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LISTENS TO YOUR BODY



POLAR
RCX5

User Manual

CONTENTS

1. INTRODUCTION	5
2. TRAINING COMPUTER PARTS	6
Polar RCX5 Training Computer Parts	6
Optional Accessories	7
3. GETTING STARTED	8
Basic Settings	8
Button Functions and Menu Structure	8
Button Functions	8
Menu Structure	8
4. PREPARE FOR TRAINING	10
Plan Your Training	10
Sport Profiles	10
Polar Endurance Training Program	10
Calibrate the Polar s3+ Stride Sensor	10
Calibration by Running Wizard	11
Set Calibration Factor Manually	11
Calibrate Sensor by Running a Known Distance (on-the-fly calibration)	11
5. TRAINING	13
Wear the Heart Rate Sensor	13
Start Training	13
Train With Polar ZoneOptimizer	14
Start Training Session with Polar ZoneOptimizer	14
Use Polar Endurance Training Program	16
Use RCX5 in Multisport Training	16
Train With Race Pace	16
Button Functions During Training	16
Record a Lap	17
Lock a Zone	17
Zoom the Training View Display	17
HeartTouch	17
Night Mode	18
View Quick Menu	18
Pause Training	18
Customize the Training Views	18
Reminder	20
Pause/ Stop Training Recording	20
6. AFTER TRAINING	22
Analyze Training Results	22
Single Sport Training Files	22
Multisport Training File	24
Week Summaries	24
Totals Since xx.xx.xxxx	25
Delete Files	25
Reset Week Summaries	25
Reset Trip	25
Reset Totals	25
7. DATA TRANSFER	26
Transfer Data	26
8. SETTINGS	27

Sport Profile Settings	27
Running Settings	27
Cycling Settings	28
Swimming Settings	29
Other Sport Settings	30
Heart Rate Settings	30
User Information Settings	31
Maximum Heart Rate (HRmax)	33
OwnIndex®	33
General Settings	33
Watch Settings	34
Connection Settings	35
Quick menu	35
Time Mode	35
Pre-training mode	35
Training Mode	35
9. APPLICATIONS	37
Polar Fitness Test	37
Before the Test	37
Performing the Test	37
After the Test	38
Polar Race Pace	39
10. USING A NEW HEART RATE SENSOR	41
Using a New Heart Rate Sensor	41
Pairing a New Heart Rate Sensor With Training Computer	41
11. USING A NEW ACCESSORY	42
Pairing a New Speed Sensor With Training Computer	42
Pairing a New Cadence Sensor With Training Computer	42
Pairing a New GPS Sensor With Training Computer	42
Pairing a New Stride Sensor With Training Computer	43
12. BACKGROUND INFORMATION	44
Polar Sport Zones	44
Heart Rate Variability	45
Polar ZoneOptimizer	45
Maximum Heart Rate	47
Running Cadence and Stride Length	47
Polar Running Index	48
Polar Training Load Feature	50
Polar Endurance Training Program for Running and Cycling	51
Polar Training Articles	51
13. IMPORTANT INFORMATION	52
Caring for Your Product	52
Service	52
Changing Batteries	52
Change Batteries Yourself	53
Power Save Mode	54
Battery Lifetime in RCX5	54
Precautions	55
Interference During Training	55
Minimizing Risks When Training	55
Technical Specifications	56
Frequently Asked Questions	58
Limited International Polar Guarantee	59
Disclaimer	60

INDEX 62

1. INTRODUCTION

Congratulations on your purchase of a new Polar RCX5™ training computer! It is a complete training system for multisport and endurance athletes, and supports your training from planning through training to analyzing.



This user manual includes complete instructions, helping you to get the most out of your training computer.

The latest version of this user manual can be downloaded at www.polar.com/support [<http://www.polar.com/support>]. For video tutorials, go to http://www.polar.com/en/support/video_tutorials.

- **Polar ZoneOptimizer feature** personalizes your heart rate zones during the warm-up. The ZoneOptimizer feature measures your heart rate variability and determines your personal sport zones.
- **Polar Endurance programs for running and cycling** are personalized training programs for your personal fitness level. Training program guides you to train in the correct way by defining the training volume, training intensity and training placement on weekdays for optimal fitness improvement. The training program works together with the Polar ZoneOptimizer feature, and the training program sessions are modified according to your personalized sport zones.
- The RCX5 training computer has four default **Sport profiles** for you to choose from. You can also create your own sport profiles in WebSync software and download them onto your training computer using DataLink data transfer unit. It is easy to switch sport profiles during training, no need to stop, do it on-the-fly.
- **Cumulative training load graph** is available in polarpersonaltrainer.com. Transfer training results from your training computer to polarpersonaltrainer.com and follow your training load and recovery in the training diary. Continuous monitoring of training load and recovery will help you recognize personal limits, avoid over- or under training, and adjust training intensity and duration according to your daily and weekly targets.
- **Polar WearLink®+ Hybrid / Polar H2 heart rate sensor** also works in water activities.
- **Race Pace** feature helps you to keep a steady pace, and achieve your target time for a set distance.

2. TRAINING COMPUTER PARTS

Polar RCX5 Training Computer Parts



Polar RCX5 training computer provides you with data you need to enhance your training performance, and also saves the data for later analysis.



Comfortable **Polar WearLink®+ Hybrid / Polar H2 heart rate sensor** sends ECG-accurate heart rate signal to the training computer over the 2.4 GHz W.I.N.D. and the GymLink (in water activities) technology, both proprietary to Polar. The heart rate sensor consists of a connector and a strap.



Transfer data between the training computer and the [polarpersonaltrainer.com](http://www.polarpersonaltrainer.com) [<http://www.polarpersonaltrainer.com>] web service with **Polar DataLink** data transfer unit and WebSync software. DataLink plugs into a USB port on your computer, and it detects your training computer with wireless W.I.N.D. technology.

i Heart rate sensors with Polar specific GymLink technology, e.g. Polar H1 and H2, can be used with compatible gym equipment.

With [polarpersonaltrainer.com](http://www.polarpersonaltrainer.com) [<http://www.polarpersonaltrainer.com>] **web service** you can:

- create and download the Polar Endurance training programs onto to your training computer and utilize them in your training.
- store your training files for a long-term follow-up.
- analyze and follow your progress in the training diary.
- analyze training intensity and needed recovery time using the training load feature.
- challenge your friends to a virtual sports competition and interact with other sports enthusiasts.

i The username for your Polar Account is always your email address. The same username and password are valid for Polar product registration, [polarpersonaltrainer.com](http://www.polarpersonaltrainer.com), Polar discussion forum and Newsletter registration.

With **Polar WebSync 2.4 Software** (or newer), you can:

- fine-tune your training computer settings
- personalize your RCX5 training computer display for example with your own logo
- modify training views
- set a reminder that reminds you to drink, eat or take other important actions during training
- set the Power Save mode on/off

i The WebSync software can be downloaded at www.polarpersonaltrainer.com.

Register your Polar product at <http://register.polar.fi/> to ensure we can keep improving our products and services to better meet your needs.

Optional Accessories



Optional **Polar s3+ stride sensor** wirelessly measures speed/pace, distance, running cadence and stride length.



Optional **Polar G5 GPS sensor / Polar G3 GPS sensor W.I.N.D.** transmits speed/pace, distance and location data, as well as track information to RCX5, which records and displays the data for later analysis.



Optional **Polar CS cadence sensor W.I.N.D.** wirelessly measures cycling cadence, i.e. your real-time and average pedaling rate as revolutions per minute.



Optional **Polar CS speed sensor W.I.N.D.** wirelessly measures cycling distance and your real-time, average and maximum speeds.

Data from all compatible sensors is sent wirelessly to the training computer over the 2.4GHz W.I.N.D. technology, proprietary to Polar. This eliminates interference during training. During swimming the data is sent from the Polar WearLink®+ Hybrid / Polar H2 heart rate sensor to the training computer over the GymLink technology, proprietary to Polar.

3. GETTING STARTED

Basic Settings

Before using your training computer for the first time, customize the basic settings. Enter as accurate data as possible to ensure correct feedback based on your performance.

Activate your training computer, by pressing OK. **Select language** is displayed. You can select from **Deutsch, English, Español, Français, Italiano, Português, Suomi** or **Svenska** and accept with OK. **Please enter basic settings** is displayed. Press OK and adjust the following data:

1. **Time:** Select **12h** or **24h**. With **12h**, select **AM** or **PM**. Enter the local time.
2. **Date:** Enter current date.
3. **Units:** Select metric (**kg/cm**) or imperial (**lb/ft**) units.
4. **Weight:** Enter your weight.
5. **Height:** Enter your height. In LB/FT format, first enter feet then inches.
6. **Date of birth:** Enter your date of birth.
7. **Sex:** Select **Male** or **Female**.
8. **Settings OK?** is displayed. To change your settings, press BACK until you return to the desired setting. To accept the settings, press OK and the training computer goes to the time mode.

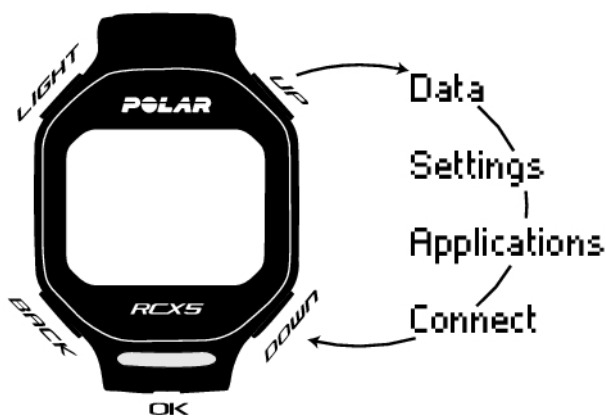
Button Functions and Menu Structure

Button Functions

The training computer has five buttons that have different functionalities depending on the situation of use.

