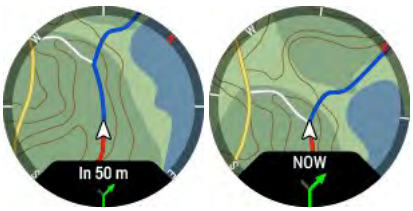
1. You can reorder the routes on the watch by tapping and holding ≡ (iOS)/ ☰ (Android) on the right and dragging the routes where you want them.
2. To add or remove a route, tap **Add/remove** again to access all your favorites.
3. You can sort the favorites by **Name**, **Modified** and **Type**.
4. To remove a route from the watch, turn the switch to left. To add a route, turn the switch to right.
5. Sync your watch with the app to save the changes.



For more information on managing your favorites in the Polar Flow web service and app, see Manage favorites and training targets in Polar Flow.

Start a session with a komoot route

1. In pre-training mode, press the LIGHT button or tap ⚙ to enter the quick menu.
2. Choose **Routes** from the list, and pick the komoot route you want to do. The closest route is shown first.
3. Choose where you want to start the route: **Start point** or **Mid-route**.
4. Choose the sport profile you want to use, and start your session.
5. Your watch will guide you to the route. **Route start found** is displayed when you reach it, and then you're ready to go.
6. Your watch guides you through your route with turn-by-turn instructions.



You can choose a route during a training session from the **Map navigation** view (if it's enabled in the sport profile you are using), as well as from the **Quick menu** when pausing your session.

ROUTE GUIDANCE

The route guidance feature guides you along routes that you have recorded in previous sessions or routes that you've imported into Flow from a third-party service like komoot or Strava for example. You can also import route files directly into Flow in GPX or TCX file format.

You can choose to go to the route start point, route end point or nearest point on the route (mid-route). First your watch will guide you to your chosen start point on the route. Once on the route, your watch will guide you all the way through and keep you on track. Just follow the guidance on the display. At the bottom of the display you'll see how much distance you still have left.

Route and elevation profiles

After choosing a route you'll see an overview of the route, and the elevation profile of it. This helps you identify which route is which, and what to expect from your session.

Total ascent and descent for planned routes

When starting a planned route you'll see the total ascent and descent on your route. As you go along the route the ascent/descent values will update and you'll always see the total ascent and descent still left on the route. You'll also see your current ascent/descent grade. At all times you'll know exactly where you are and how much you have left to go.

When doing an unplanned route you'll see the ascent and descent for the previous kilometer as well as your current ascent/descent grade.

You can use komoot to plan detailed routes on maps and transfer the routes to your watch via Flow.

Adding a route to your watch

To add a route to your watch you must save it as a favorite in the Flow web service or app , and **sync it to your watch using the Flow app**. For more information see Manage favorites and training targets in Polar Flow.

Start a training session with route guidance

1. Choose the sport profile you want to use, and in pre-training mode, press the LIGHT button or tap to enter the quick menu.
2. Choose **Routes** from the list, and then choose the route you want to do.
3. Add a **carbs reminder** or **drink reminder** if you wish, and then choose **Start**.
4. Choose where you want to start the route: **Start point**, **Mid-route**, **End point to reverse direction** or **Mid-route to reverse direction**.
5. Stay in the pre-training mode until the watch has found your heart rate and the GPS satellite signals, and start your session by pressing OK. You may be asked to the calibrate the compass before starting your session. If so, follow the instructions on the display to calibrate it.
6. Your watch will guide you to the route. **Route start found** is displayed when you reach it, and then you're ready to go.

Route-end point reached is shown when you're finished.

> You can choose a route during a training session from the **Map navigation** view (if it's enabled in the sport profile you are using), as well as from the **Quick menu** when pausing your session.

Zoom

Zoom in or out on your route. Press **OK** and choose **Pan and zoom**, and then use the UP and DOWN buttons to adjust the view.

Change route on-the-fly

Switch to a different route during your session.

1. Press BACK to pause your session, and press the LIGHT button to enter the quick menu.
2. Choose **Routes**, the watch then asks you **Want to change your route?**, choose **Yes**, and choose a route from the list.
3. Choose **Start** when you're ready.

COMPASS

To use the compass during sessions you need to add it any sport profiles you wish to view it in. In the Flow web service, go to **Sport Profiles >** Choose **edit** on the sport profile you wish to add it to > go to **Related to device** and Choose **Vantage V3** > **Training views** > **Add new > Fullscreen > Compass** and choose save. Remember to sync the changes to your watch.

Using the compass during a session

During a session you can scroll to the compass view with the UP/DOWN buttons. The display shows your bearing and the cardinal directions.

Calibrating the compass

You may be asked to the calibrate the compass during a session. If so, follow the instructions on the display to calibrate it.

You can also manually calibrate the compass from the quick menu. Pause your session, and press LIGHT to access the quick menu, and choose Calibrate compass. Follow the instructions on the display.

Lock your bearing

In the compass training view press OK to lock your current bearing. The display will then show the deviation from your locked bearing in red.

Note that the compass needs to be calibrated first.

Using the compass outside of training sessions

When not training, you can access the compass through the **Navigation** view. Add the navigation view from **Settings** > **Choose views**. After adding it, swipe left or right from the watch face until you reach the view, and press OK.

Lock your bearing

In the compass view press **OK** to lock your current bearing. The display will then show the deviation from your locked bearing in red.

Calibrating the compass

To calibrate the compass scroll all the way down and choose **Calibrate**.

RACE PACE

The race pace feature helps you to keep a steady pace and achieve your target time for a set distance. Define a target time for the distance - 45 minutes for a 10k run for example and follow how far behind or ahead you are compared to your pre-set target.

Race pace can be set on your watch, or you can also set a Race Pace target in the Flow web service or app, and sync it to your watch.

If you have scheduled race pace target for that day, your watch suggests you to start it when entering pre-training mode.

Create a race pace target on your watch

You can create race pace target from the Quick menu in pre-training mode.

1. Enter pre-training mode by pressing and holding OK in time view or by pressing BACK to enter the main menu and choose **Start training**
2. In pre-training mode tap the Quick menu icon or press the LIGHT button.
3. Choose **Race pace** from the list and set the distance and duration. Press OK to confirm. The watch displays the pace/speed required to meet your target time and then returns to pre-training mode where you can start the training session.

Create a race pace target in the Flow web service

1. In the Flow web service, go to **Diary**, and click **Add > Training target**.
2. In **Add training target**, choose **Sport**, and enter a **Target name** (maximum 45 digits), **Date** and **Time** and any **Notes** (optional) you want to add.
3. Choose **Race Pace**.

4. Fill in two of the following values: **Duration**, **Distance** or **Race Pace**. You get the third one automatically.
5. Click **Add to favorites** ☆ to add the target to your list of favorites, if you want.
6. Click **Save** to add the target to your **Diary**.

Sync the target to your watch via FlowSync, and your ready to go.

HILL SPLITTER™

Hill Splitter™ tells you how you performed on the uphill and downhill sections of your session. Hill Splitter™ automatically detects all uphills and downhills by using your GPS-based speed and distance, and barometric altitude data. It shows you detailed insights into your performance, such as distance, speed, ascent and descent, for every detected hill on your course. You get data about the elevation profile of your training session, and you can compare hill stats between different sessions. Detailed information about each hill is recorded automatically, no need to take laps manually.

Hill Splitter adapts to the terrain in each session. In practice this means that when doing a session in relatively flat terrain, even small hills are counted. Then again when training in areas with large variation in elevation such as mountains, the smallest hills are not counted. This adaptation is always session specific.

The minimum ascent or descent counted as a hill differs depending on your sport profile. In downhill sports (snowboarding, downhill skiing, backcountry skiing and telemark skiing) it's 15 meters, and in all other sports it's 10 meters.

> Hill Splitter requires 1 second GPS recording rate. It cannot be used with 1 minute or 2 minute recording rates.

ADD THE HILL SPLITTER VIEW TO A SPORT PROFILE

By default the Hill Splitter training view is on in all running, cycling and downhill type sport profiles, but it can be added to any sport profile that uses GPS and barometric altitude.

In the Flow web service:

1. Go to **Sport Profiles**, and choose **edit** on the sport profile you wish to add it to.
2. Choose **Related to device**
3. Choose **Vantage V3** > **Training views** > **Add new > Fullscreen > Hill Splitter** and save.

In the Flow mobile app:

1. Go to the main menu, and, choose **Sport profiles**.
2. Choose a sport and tap **Edit**.
3. Add the Hill Splitter training view.
4. When you're ready, tap Done.

Remember to sync the settings to your Polar device.

TRAINING WITH HILL SPLITTER

After starting your session, scroll to the Hill Splitter view with the UP/DOWN buttons. Details you can view during your session include:

- Distance : The distance of the current segment (flat, uphill or downhill)
- Ascent/descent of current segment
- Speed

Note that there is some delay when switching from a hill to flatland. This is to make sure that the hill is over. Even though the switch from a hill to flatland shown in the Hill Splitter training view is delayed, the end of the hill is marked correctly in the data, so when viewing your training summary in Flow web service or app it is shown correctly.

Hill details pop-up

In downhill sports (snowboarding, downhill skiing, backcountry skiing and telemark skiing) you'll get a pop-up with details from your previous hill after finishing it, and then going back uphill for 15 meters. This is designed so that you'll get the pop-up when heading back up on a ski-lift.

- Distance : The distance of the current segment (flat, uphill or downhill)
- Ascent/descent of current segment
- Average speed
- Hill number

HILL SPLITTER SUMMARY

After your session, you'll see the following information in the training summary:

- Number of uphills and downhills
- Total uphill and downhill distance

DETAILED ANALYSIS IN THE FLOW WEB SERVICE AND APP

View detailed data for each uphill, downhill and flat segment in the Flow web service after syncing your data to it after your session. An overview of your session is also available in the Flow app.

The data available for each segment depends on the sport profile and sensors you used but it can for example include altitude, power, heart rate, cadence and speed data.

Polar Coach | Polar Flow | Updates | Polar.com

POLAR FLOW — FEED | EXPLORE | DIARY | PROGRESS | COMMUNITY | PROGRAMS — Janet Hamilton

Diary | Training history | Activity | Recovery status | Sleep | Balance

Mountain biking
Wednesday, Feb 26, 2020 15:57 | Polar Grit X

0 | 0 | Relive | Private

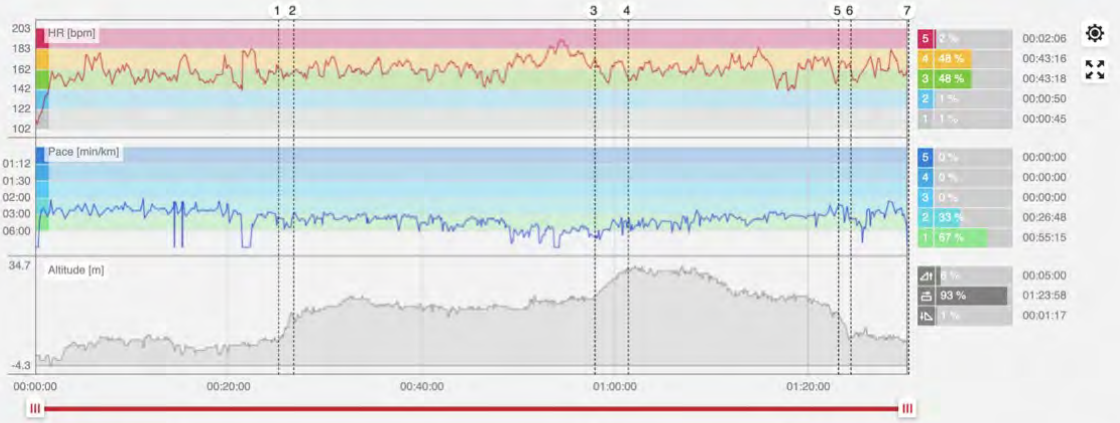
01:30:19 Duration
25.53 km Distance
162 bpm Average heart rate Max 191 | Min 107
1341 kcal Calories
Tempo training +
less

Sport: Mountain biking
How do you feel?: Okay
Training notes: Write a note about this training

03:32 min/km Average pace Max 02:04
51 rpm Average cadence Max 97
2 Uphill 1 Downhill
1.03 km Uphill total 00:05:00

191 Very high Cardio load
65 % Cardohydrate 3 % Protein 34 % Fat
65 m Ascent
0.46 km Downhill total 00:01:17

641 Medium Perceived load
5 /10 Hard Your estimate (RPE)
60 m Descent



All hills | Split into laps

No.	Phase	Duration	Distance	Ascent / Descent	Pace avg	Pace max	HR avg	HR max
1	Flat	00:25:07.0	8586 m	-	02:55 min/km	02:04 min/km	157 bpm	183 bpm
2	Uphill 1	00:01:34.0	390 m	14 m	03:56 min/km	03:14 min/km	157 bpm	160 bpm
3	Flat	00:31:12.0	7410 m	-	04:10 min/km	02:50 min/km	165 bpm	191 bpm
4	Uphill 2	00:03:26.0	645 m	14 m	05:10 min/km	03:20 min/km	161 bpm	171 bpm
5	Flat	00:21:45.0	6203 m	-	03:30 min/km	02:22 min/km	163 bpm	184 bpm
6	Downhill 1	00:01:17.0	464 m	11 m	02:42 min/km	02:20 min/km	162 bpm	171 bpm
7	Flat	00:05:58.0	1842 m	-	03:07 min/km	02:09 min/km	163 bpm	182 bpm

Export session | Remove training

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STRAVA LIVE SEGMENTS

Strava Segments are previously defined sections of road or trail where athletes can compete for time in cycling or running. Segments are defined in Strava.com and can be created by any Strava user. You can use segments to compare your own times, or to compare with other Strava users' times who have also completed the segment. Each segment has a public leaderboard with King/Queen of the Mountain (KOM/QOM) who has the best time for that segment.

Note that you need to have a Strava Summit Analysis pack to use the Strava Live Segments feature on your Polar Vantage V3. Once you have activated Strava Live Segments and exported segments to your Flow account and synced

them to your Vantage V3 you will receive an alert on your watch when approaching any of your favorite Strava segments.