LIGHT	BACK	OK	UP	DOWN
<ul style="list-style-type: none"> • Illuminate the display • With a long press you can enter QUICK MENU to edit different settings in different modes. For more information, see Quick menu (page 35). 	<ul style="list-style-type: none"> • Pause training recording by pressing BACK once • Stop training recording by pressing BACK twice • Exit the menu • Return to previous level • Leave settings unchanged • Cancel selections • With a long press, return to time mode from any mode 	<ul style="list-style-type: none"> • Confirm selections • Start a training session • Take a lap • With a long press, lock your heart rate to the current sport zone in Training mode when training without preset target zones 	<ul style="list-style-type: none"> • Move through selection lists • Adjust a selected value • Change the watch face with long press • With a long press, zoom the upmost row information in Training mode 	<ul style="list-style-type: none"> • Move through selection lists • Adjust a selected value • Switch between Time 1 and Time 2 with a long press in time mode • With a long press, zoom lowest row information in Training mode

Menu Structure



Program

Program will appear in the menu only if you have created and downloaded an Endurance program from polarpersonaltrainer.com. For more information, see Polar Endurance Training Program for Running and Cycling (page 51)

Data

Follow up on your training data. For more information, see After Training (page 22).

Settings

Personalize your training computer and select the necessary features for each of the sport profiles to suit your training. For more information, see Settings (page 27).

Applications

- **Fitness Test**

To train right and to monitor your progress, it is important to know your current fitness level. The Polar Fitness Test is an easy and quick way to measure your cardiovascular fitness and aerobic capacity. The test is performed at rest. The test result is a value called OwnIndex. OwnIndex is comparable to maximal oxygen uptake ($VO_{2\max}$), which is a commonly used aerobic capacity measure. For more information, see Polar Fitness Test (page 37).

- **Race Pace**

You can define a target time for a set distance, for example, to run 10 kilometers in 45 minutes. During training recording this target pace/speed is compared with training information. For more information, see Polar Race Pace (page 39).

Connect

For a long-term follow-up, store all your training files in polarpersonaltrainer.com web service. There you can view information of your training data and get a better understanding of your training. Polar DataLink data transfer unit and WebSync software make it easy to transfer training files to the web service. For more information, see Data Transfer (page 26)

4. PREPARE FOR TRAINING

Plan Your Training

You can utilize the ready-made Polar Endurance Program for running or cycling, or create your own phased training sessions in polarpersonaltrainer.com. Transfer them to the training computer by using the DataLink and WebSync software. For more information, see polarpersonaltrainer.com Help.

Sport Profiles

The default sport profiles in the training computer are: Running, Cycling, Swimming and Other sport. To set up the optional* sensors for each sport profile go to **MENU > Settings > Sport profiles**.

1. To start training press OK.
2. Select the sport profile with UP/DOWN and press OK to start the training session recording.



If you want to modify the sport profile settings without stopping the recording, press BACK once to enter pre-training mode and then press and hold LIGHT to enter QUICK MENU. For more information, see Quick menu (page 35).

*Optional sensors include the Polar s3+ stride sensor, Polar G5 GPS sensor / Polar G3 GPS sensor W.I.N.D., Polar CS speed sensor W.I.N.D. and Polar CS cadence sensor W.I.N.D.

Create New Sport Profiles

You can create new sport profiles in WebSync software, and download them to your training computer. For more information on creating new sport profiles, see WebSync Help.

Polar Endurance Training Program

Polar Endurance training programs for running and cycling are available for you to create and download in polarpersonaltrainer.com.

You will get a personalized training program for your fitness level. The fitness level will either be calculated from your previous training history in polarpersonaltrainer.com or you will be asked to fill in a short questionnaire which will help to define your current fitness level.

Endurance training program guides you to train in the correct and effective way, and it defines the training volume, training intensity and training schedule for optimal fitness improvement. Each training session will consist of warm-up, work and cool down phases.

The training program works together with the Polar ZoneOptimizer feature, which means that the training program sessions are modified according to your personalized sport zones. For more information, see Polar ZoneOptimizer (page 45)


For more information on Endurance programs, see polarpersonaltrainer.com Help.

Calibrate the Polar s3+ Stride Sensor

Calibration of the stride sensor improves the accuracy of speed, pace and distance measurements. It is recommended that you calibrate the stride sensor before using it for the first time, if there are significant changes in your running style, or if the position of the stride sensor on the shoe is dramatically changed (e.g. if you have new shoes or if you switch the sensor from your right shoe to your left one). You can calibrate the stride sensor by running a known accurate distance, or by setting the calibration factor manually. The calibration should be done at the speed you normally run. If you run at different speeds, the calibration should be done at your average speed.

s3+stride sensor calibration is sport specific. You can use different calibration factor for different styles of

running. For example, if you have created new sport (Jogging) in WebSync software, you need to calibrate the stride sensor for that sport also.

 *If you select Running as your sport profile and do walking activities, there is no need to calibrate the s3+ stride sensor.*

Calibration by Running Wizard

Before you can calibrate the stride sensor it needs to be paired with the training computer. For more information on pairing the stride sensor and training computer, see Using a New Accessory (page 42).

Make sure the stride sensor function in the training computer is on. Select **Settings > Sport profiles > Running > Stride sensor > On**.

To calibrate a certain distance with a step-by-step guidance, select

1. **Settings > Sport profiles > Running > Stride sensor calibration > By running**.
2. Adjust the distance, how far you wish to run, to calibrate the stride sensor and press the OK to confirm. **Stand still until stride sensor is found** is displayed.
3. **Press OK and run ... km/mi** is displayed.
4. Press the OK and start the run by making the first step with the sensor foot onto the starting line and run the preset distance at a steady pace.
5. **Press OK after xxx km/mi** is displayed.
6. Stop exactly on the finish line of the preset distance. Press OK.
7. When the calibration succeeds, **Calibrated to x.xxx** is displayed. The new calibration factor is used.
8. If the calibration fails, **Calibration failed** is displayed. If you cancel the calibration by pressing the STOP button, **Calibration canceled** is displayed.
9. After calibration, **Continue recording?** is displayed. If you wish to continue session, select **Yes**. Otherwise, select **No**.

Set Calibration Factor Manually

The calibration factor is calculated as a ratio of the actual distance to the uncalibrated distance. Example: you run 1200m, and the training computer shows a distance of 1180m, the calibration factor is 1.000. Calculate the new calibration factor as follows: $1.000 \times 1200 / 1180 = 1.017$. The measuring range for the factor is 0.500-1.500.

To calibrate the stride sensor manually before training, select

1. **Settings > Sport profiles > Running > Stride sensor > Set factor**
2. Adjust the factor.

The calibration factor can also be set during training, when the stride sensor is in use. Press and hold LIGHT to go to **Quick menu > Calibrate stride sensor > Set factor**.

*Optional s3+ stride sensor required.

Calibrate Sensor by Running a Known Distance (on-the-fly calibration)

You can calibrate the sensor at any phase of your training with lap distance correction, provided you are not training with distance-based targets. Just run a known distance, preferably more than 1000 meters.

Make sure the stride sensor function in the training computer is on. In Time mode press UP and select **Settings > Sport profiles > Running > Stride sensor > On**.

1. In time mode press OK once. Browse the sport profiles with UP/DOWN and select **Running** by pressing OK. Start running.
2. When you are at a starting point of a known lap distance, press OK. When you have run the whole lap distance, press OK.
3. Then calibrate the sensor: Press and hold LIGHT to go to **Quick menu > Calibrate stride sensor**.


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4. Fix the displayed lap distance with the distance you just ran, and press OK. **Calibrated to x.xxx** is displayed. The sensor is now calibrated and ready for action.

Alternatively, you can calibrate the stride sensor by fixing the whole distance gathered.

1. In time mode press OK once. Browse the sport profiles with UP/DOWN and select **Running** by pressing OK. Start running.
2. Press and hold LIGHT to go to **Quick menu > Calibrate stride sensor**.
3. Fix the displayed distance with the distance you just ran, and press OK. **Calibrated to x.xxx** is displayed. The sensor is now calibrated and ready for action.

During training, there is also the possibility to set the calibration factor manually.

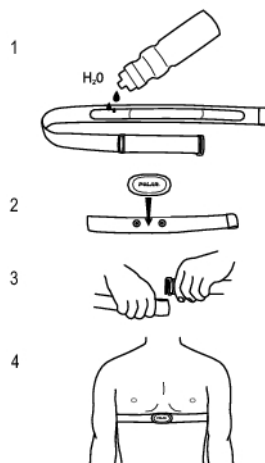
 **Optional s3+ stride sensor required.*

5. TRAINING

Wear the Heart Rate Sensor

Wear the heart rate sensor to measure heart rate.

1. Moisten the electrode area of the strap.
2. Attach the connector to the strap.
3. Tie the strap around your chest, just below the chest muscles, and attach the hook to the other end of the strap.
4. Adjust the strap length to fit tightly but comfortably. Check that the moist electrode areas are firmly against your skin and that the Polar logo of the connector is in a central and upright position.



i Detach the connector from the strap after every use, to maximize the battery lifetime. Sweat and moisture may keep the electrodes wet and the heart rate sensor activated. This will reduce the battery life.

See detailed washing instructions in Important Information (page 52).

For video tutorials, go to http://www.polar.com/en/support/video_tutorials.

Start Training

Wear the heart rate sensor and make sure you have set up an optional sensor* as instructed in the sensor's user manual. If you are using a speed, cadence, GPS or stride sensor for the first time, see Using a New Accessory (page 42). For sport profile settings see Sport Profile Settings (page 27). To use Polar ZoneOptimizer feature for your training session, see Train With Polar ZoneOptimizer (page 14).



1. Start your training session by pressing OK.
Training computer goes into pre-training mode and starts searching for the sensor signals (providing you have set the sensors on in sport profile settings).
If a sensor signal is not found, the display will show a triangle with an exclamation mark. The check mark indicates that the sensor signal is found.



2. Select the sport for the training session by browsing with UP/DOWN buttons.

i The sport profile shown first on the list is the sport previously used in a training session.

To change sport profile settings or heart rate settings before the training recording is started (in pre-training mode), press and hold LIGHT to enter **QUICK MENU**. For more information, see Quick menu (page 35).



- When you are ready to start the training session, press OK. **Recording started** is displayed and you can start training.



- During training recording you can change the training view by browsing with UP/DOWN. To change settings without stopping the training recording, press and hold LIGHT to enter QUICK MENU. For more information, see Quick menu (page 35).

*Optional sensors include Polar s3+ stride sensor, Polar G5 GPS sensor / Polar G3 GPS sensor W.I.N.D., Polar CS speed sensor W.I.N.D. or Polar CS cadence sensor W.I.N.D.


 *"XX sensor low battery" is displayed during training if any of the possible sensors have low battery.*

Change sport during training session

If your training session includes different types of sports, you can change the sport without stopping the training recording.

- Press BACK once, **Recording paused** is displayed.
- Change the sport by scrolling with UP/DOWN buttons and select the desired sport. Press OK to continue the training recording.

You can view four lines of training information simultaneously. Press UP/DOWN to view the different displays.

 *For more information on modifying training views, see Sport Profile Settings (page 27).*

Train With Polar ZoneOptimizer

The ZoneOptimizer function determines your personalized sport zones (heart rate zones) for your aerobic training session. It measures your heart rate variability during the warm-up and determines your personal sport zones. For more information, see ???.

To use the ZoneOptimizer function in your training, set it on by selecting **MENU > Settings > Heart rate settings > ZoneOptimizer > On**.

The ZoneOptimizer function defines the personalized target heart rate zones for you in the beginning of every training session. If there is less than an hour since your last ZoneOptimizer definition, the given target heart rate zones are not necessarily valid, because you may have not recovered from previous training, and during instant recovery, heart rate variability returns to normal state slower than heart rate.

Start Training Session with Polar ZoneOptimizer

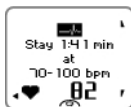
Before ZoneOptimizer determination, make sure that you have the Polar default sport zone heart rate limits in use i.e. you have not modified the heart rate limits manually. If you want to modify the Sport Zone heart rate limits manually, set the ZoneOptimizer function off.

To set the ZoneOptimizer function on, select **MENU > Settings > Heart rate settings > ZoneOptimizer > On**.

The ZoneOptimizer determination will start in the background already when you are in pre-training mode. When you see the ECG-curve on the top right hand corner on the display, you will know that the heart rate measurement and ZoneOptimizer are on.



1. To start the training session with ZoneOptimizer press OK.
The display will show the sport used in the previous training session and the count down timer will start running in the background as soon as the heart rate has reached 70 beats per minute. An ECG-curve will appear in the top right had corner of the display.
Select the sport profile you want to use for your training session with UP/DOWN and press OK to start training.




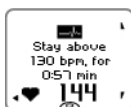
2. **Keep your heart rate between 70 and 100 beats per minute for two minutes.**
This can be achieved by standing or with very light training intensity, for example, walking slowly.
The alarm will sound, when the first part of the determination is finished.




3. The second part of the determination will start when your heart rate has risen above 100 beats per minute.
Continue training at light intensity. Increase heart rate gradually, and keep it between 100 – 130 bpm for two minutes.
This can be achieved, for example, by walking briskly, or by cycling/jogging at low intensity during warm up.

If you have a very low HR_{max} , the training computer will give you special limits.
The alarm will sound when the second part of the ZoneOptimizer determination is finished.

-  *The ZoneOptimizer determination may already finish here, if the heart rate variation limit is reached .*



4. The third part of the determination will start when your heart rate has risen above 130 beats per minute.
Gradually increase your heart rate above 130 bpm and keep it there.

-  *The ZoneOptimizer determination will be finalized when the heart rate has been above 130 beats per minute for more than half a minute.*

The alarm will sound, when the third and final part of the determination is finished.



5. **After the determination is finished, the training computer displays one of the following:**
 - **Default sport zones (heart rate zones) in use.** The determination was not successful. The Polar sport zone (heart rate) limits will be used.
 - **Sport zones optimized. Heart rate zones on higher level.** The limits have been raised compared to your average ZoneOptimizer limits.
 - **Sport zones optimized. Heart rate zones on normal level.** The limits have been raised or lowered only slightly compared to your average ZoneOptimizer limits.
 - **Sport zones optimized. Heart rate zones on lower level.** The limits have been lowered compared to your average ZoneOptimizer limits.
6. **After you have received and read the feedback, press any button, except LIGHT, to exit the message display and continue your training session.**

Use Polar Endurance Training Program

Download Polar Endurance program from polarpersonaltrainer.com, and have a ready made program to guide you in your training.

To be able to download the program you need an account in the polarpersonaltrainer.com, the DataLink data transfer unit and WebSync software. For more information, see polarpersonaltrainer.com Help.

Once you have downloaded the program onto to your training computer, go to **MENU > PROGRAM** and press OK. You can browse through the planned training sessions with UP/DOWN buttons and select the training session you want to do (for example **Thu 26.8.Long run 20km**). To start training press OK.

Use RCX5 in Multisport Training

Before commencing 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 Profile Settings (page 27).

During a multisport training session it is easy to change sports without stopping the training recording. During training recording press BACK once, and select another sport by browsing with UP/DOWN button and confirm your selection by pressing OK. Then continue with your training session.

Train With Race Pace

To set Race pace on for the training session go to **MENU > APPLICATIONS > Running > Set race pace xx:xx:xx MIN/KM or MIN/MI**. First set the distance and then the time in hours, minutes and seconds. **Race pace set to xx:xx MIN/KM** is displayed.

When starting the training session with Race pace go to **MENU > APPLICATIONS > Running > Start session with race pace**. **Race pace set to xx:xx MIN/KM** is displayed. You can now start your training session.



Race pace during training

Running man: Indicates if you are ahead or behind the target pace. The icon will change according to the sport profile (running, cycling or other sport)

-0:35 : Time ahead (-) / behind (+)

5:05min/km: pace needed to achieve the target.

20:9 km: Distance left to reach the target.

Current speed

Current heart rate

Button Functions During Training

Record a Lap



Press OK to record a lap. The display will show:

Lap number
Average heart rate of the lap
Lap time



If a speed sensor is activated, the following will also appear:

Lap number
Average speed/pace of the lap
Lap distance

Lock a Zone

When training without preset target zones, you can lock your heart rate to the current sport zone. This way, if you did not preset target zones before starting the training, you can do it on-the-go during a session.

To lock/unlock the zone, press and hold OK.


During a training session that is part of a Polar Endurance training program: Press and hold OK and select **Lock zone/Unlock zone** from the Lap menu.

If, for example, you are running with a heart rate of 130 bpm which is 75% of your maximum heart rate, and matches sport zone 3, you can press and hold OK to lock your heart rate into this zone. **Sport zone3 Locked 70%-79%** is displayed. An alarm sounds if you are below or above the sport zone (if the target zone alarm function is on). Unlock the sport zone by pressing and holding OK again: **Sport zone3 Unlocked** is displayed.


Zoom the Training View Display

Each training view can have four rows of information shown during training. It is possible to zoom the upper row or bottom row information.

1. To zoom the upper row information during training press and hold UP. To cancel the upper row zoom, press and hold UP.

 *If you zoom the upper row or bottom row, the display will show three rows of information.*

2. To zoom the bottom row information during training, press and hold DOWN. To cancel the bottom row zoom, press and hold DOWN.


 *If you zoom both upper row and bottom row, the display will show two rows of information.*



HeartTouch

HeartTouch function makes it easy for you to view certain information during training by bringing the training computer near the heart rate sensor. You can select the function to

- activate backlight.
- change training view.
- show limits.
- show time of day.
- take a lap.

 *Please note that HeartTouch function only works with Polar WearLink®+ Hybrid / Polar H2 heart rate sensor.*

For more information, on the HeartTouch settings see Sport Profile Settings (page 27).

Night Mode

There is a night mode function in RCX5 training computer. Press the LIGHT button once during pre-training mode, training recording mode or pause mode. The backlight will be activated every time you press any of the buttons, or use the HeartTouch function during training recording.

The display will also light up if a message, for example, **Check heart rate transmitter**, is displayed.

Night mode will be switched off when you finish the training recording.

View Quick Menu

Press and hold LIGHT. **QUICK MENU** is displayed. You can change certain settings without pausing the training recording. For further information, see Quick menu (page 35).

Pause Training

Pause training recording by pressing BACK, **Recording paused** is displayed.

In pause mode you can:

- **Continue:** Continue training recording by pressing OK.
- Stop training recording by pressing BACK.

Customize the Training Views

Customize the training views to show the information you want to see during training, either by using the training computer or the WebSync software. Polar Endurance training programs downloaded from the polarpersonaltrainer.com web service have their own training views that cannot be modified.