When performing a segment, you'll get real-time performance data displayed on your watch showing whether you are ahead or behind your personal record (PR) of the segment. Your results are calculated and displayed instantly on your watch when the segment ends, but you need to check the final results at Strava.com.

CONNECT YOUR STRAVA AND POLAR FLOW ACCOUNTS

You can connect your Strava and Polar Flow accounts in the Polar Flow web service OR in the Polar Flow app.

In the Polar Flow web service go to **Settings > Partners > Strava > Connect**.

or

In the Polar Flow app go to **General Settings > Connect > Strava** (swipe the button to connect).

IMPORT STRAVA SEGMENTS TO YOUR POLAR FLOW ACCOUNT

1. In your Strava account, choose the segments you wish to import to your Polar Flow Favorites/Vantage V3. This is done by choosing the star icon next to a segment name.
2. Then in the Polar Flow web service's Favorites page choose the Update Strava Live Segments button to import the starred Strava Live Segments to your Polar Flow account.
3. Your Vantage V3 can have a maximum of 100 favorites at a time. Choose the segments you want to transfer to your Vantage V3 by clicking the selection boxes on the left of the Strava Live Segments list to move them to the sync list for your Vantage V3 on the right. You can change the order of your favorites on the Vantage V3 by dragging and dropping them.
4. Sync your Vantage V3 to save your changes to the watch.

For more information on managing your favorites in the Polar Flow web service and app, see Manage favorites and training targets in Polar Flow.

Find out more about Strava segments at Strava Support.

START A SESSION WITH STRAVA LIVE SEGMENTS

Strava Live Segments require GPS. Make sure you have GPS set on in the running and cycling sport profiles you wish to use.

When you start a running or cycling training session, the nearby Strava segments (50 kilometers or closer in cycling or 10 kilometers or closer in running) synced to your watch are shown in the Strava segments training view. Scroll to the Strava segments view with the UP and DOWN buttons during sessions.

When you approach a segment (200 meters or closer in cycling or 100 meters or closer in running) you'll get an alert on your watch, and the distance remaining to the segment will be counted down. You can cancel the segment by pressing the back button on your watch.

You'll get another alert when you reach the starting point of the segment. Recording of the segment starts automatically, and both the name of the segment and your personal record time for the segment are shown on your watch.

The display shows if you are behind or ahead of your personal best (or KOM/QOM if you are doing the segment for the first time), as well as your speed/pace and distance left.

After you've completed the segment, your watch displays your time, and the difference to your personal best time. The PR symbol is displayed if you set new personal record.

WRIST ECG MEASUREMENT

Vantage V3 has a wrist ECG sensor that enables electrocardiogram (ECG) signal recording using your watch. The wrist ECG sensor records the timing and strength of electrical signals generated by your heart using two electrodes, one of which is on the top left button and the other on the back of the watch. The ECG signal is derived from the voltage difference between the two electrodes.

With the ECG test, you can record your ECG signal at rest in just 30 seconds. As a result of the test, we give you a graph of your ECG signal, as well as your average heart rate, heart rate variability, beat-to-beat interval and pulse arrival times (PAT). You can track these to keep an eye on the health of your heart and arteries.

The wrist ECG measurement allows the Orthostatic test, which is based on measuring heart rate and heart rate variability, to be performed without a paired Polar heart rate sensor.

The Wrist-ECG sensor measurement feature is not intended for any medical use, diagnosis or treatment (including self-diagnosis or consultation with a doctor) and the data should not be used for any medical purposes.

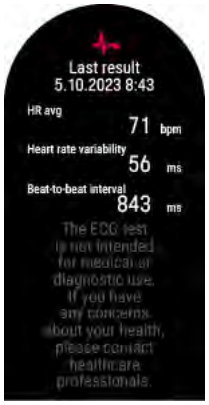
PERFORMING THE ECG TEST

To get an accurate measurement, we advise you to wear your watch for about ten minutes prior to starting the test. Make sure you wear the watch on the hand chosen in the settings. You can check the setting from **Settings** > **General settings** > **I wear my watch on** (**Left hand** / **Right hand**). Take the test sitting down and always at the same time of day. This feature is only intended for measurements taken at rest.

1. Wear your watch snugly on top of your wrist, just behind the wrist bone. On your watch, choose **Tests** > **ECG** > **Measure now**.
2. Keep your arms relaxed in an open position on a table or in your lap. Cover the top left button (LIGHT) with the index finger of your opposite hand. Don't press the button.

3. After the watch finds the signal, wait until the timer runs out.

4. After the test, the following results will be displayed on your watch:



HR avg (average heart rate): A typical resting heart rate is something between 40 and 100 beats per minute.

HRV (heart rate variability): The variation in time between successive heartbeats.

Beat-to-beat interval: The average interval between heartbeats.

> The average values are always personal, so you should only compare the heart rate values against your own previous readings.

You can view your latest result on your watch in **Tests** > **ECG** > **Latest result**.

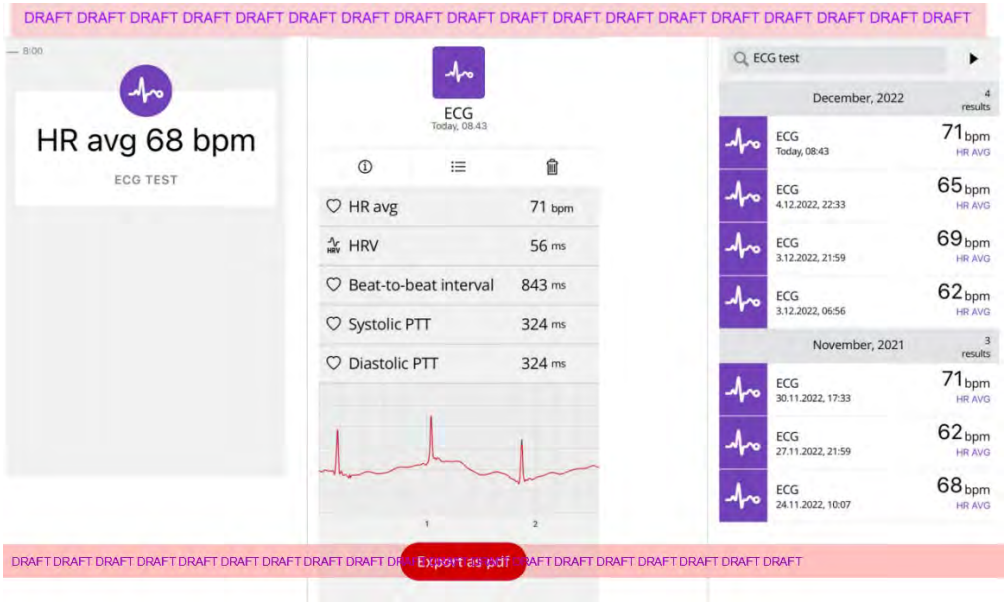
More detailed information on your heart rate, as well as a graph of your ECG signal are available in Polar Flow app after syncing your watch with it.

ECG test results in the Polar Flow app

Sync your watch with the Polar Flow app to see your ECG test results in the app.

> Note that you must sync your watch using the Flow app. ECG test results cannot be synced using the Polar FlowSync software on your computer.

You can check the result of your latest measurement from the card in the **Diary**. Tapping the card opens the detailed ECG test result view.



In the ECG test result view, you can see the following results in addition to those displayed on the watch:

- **PAT at relaxation** and **PAT at contraction**: Pulse arrival time (PAT) refers to the time it takes for the pressure wave generated by your heartbeat to reach your wrist. PAT at contraction and PAT at relaxation are measured at two different time points of the pressure wave.
- **ECG graph**: In the ECG graph, the spikes represent your heartbeats. You can scroll the graph vertically by swiping.

You can export the ECG test result to a PDF file. Tapping the list icon opens your previous ECG test results in the calendar search view.

SPO2 MEASUREMENT

The SpO2 measurement feature uses pulse oximeter technology to estimate the amount of oxygen in your blood. Your body needs a constant supply of oxygen to perform properly. Your blood oxygen level (SpO2) shows how much oxygen your blood carries compared to its full capacity (100%). When you're at sea level and at rest, SpO2 between 95 % and 100 % is considered normal. Because of lower atmospheric pressure, SpO2 is lower at higher altitudes.

You can measure SpO2 conveniently from your wrist whenever you want in just 30 seconds. Regular SpO2 measurement allows you to monitor your usual SpO2 level in everyday life under normal circumstances. Knowing your usual level can help you understand how your body adapts to certain situations, such as high altitudes. If you're training at varying altitudes, you can use this measurement to monitor how your SpO2 changes and your body adapts to new altitude.

> The SpO2 measurement feature is not intended for any medical use, diagnosis, or treatment as such (including self-diagnosis or consultation with a doctor) and the data should not be used for any medical purpose.

MEASURING SPO2

> To get an accurate measurement, we advise you to wear your watch for about ten minutes prior to starting the test. Make sure your hand is warm and relaxed. Keep your body still during the measurement. Take the test in similar condition every time. If you perform the test after training, it is recommended to rest for at least ten minutes before starting the test to allow your body to return to its normal state.

Wear your watch snugly on top of your wrist, about a finger's width from the wrist bone. On your watch, choose **Tests** > **SpO2** > **Measure now**.

1. Keep your arms relaxed in an open position on a table or in your lap.
2. After the watch finds the signal, wait until the timer runs out.

After the measurement, the following results will be displayed on your watch:

- Your blood oxygen level as a percentage.
- **Baseline**: When calculating the baseline, the past 5 measurements are taken into account.
- **Altitude**: Altitude during the measurement.
- Verbal description of your blood oxygen level: **Your SpO2 is normal** (95-100%) - **Your SpO2 is below normal** (90-94%) - **Your SpO2 is low** (<90%).

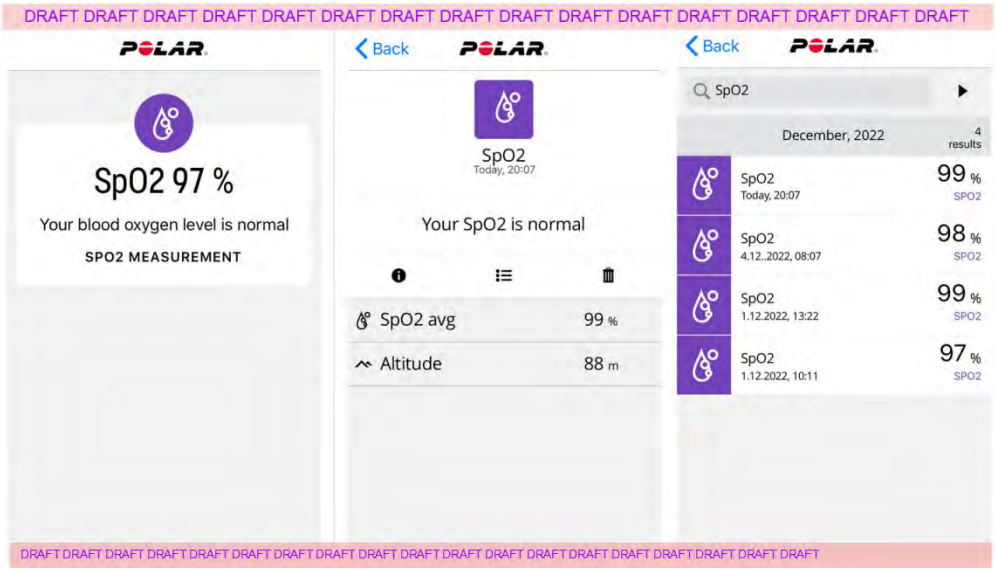
You can view your latest result on your watch in **Tests** > **ECG** > **Latest result**.

SPO2 TEST RESULTS IN THE POLAR FLOW APP

Sync your watch with the Polar Flow app to see your SpO2 test results in the app.

> Note that you must sync your watch using the Flow app. SpO2 test results cannot be synced using the Polar FlowSync software on your computer.

You can check the result of latest SpO2 measurement from the card in the **Diary**. Tapping the card opens the SpO2 test result view. Tapping the list icon opens your previous SpO2 measurement in the calendar search view.



HEART RATE ZONES

The range between 50% and 100% of your maximum heart rate is divided into five heart rate zones. By keeping your heart rate within a certain heart rate zone you can easily control the intensity level of your workout. Each heart rate zone

carries its own main benefits, and understanding these benefits will help you achieve the effect you want from your workout.

Learn more about the Heart Rate Zones: What are Heart Rate Zones?.

SPEED ZONES

With the speed/pace zones you can easily monitor speed or pace during your session, and adjust your speed/pace to achieve the targeted training effect. The zones can be used to guide the efficiency of your training during sessions, and help you mix up your training with different training intensities for optimal effects.

SPEED ZONES SETTINGS

The speed zone settings can be adjusted in the Flow web service. There are five different zones, and zone limits can be manually adjusted or you can use the default ones. They are sport specific, allowing you to adjust the zones to best suit each sport. The zones are available in running sports (including team sports that involve running), cycling sports as well as rowing and canoeing.

Default

If you choose **Default**, you cannot change the limits. The default zones are an example of speed/pace zones for a person with a relatively high fitness level.

Free

If you choose **Free**, all limits can be changed. For example, if you have tested your actual thresholds, such as anaerobic and aerobic thresholds, or upper and lower lactate thresholds, you can train with zones based on your individual threshold speed or pace. We recommend that you set your anaerobic threshold speed and pace as the minimum for zone 5. If you also use aerobic threshold, set that as the minimum of zone 3.

TRAINING TARGET WITH SPEED ZONES

You can create training targets based on speed/pace zones. After synchronizing the targets via FlowSync, you'll receive guidance from your training device during training.

DURING TRAINING

During your training you can view which zone you are currently training in and the time spent in each zone.

AFTER TRAINING

In the training summary on your watch, you'll see an overview of the time spent in each speed zone. After syncing, detailed visual speed zone information can be viewed in the Flow web service.

SPEED AND DISTANCE FROM THE WRIST

Your watch measures speed and distance from your wrist movements with a built-in accelerometer. This feature comes in handy when running indoors or in places with limited GPS signals. For maximum accuracy make sure you've set your handedness and height correctly. Speed and distance from the wrist works best when running at a pace that is natural and feels comfortable for you.