In time mode press UP, select **Settings** > SPORT PROFILES > Sport (Running, Cycling, Swimming, Other sport) > **Set training views**.





You can also customize the training views in pre-training mode by long pressing the LIGHT button. You enter **QUICK MENU**, select **Running settings** (current sport settings) > **Set training views**.









There are six different training views which you can customize for each of the sport profiles.





- Select the display you want to change by pressing UP or DOWN, and press OK.
- Select the training view **Off**, **On** or **Modify**.
- Select the information for the blinking upper row with UP or DOWN, and press OK. The information available depends on the features that are activated. Repeat the same to change rest of the rows.



To return the default settings of the display, press and hold LIGHT when the rows are blinking. For further information on changing the training views, see Sport Profile Settings (page 27).






Information on the display	Symbol	Explanation
Time of day		Time of day
Countd. timer		Countdown timer
Stopwatch		Total duration of the training session so far
Lap time	LAP 23	Time used for the lap.
Average heart rate	AUG 	Average heart rate of the training session so far.



Information on the display	Symbol	Explanation
Calories		Expended calories
Calories/hour		Expended calories per hour
Heart rate		Current heart rate
Zone pointer (Polar sport zones)		Target zone indicator with a heart symbol that moves left or right on the sport zone scale according to your heart rate. For further information on setting a sport zone, see Sport Profile Settings (page 27).

Information on the display (Polar s3+ stride sensor required)	Symbol	Explanation
Cadence		Running cadence (pair of steps per minute)
Avg Cadence		The average running cadence so far (pair of steps per minute)
Speed		Current speed/pace
Distance		Distance covered so far
Lap distance		Lap number and lap distance
Average speed		Average speed/pace so far
Max speed		Maximum speed/pace so far
Trip		Trip distance

Information on the display (Polar G5 GPS sensor / Polar G3 GPS sensor W.I.N.D. required)	Symbol	Explanation
Speed		Current speed/pace. The amount of bars above the letter G indicates the GPS signal strength.
Distance		Distance covered so far
Lap distance		Lap distance
Average speed		Average speed/pace so far

Information on the display (Polar G5 GPS sensor / Polar G3 GPS sensor W.I.N.D. required)	Symbol	Explanation
Max speed		Maximum speed/pace so far
Trip		Trip distance

Information on the display (Polar CS speed sensor W.I.N.D. required)	Symbol	Explanation
Speed		Speed you are currently cycling at
Distance		Distance cycled
Lap distance*		Lap number and lap distance
Avg speed		The average speed so far.
Max speed		The maximum speed so far.

Information on the display (Polar CS cadence sensor W.I.N.D. required)	Symbol	Explanation
Cadence		Measures the speed at which you turn the cranks of your bicycle (i.e. cadence), in revolutions per minute (rpm).
Avg Cadence		The average cadence.

Reminder


Training reminder reminds you to drink, eat or take other important actions during training.

Reminder is based on energy consumption (kcal), distance (km) or time. Reminder alarms when certain calories, distance or time has been reached during training. When reminder alarms, reminder counter is reset. This means reminder alarms regularly (for example if reminder is set for 300 kcal, reminder alarms when 300kcal, 600kcal, 900kcal... are consumed). To exit the reminder message on the display, press any button except LIGHT.

You can create the reminder text in WebSync software and download it to the training computer with DataLink data transfer unit. The text is shown when the reminder alarms. The reminder can only be set in the software but it can be switched off in the monitor.

Pause/ Stop Training Recording

1. To pause training recording, press BACK once. To change the sport, browse the sport profiles with UP/DOWN buttons and select the sport you want to use next. To continue training recording press OK.
2. To stop recording completely, press BACK twice.

 Care for your heart rate sensor after training. Detach the connector from the strap and rinse the strap under running water after every use. For complete care and maintenance instructions, see *Caring for Your Product* (page 52).




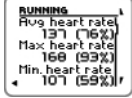




6. AFTER TRAINING


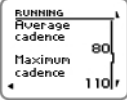

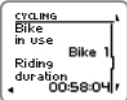

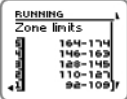

Analyze Training Results



To view basic data on your performance, see **MENU > Data > Training files** on your training computer. For deeper analysis, transfer the data to polarpersonaltrainer.com with DataLink data transfer unit and WebSync software. The web service offers various options to analyze the data with.

Single Sport Training Files

To view training files on different sports go to **MENU > Data > Training files** and browse with UP/DOWN buttons to select the file you want to review and press OK.










	<p>Running</p> <p>Start time</p> <p>Duration</p> <p>Distance</p>
	<p>Running</p> <p>Target distance</p> <p>Target pace</p> <p>Difference+</p> <p> <i>Visible if Race pace feature in use</i></p>
	<p>Running</p> <p>Avg heart rate</p> <p>Max heart rate</p> <p>Min. heart rate</p> <p> <i>Visible if HR data available</i></p>
	<p>Running</p> <p>Calories</p> <p>Fat burn % of calories</p> <p> <i>Visible if heart rate data available</i></p>
	<p>Running</p> <p>Average pace</p> <p>Maximum pace</p>

	<p>Cycling</p> <p>Average speed</p> <p>Maximum speed</p> <p><i>i</i> Visible only if speed data from GPS, stride sensor, or bike speed sensor available.</p>
	<p>Running</p> <p>Average cadence</p> <p>Maximum cadence</p> <p><i>i</i> Visible if stride sensor or bike cadence sensor data available.</p>
	<p>Running</p> <p>Average stride length</p> <p>RunningIndex</p> <p><i>i</i> Visible if stride sensor data available. If GPS sensor in use, running index is shown, but stride length is not shown.</p>
	<p>Cycling</p> <p>Bike in use</p> <p>Riding duration</p> <p><i>i</i> Visible if training file is cycling sport.</p>
	<p>Running</p> <p>Sport zones</p> <p>Time on each zone</p> <p><i>i</i> Visible if heart rate data available.</p>
	<p>Zone limits</p> <p><i>i</i> Visible if daily ZoneOptimizer used and heart rate data available.</p>
	<p>Laps</p> <p>Best lap</p> <p>Average lap</p> <p><i>i</i> Visible if laps feature is set on.</p>

	<p>Automatic laps</p> <p>Best lap</p> <p>Average lap</p> <p> <i>Visible if automatic lap feature is set on.</i></p>
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Multisport Training File




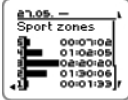
To view a multisport training file go to **MENU > Data > Training files** and browse with UP/DOWN buttons to select the file you want to review and press OK.

	<p>MULTISPORT Summary gives you the general information on the whole training session.</p> <p>Duration</p> <p>Distance</p> <p>Press DOWN to view the separate sport files of the multisport training session.</p>
	<p>Running</p> <p>Duration</p> <p>Distance</p> <p> <i>Press OK to view the details of the running part of the training session.</i></p>
	<p>Running</p> <p>Duration</p> <p> <i>Press OK to view the details of the running part of the training session.</i></p>
	<p>Cycling</p> <p>Duration</p> <p>Distance</p> <p> <i>Press OK to view the details of the cycling part of the training session.</i></p>
	<p>Swimming</p> <p>Start time</p> <p>Duration</p> <p> <i>Press OK to view the details of the other sport part of the training session.</i></p>

Week Summaries

To view week summaries of the training files go to **MENU > Data > Week summaries > Summary** and press

OK.

	<p>SUMMARY</p> <p>This week</p> <p>The dates on which the data was collected</p> <p>Duration</p>
	<p>Duration</p> <p>Distance</p>
	<p>Calories</p> <p>Sessions</p>
	<p>Sport zones 1, 2, 3, 4 and 5</p> <p>Time per zone</p>

Totals Since xx.xx.xxxx

To view totals of the training files go to **MENU > Data > Totals since** and press OK.

	<p>Duration</p> <p>Distance</p>
	<p>Calories</p> <p>Sessions</p>
	<p>Sport zones 1, 2, 3, 4 and 5</p> <p>Time per zone</p>

Delete Files

To delete a training file, select **MENU > DATA > Delete files > Training file** and press OK. Browse the files with UP/DOWN buttons and select the file you want to delete. Press OK **Delete file? YES/NO** is displayed. If you select **YES**, **File deleted** is displayed. After that **Remove file from totals?** is displayed. If you select **YES**, **File deleted from totals** is displayed. If you select **NO**, the training computer returns to the training file menu.

To delete all files select, **MENU > DATA > Delete files > ALL files** and press OK. **Delete all files? YES/NO** is displayed. Select **YES** and **ALL files deleted** is displayed. If you select **NO** training computer returns to the training all files menu.

Reset Week Summaries

To reset weeks summaries select **MENU > DATA > Reset week summaries?**. Select **Yes** and **Week summaries reset** is displayed or **No** and the training computer returns to Data menu.

Reset Trip

To reset trip select **MENU > DATA > Reset trip?**. Select **Yes** and **Trip reset** is displayed or **No** and the training computer returns to Data menu.

Reset Totals

To reset totals select **MENU > DATA > Reset totals?** Select **Yes** and **Totals reset** is displayed or **No** and the training computer returns to Data menu.

7. DATA TRANSFER

Transfer Data

For long-term follow-up, store all your training files in polarpersonaltrainer.com web service. There you can view detailed information of your training data and get a better understanding of your training. With Polar DataLink data transfer unit and WebSync software it is easy to transfer training files to the polarpersonaltrainer.com web service.

How to set your PC for data transmission

1. Register at polarpersonaltrainer.com
2. Download and install the Polar WebSync software on your computer at polarpersonaltrainer.com.
3. Plug your DataLink data transfer unit into the USB port of the computer and activate your training computer by selecting **Menu/ Connect/ Start synchronizing** .

 *Remove the heart rate sensor strap from your chest before data transfer.*

4. Follow the data transfer process and the instructions for downloading the data, from the WebSync Software on your computer screen.

 *For further instructions on data transfer, see polarpersonaltrainer.com "Help".*

To transfer data in the future, follow the points 3 and 4 as instructed above.

 *The synchronization can be set to automatic. For more information, see Connection Settings (page 35)*


8. SETTINGS

All the settings can be modified in Polar WebSync software and transferred onto your training computer with DataLink data transfer unit. For more information, see WebSync Help.

Sport Profile Settings

There are four different sport profiles set on as default in the Polar RCX5 training computer.


To modify sport profile settings select **SETTINGS > Sport profiles**.

 *You can create new sport profiles and modify the settings with Polar WebSync software and transfer them onto your training computer with DataLink data transfer unit. For more information, see WebSync Help.*

Running Settings

To view or modify sport profile settings for running select **SETTINGS > Sport profiles > Running**

- **Training sounds > Select training sounds > Off, Soft, Loud or Very loud**
- **Heart rate transmitter > On, Off or Search new**
- **GPS sensor > On, Off or Search new**
- **Stride sensor > On, Off or Search new**
- **Stride sensor calibration > Calibrate > By running or Set factor**

 *Stride sensor calibration is visible only if stride sensor has been set On previously.*

- **Speed View > Select speed view > Kilometers per hour or Minutes per kilometer** or if you have chosen imperial units select **Miles per hour or Minutes per mile**
- **HeartTouch > Off, Activate back light, Change training view, Show limits, Show time of day or Take lap**
- **Automatic lap > On or Off**. If you set the automatic lap **On, Set automatic lap distance** is displayed. Set the distance in kilometers or miles.
- **Set reminder > On or Off**

 *Reminder is visible only if it has been set with a PC. For more information on setting the reminder, see polarpersonaltrainer.com Help.*

- **Set training views** Select, for example, **Training view 1** (there are six separate training views) and set the training view **Off, On, or Modify**. Each training view can be modified to suit your training purposes.

Set training views	Select Training view 1 Modify > OK	The first row starts blinking. Select the desired information with UP/DOWN and confirm with OK. Repeat until all the four rows are modified. Repeat this until all six training views are set Off, On or you have modified them.
Training view numbering	Set view numbering > Off or On	Training view numbering On/Off is displayed.
Restore default views	Press OK > Restore default views YES/NO? is displayed.	Select YES/NO with UP/DOWN. If you select YesDefault views restored is displayed.

- **Show in pre-training mode?** Select **YES, Sport shown in pre-training mode** is displayed. The sport will be

visible in the list of sports in pre-training mode, when you press OK in Time mode. Select **No, Sport not shown in pre-training mode** is displayed.

This option helps you to use the training computer more efficiently. For example in the summer you can select the winter sports to be hidden.

Also if you participate in a multisport event, it is recommended to hide unnecessary sports, in order to make changing the sport as effective as possible.

 *All the new sensors must be paired with the training computer, before they can be activated.*

For more information on pairing a new sensor with the training computer see Using a New Accessory (page 42).

Cycling Settings

To view or modify sport profile settings for cycling select **SETTINGS > Sport profiles > Cycling (Bike1) / Cycling2 (Bike 2)**

- **Training sounds > Select training sounds > Off, Soft, Loud or Very Loud**
- **Heart rate transmitter > On, Off or Search new**
- **GPS sensor > On, Off or Search new**
- **Bike 1 settings** For more information, see Bike Settings.
- **Speed View > Select speed view > Kilometers per hour or Minutes per kilometer** If you have chosen imperial units select **Miles per hour or Minutes per mile**
- **HeartTouch > Off, Activate back light, Change training view, Show Limits, Show time of day or Take lap**
- **Automatic lap** is set off as default. Press OK, **Set distance** is displayed. Set the distance in kilometers or in miles and confirm with OK. **Automatic lap set to x.x km** is displayed. After this you can select to have the Automatic lap **Off or On**.
- **Set reminder > On or Off**

 *Reminder is visible only if it has been set with a PC. For more information on setting the reminder, see polarpersonaltrainer.com Help.*

- **Set training views** For more information, on training views, see Set training views
- **Show in pre-training mode?** Select **YES, Sport shown in pre-training mode** is displayed. The sport will be visible in the list of sports in pre-training mode, when you press OK in Time mode. Select **No, Sport not shown in pre-training mode** is displayed.
This option helps you to use the training computer more efficiently. For example in the summer you can select the winter sports to be hidden.
Also if you participate in a multisport event, it is recommended to hide unnecessary sports, in order to make changing the sport as effective as possible.

Bike Settings

To view or modify bike settings select **SETTINGS > Sport profiles > Cycling > Bike 1 settings > BIKE 1**

- **Speed sensor > Off, On or Search new**
- **Wheel size > Set wheel size** to xxxx mm. For more information, on measuring the wheel size, see Measuring Wheel Size.
- **Cadence sensor > Off, On or Search new**
- **Autostart > Set autostart Off or On**. If you select **On, Speed sensor for bike required, Activate speed sensor YES/NO** is displayed. Select **YES** and **Autostart on** is displayed. If you select **NO, Activation canceled** is displayed.

 *All the new sensors must be paired with the training computer, before they can be activated.*

For more information on pairing a new sensor to the training computer see Using a New Accessory (page ?).

Measuring Wheel Size

Select **MENU > SETTINGS > Sport profiles > Cycling (Bike 1)/Cycling 2 (Bike 2) > Bike 1 settings > Wheel size > Set 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

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
47-559	26 x 1.95	2022
20-622	700 x 20C	2051
52-559	26 x 2.0	2054
23-622	700 x 23C	2070
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.*

Method 2

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. Enter this value in the training computer.

Swimming Settings


To view or modify sport profile settings for swimming select **SETTINGS > Sport profiles > Swimming**

- **Training sounds > Select training sounds > Off, Soft, Loud or Very Loud**
- **Heart rate transmitter > On, Off or Search new**
- **HeartTouch > Off, Activate back light, Change training view, Show limits, Show time of day or Take lap**

- **Set reminder** > **On** or **Off**

 *Reminder is visible only if it has been set with a PC. For more information on setting the reminder, see polarpersonaltrainer.com Help.*

- **Set training views** For more information, see Set training views
- **Show in pre-training mode?** Select **YES**, **Sport shown in pre-training mode** is displayed. The sport will be visible in the list of sports in pre-training mode, when you press OK in Time mode. Select **No**, **Sport not shown in pre-training mode** is displayed.
This option helps you to use the training computer more efficiently. For example in the summer you can select the winter sports to be hidden.
Also if you participate in a multisport event, it is recommended to hide unnecessary sports, in order to make changing the sport as effective as possible.


 *All the new sensors must be paired with the training computer, before they can be activated.*

For more information on pairing a new sensor with the training computer see Using a New Accessory (page 42).


Other Sport Settings

To view or modify sport profile settings for other sport select **SETTINGS** > **Sport profiles** > **Other sport**

- **Training sounds** > **Off**, **Soft**, **Loud** or **Very loud**
- **Heart rate transmitter** > **On**, **Off** or **Search new**
- **GPS sensor** **On** , **Off** or **Search new**
- **Speed View** Select **Kilometers per hour** or **Minutes per kilometer** or if you have chosen imperial units select **Miles per hour** or **Minutes per mile**
- **HeartTouch** > **Off**, **Activate back light**, **Change training view**, **Show limits**, **Show time of day** or **Take lap**
- **Automatic lap** **On** or **Off**. If you set the automatic lap **On**, **Set automatic lap distance** is displayed. Set the distance in kilometers or miles.
- **Set reminder** > **On** or **Off**

 *Reminder is visible only if it has been set with a PC. For more information on setting the reminder, see polarpersonaltrainer.com Help.*

- **Set training views** For more information, see Set training views
- **Show in pre-training mode?** Select **YES**, **Sport shown in pre-training mode** is displayed. The sport will be visible in the list of sports in pre-training mode, when you press OK in Time mode. Select **No**, **Sport not shown in pre-training mode** is displayed.
This option helps you to use the training computer more efficiently. For example in the summer you can select the winter sports to be hidden.
Also if you participate in a multisport event, it is recommended to hide unnecessary sports, in order to make changing the sport as effective as possible.

 *All the new sensors must be paired with the training computer, before they can be activated.*


For more information on pairing a new sensor with the training computer see Using a New Accessory (page 42).

Heart Rate Settings

To view and change heart rate settings, select **MENU** > **SETTINGS** > **Heart rate settings** > **HR SETTINGS**.

The display reads:	Browse the selection with UP/DOWN and select the value to be modified.	To confirm the value, press OK
ZoneOptimizer	Set ZoneOptimizer Off or On	Confirm with OK
Heart rate view	Select heart rate view Beats per minute (BPM) or Percent of maximum (% of maximum)	Confirm with OK
Heart rate zone lock	Select Heart rate zone lock OFF , or lock one of the zones separately and select Zone 1, Zone 2, Zone 3, Zone 4 or Zone 5 and press OK. Zone X Locked is displayed.	Confirm with OK
Zone 1, 2, 3, 4 and 5 heart rate Limits	Set zone 1, 2, 3, 4 and 5 heart rate limits: Set lower limit and accept the value with OK. Set upper limit	Confirm with OK

Before modifying the zone limits you need to set the ZoneOptimizer off. **ZoneOptimizer requires restoring default sport zones** is displayed. **Set ZoneOptimizer off? YES/NO?** Select **YES**, **ZoneOptimizer off** is displayed. You can start modifying the zone limits.