Wear your watch snugly on your wrist to avoid any shaking. To get consistent readings it should always be worn on the same position on your wrist. Avoid wearing any other devices like watches, activity trackers or phone armbands on the same arm. In addition, do not hold anything in the same hand like a map or a phone.

Speed and distance from the wrist is available in the following running type sports: Walking, Running, Jogging, Road running, Trail running, Treadmill running, Track and field running and Ultra running. To see speed and distance during a training session, make sure you have speed and distance added to the training view of the sport profile you use when running. This can be done in Sport Profiles in the Polar Flow mobile app or in the Flow web service.

SWIMMING METRICS

Swimming metrics help you analyze each swimming session, and follow your performance and progress in the long run.

> To get the most accurate information, make sure your have set which hand you wear your watch on. You can check that you've set which hand you wear your watch from the product settings in Flow.

POOL SWIMMING

When using the Swimming or Pool swimming profile, the watch records your swim distance, time and pace, stroke rate, rest times and also identifies your swimming style. In addition, with the help of the SWOLF score you can keep track of your development.

Swimming Styles: Your watch recognizes your swimming style, and calculates style specific metrics as well as totals for your whole session. Styles the watch recognizes:

- Freestyle
- Backstroke
- Breaststroke
- Butterfly

Pace and Distance: Once the watch has recognized your swimming style as one of the four swimming styles mentioned above, it will be able to detect your turns and use this information to give you accurate pace and distance. The pace and distance measurements are based on detected turns and the set pool length. Every time you turn, one pool length gets added to the total distance swam.

Strokes: Your watch tells you how many strokes you take in a minute or per pool length. This information can be used to find out more about your swimming technique, rhythm and timing.

SWOLF (short for swimming and golf) is an indirect measure of efficiency. SWOLF is calculated by adding together your time and the amount of strokes it takes you to swim a pool length. For instance, 30 seconds and 10 strokes to swim the length of a pool will equal a SWOLF score of 40. Generally, the lower your SWOLF is for a certain distance and style, the more efficient you are.

SWOLF is highly individual, and thus should not be compared to SWOLF scores other people have swam. It's rather a personal tool that can help you improve and fine-tune your technique, and find an optimal efficiency for different styles.

Pool Length setting

It's important that you choose the correct pool length, as it affects pace, distance and stroke calculation, as well as your SWOLF score. The default lengths are 25 meters, 50 meters and 25 yards, but you can also set it manually to a custom length. The minimum length that can be chosen is 17 meters/yards.

You can choose the pool length in pre-training mode from the quick menu. Press LIGHT to access the quick menu, choose the **Pool length** setting and set the correct length.

OPEN WATER SWIMMING

When using the Open water swimming profile, the watch records your swim distance, time and pace, stroke rate for freestyle as well as your route.

> Freestyle is the only style that the open water swimming profile recognizes.

Pace and Distance: Your watch uses GPS to calculate pace and distance during your swim.

Stroke rate for freestyle: Your watch records your average and maximum stroke rates (how many strokes you take per minute) for your session.

Route: Your route is recorded with GPS, and you can view it on a map after your swim in the Flow app and web service. GPS does not work underwater, and because of this your route is filtered from GPS data acquired when your hand is out

of the water or very close to the water surface. External factors such as water conditions and satellite positions can affect the accuracy of the GPS data, and as a result data from the same route can vary from day to day.

MEASURING HEART RATE IN WATER

Your watch automatically measures your heart rate from your wrist with the new Polar Precision Prime sensor fusion technology, offering an easy and comfortable way to measure your heart rate while swimming. Although water may prevent the wrist-based heart rate measurement from working optimally, the accuracy of Polar Precision Prime is sufficient to allow you monitor your average heart rate and heart rate zones during your swimming sessions, get accurate calorie burn readings, your Training Load from the session and the Training Benefit feedback based on your heart rate zones.

To ensure the best possible accuracy of your heart rate data, it's important to wear the watch snugly on your wrist (even more snugly than in other sports). See Training with wrist based heart rate for instructions on wearing your watch during training.

> Note that you can't use a Polar heart rate sensor with a chest strap with your watch when swimming because Bluetooth doesn't work under water.

START A SWIMMING SESSION

1. Press BACK to enter the main menu, choose **Start training**, and then browse to the **Swimming**, **Pool swimming** or **Open water swimming** profile.
2. **When using the Swimming/Pool swimming profile**, check that the pool length is correct. To change the pool length, press LIGHT to access the quick menu, choose **Pool length** setting and set the correct length.

   > Do not start the training session recording until you are in the pool, however, do avoid pushing the buttons under water.

3. Press START to begin training recording.

DURING YOUR SWIM

You can customize what is shown on the display in the sport profiles section in the Flow web service. The default training views in the swimming sport profiles the following information:

- Your heart rate and the heart rate ZonePointer
- Distance
- Duration
- Rest time (Swimming and Pool swimming)
- Pace (Open water swimming)
- Heart rate graph
- Average heart rate
- Maximum heart rate
- Time of day

AFTER YOUR SWIM

An overview of your swimming data is available in the training summary on your watch right after your session. You can see the following information:

The date and time when your session started

The duration of the session

Swimming distance

Average heart rate

Maximum heart rate

Cardio Load

Heart rate zones

Energy used during the session

Carbs

Protein

Fat

For more information, see Energy Sources

Average pace

Maximum pace

Stroke rate (how many strokes you take per minute)

- Average stroke rate
- Maximum stroke rate

Sync your watch with Flow for a more detailed visual representation of your swim including a detailed breakdown of your pool swimming sessions, your heart rate, pace and stroke rate curves.

BAROMETER

The barometer features include altitude, incline, decline, ascent and descent. Altitude is measured with an atmospheric air pressure sensor that converts the measured air pressure into an altitude reading. Ascent and descent are shown in meters/feet.

Barometric altitude is automatically calibrated two times via GPS during the first minutes of a session. In the beginning of a session before calibration, altitude is only based on barometric air pressure that can at times be inaccurate depending on the conditions. Altitude data is post-corrected after calibration, so any inaccurate readings seen during the beginning of a session are automatically corrected afterwards, and the corrected data can be viewed in the Flow web service and app after your session after syncing your data.

To get the most accurate altitude readings, it is recommended to always manually calibrate altitude whenever a reliable reference, such as a peak or a topographic map is available or when at sea level. Altitude can be manually calibrated from the fullscreen altitude training view. Press OK to set the current altitude.

Mud and dirt on the device can cause inaccurate altitude readings. Keep your device clean to make sure the barometric altitude measurement works properly.

ALTITUDE DATA WHEN NOT TRAINING

When not training you can view your current altitude and altitude profile from the last 6 hours from the **Navigation** view.

Go to **Settings** > **Choose views**, and add the **Navigation** view to view your altitude straight form the watch when not training.

WEATHER

The weather view brings the current day's hourly forecast, as well as tomorrow's 3-hour and the day after tomorrow's 6-hour forecast to your wrist. Other weather information provided includes wind speed, wind direction, humidity and the chance of rain.

Weather information can only be found from the weather view. From the watch face, swipe left or right until you reach it.

To use the weather feature you need to have Flow app on your mobile, and your watch needs to be paired with it. Location Services (iOS) or Location Settings (Android) need also to be set on to get weather information.

Today's forecast

View the current day's hourly forecast. Tap the display to view more detailed weather information, including the following:

- Location of forecast
- When updated last
- Refresh (shown if weather info needs to updated for example because your location has changed or if it's been a while since it was last updated)
- Current temperature
- Feels like
- Rain
- Wind speed
- Wind direction
- Humidity
- Hourly forecast

Note that weather history including information on what the weather was during training sessions is not available.

Tomorrow's forecast

- Forecast low/high for each 3-hour period

The day after tomorrow's forecast

- Forecast low/high for each 6-hour period

POWER SAVE SETTINGS

The power save settings allow you to extend your training time by changing the GPS recording rate or setting wrist-based heart rate off. These settings let you optimize battery usage and get more training time for extra long sessions or when the battery is running low.

The power save settings are found in the quick menu. You can access the quick menu from pre-training mode, during a session when paused and during transition mode in multisport sessions. In pre-training mode it can be accessed by tapping or with the LIGHT button. In pause and transition mode it can only be accessed with the LIGHT button.

After setting on any of the power save settings, you'll see their effect on the estimated training time in pre-training mode. Note that the power save settings are set on for each session separately. The settings are not stored.

Note that the temperature affects the estimated training time. When training in cold conditions the actual training time can be less than what is indicated when starting the session.

GPS recording rate

Set the GPS recording rate to a less frequent interval (1 minute or 2 minutes). Handy in ultra-long sessions when long battery life is essential.

Note that the GPS recording rate needs to be set to 1 second to use navigational features such as route guidance, Komoot routes and Strava Live Segments. Changing the GPS recording rate to a less frequent interval may also reduce the accuracy of other measurements, such as running power, speed/pace and distance, depending on the sport profile and sensors used.

Wrist-based heart rate

Set wrist-based heart rate off. Set it off to save power when you don't necessarily need heart rate data. When using a heart rate monitor with a chest strap wrist-based heart rate is set off by default.

ENERGY SOURCES

The energy sources breakdown shows how much of different energy sources (fats, carbohydrates, proteins) you used during your session. On your watch, you can see it in the training summary right after finishing your session. More detailed information can be viewed in the Flow mobile app after syncing your data.

During physical activity, your body uses carbohydrates and fat as main sources of energy. The higher your training intensity, the more carbs you use in proportion to fat, and vice versa. The role of protein is usually quite small, but during high intensity activity and during long sessions your body can use about 5 to 10 % of its energy from protein.

We calculate the use of different energy sources based on your heart rate, but we also take your physical settings into account. These include your age, gender, height, weight, maximum heart rate, resting heart rate, VO2max, aerobic threshold and anaerobic threshold. It's important that you've set these settings as precisely as possible so you'll get the most accurate energy source consumption data.

ENERGY SOURCES SUMMARY

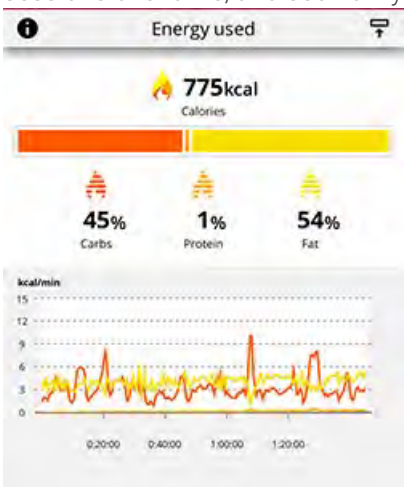
After your session, you'll see the following information the training summary:

Carbs, protein and fat you've used during your session.

Note that you shouldn't interpret the used energy sources and their amounts as guidelines when eating after your session.

DETAILED ANALYSIS IN THE FLOW MOBILE APP

In the Flow app you can also view how much of these sources you used at each point of your session and how they accumulated throughout it. The graph shows how your body makes use of different energy sources at different training intensities, and also at different stages of your training session. You can also compare the breakdown from similar sessions over time, and see how your ability to use fat as the primary energy source develops.



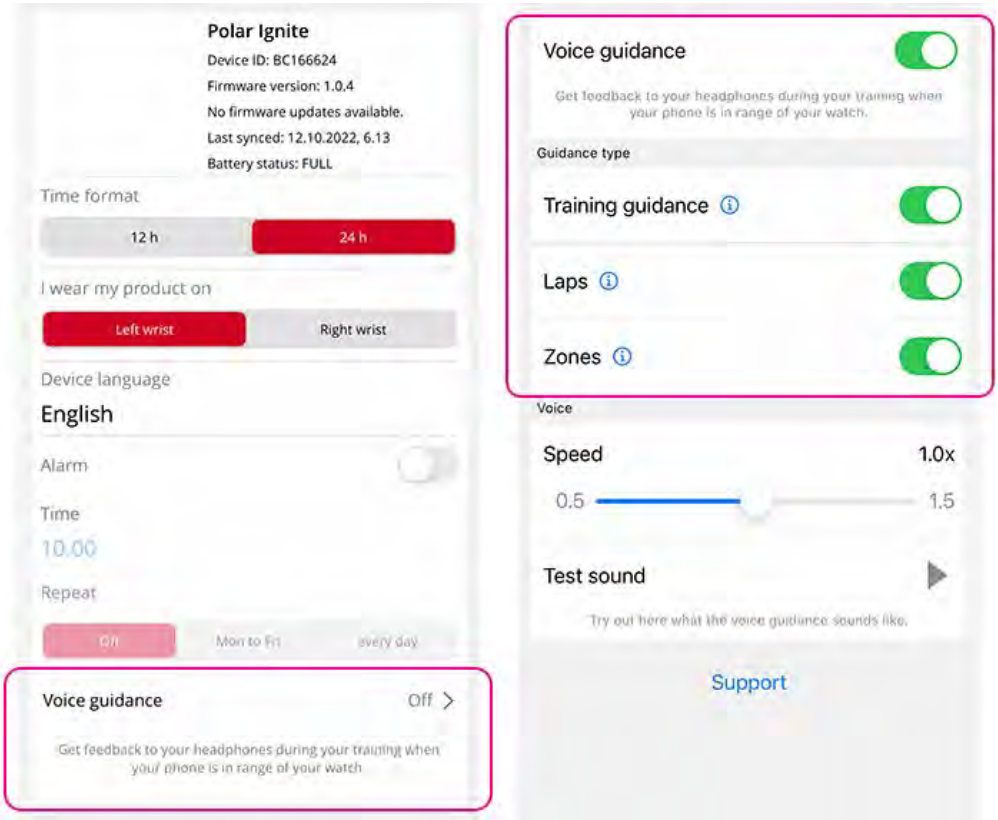
Learn more about energy sources

VOICE GUIDANCE

The voice guidance feature helps you focus on your training by providing relevant training data straight to your headphones. It removes the need to look at the watch during the workout. The information you get in audio format includes lap details, changes in heart rate, and guidance during training phases. To use the voice guidance feature, you need to have the Flow app running on your phone, and it also needs to be paired with your watch. For instructions, see Pairing a mobile device with your watch.