 *If you have an active endurance program, you need to remove the program in polarpersonaltrainer.com and perform the synchronization, before you can modify the zone limits. For more information, see polarpersonaltrainer.com Help.*

User Information Settings

Enter accurate user information in the training computer to receive the correct feedback on your performance.

To view and modify user information settings, select **MENU > Settings > USER INFORMATION > USER INFORMAT..** Browse the selection with UP/DOWN and accept the value with OK.

The display reads:	Browse the selection with UP/DOWN and select the value to be modified.	To confirm the value, press OK
Weight	Set your weight in kilograms (kg) or pounds (lb).	OK
Height	Set your height in centimeters (cm) or in feet and inches (if you chose imperial units)	OK
Date of Birth	Set your birthday. The order in which you set date settings depends on which time mode you have chosen (24h: day - month - year / 12h: month - day - year).	OK
Sex	Select Male or Female .	OK

The display reads:	Browse the selection with UP/DOWN and select the value to be modified.	To confirm the value, press OK
Activity level	<p>Set Low (0-1 h/wk), Moderate (1-3 h/wk), High (3-5 h/wk) or Top (5+ h/wk)</p> <p>Activity level is an assessment of your level of long-term physical activity. Select the alternative that best describes the overall amount and intensity of your physical activity during the past three months.</p> <ul style="list-style-type: none"> • Top (5+ h/wk): You participate in heavy physical exercise at least 5 times a week, or you exercise to improve performance for competitive purposes. • High (3-5 h/wk): 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. • Moderate (1-3 h/wk): 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. • Low (0-1 h/wk): 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. In the training computer, these values are used to calculate your energy expenditure. 	OK
Maximum heart rate	<p>Set your maximum heart rate, if you know your laboratory measured 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.</p> <p>For more information, see Maximum Heart Rate (HR_{max})</p>	OK

The display reads:	Browse the selection with UP/DOWN and select the value to be modified.	To confirm the value, press OK
OwnIndex (VO _{2max})	Set your OwnIndex (VO _{2max} value). For more information, see OwnIndex.	OK

Maximum Heart Rate (HR_{max})

HR_{max} is used to estimate energy expenditure. HR_{max} is the highest number of heartbeats per minute during maximum physical exertion. HR_{max} is also useful when determining training intensity. The most accurate method for determining your individual HR_{max} is to perform a maximal exercise stress test in a laboratory.

OwnIndex®

Polar OwnIndex, the result of Polar Fitness Test, predicts your maximal oxygen uptake (VO_{2max}). OwnIndex usually ranges from 20 to 95 and is comparable to VO_{2max}, commonly used to evaluate aerobic fitness. Your long-term level of physical activity, heart rate, heart rate variability at rest, gender, age, height, and body weight all influence OwnIndex. The higher the OwnIndex value is, the better your aerobic fitness is.

General Settings

- **Sounds** : Select **On** or **Off**
- **Button lock**: Select either **Manual lock** or **Automatic lock**

To lock buttons manually, press and hold LIGHT in time mode to enter **Quick menu**. Select **Lock buttons** and press OK. To unlock buttons press and hold LIGHT again.

Automatic button lock is activated when you have not pressed the buttons for a minute.

- **Units** : Select **Metric units (kg, m)** or **Imperial units (lbs, ft)**
- **Recording rate** : Select **1 second, 2 seconds, 5 seconds, 15 seconds** or **1 minute** .

The training computer can store your heart rate, running speed/pace, and cycling speed and distance in 1, 2, 5, 15 or 60 second intervals. A longer interval gives you more recording time, while a shorter interval allows you to record more heart and other data. This enables accurate data analysis in polarpersonaltrainer.com.

A shorter recording rate consumes the memory of the training computer more rapidly. Default recording rate is 5 seconds.

The following table shows the maximum recording times for each recording rate. Note that recording rate might change when there is less than 30 minutes of recording time left.

WearLink+ Hybrid / H2 heart rate sensor	Speed	Cadence	S3+	GPS	Recording Rate				
					1s	2s	5s	15s	60s
Off	On	On	Off	Off	30h 49min	52h 23min	118h 54min	325h 30min	1101h 47min
Off	Off	On	Off	On	11h 54min	20h 57min	45h 10min	124h 33min	405h 57min
Off	On	Off	Off	On	13h 5min	23h 17min	50h 23min	137h 39min	446h 17min
Off	On	On	Off	On	11h 54min	20h 57min	45h 10min	124h 33min	405h 57min

WearLink+ Hybrid / H2 heart rate sensor	Speed	Cadence	S3+	GPS	Recording Rate				
					1s	2s	5s	15s	60s
On	Off	On	Off	Off	58h 13min	104h 38min	217h 30min	599h 39min	2151h 34min
On	On	Off	Off	Off	29h 6min	52h 23min	118h 54min	312h 58min	1101h 47min
On	On	On	Off	Off	23h 49min	41h 55min	93h 4634min	252h 25min	887h 5min
On	Off	Off	Off	On	11h 38min	20h 57min	45h 10min	122h 35min	405h 57min
On	Off	On	Off	On	10h 41min	19h 3min	40h 56min	112h 365min	371h 58min
On	On	Off	Off	On	11h 38min	20h 57min	45h 10min	122h 35min	405h 57min
On	On	On	Off	On	10h 41min	19h 3min	40h 56min	112h 5min	371h 58min
Off	Off	Off	On	On	11h 54min	20h 57min	45h 10min	124h 33min	405h 57min
On	Off	Off	Off	On	11h 38min	20h 57min	45h 10min	122h 35min	405h 57min
On	Off	Off	On	Off	23h 49min	41h 55min	93h 34min	252h 25min	887h 5min
On	Off	Off	On	On	10h 41min	19h 3min	40h 56min	112h 5 min	371h 58min
On	Off	Off	Off	Off	104h 38min	208h 48min	433h 0min	1101h 48min	4100h 2min
Off	Off	Off	On	Off	30h 49min	52h 23min	118h 54min	325h 30min	1101h 47min
Off	On	Off	Off	Off	40h 18min	69h 51min	163h 27min	433h 19min	1458h 20min
Off	Off	On	Off	Off	130h 47min	208h 48min	433h 0min	1287h 2min	4100h 2min
Off	Off	Off	Off	On	13h 5min	23h 17min	50h 23min	137h 39min	446h 17min

- Select language **Deutsch, English, Español, Français, Italiano, Português, Suomi** or **Svenska** and accept with OK.

Watch Settings

To view and change your **Watch settings** select **Settings > Watch settings**

- Select alarm repetition **Off, Once, Monday to Friday** or **Every day**
- Select **Time 1, Time2** or **Time in use**

- **Set date, Date format and Date separator**
- **Select week' starting day Monday, Saturday or Sunday**
- **Select watch face Time only, Time and logoTime and event** (if you have set an event date on your PC)

Connection Settings

To modify your connection settings select **Menu > Connect**.

- Select **Start synchronizing** > **OK**. The training data will be synchronized with polarpersonaltrainer.com web service via WebSync or you can connect to WebSync, adjust the settings and transfer the settings to your training computer.
- Select **Remove pairings?YES** or **NO**. If you select **YES** the pairing of the training computer and PC will be removed.
- Select **AutoSync** > **Set AutoSync** (automatic synchronization) > **On** or **OFF**. If you select **On** the synchronization will start automatically when you come close to your PC.

 *The AutoSync function is set On as default.*

Quick menu

Some settings can be modified with a shortcut button. You can enter **Quick menu** by pressing and holding LIGHT from Time mode, Pre-training mode or Training mode. Depending on which mode you enter the Quick menu from, you will find different functions to modify.

Time Mode

In time mode press and hold LIGHT to enter **Quick menu** .

- Select **Lock buttons** and press **OK**. To unlock buttons press and hold **LIGHT** again.
- Select alarm repetition **Alarm** > **Off, Once, Monday to Friday or Every day**.
- Select **Time in use** > **Time 1** or **Time 2**.

Pre-training mode

In pre-training mode press and hold LIGHT to enter **Quick menu** .

- Edit current sport profile settings. For more information, see Sport Profile Settings (page 27).
- Edit heart rate settings. For more information, see Heart Rate Settings (page 30).

Training Mode

In training mode press and hold LIGHT to enter **Quick menu** .


- Select **Lock buttons** and press **OK**. To unlock buttons press and hold **LIGHT** again. **Buttons unlocked** is displayed.
- Select **Start next phase** and the training computer starts next phase of your training.

 *The option is only available in training sessions that are created with polarpersonaltrainer.com.*


- Select **Search sensor** and the training computer starts searching for the missing sensor.

 *This selection is only available if connection to any of the sensors has been lost.*


- Select **Calibrate stride sensor** to calibrate s3+ stride sensor.

 *The option is only available when s3+ stride sensor is in use.*

- Select **Training sounds** and set training sounds **Off**, **Soft**, **Loud** or **Very loud**
- Select **Set automatic lap off** or **On**.

 *This selection is only available if speed information is available i.e. optional CS speed sensor for cycling or s3+ stride sensor for running has been set on for the sport profile.*


- Select **Reset trip** and select **Yes/No**. **Trip reset** is displayed.

 *This selection is only available if speed information is available i.e. optional CS speed sensor or s3+ stride sensor has been selected on for the sport profile.*

- **Set timing view on** or **off**
- Select **Countdown timer**. Start the countdown timer or set time.
- **Set automatic lap off** to disable the automatic lap taking. If automatic lap is off, you can set it on by selecting **Set automatic lap on**.