You can set the voice guidance feature on in the Flow app device settings. In the Flow app, go to **Devices** and choose Polar Vantage V3 if you have more than one Polar device. Scroll down to **Voice guidance**, tap it open and turn the feature on. Then choose what type of information is included in the voice guidance:

- Choose **Training guidance** to get guidance during the phases of your training targets and daily training suggestions.
- Choose **Laps** to hear the lap details when you take a lap manually or a lap is automatically taken based on duration, distance or location.
- Choose **Zones** to find out about changes in your heart rate.



Note that in addition to the information you choose from the above options, you will receive audio feedback when

- you start, pause, continue or stop the training session and when you receive a training summary
- real-time connection between phone and watch is lost/recovered
- the watch battery is low

For more information, see the support document Voice Guidance in Polar Flow app.

PHONE NOTIFICATIONS

The phone notifications feature allows you to get alerts about incoming calls, messages and notifications from apps onto your watch. You'll get the same notifications on your watch that you get on your phone screen. Notifications are

available when not training and during training sessions. You can choose when you want to receive them. Phone notifications are available for iOS and Android phones.

To use phone notifications, you need to have the Flow app running on your phone, and it also needs to be paired with your watch. For instructions, see Pairing a mobile device with your watch.

Set phone notifications on

On your watch go to **Settings** > **General settings** > **Phone notifications** to set them on. Set phone notifications **Off**, **On, when not training**, **On, when training** or **Always on**.

You can also set the phone notifications on in the Flow app device settings. After setting the notifications on sync your watch with the Flow app.

Please note that when phone notifications are set on, the battery of your watch and phone will run out faster because Bluetooth is continuously on.

Do not disturb

If you want to disable notifications and call alerts for a certain period of time, set do not disturb on. When it is on, you will not receive any notifications or call alerts during the time period you have set.

On your watch go to **Settings** > **General settings** > **Do not disturb**. Choose **Off**, **On** or **On (22.00 - 7.00)**, and the period when do not disturb is on. Choose when it **Starts at** and **Ends at**.

VIEW NOTIFICATIONS

When not training, whenever you receive a notification your watch will vibrate and a red dot will appear at the bottom of the display. View the notification by swiping up from the bottom of the display or by turning your wrist to look at the watch immediately after the watch vibrates.

When receiving a notification during a training session, your watch will vibrate and show the sender. To remove the notification, tap the display when viewing it and choose **Clear**. To remove all notifications on your watch, scroll down on the notification list and choose **Clear all**.

When receiving a call your watch will vibrate and show the caller. You can also answer or decline the call with your watch.

Phone notifications may function differently depending on the model of your Android phone.

MUSIC CONTROLS

Control music and media playing on your phone with your watch during training sessions as well as from the Music controls view when not training. Music controls are available for iOS and Android phones. To use the music controls you need to have the Flow app running on your phone, and it also needs to be paired with your watch. For instructions, see Pairing a mobile device with your watch. If you did the setup for your watch via the Flow app your watch is already paired with your phone.

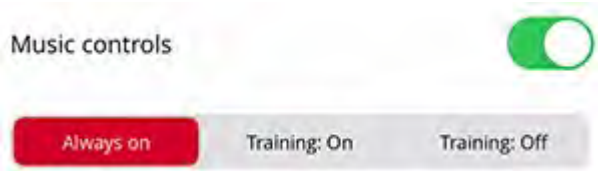
Set the music controls on from **Settings > General settings > Music controls**.

The music controls setting becomes visible after pairing your watch with your phone via the Flow app.

Choose **Training display** to control music during your training sessions and **watch face** to access the controls when not training.

- **During training**, swipe left or right to scroll to the music controls training view. The music controls training view is enabled when the player is on and a session has been started
- **When not training**, swipe left or right from the watch face to navigate to the Music controls view.
- Adjust the volume with volume controls
- Pause/play or switch between songs with the controls.

MUSIC CONTROLS SETTINGS IN POLAR FLOW APP



You can adjust the Music controls settings also from the Polar Flow app **Devices** menu:

- Tap the button next to Music controls to set the Music controls feature on or off
- **Always on:** You can control music from both the training display and the Music controls view.
- **Training: On:** You can control music from the training display.
- **Training: Off:** You can control music from the Music controls view.

If you change your settings remember to sync your watch with the Flow app.

HR SENSOR MODE

In heart rate sensor mode you can turn your watch into a heart rate sensor and share your heart rate with other Bluetooth devices like training apps, gym equipment or cycling computers. To use your watch in HR sensor mode, you first need to pair it with the receiving external device. Refer to receiving device's user guide for detailed pairing instructions.

Turn on HR sensor mode

1. Press and hold OK in time view or press BACK to enter the main menu and choose **Start training**. Browse to your preferred sport.
2. In pre-training mode, open the quick menu by tapping the icon or with the LIGHT button.

3. Choose **Share HR with other device**.
4. Activate the external device's pairing mode.
5. Choose Vantage V3 from the external device.
6. Accept pairing Vantage V3 with the external device.
7. You should be able to see your heart rate on both your Polar watch and the external device. When you're ready, just start your session from the external device. To record your training session with your watch, return to pre-training mode and start training recording by pressing OK.

Stop sharing HR

Choose **Stop sharing**. HR sharing stops also when you exit pre-training mode or stop the training recording.

SPORT PROFILES

Sport profiles are the sport choices you have on your watch. We have created four default sport profiles to your watch, but you can add new sport profiles in the Polar Flow app or web service and sync them to your watch, and this way create a list of all your favorite sports.

You can also define specific settings for each sport profile. For example, you can create tailored **training views** for each sport you do and choose what data you want to see when you train: just your heart rate or just speed and distance—whatever suits you and your training needs and requirements best.

You can have a maximum of 20 sport profiles on your watch at a time. The number of sport profiles in Polar Flow mobile app and Polar Flow web service is not limited.

For more information, see Sport Profiles in Flow.

Using the sport profiles makes it possible for you to keep up with what you've done and to see the progress you've made in different sports. See your training history and follow your progress in the Flow web service.

Please note that in a number of indoor sports, group sports and team sports profiles the **HR visible to other devices** setting is enabled by default. This means that compatible devices using Bluetooth Smart wireless technology, e.g. gym equipment, can detect your heart rate. You can check which sport profiles have Bluetooth broadcasting enabled by default from the Polar Sport profiles list. You can enable or disable Bluetooth broadcasting from sport profile settings.

CHANGEABLE WRISTBANDS

The changeable wristbands let you personalize your watch to match every situation and style so you can wear it all the time and make the best use of the 24/7 activity tracking, continuous heart rate measurement and sleep tracking.

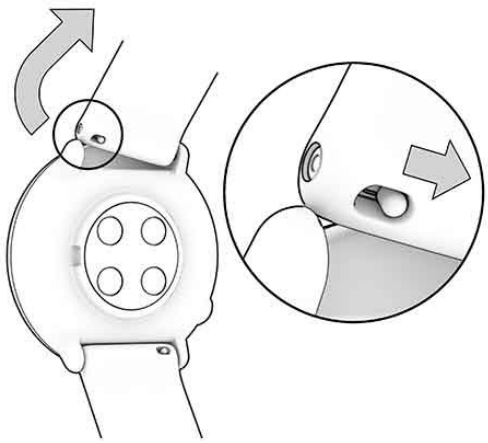
We recommend to avoid using metal wristbands as they may affect GPS accuracy.

CHANGING THE WRISTBAND

You can choose your favorite wristband from Polar's selection or use any other watch band that uses 22mm spring bars.

The wristband of your watch is quick and simple to change.

1. To detach a band, pull the quick-release knob inwards and pull the band away from the watch.
2. To attach a band, insert the pin (the opposite side of the quick-release knob) into the pin hole on the watch.
3. Pull the quick-release knob inwards and align the other end of the pin with the hole on the watch.
4. Release the knob to lock the band in place.



COMPATIBLE SENSORS

Enhance your training experience, and achieve a more complete understanding of your performance with compatible Bluetooth® sensors. In addition to a number of Polar sensors your watch is fully compatible with several third-party sensors.

View a full list of compatible Polar sensors and accessories

View compatible third-party sensors

Before taking a new sensor into use, it has to be paired with your watch. Pairing only takes a few seconds, and ensures that your watch receives signals from your sensors only, and allows disturbance-free training in a group. Before entering an event or race, make sure that you do the pairing at home to prevent interference due to data transmission. For instructions, see Pairing sensors with your watch.

POLAR VERITY SENSE

Polar Verity Sense is a versatile high-quality optical heart rate sensor that measures heart rate from your arm or temple. Polar Verity Sense is a great alternative to heart rate chest straps and wrist-based devices. You can use it with the product's armband, swimming goggle strap clip or just place it anywhere snug and firm against your skin. Polar Verity Sense allows maximum freedom of movement and works in countless different sports. As a highlight, Polar Verity Sense records heart rate, distance, pace and turns when you swim in the pool. You can record your workouts in the sensor's internal memory and transfer workout data to your phone afterwards or you can connect the sensor with your watch and follow your heart rate in real time during your workout.

POLAR OH1 OPTICAL HEART RATE SENSOR

Polar OH1 is a compact optical heart rate sensor that measures heart rate from your arm or temple. It's versatile and offers a great option to heart rate chest straps and wrist-based heart rate devices. With Polar OH1 you can broadcast your real-time heart rate to your sports watch, smart watch or Polar Beat or other fitness app via Bluetooth, and simultaneously to ANT+ devices. Polar OH1 has an inbuilt memory so you can start your workout with OH1 alone and transfer the training data to your phone afterwards. It comes with a comfortable machine-washable armband and a swimming goggle strap clip (in Polar OH1 + product package).

It can also be used with Polar Club, Polar GoFit and Polar Team app.

POLAR H10 HEART RATE SENSOR

Monitor your heart rate with maximum precision with the Polar H10 heart rate sensor with a chest strap.

Although the Polar Precision Prime is the most accurate optical heart rate measurement technology there is and works pretty much anywhere, in sports where it's more challenging to keep the sensor stationary on your wrist or where you have pressure or movement in muscles or tendons near the sensor, the Polar 10 heart rate sensor gives you the best

heart rate accuracy. The Polar H10 heart rate sensor is more responsive to rapidly increasing or decreasing heart rate, so it's the ideal option also for interval type of training with quick sprints.

The Polar H10 heart rate sensor has an internal memory that allows you to record one training session with it without a connected training device or a mobile training app close by. You just need to pair the H10 heart rate sensor with the Polar Beat app and start the training session with the app. This way, you can for example record your heart rate from your swimming sessions with the Polar H10 heart rate sensor. For more information see the support pages for Polar Beat and Polar H10 heart rate sensor.

When using the Polar H10 heart rate sensor during your cycling sessions, you can have your watch mounted to your bike's handlebars to easily view your training data while riding.

POLAR H9 HEART RATE SENSOR

Polar H9 is a high quality heart rate sensor for your everyday sports. It comes with the Polar Soft Strap and tracks your heart rate accurately. Polar H9 is ideal with the Polar Beat app as well as many 3rd party apps: you can turn your phone into a fitness tracker easily. Further, Bluetooth®, ANT+™ and 5 kHz technologies ensure connections to a large variety of sports devices and gym equipment. Thanks to chest strap measurement Polar H9 reacts instantaneously to what happens in your body and gives you accurate calorie burn.

The latest version of this user manual and video tutorials can be found at support.polar.com/en/h9-heart-rate-sensor.

POLAR STRIDE SENSOR BLUETOOTH® SMART

The Stride Sensor Bluetooth® Smart is for runners who want to improve their technique and performance. It allows you to see speed and distance information, whether you are running on a treadmill or on the muddiest trail.

- Measures each stride you take to show running speed and distance
- Helps improve your running technique by showing your running cadence and stride length
- Small sensor fits firmly onto your shoelaces
- Shock and water resistant, to handle even the most demanding runs

POLAR SPEED SENSOR BLUETOOTH® SMART

There are a range of factors that can affect your cycling speed. Obviously fitness is one of them, however, weather conditions and the varying gradients of the road play a huge part too. The most advanced way of measuring how these factors affect your performance speed is with the aerodynamic speed sensor.

- Measures your current, average and maximum speeds
- Track your average speed to see your progress and performance improve
- Light yet tough, and easy to attach

POLAR CADENCE SENSOR BLUETOOTH® SMART

The most practical way of measuring your cycling session is with our advanced wireless cadence sensor. It measures your real-time, average and maximum cycling cadence as revolutions per minute so you can compare the technique of your ride against previous rides.

- Improves your cycling technique and identifies your optimal cadence
- Interference-free cadence data lets you evaluate your individual performance
- Designed to be aerodynamic and light

THIRD-PARTY POWER SENSORS

Cycling Power

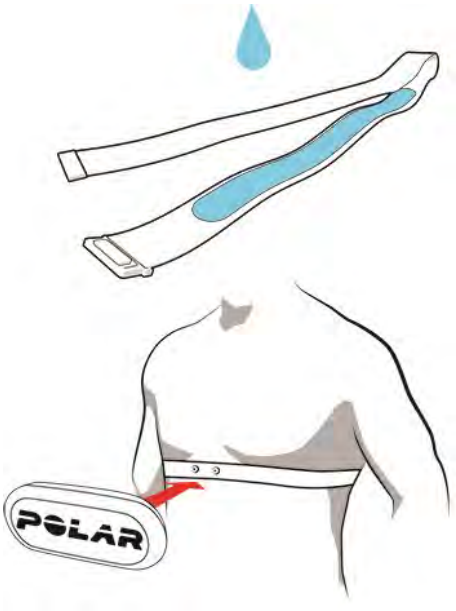
Measuring your cycling power helps you to monitor and develop your cycling performance and pedaling technique. Unlike heart rate, power output is an absolute and objective value of effort. This means that you can also compare your power values with your fellow cyclists who are of the same sex and about the same size as you are; or compare watts per kilogram for the most reliable results. Seeing how your heart rate corresponds to the power zones also gives more insight.

PAIRING SENSORS WITH YOUR WATCH

Pair a heart rate sensor with your watch

When you're wearing a Polar heart rate sensor that's paired with your watch, the watch does not measure heart rate from the wrist.