 *The option is only available when distance information is available i.e. optional s3+ stride sensor, cycling speed sensor or GPS sensor is in use.*

- Select **Location** to view your location coordinates and number of satellites visible. The optional GPS sensor required.
- Select **Show zone limits** if you want to see the sport zone heart rate limits.

 *This selection is only available if heart rate sensor is set on.*

9. APPLICATIONS

Polar Fitness Test

The Polar Fitness Test is an easy, safe, and quick way to measure your aerobic (cardiovascular) fitness at rest. The result, Polar OwnIndex, is comparable to maximal oxygen uptake ($VO_{2\max}$), which is commonly used to evaluate aerobic fitness. Your long-term level of physical activity, heart rate, heart rate variability at rest, gender, age, height, and body weight all influence OwnIndex. 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 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 OwnIndex. Less fit individuals see progress even more rapidly. The better your aerobic fitness, the smaller the improvements in your OwnIndex.

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 measuring your OwnIndex 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.

With the Polar Fitness Test, you can also calculate the predicted maximum heart rate value ($HR_{\max-p}$). The predicted HR_{\max} score predicts your individual maximum heart rate more accurately than the age-based formula ($220 - \text{age}$). For further information on HR_{\max} , see User Information Settings (page 31)

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 pharmacological 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

Wear the Heart Rate Sensor

For further information, see Wear the Heart Rate Sensor (page 13)

Enter User Information

Select **Settings > User information**

To carry out the Polar Fitness Test, enter your personal user information and long-term physical activity level in User settings.

Set Predicted HRmax On

If you want to obtain your predicted maximum heart rate value, turn predicted HR_{\max} on.

Select **APPLICATIONS > Fitness test > Predicted HRmax > On**

Performing the Test

Select **APPLICATIONS > Fitness test > Start test**

ENGLISH

The progress bar indicates that the test is ongoing. Stay relaxed and limit body movements and communication with other people.

If you have not set your long-term physical activity level in User information settings, **Set activity level of past 3 months** is displayed. Select **Top**, **High**, **Moderate**, or **Low**. For further information on activity levels, see User Information Settings (page 31).

If your training computer does not receive your heart rate at the beginning or during the test, the test fails and **Test failed, Check heart rate transmitter** is displayed. Check that the heart rate sensor electrodes are wet and that the strap is snug enough, and start the test again.

When the test is over, you will hear two beeps. OwnIndex is displayed with a numerical value and level evaluation. For further information on evaluations, see Fitness Level Classes.

To display your Predicted maximum heart rate value press DOWN. Press OK to exit.

Update to VO_{2max}?

- Select **Yes** to save the OwnIndex value to your user settings and **Latest results** menu.
- Select **No** only if you know your laboratory-measured VO_{2max} value, and if it differs more than one fitness level class from the OwnIndex result. Your OwnIndex value is saved only to the **Latest results** menu. For further information on fitness trend see Latest results .

Update to HR max? (if HRmax-p is on)

- Select **Yes** to save the value to your user settings.
- Select **No** if you know your laboratory-measured HR_{max}.

You can stop the test at any time by pressing **BACK**. **Test canceled** is displayed for a few seconds.

 *After saving the OwnIndex and predicted HRmax values, they will be used for calculating calorie consumption.*

After the Test

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

Age / Years	Very low	Low	Fair	Moderate	Good	Very good	Elite
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.

Latest results

Select **FITNESS TEST > Latest results**

In the **Latest results** menu you can see how your OwnIndex value has been developing. Up to three latest OwnIndex values and respective dates are included in the display. When the latest results file becomes full, the oldest result is automatically deleted.

Delete OwnIndex Value

Select **FITNESS TEST > Latest results**

Select the value you wish to delete and press and hold LIGHT > **Delete value? No/Yes** is displayed. Confirm with OK.

Analyzing OwnIndex Results with Software

Downloading test results to polarpersonaltrainer.com offers you the possibility of analyzing results in various ways, as well as accessing more detailed information about your progress. The polarpersonaltrainer.com also allows you to make graphical comparisons with previous results.

Polar Race Pace

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, for example, 45 minutes for a 10 kilometer run.

During the training session the target pace/speed is compared with training information. You can follow up on how far behind or ahead you are, compared to your pre-set target.

You can also check what is the required steady pace/speed in order to meet your set target.

Race Pace features and ZoneOptimizer can not be used in same training session. The ZoneOptimizer definition is always done in the beginning of the training session, before the actual work phase starts. It is then very difficult to start the race pace measurement in the right location.

How to Use Race Pace

Before starting to use Race Pace feature, make sure that you have enabled a speed sensor (CS Speed W.I.N.D. sensor or the s3+ Stride sensor) for the sport profile you are going to use in your training session. For more information, see Sport Profile Settings (page 27).


ENGLISH

1. Select **MENU > Applications > Race pace > Select sport > Set race pace > Set target distance in km/mi > Set target time > Race pace set to xx:xx MIN/KM or MIN/MI** is displayed.
2. To set the Race pace on for your training session, select **MENU > Applications > Race pace > Select sport > Start session with race pace** and confirm with OK.

10. USING A NEW HEART RATE SENSOR

Using a New Heart Rate Sensor

If you purchase a new compatible heart rate sensor as an accessory, it has to be introduced to the training computer. This is called pairing and takes only a few seconds. Pairing ensures that your training computer receives signals from your accessory only, and enables disturbance-free training in a group.

 Please note that WearLink W.I.N.D. heart rate sensor does not measure heart rate in water.

Pairing a New Heart Rate Sensor With Training Computer

Wear the heart rate sensor and make sure that you are not near (40 m/131 ft) other heart rate sensors.

1. Go to **Menu** > **Settings** > **Sport profiles** > **Sport** > **Heart rate transmitter** > **Search new** and press OK.
2. The training computer starts searching for the sensor signal, **Searching for new heart rate transmitter** is displayed.
3. Once the new sensor is identified, **Heart rate transmitter is found** is displayed. Pairing is complete.
4. If the search is not successful, **Heart rate transmitter not found** or **Other heart rate transmitters interfering. Move further.** , **Try again? YES / NO** is displayed.
5. Select **YES** to start the search again.
6. Select **NO** to cancel the searching.
7. To return to time mode, press and hold the **BACK** button.

11. USING A NEW ACCESSORY

Before taking a new accessory into use, it has to be introduced to the training computer. This is called pairing and takes only a few seconds. Pairing ensures that your training computer receives signals from your accessory only, and enables disturbance-free training in a group.

Pairing a New Speed Sensor With Training Computer

Make sure the speed sensor has been correctly installed.

1. Go to **Menu > Settings > Sport profiles > Cycling (Bike 1) > Bike 1 settings > Speed sensor > Search new** and press OK.
2. **Press OK to start the test drive** is displayed.
3. Press OK and **Searching for new speed sensor** is displayed. The training computer starts searching for the speed sensor signal. Rotate the wheel a few times to activate the sensor. The flashing red light in the sensor indicates that the sensor is activated.
4. Once the new speed sensor is identified, **Speed sensor found** is displayed. Pairing is complete.
5. If the search is not successful, **Speed sensor not found** or **Other speed sensors interfering. Move further., Try again? YES / NO** is displayed.
6. Select **YES** to start the search again.
7. Select **NO** to cancel the searching.
8. To return to time mode, press and hold the BACK button.

 For more information, on installing the speed sensor refer to the user manual of the speed sensor or for video tutorial at http://www.polar.com/en/support/video_tutorials.

Pairing a New Cadence Sensor With Training Computer

Make sure the cadence sensor has been correctly installed.

1. Go to **Menu > Settings > Sport profiles > Cycling Bike 1 > Bike 1 settings > Cadence sensor > Search new** and press OK.
2. **Press OK to start the test drive** is displayed.
3. Press OK and **Searching new cadence sensor** is displayed. The training computer starts searching for the cadence sensor signal. Rotate the wheel a few times to activate the sensor. The flashing red light in the sensor indicates that the sensor is activated.
4. Once the new cadence sensor is identified, **Cadence sensor found** is displayed. Pairing is complete.
5. If the search is not successful, **Cadence sensor not found** or **Other cadence sensors interfering. Move further., Try again? YES / NO** is displayed.
6. Select **YES** to start the search again.
7. Select **NO** to cancel the searching.
8. To return to time mode, press and hold the BACK button.

 For more information on installing the cadence sensor refer to the user manual of the cadence sensor or to the video tutorial at http://www.polar.com/en/support/video_tutorials.

Pairing a New GPS Sensor With Training Computer

Make sure the GPS sensor has been correctly attached, in an upright position and that you are wearing the GPS sensor on the same arm as you are wearing your training computer. Also make sure you have turned the GPS sensor on. For more information on how to set up the GPS sensor refer to the user manual of the GPS sensor.


1. Go to **Menu > Settings > Sport profiles > Running > GPS sensor > Search new** and press OK.

2. **Searching for new GPS sensor** is displayed. The training computer starts searching for the GPS sensor signal.
3. Once the new GPS sensor is identified, **GPS sensor found** is displayed. Pairing is complete.
4. If the search is not successful, **GPS sensor not found** or **Other GPS sensors interfering. Move further. , Try again? YES / NO** is displayed.
5. Select **YES** to start the search again.
6. Select **NO** to cancel the searching.
7. To return to time mode, press and hold the BACK button.

Pairing a New Stride Sensor With Training Computer

Make sure the stride sensor has been correctly attached to your shoe.