1. Wear the moistened heart rate sensor.
2. On your watch, go to **General Settings > Pair and sync > Pair sensor or other device** and press OK.
3. Touch your heart rate sensor with your watch and wait for it to be found.
4. Once the heart rate sensor is found, the device ID, for example, **Polar H10 xxxxxxxx** is displayed. Press OK to start pairing.
5. **Pairing completed** is displayed when you are done.



Pair a stride sensor with your watch

1. On your watch, go to **General Settings > Pair and sync > Pair sensor or other device** and press OK.
2. The watch starts searching for your sensor. Touch your sensor with the watch and wait for it to be found.
3. Once the sensor is found, the device ID is displayed. Press OK to start pairing.
4. **Pairing completed** is displayed when you are done.

Calibrate stride sensor

There are two ways to manually calibrate your stride sensor via the quick menu. Choose one of the running sport profiles and then choose **Calibrate stride sensor** > **Calibrate by running** or **Calibration factor**.

- **Calibrate by running**: Start the training session and run a distance you know. The distance has to be more than 400 meters. When you have ran the distance, press OK to take a lap. Set the actual distance you have ran and press OK. The calibration factor is updated.

  Please note that interval timer cannot used during the calibration. If you have set the interval timer on, the watch will ask you to turn it off to enable manual stride sensor calibration. You can turn the timer on from the pause mode quick menu after calibration.

- **Calibration factor**: Set the calibration factor manually if you know the factor which gives you accurate distance.

For detailed instructions on manual and automatic calibration of a stride sensor, see Calibrating a Polar stride sensor with Grit X/Vantage V/Vantage M.

Pair a cycling sensor with your watch

Before pairing a cadence sensor, speed sensor or a third-party power sensor, make sure they have been correctly installed. For more information on installing the sensors see their user manuals.

> If you are pairing a third-party power sensor, please make sure that you have the latest firmware both in your watch and the sensor. If you have two power transmitters, you need to pair the transmitters one at a time. After pairing the first transmitter, you can immediately pair the second one. Check the device ID on the backside of each transmitter to make sure you find the correct transmitters from the list.

1. On your watch, go to **General Settings > Pair and sync > Pair sensor or other device** and press OK.
2. The watch starts searching for your sensor. **Cadence sensor**: Rotate the crank a few times to activate the sensor. The flashing red light in the sensor indicates that the sensor is activated. **Speed sensor**: Rotate the wheel a few times to activate the sensor. The flashing red light in the sensor indicates that the sensor is activated. **Third-party power sensor**: Rotate the cranks to wake up the transmitters.
3. Once the sensor is found, the device ID is displayed. Press OK to start pairing.
4. **Pairing completed** is shown when you are done.

Bike settings

1. **Sensor linked to:** is displayed. Choose **Bike 1** or **Bike 2**. Confirm with OK.
2. **Set wheel size** is displayed if you paired a speed sensor or a power sensor that measures speed. Set the size and press OK.
3. **Crank length**: Set the crank length in millimeters. The setting is visible only if you paired a power sensor.

Measuring wheel size

Wheel size settings are a prerequisite for correct cycling information. There are two ways of determining the wheel size of your bike:

Method 1

- Measure the wheel manually for the most accurate result.
- Use the valve to mark the point where the wheel touches the ground. Draw a line on the ground to mark that point. Move your bike forward on a flat surface for one complete rotation. The tire should be perpendicular to the ground. Draw another line on the ground at the valve to mark a full rotation. Measure the distance between the two lines.
- Subtract 4 mm to account for your weight on the bike to get your wheel circumference.

Method 2

Look for the diameter in inches or in ETRTO printed on the wheel. Match it to the wheel size in millimeters in the right column of the chart.

ETRTO	Wheel size diameter (inches)	Wheel size setting (mm)
25-559	26 x 1.0	1884
23-571	650 x 23C	1909
35-559	26 x 1.50	1947
37-622	700 x 35C	1958
52-559	26 x 1.95	2022
20-622	700 x 20C	2051
52-559	26 x 2.0	2054
23-622	700 x 23C	2070

ETRTO	Wheel size diameter (inches)	Wheel size setting (mm)
25-622	700 x 25C	2080
28-622	700 x 28	2101
32-622	700 x 32C	2126
42-622	700 x 40C	2189
47-622	700 x 47C	2220

Wheel sizes on the chart are advisory as wheel size depends on the wheel type and air pressure.

Calibrate cycling power sensor

You can calibrate the sensor from the quick menu. First, choose one of the cycling sport profiles and wake up the transmitters by rotating the cranks. Then choose **Calibrate power sensor** from the quick menu and follow the on-screen instructions to calibrate your sensor. For calibration instructions specific to your power sensor, see the manufacturer's instructions.

Delete a pairing

To delete a pairing with a sensor or mobile device:

1. Go to **Settings > General settings > Pair and sync > Paired devices** and press OK.
2. Choose the device you want to remove from the list and press OK.
3. **Remove pairing?** is displayed. Confirm by pressing OK.
4. **Pairing removed** is displayed when you are done.

POLAR FLOW APP

In the Polar Flow mobile app, you can see an instant visual interpretation of your training and activity data. You can also plan your training in the app.

TRAINING DATA

With the Polar Flow app, you can easily access the information of your past and planned training sessions and create new training targets. You can choose to create a quick target or a phased target.

Get a quick overview of your training, and analyze every detail of your performance right away. See weekly summaries of your training in the training diary. You can also share the highlights of you training with your friends with the Image sharing function.

ACTIVITY DATA

See details of your 24/7 activity. Find out how much you're missing from your daily activity goal and how to reach it. See steps, covered distance based on steps and burned calories.

SLEEP DATA

Follow your sleeping patterns to see if they're affected by any changes in your daily life and find the right balance between rest, daily activity and training. With the Polar Flow app, you can view the timing, amount, and quality of your sleep.

You can set your preferred sleep time to define how long you aim to sleep every night. You can also rate your sleep. You'll receive feedback on how you slept based on your sleep data, your preferred sleep time and your sleep rating.

SPORT PROFILES

You can add, edit, remove and reorganize sport profiles easily in the Flow app. You can have up to 20 sport profiles active in Flow app and in your watch.

For more information, see Sport profiles in Polar Flow.

IMAGE SHARING

With Flow app's image sharing function you can share images with your training data on them to most common social media channels, like Facebook and Instagram. You can either share an existing photo or take a new one and customize it with your training data. If you had GPS recording on during your training session, you can also share a snapshot of your training route.

To see a video, click on the following link:

Polar Flow app | Sharing training results with a photo

START USING THE FLOW APP

You can set up your watch using a mobile device and the Flow app.

To start using the Flow app, download it from the App Store or Google Play onto your mobile device. For support and more information about using the Polar Flow app, go to support.polar.com/en/support/Flow_app.

Before taking a new mobile device (smartphone, tablet) into use, it has to be paired with your watch. See Pairing for more details.

Your watch syncs your training data to the Flow app automatically after your session. If your phone has an internet connection, your activity and training data are also synced automatically to the Flow web service. Using the Flow app is the easiest way to sync your training data from your watch with the web service. For information on syncing, see Syncing.

For more information and instructions on Flow app features, visit Polar Flow app product support page.

POLAR FLOW WEB SERVICE

In the Polar Flow web service, you can plan and analyze your training in detail and learn more about your performance. Set up and customize your watch to perfectly fit your training needs by adding sport profiles and editing their settings. You can also share your training sessions with your friends, sign up for your club's classes and get a personalized training program for a running event.

The Polar Flow web service also shows your daily activity goal completion percentage and the details of your activity, and helps you understand how your daily habits and choices affect your well-being.

You can set up your watch with your computer at flow.polar.com/start. There you are guided to download and install the FlowSync software for syncing data between your watch and the web service, and to create a user account for the web service. If you did the setup using a mobile device and the Flow app, you can log into the Flow web service with the credentials you created in the setup.

DIARY

In **Diary** you can see your daily activity, sleep, planned training sessions (training targets), as well as review past training results.

REPORTS

In **Reports** you can follow your development.

Training reports are a handy way to follow your progress in training over longer periods. In week, month and year reports you can choose the sport for the report. In custom period, you can choose both the period and the sport. Choose the time period and sport for report from the drop-down lists, and press the wheel icon to choose what data you want to view in the report graph.

With the help of the activity reports, you can follow the long-term trend of your daily activity. You can choose to view either daily, weekly or monthly reports. In the activity report you can also see your best days regarding daily activity, steps, calories and sleep from your chosen time period.

PROGRAMS

The Polar Running Program is tailored for your goal, based on Polar heart rate zones, taking your personal attributes and training background into account. The program is intelligent, it adapts along the way based on your development. The Polar Running Programs are available for 5k, 10k, half marathon and marathon events, and consist of two to five running exercises per week depending on the program. It’s super simple!

For support and more information about using the Flow web service, go to, support.polar.com/en/support/flow.

SPORT PROFILES IN POLAR FLOW

There are 14 default sport profiles on your watch. In the Polar Flow app or web service, you can add new sport profiles to your sports list and edit their settings. Your watch can contain a maximum of 20 sport profiles. If you have over 20 sport profiles in the Polar Flow app and web service, the first 20 in the list are transferred to your watch when syncing.

You can change the order of your sport profiles by dragging and dropping them. Choose the sport you want to move and drag it into the place you want to put it in the list.

To see a video, click on one of the following links:

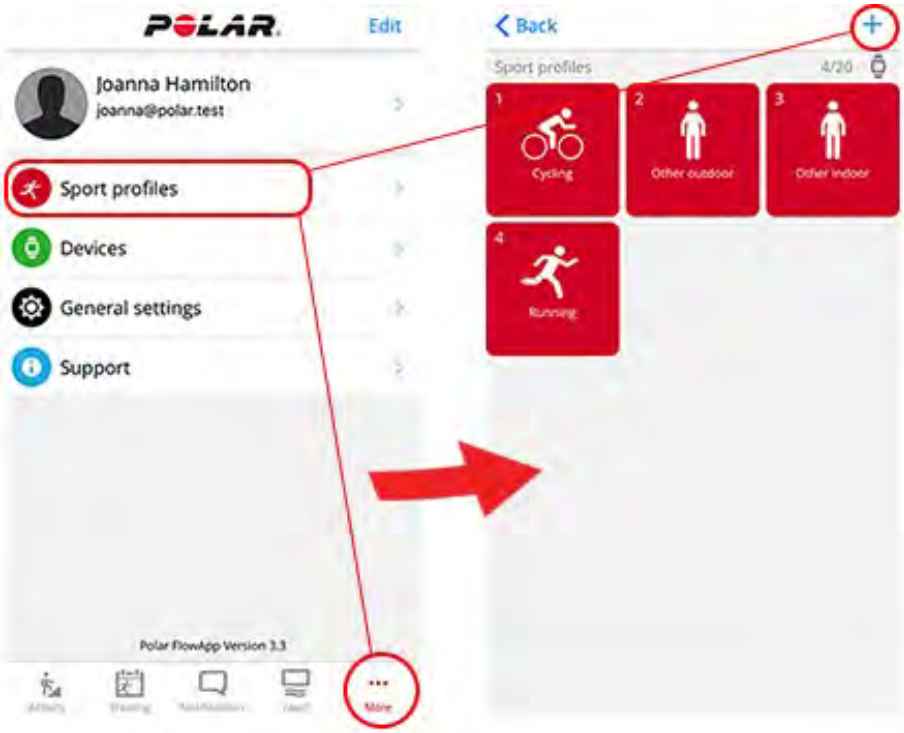
Polar Flow app | Sport profile editing

Polar Flow web service | Sport Profiles

ADD A SPORT PROFILE

In the Polar Flow mobile app:

1. Go to **Sport profiles**.
2. Tap the plus sign in the upper right corner.
3. Choose a sport from the list. Tap Done on Android app. The sport is added to your sport profiles list.



In the Polar Flow web service:

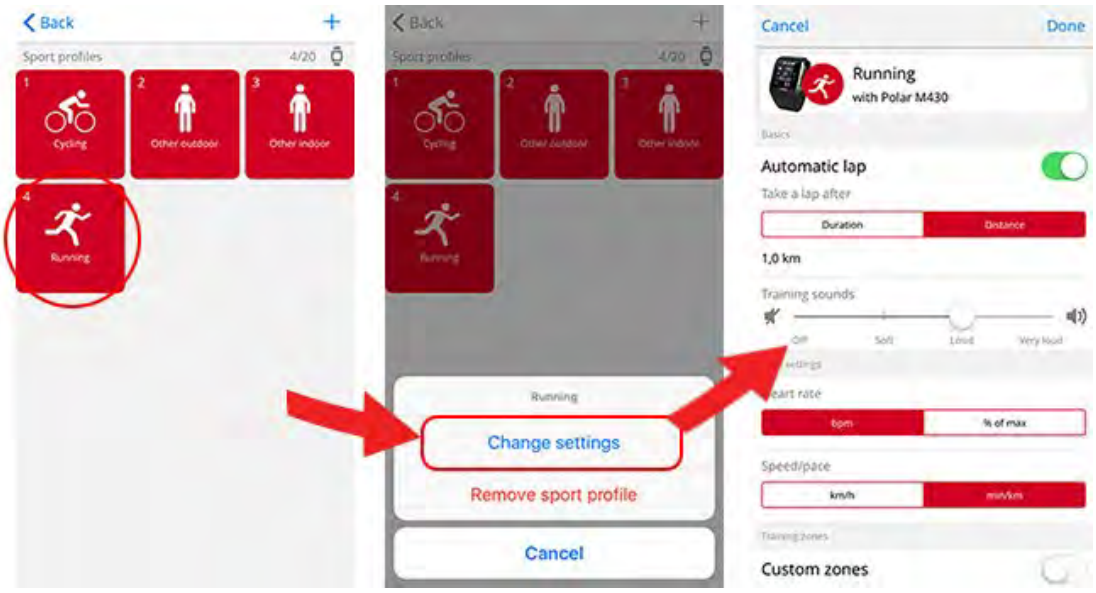
1. Click your name/profile photo in the upper right corner.
2. Choose **Sport Profiles**.
3. Click **Add sport profile**, and choose the sport from the list.
4. The sport is added to your sport list.

You can't create new sports yourself. The sports list is controlled by Polar, because each sport has certain default settings and values, which affect, for example, the calorie calculation and the training load and recovery feature.

EDIT A SPORT PROFILE

In the Polar Flow mobile app:

1. Go to **Sport profiles.**
2. Choose a sport and tap **Change settings**.
3. When you're ready, tap Done. Remember to sync the settings to your watch.



In the Flow web service:

1. Click your name/profile photo in the upper right corner.
2. Choose **Sport Profiles**.
3. Click **Edit** under the sport you want to edit.

In each sport profile, you can edit the following information:

Basics

- Automatic lap (Can be set to duration or distance-based or turned off)

Heart Rate

- Heart rate view (Beats per minute or % of maximum)
- Heart rate visible to other devices (This means that compatible devices using Bluetooth Smart wireless technology, e.g. gym equipment, can detect your heart rate. You can also use your watch during Polar Club classes to broadcast your heart rate to the Polar Club system.)
- Heart rate zone settings (With the heart rate zones you can easily select and monitor training intensities. If you choose Default, you cannot change heart rate limits. If you choose Free, all limits can be changed. Default heart rate zone limits are calculated from your maximum heart rate.)

Speed/Pace settings

- Speed/Pace view (Choose speed km/h / mph or pace min/km / min/mi)
- Speed/pace zone settings (With the speed/pace zones you can easily select and monitor your speed or pace, depending on your selection. Default zones are an example of speed/pace zones for a person with a relatively high fitness level. If you choose Default, you can't change the limits. If you choose Free, all limits can be changed.)

Training views

Choose what information you see on your training views during your sessions. You can have a total of eight different training views for each sport profile. Each training view can have a maximum of four different data fields.

Click the pencil icon on an existing view to edit it, or click **Add new view**.

Gestures and feedback

- Vibration feedback (You can choose to have vibration on or off)

GPS and altitude

- Automatic pause: To use **Automatic pause** during training, you need to have GPS set to **High Accuracy** or a Polar stride sensor in use. Your sessions pause automatically when you stop, and continue automatically when you start.
- Choose the GPS recording rate.

When you're done with the sport profile settings, click **Save**. Remember to sync the settings to your watch.

Please note that in a number of indoor sports, group sports and team sports profiles the **HR visible to other devices** setting is enabled by default. This means that compatible devices using Bluetooth Smart wireless technology, e.g. gym equipment, can detect your heart rate. You can check which sport profiles have Bluetooth broadcasting enabled by default from the Polar Sport profiles list. You can enable or disable Bluetooth broadcasting from sport profile settings.

PLANNING YOUR TRAINING

You can plan your training and create personal training targets for yourself in the Polar Flow web service or in the Polar Flow app.

CREATE A TRAINING PLAN WITH THE SEASON PLANNER

The Season Planner in the Flow web service is a great tool for creating a tailored annual training plan. No matter what your training goal is, Polar Flow helps you create a comprehensive plan to reach it. You can find the Season Planner tool from the **Programs** tab in the Polar Flow web service.

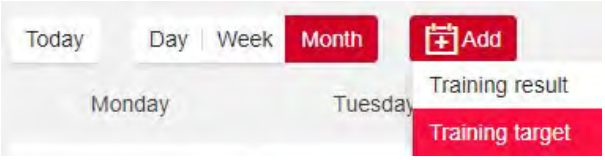
Polar Flow for Coach is a free remote coaching platform that allows your coach plan every detail of your training from full season plans to individual workouts.

CREATE A TRAINING TARGET IN THE POLAR FLOW WEB SERVICE

Note that the training targets need to be synced to your watch with FlowSync or via Flow app before you can use them. Your watch will guide you towards completing your target during training.

To create a training target in the Polar Flow web service:

1. Go to **Diary**, and click **Add** > **Training target**.



2. In the **Add training target**, choose **Sport**, enter **Target name** (maximum 45 digits), **Date** and **Start time** and any **Notes** (optional) you want to add.

Then choose the type of your training target from the following:

Duration target

1. Choose **Duration**.
2. Enter the duration.
3. Click **Add to favorites** ☆ to add the target to your list of favorites, if you want.
4. Click **Add to Diary** to add the target to your **Diary**.

Distance target

1. Choose **Distance**.
2. Enter the distance.
3. Click **Add to favorites** ☆ to add the target to your list of favorites, if you want.
4. Click **Add to Diary** to add the target to your **Diary**.

Calories target

1. Choose **Calorie**.
2. Enter the amount of calories.
3. Click **Add to favorites** ☆ to add the target to your list of favorites, if you want.
4. Click **Add to Diary** to add the target to your **Diary**.

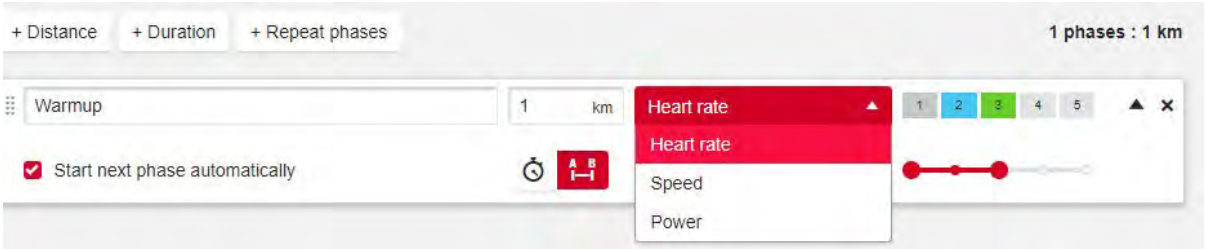
Race Pace target

1. Choose **Race Pace**.
2. Fill in two of the following values: **Duration**, **Distance** or **Race Pace**. You get the third one automatically.
3. Click **Add to favorites** ☆ to add the target to your list of favorites, if you want.
4. Click **Add to Diary** to add the target to your **Diary**.

Please note that Race Pace can only be synced with Grit X, Grit X Pro, Ignite 3, Pacer, Pacer Pro, V800, Vantage M, Vantage M2, Vantage V and Vantage V2.

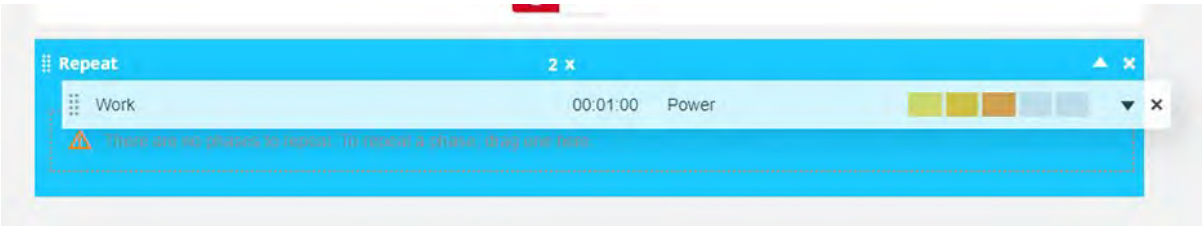
Phased target

1. Choose **Phased**.
2. Add phases to your target. Click **Duration** to add a phase based on duration or click **Distance** to add a phase based on distance. Choose **Name** and **Duration/Distance** for each phase.
3. Tick the box **Start next phase automatically** for automatic change of phases. If left unchecked, you will have to change phases manually.
4. Choose **the intensity of the phase** based on **heart rate**, **speed** or **power**.



> Power-based phased training targets are currently supported only by Grit X, Grit X Pro, Pacer, Pacer Pro and Vantage V2.

5. If you wish to repeat a phase, choose **+ Repeat phases** and drag phases you want to repeat to the Repeat section.



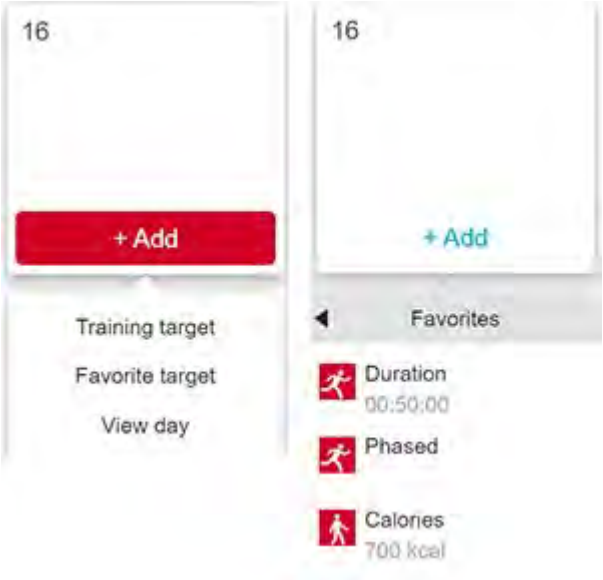
6. Click Add to favorites ☆ to add the target to your list of favorites.
7. Click **Add to Diary** to add the target to your **Diary**.

Create a target based on a favorite training target

If you have created a target and added it to your favorites, you can use it as a template for similar targets. This makes training target creation easier. You don't need to create, for example, a complicated phased training target every time from the scratch.

To use an existing Favorite as a template for a training target, follow these steps:

1. Hover your mouse over a date on the **Diary**.
2. Click **+Add** > **Favorite target** and then choose a target from the **Favorites** list.



3. The Favorite is added to your diary as a scheduled target for the day. The default scheduled time for the training target is at 18.00/6pm.
4. Click the target in your Diary and modify it to your liking. Editing the target in this view won't change the original Favorite target.
5. Click Save to update the changes.

You can edit your favorite training targets and create new ones also via Favorites page. Click ☆ in top menu to access the Favorites page.

SYNC THE TARGETS TO YOUR WATCH

Remember to sync the training targets to your watch from the Flow web service via FlowSync or Flow App. If you don't sync them, they are only visible in your Flow web service Diary or Favorites list.

For information on starting a training target session, see Start a training session.

CREATE A TRAINING TARGET IN THE POLAR FLOW APP

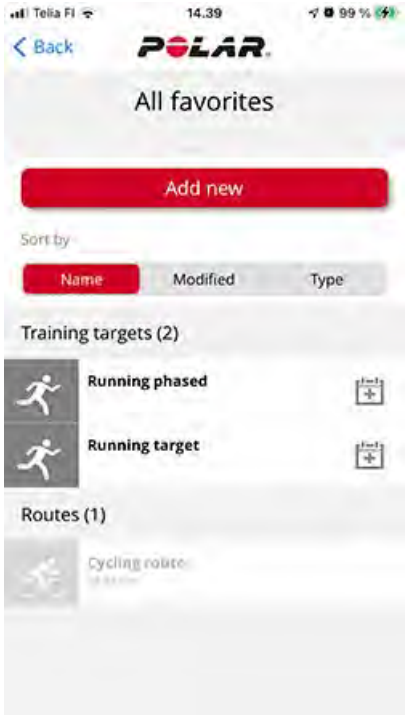
To create a training target in the Polar Flow app:

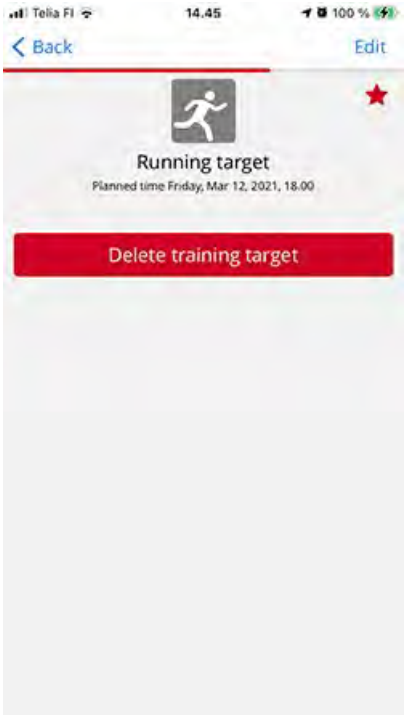
1. Go to **Training**, and click on top of the page.
2. Then choose the type of your training target from the following:

Favorite target

1. Choose **Favorite target**.
2. Choose one the existing favorite training targets or **Add new** favorite target.
3. Tap the icon next to the existing target to add it to your Diary.
4. The training target you chose is added to your training calendar for today. Open the training target from the diary to edit the time for the training target.
5. If you choose Add new you can create a new favorite **Quick target**, **Phased target**, **Strava Live Segment** or **Komoot route**.

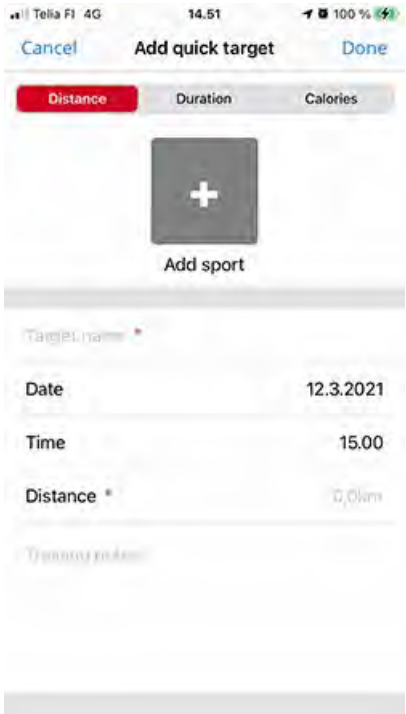
Komoot route is available only in Grit X, Grit X Pro, Pacer Pro and Vantage V2. Strava Live Segment is available in Grit X, Grit X Pro, M460, Pacer, Pacer Pro, V650, V800, Vantage V and Vantage V2.

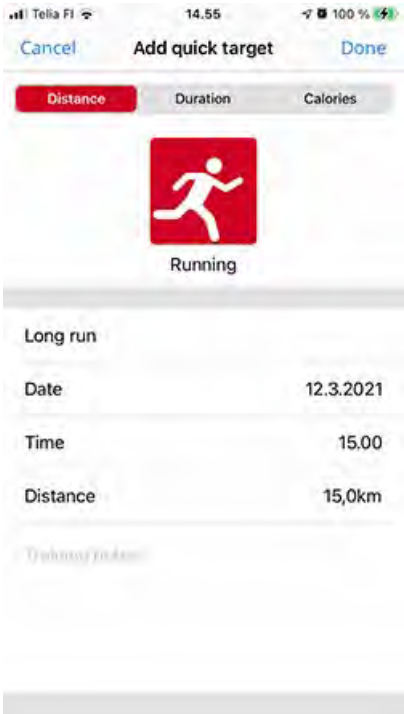




Quick target

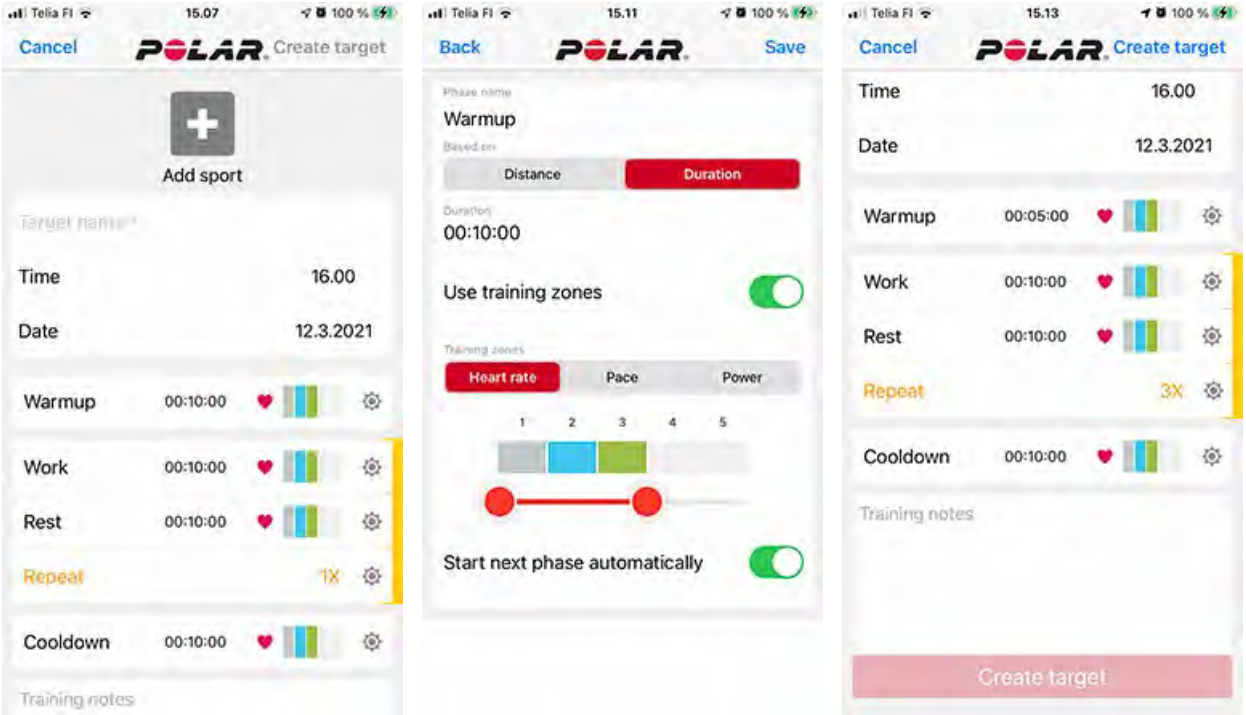
1. Choose **Quick target**.
2. Choose if the quick target is based on distance, duration or calories.
3. Add sport.
4. Give a name to the target.
5. Set the target distance, duration or amount of calories.
6. Tap **Done** to add the target to your Training diary





Phased target

1. Choose **Phased target**.
2. Add sport.
3. Give a name to the target.
4. Set the Time and Date for the target.
5. Tap the icon next to phase to edit phase settings.
6. Tap **Create target** to add the target to your Training diary.



Sync your watch with Flow app to move the training targets to your watch.

FAVORITES

In **Favorites**, you can store and manage your favorite training targets in the Flow web service and the Flow mobile app. You can use your favorites as scheduled targets on your watch. For more information, see Plan your training in the Flow web service.

The number of favorites in the Flow web service is not limited. If you have over 100 favorites in the Flow web service, the first 100 in the list are transferred to your watch when syncing. You can change the order of your favorites by dragging and dropping them. Choose the favorite you want to move and drag it into the place you want to put it in the list.

ADD A TRAINING TARGET TO FAVORITES:

1. Create a training target.
2. Click the favorites icon ☆ on the lower right corner of the page.
3. The target is added to your favorites.

or

1. Open an existing target you've created from your **Diary**.
2. Click the favorites icon ☆ on the lower right corner of the page.
3. The target is added to your favorites.

EDIT A FAVORITE

1. Click the favorites icon ☆ on the upper right corner next to your name. All your favorite training targets are shown.
2. Click the favorite you want to edit, then click **Edit**.
3. You can change the sport, the target name and add notes, as well as alter the training details of the target. For more information, see the chapter on planning your training. After you've done all the needed changes, click **Update changes**.

REMOVE A FAVORITE

1. Click the favorites icon ☆ on the upper right corner next to your name. All your favorite training targets are shown.
2. Click the delete icon in upper right corner of the training target to remove it from the favorites list.

SYNCING

You can transfer data from your watch to the Polar Flow app wirelessly via Bluetooth connection. Or, you can sync your watch with the Polar Flow web service by using a USB port and the FlowSync software. To be able to sync data between your watch and the Flow app you need to have a Polar account. If you want to sync data from your watch directly to the web service, in addition to a Polar account, you need the FlowSync software. If you've set up your watch, you have created a Polar account. If you set up your watch using a computer, you have the FlowSync software on your computer.

Remember to sync and keep your data up-to-date between your watch, the web service and the mobile app wherever you are.

SYNC WITH FLOW MOBILE APP

Before syncing make sure:

- You have a Polar account and Flow app.
- Your mobile device has Bluetooth turned on, and airplane mode/flight mode is not turned on.
- You have paired your watch with your mobile. For more information, see Pairing.

Sync your data:

1. Sign in to the Flow app, and press and hold the BACK button on your watch.
2. **Connecting to phone** is displayed, followed by **Connecting to Polar Flow app**.
3. **Syncing completed** is displayed when you are done.

> Your watch automatically syncs with the Polar Flow app once an hour if your phone is within the Bluetooth range. The automatic sync is done also when you finish a training session or change the settings on your watch. When your watch syncs with the Flow app, your activity and training data are also synced automatically via an internet connection to the Flow web service.

For support and more information about using the Polar Flow app, go to support.polar.com/en/support/Flow_app.

SYNC WITH FLOW WEB SERVICE VIA FLOWSYNC

> We recommend syncing with Flow app as we're gradually sunsetting FlowSync. FlowSync doesn't support all the features on your watch, which means that some of the data won't be synced. These include routes, favorites, targets, skin temperature, wrist ECG and SpO2 (blood oxygen level). If you continue with FlowSync anyways, you can sync the missing data with Flow app later.

To sync data with the Flow web service you need the FlowSync software. Go to flow.polar.com/start, and download and install it before trying to sync.

1. Plug your watch to your computer. Make sure FlowSync software is running.
2. The FlowSync window opens on your computer, and the syncing starts.
3. Completed is displayed when you are done.

Every time you plug in your watch to your computer, the Polar FlowSync software will transfer your data to the Polar Flow web service and sync any settings you may have changed. If the syncing does not automatically start, start FlowSync from the desktop icon (Windows) or from the applications folder (Mac OS X). Every time a firmware update is available, FlowSync will notify you, and request you to install it.

If you change settings in the Flow web service while your watch is plugged into your computer, press the synchronize button on FlowSync to transfer to the settings to your watch.

For support and more information about using the Flow web service, go to support.polar.com/en/support/flow.

For support and more information about using FlowSync software, go to support.polar.com/en/support/FlowSync.

IMPORTANT INFORMATION

BATTERY

Your watch has an internal, rechargeable battery. Rechargeable batteries have a limited lifespan, which depends on several factors, including battery technology, operating temperatures, charging habits, and how the watch is used and cared for. You can maximize the battery lifespan by keeping your watch in good condition and charging and storing it according to the instructions below.

- Keep the charging contacts of your watch clean to effectively protect your watch from oxidation and other possible damage caused by dirt and salt water (e.g. sweat or sea water). The best way to keep the charging contacts clean is to rinse the watch after each training session with lukewarm tap water. The watch is water resistant and you can rinse it under running water without damaging the electronic components.
- Before charging, make sure there's no moisture, dust or dirt on the charging contacts of your watch and cable. Gently wipe off any dirt or moisture.
- Do not charge the watch in temperatures under 0 °C/ +32 °F or over +40 °C/ +104 °F.
- Do not charge the watch near flammable materials or on flammable surfaces.
- Do not charge the watch when it's wet.
- Do not leave the watch in extreme cold (below –10 °C/14 °F) and heat (above 50 °C/120 °F) or under direct sunlight.
- Avoid discharging the battery completely before recharging and charging the battery full every time. Keeping the battery charge between 10-90% puts less strain on the battery, helps the battery maintain optimal performance, and extends the battery's life.
- Do not leave the battery fully discharged for a long period of time or keep it fully charged all the time.
- Store the watch partially charged in a cool and dry place. If you won't be using your watch for a while, charge it to around 50 percent before storing it. Also, turn off the watch from **Settings** > **General settings** > **About your watch**. The battery slowly loses its charge when it is stored. If you are going to store the watch for several months, it is recommended to recharge it after a few months.

Over time, rechargeable batteries gradually wear out, and their capacity decreases. The average lifespan of rechargeable lithium-ion batteries used in phones and sports watches, including Polar watches, is about 2-3 years. The battery will have approximately 80% of its original capacity left at this stage, and the percentage continues to decrease with time and use. The actual battery lifespan varies depending on use and operating conditions.

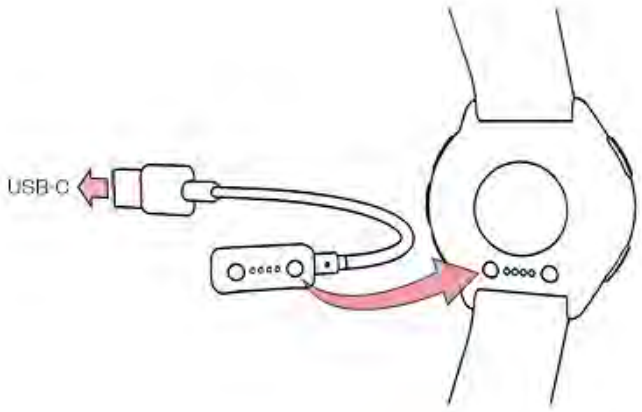
At the end of the working life of the product Polar encourages you to minimize possible effects of waste on the environment and human health by following local waste disposal regulations and, where possible, utilizing separate collection of electronic devices. Do not dispose of this product as unsorted municipal waste.

CHARGING THE BATTERY

Use the USB cable included in the product set to charge the battery via the USB port on your computer.

You can charge the battery via a wall outlet. When charging via a wall outlet, use a USB power adapter (not included in the product set). If you use a USB power adapter, make sure that the adapter is marked with "output 5Vdc" and that it provides a minimum of 500mA. Only use an adequately safety approved USB power adapter (marked with "LPS", "Limited Power Supply", "UL listed" or "CE").

1. To charge your watch, plug it into a powered USB port or a USB charger with the custom cable that came in the box. The cable magnetically snaps into place.



2. **Charging** appears on the display.

> Please note that if the battery is completely empty, it may take several minutes for the charging animation to appear on the display.

3. When the battery icon is full, the watch is fully charged.

CHARGING DURING TRAINING

Do not attempt to charge your watch during a training session with a portable charger such as a power bank. If you plug your watch into a power source during a training session the battery is not charged. When connected to the charging cable during training sweat and moisture can cause corrosion and damage the charging cable and watch. Also, if you start a training session while charging the watch, charging is stopped.

BATTERY OPERATING TIME

The battery operating time is:

- **In basic mode:** up to 5 days of activity tracking with Continuous heart rate tracking and phone notifications turned on. If always on display is turned on, the battery operating time is up to 2 days.
- **In training mode:** up to 30 hours continuous training with single-frequency GPS (power save) and optical heart rate. Up to 21 hours continuous training with dual-frequency GPS (better accuracy) and optical heart rate.
- **In power save mode:** the power save options bring you up to 100 hours in training mode.

> Keeping the Always on Display on in your watch will drain the battery quicker.

The operating time depends on many factors, such as the temperature of the environment in which you use your watch, the features you use, how often the backlight is turned on and battery aging. Frequent syncing with Flow app will also decrease the battery life. The operating time is significantly reduced in temperatures well below freezing. Wearing the watch under your overcoat helps to keep it warmer and to increase the operating time.

BATTERY STATUS AND NOTIFICATIONS

Battery status icon

The battery status icon is shown when you turn your wrist to look at the watch or return to time view from the menu. The battery status icon shows how much charge is left on the battery as a percentage.

Battery notifications

- When the battery charge is low, **Battery low. Charge** is shown in time mode. It is recommended to charge the watch.
- **Charge before training** is shown if the charge is too low for recording a training session.

Low battery notifications during training:

- **Battery low** is shown when the battery charge is getting low. The notification is repeated if the charge gets too low for measuring heart rate and GPS data and the heart rate measurement and GPS are switched off.
- When the battery is critically low, **Recording ended** is shown. Your watch stops the training recording and saves the training data.

When the display is blank, the battery is empty and your watch has gone to sleep mode. Charge your watch. If the battery is totally drained, it may take a while for the charging animation to appear on the display.

CARING FOR YOUR WATCH

Like any electronic device, your Polar watch should be kept clean and treated with care. The instructions below will help you fulfill the guarantee obligations, keep the device in peak condition and avoid any issues in charging or syncing.

KEEP YOUR WATCH CLEAN

Wash the watch under running water with a mild soap and water solution after each training session. Wipe it dry with a soft towel.

Keep the charging contacts of your watch and cable clean to ensure smooth charging and syncing.

Before charging, please make sure there’s no moisture, dust or dirt on the charging contacts of your watch and cable. Gently wipe off any dirt or moisture. **Do not charge the watch when it's wet or sweaty**.

Keep the charging contacts of your watch clean to effectively protect your watch from oxidation and other possible damage caused by dirt and salt water (e.g. sweat or sea water). The best way to keep the charging contacts clean is to rinse the watch after each training session with lukewarm tap water. The watch is water resistant and you can rinse it under running water without damaging the electronic components.

Take good care of the optical heart rate sensor

Keep the optical sensor area on the back cover scratch-free. Scratches and dirt will reduce the performance of the wrist-based heart rate measurement.

Avoid using perfume, lotion, suntan/sunscreen or insect repellent on the area where you wear your watch. If the watch comes into contact with these or any other chemicals, wash it with a mild soap and water solution and rinse well under running water.

STORING

Keep your training device in a cool and dry place. Do not keep it in a damp environment, in non-breathable material (a plastic bag or a sports bag) nor with conductive material (a wet towel). Do not expose the training device to direct

sunlight for extended periods, such as by leaving it in a car or mounted on the bike mount. If you won't be using your watch for a while, store it partially charged. The battery slowly loses its charge when it is stored. If you are going to store the watch for several months, it is recommended to recharge it after a few months. This will prolong the battery lifetime.

Do not leave the device in extreme cold (below –10 °C/14 °F) and heat (above 50 °C/120 °F) or under direct sunlight.

SERVICE

During the two-year guarantee/warranty period we recommend that you have service done by an authorized Polar Service Center only. The warranty does not cover damage or consequential damage caused by service not authorized by Polar Electro. For further information, see Limited International Polar Guarantee.

For contact information and all Polar Service Center addresses, visit support.polar.com and country-specific websites.

PRECAUTIONS

Polar products (training devices, activity trackers and accessories) are designed to indicate the level of physiological strain and recovery during and after exercise session. The Polar training devices and activity trackers measure heart rate and/or tell your activity. The Polar training devices with an integrated GPS show speed, distance and location. See www.polar.com/en/products/accessories for a complete list of compatible accessories. The Polar training devices with a barometric pressure sensor measure altitude and other variables. No other use is intended or implied. The Polar training device should not be used for obtaining environmental measurements that require professional or industrial precision.

INTERFERENCE DURING TRAINING

Electromagnetic Interference and Training Equipment

Disturbance may occur near electrical devices. Also WLAN base stations may cause interference when training with the training device. To avoid erratic reading or misbehavior, move away from possible sources of disturbance.

Training equipment with electronic or electrical components such as LED displays, motors and electrical brakes may cause interfering stray signals. To solve these problems, try the following:

1. Remove the heart rate sensor strap from your chest and use the training equipment as you would normally.
2. Move the training device around until you find an area in which it displays no stray reading or does not flash the heart symbol. Interference is often worst directly in front of the display panel of the equipment, while the left or right side of the display is relatively free of disturbance.
3. Put the heart rate sensor strap back on your chest and keep the training device in this interference-free area as much as possible.

If the training device still does not work with the training equipment, it may be electrically too noisy for wireless heart rate measurement.

HEALTH AND TRAINING

Training may include some risk. Before beginning a regular training program, it is recommended that you answer the following questions concerning your health status. If you answer yes to any of these questions, we recommend that you consult a doctor before starting any training program.

- Have you been physically inactive for the past 5 years?
- Do you have high blood pressure or high blood cholesterol?
- Are you taking any blood pressure or heart medication?
- Do you have a history of breathing problems?
- Do you have symptoms of any disease?
- Are you recovering from a serious illness or medical treatment?
- Do you use a pacemaker or other implanted electronic device?

- Do you smoke?
- Are you pregnant?

Note that in addition to training intensity, medications for heart conditions, blood pressure, psychological conditions, asthma, breathing, etc., as well as some energy drinks, alcohol, and nicotine may also affect heart rate.

It is important to be sensitive to your body's responses during training. **If you feel unexpected pain or excessive fatigue when training, it is recommended that you stop the training or continue at a lighter intensity.**

Note! If you are using a pacemaker or other implanted electronic device, you can use Polar products. In theory interference to pacemaker caused by Polar products should not be possible. In practice no reports exist to suggest anyone ever having experienced interference. We cannot however issue an official guarantee on our products' suitability with all pacemakers or other implanted devices due to the variety of devices available. If you have any doubts, or if you experience any unusual sensations while using Polar products, please consult your physician or contact the implanted electronic device manufacturer to determine safety in your case.

If you are allergic to any substance that comes into contact with your skin or if you suspect an allergic reaction due to using the product, check the listed materials in Technical Specifications. If you experience any skin reaction, stop using the product and consult your physician. Also inform Polar Customer Care about your skin reaction. To avoid any skin reaction to the heart rate sensor, wear it over a shirt, but moisten the shirt well under the electrodes to ensure flawless operation.

The combined impact of moisture and intense abrasion may cause color to come off the heart rate sensor's or wristband's surface, possibly staining light-colored clothes. It may also cause a darker color to come off clothing, possibly staining lighter-colored training devices. To keep a light-colored training device glowing for years to come, please make sure the clothing you wear while training does not bleed color. If you use perfume, lotion, suntan/sunscreen or insect repellent on your skin, you must ensure that it does not come into contact with the training device or the heart rate sensor. If you train in cold conditions (-20 °C to -10 °C / -4 °F to 14 °F) we recommend that you wear the training device under the sleeve of your jacket, directly on your skin.

WARNING - KEEP BATTERIES OUT OF REACH OF CHILDREN

Polar heart rate sensors (for example H10 and H9) contain a button cell battery. If the button cell battery is swallowed, it can cause severe internal burns in as little as 2 hours and can lead to death. **Keep new and used batteries away from children.** If the battery compartment does not close securely, stop using the product and keep it away from children. **If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.**

Your safety is important to us. The shape of the Polar stride sensor Bluetooth® Smart is designed to minimize the possibility of if getting caught in something. In any case, be careful when running with the stride sensor in brushwood, for example.

HOW TO USE YOUR POLAR PRODUCT SECURELY

Polar offers a minimum of five years of product support service to its customers from the sales start of the product. Product support service includes necessary firmware updates to Polar devices and fixes for critical vulnerability as required. Polar constantly monitors the releases of known vulnerabilities. Please update your Polar product regularly, and as soon as the Polar Flow mobile application or Polar FlowSync computer software informs you about the availability of a new firmware version.

Training session data and other data saved on your Polar device include sensitive information about you such as your name, physical information, overall health and location. Location data can be used to track you when you are out training and to find out what your usual routes are. For these reasons use extra caution when storing your device when not using it.

If you use phone notifications on your wrist device, be aware that messages from certain applications will be projected on the wrist device display. Your latest messages can also be viewed from the device menu. To ensure the confidentiality of your private messages, refrain from using the phone notifications feature.

Before handing the device over to a third party for testing or before selling it, it is necessary to perform a factory reset on the device, and to remove the device from your Polar Flow account. A factory reset can be performed with the FlowSync software on your computer. A factory reset will clear the device memory, and the device cannot be linked to your data anymore. To remove the device from your Polar Flow account, sign into the Polar Flow web service, choose products and click the “Remove” button next to the product you wish to remove.

The same training sessions are also stored on your mobile device with the Polar Flow application. For extra security, various security enhancing options can be enabled on your mobile device such as strong authentication and device encryption. Consult the user manual of your mobile device for instructions on enabling these options.

When using the Polar Flow web service, we recommend using a password that is no less than 12 characters in length. If using the Polar Flow web service on a public computer, please remember to clear the cache and browsing history in order to prevent others from accessing your account. In addition, do not allow a computer’s browser to store or remember your password for the Polar Flow web service if it is not your private computer.

Any security issues can be reported to security(a)polar.com or to Polar Customer Care.

TECHNICAL SPECIFICATION

POLAR VANTAGE V3

Model: 5P

Battery type:

488 mAh Li-pol rechargeable battery

Operating time:

In basic mode: up to 8 days in watch mode with Continuous heart rate tracking and phone notifications turned on. If always on display is turned on, the battery operating time is up to X days.

In training mode: Up to 53 hours continuous training with single-frequency GPS (power save) and optical heart rate. Up to 42 hours continuous training with dual-frequency GPS (better accuracy) and optical heart rate.

In power save mode: The power save options bring you even up to 140 hours in training mode.

Keeping the Always on Display on in your watch will drain the battery quicker.

Operating temperature:

-20 °C to +50 °C / -4 °F to 122 °F

Watch materials:

Device: Corning Gorilla Glass 3 (AF + DLC coating), Aluminum, PBT, Silicone, Stainless steel, PMMA, PA12+30GF, Sapphire OHR Lens

Wristband: Silicon

Buckle: Aluminum

Pin: Stainless steel

Accessory wristband materials:

See Polar Accessories.

USB cable materials:

PA, N52 NdFeB (zinc plated), Brass 6801 (gold plated), TPE, Velcro, PBT, Brass

GPS accuracy:

Distance ±2%

Average route accuracy: 5m (dual-frequency GPS)

These are values that are achieved in open area satellite conditions when there are no apartment buildings or trees blocking the satellite view. In urban or forest areas these values are achievable but may sometimes vary.

GPS recording rate

1 second (can be changed to 1 minute or 2 minutes in power save settings)

Altitude resolution:

1 m

Ascent/Descent resolution:

5 m

Maximum altitude:

9000 m / 29525 ft

Heart rate measuring range:

15-240 bpm

Current speed display range:

0-399 km/h 247.9 mph

Water resistance:

50 m (suitable for swimming)

Display

AMOLED 1.39" 454x454

Uses wireless Bluetooth® technology.

The radio equipment operates 2.402 - 2.480 GHz ISM frequency band(s) and 5 mW maximum power.

The Polar Precision Prime optical heart rate sensor fusion technology uses a very small, safe amount of electric current on the skin to measure the contact of the device to your wrist to enhance accuracy.

POLAR FLOWSYNC SOFTWARE

To use FlowSync software you need a computer with Microsoft Windows or Mac operating system with an internet connection and a free USB port.

Check the latest compatibility information from support.polar.com.

POLAR FLOW MOBILE APPLICATION COMPATIBILITY

Check the latest compatibility information from support.polar.com.

WATER RESISTANCE OF POLAR PRODUCTS

Most Polar products can be worn when swimming. They are not, however, diving instruments. To maintain water resistance, do not press the buttons of the device under water.

Polar devices with wrist-based heart rate measurement are suitable for swimming and bathing. They will collect your activity data from your wrist movements also when swimming. In our tests, however, we found that the wrist-based heart rate measurement doesn't work optimally in water, so we cannot recommend wrist-based heart rate measurement for swimming.

In the watch industry, water resistance is generally indicated as meters, which means the static water pressure of that depth. Polar uses this same indication system. Water resistance of Polar products is tested according to International Standard **ISO 22810** or **IEC60529**. Every Polar device that has water resistance indication is tested before the delivery to stand water pressure.

Polar products are divided into four different categories according to their water resistance. Check the back of your Polar product for the water resistance category, and compare it to the chart below. Please note that these definitions do not necessarily apply to products of other manufacturers.

When performing any underwater activity, the dynamic pressure generated by moving in water is greater than the static pressure. This means that moving the product under water subjects it to a greater pressure than if the product were stationary.

Marking on the back of the product	Wash splashes, sweat, rain-drops etc.	Bathing and swimming	Skin diving with snorkel (no air tanks)	SCUBA diving (with air tanks)	Water resistant char-acteristics
Water resistant IPX7	OK	-	-	-	Do not wash with a pressure washer. Protected against splashes, raindrops etc. Reference standard: IEC60529.
Water resistant IPX8	OK	OK	-	-	Minimum for bathing and swimming. Reference standard: IEC60529.
Water resistant Water resistant 20/30/50 meters Suitable for swim-ming	OK	OK	-	-	Minimum for bathing and swimming. Reference standard: ISO22810.
Water resistant 100 meters	OK	OK	OK	-	For frequent use in water but not SCUBA diving. Reference standard: ISO22810.

REGULATORY INFORMATION

This product is compliant with Directives 2014/53/EU, 2011/65/EU and 2015/863/EU. The relevant Declaration of Conformity and other regulatory information for each product are available at www.polar.com/en/regulatory_information.

This crossed out wheeled bin marking shows that Polar products are electronic devices and are in the scope of Directive 2012/19/EU of the European Parliament and of the Council on waste electrical and electronic equipment (WEEE) and batteries and accumulators used in products are in the scope of Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on batteries and accumulators and waste batteries and accumulators. These products and batteries/accumulators inside Polar products should thus be disposed of separately in EU countries. Polar encourages you to minimize possible effects of waste on the environment and human health also outside the European Union by following local waste disposal regulations and, where possible, utilize separate collection of electronic devices for products, and battery and accumulator collection for batteries and accumulators.

To see the Polar Vantage V3-specific regulatory labels, go to **Settings** > **General settings** > **About your watch**.

LIMITED INTERNATIONAL POLAR GUARANTEE

- Polar Electro Oy issues a limited international guarantee for Polar products. For products which have been sold in the USA or Canada, guarantee is issued by Polar Electro, Inc.
- Polar Electro Oy/Polar Electro Inc. guarantees the original consumer/purchaser of the Polar product that the product will be free from defects in material or workmanship for two (2) years from the date of purchase, with the exception of wristbands made of silicone or plastic, which are subject to a guarantee period of one (1) year from the date of purchase.
- The guarantee does not cover normal wear and tear of the battery, or other normal wear and tear, damage due to misuse, abuse, accidents or non-compliance with the precautions; improper maintenance, commercial use, cracked, broken or scratched cases/displays, textile armband or textile or leather wristband, elastic strap (e.g. heart rate sensor chest strap) and Polar apparel.
- The guarantee does also not cover any damage/s, losses, costs or expenses, direct, indirect or incidental, consequential or special, arising out of, or related to the product.
- Guarantee does not cover products which have been purchased second hand.
- During the guarantee period, the product will be either repaired or replaced at any authorized Polar Central Service regardless of the country of purchase.
- Guarantee issued by Polar Electro Oy/Inc. does not affect the consumer's statutory rights under applicable national or state laws in force, or the consumer's rights against the dealer arising from their sales/purchase contract.
- You should keep the receipt as a proof of purchase!
- Guarantee with respect to any product will be limited to countries where the product has been initially marketed by Polar Electro Oy/Inc.

Manufactured by Polar Electro Oy, Professorintie 5, 90440 KEMPELE, Finland www.polar.com.

Polar Electro Oy is a ISO 9001:2015 certified company.

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1.0 EN 10/2023