1. Go to **Menu > Settings > Sport profiles > Running > Stride sensor > Search new** and press OK.
2. **Searching for new stride sensor** is displayed. The training computer starts searching for the stride sensor signal.
3. Once the new stride sensor is identified, **Stride sensor found** is displayed. Pairing is complete.
4. If the search is not successful, **Stride sensor not found** or **Other stride sensors interfering. Move further. , Try again? YES / NO** is displayed.
5. Select **YES** to start the search again.
6. Select **NO** to cancel the searching.
7. To return to time mode, press and hold the BACK button.

 *For more information on setting up the stride sensor refer to the user manual of the stride sensor or to the video tutorial at http://www.polar.com/en/support/video_tutorials.*

12. BACKGROUND INFORMATION

Polar Sport Zones

Polar sport zones introduce a new level of effectiveness in heart rate-based training. Training is divided into five sport zones based on percentages of maximum heart rate. With sport zones, you can easily select and monitor training intensities.

Target zone	Intensity % of HR_{max} , bpm	Example durations	Training benefit
MAXIMUM 	90–100% 171–190 bpm	less than 5 minutes	Benefits: Maximal or near maximal effort for breathing and muscles. Feels like: Very exhausting for breathing and muscles. Recommended for: Very experienced and fit athletes. Short intervals only, usually in final preparation for short events.
HARD 	80–90% 152–172 bpm	2–10 minutes	Benefits: Increased ability to sustain high speed endurance. Feels like: Causes muscular fatigue and heavy breathing. Recommended for: Experienced athletes for year-round training, and for various durations. Becomes more important during pre competition season.
MODERATE 	70–80% 133–152 bpm	10–40 minutes	Benefits: Enhances general training pace, makes Moderate intensity efforts easier and improves efficiency. Feels like: Steady, controlled, fast breathing. Recommended for: Athletes training for events, or looking for performance gains.
LIGHT 	60–70% 114–133 bpm	40–80 minutes	Benefits: Improves general base fitness, improves recovery and boosts metabolism. Feels like: Comfortable and easy, low muscle and cardiovascular load. Recommended for: Everybody for long training sessions during base training periods and for recovery training sessions during competition season.
VERY LIGHT 	50–60% 104–114 bpm	20–40 minutes	Benefits: Helps to warm up and cool down and assists recovery. Feels like: Very easy, little strain. Recommended for: For recovery and cool-down, throughout training season.

HR_{max} = Maximum heart rate (220-age). Example: 30 years old, 220–30=190 bpm.

Training in **heart rate zone 1** is done at a very low intensity. The main training principle is that performance improves when recovering after, and not only during training. Accelerate the recovery process with very light intensity training.

Training in **heart rate zone 2** is for endurance training, an essential part of any training program. Training sessions in this zone are easy and aerobic. Long-duration training in this light zone results in effective energy expenditure. Progress will require persistence.

Aerobic power is enhanced in **heart rate zone 3**. The training intensity is higher than in sport zones 1 and 2, but still mainly aerobic. Training in sport zone 3 may, for example, consist of intervals followed by recovery. Training in this zone is especially effective for improving the efficiency of blood circulation in the heart and skeletal muscles.

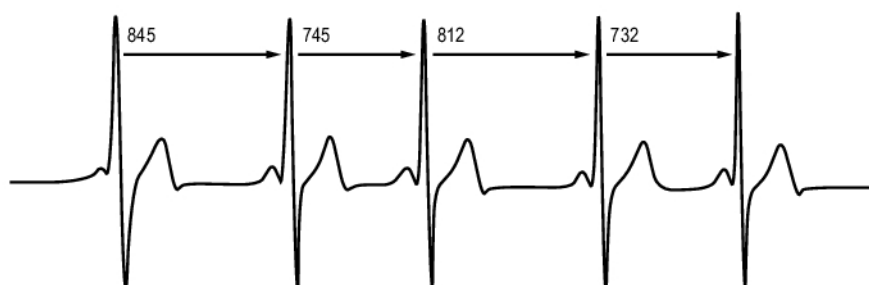
If your goal is to compete at top potential, you will have to train in **heart rate zones 4 and 5**. In these zones, you exercise anaerobically in intervals of up to 10 minutes. The shorter the interval, the higher the intensity. Sufficient recovery between intervals is very important. The training pattern in zones 4 and 5 is designed to produce peak performance.

The Polar target heart rate zones can be personalized by using a laboratory measured HR_{max} value, or by taking a field test to measure the value yourself. When training in a target heart rate zone, try to make use of the entire zone. The mid-zone is a good target, but keeping your heart rate at that exact level all the time is not necessary. Heart rate gradually adjusts to training intensity. For instance, when crossing from heart rate target zone 1 to 3, the circulatory system and heart rate will adjust in 3-5 minutes.

Heart rate responds to training intensity depending on factors such as fitness and recovery levels, as well as environmental factors. It is important to look out for subjective feelings of fatigue, and to adjust your training program accordingly.

Heart Rate Variability

Heart rate varies with every heartbeat. Heart rate variability (HRV) is the variation of beat to beat intervals, also known as R-R intervals.



HRV indicates the fluctuations of heart rate around an average heart rate. An average heart rate of 60 beats per minute (bpm) does not mean that the interval between successive heartbeats would be exactly 1.0 sec, instead they may fluctuate/vary from 0.5 sec up to 2.0 sec.

HRV is affected by aerobic fitness. HRV of a well-conditioned heart is generally large at rest. Other factors that affect HRV are age, genetics, body position, time of day, and health status. During exercise, HRV decreases as heart rate and exercise intensity increase. HRV also decreases during periods of mental stress.

HRV is regulated by the autonomic nervous system. Parasympathetic activity decreases heart rate and increases HRV, whereas sympathetic activity increases heart rate and decreases HRV.

HRV is used in the OwnIndex and ZoneOptimizer features.

Polar ZoneOptimizer

The Polar ZoneOptimizer feature adjusts your sport zones based on your personal information including heart rate variability. It recommends lower intensity training when little heart rate variability is detected and higher intensity training when plenty of heart rate variability is detected. It also gives you feedback on

your heart rate zones in comparison to your normal level.

Benefits of the ZoneOptimizer feature

Each Sport Zone has a different physiological response which is described briefly in the Polar Sport Zones (page 44). The ZoneOptimizer measurement takes your personal information, including your heart rate variability, into account and personalizes your sport zones before every training session.

ZoneOptimizer measurement

Polar ZoneOptimizer recommends lower intensity training when little heart rate variability is detected and higher intensity training, when plenty of heart rate variability is detected at a given heart rate. It also gives you feedback if your current limits are higher, normal or lower than your normal level, when compared to your earlier measurements. You may get feedback on your daily physiological status by paying attention to how fast and how easily you can do training at the recommended heart rates.

Action	Heart rate in beats per minute	Duration	How to achieve
Keep your heart rate between 70 and 100 beats per minute.	70 - 100 bpm	2 minutes	Standing or training with very light training intensity, for example, walking slowly.
Increase heart rate gradually from 100 to 130 beats per minute within two minutes.	100 - 130 bpm	2 minutes	Walking briskly or cycling/ jogging at low intensity during warm up.
Gradually increase your heart rate above 130 beats per minute.	130 bpm <	At least 30 seconds	Gradually increase your heart rate and continue as planned. The ZoneOptimizer determination will finalize in one minutes time.

Measurement phases

Target zone limit determination is done in three phases.

1. **Preparing for training session and plenty of heart rate variability exists.** As there is a lot of heart rate variability, this is a very good and sensitive phase to detect daily changes. In absolute figures this means heart rates from 70 to 100 beats per minute.
2. **Warming up, heart rate rises slowly and heart rate variability drops.** During this phase heart rate variability starts dropping, and the body prepares for higher intensities. In absolute figures this means heart rates from 100 to 130 beats per minute.
3. **Heart rate variability levels off.** After this phase heart rate variability stays at a very low level or almost disappears. This usually takes place at around 130 beats per minute and higher. All Zone limits are updated after heart rate has been continuously, for at least 30 seconds, above the upper limit of Phase2 (130 beats pre minute / 75% of HR_{max}).

ZoneOptimizer guidance normally uses absolute figures (70-100-130 beats per minute), but the two uppermost figures change if personal HR_{max} is very low. The second phase upper limit, which is normally 130 beats per minute, is limited not to exceed 75% of HR_{max}. This is done automatically without actions from you.

ZoneOptimizer allows different durations of Phase1 (preparing for training session, heart rate in between 70-100 beats per minute) and Phase2 (warming up, heart rate in between 100-130 beats per minute). The recommended minimum durations to get the limits successfully determined are 2 minutes at Phase1, 2 minutes at Phase2 and half a minute or more in Phase3.

 *ZoneOptimizer function is developed for the use of healthy people. Some health conditions may cause heart rate*

variability-based ZoneOptimizer determination to fail or give lower intensity targets. These conditions include high blood pressure, cardiac arrhythmia, and certain medications.

Maximum Heart Rate

Maximum heart rate (HR_{max}) is the highest number of heartbeats per minute (bpm) during maximum physical exertion. It is individual and depends on age, hereditary factors, and fitness level. It may also vary according to the type of sport performed. HR_{max} is used to express training intensity.

Determining Maximum Heart Rate

Your HR_{max} can be determined in several ways.

- The most accurate way is to have your HR_{max} clinically measured, usually on a maximal treadmill or by taking a bicycle stress test supervised by a cardiologist or an exercise physiologist.
- You can also determine your HR_{max} by taking a field test together with a training partner.
- You can obtain a HR_{max-p} score that predicts your HR_{max} by taking the Polar Fitness Test.
- HR_{max} can also be estimated by using the commonly used formula: $220 - \text{age}$, although research shows that this method is not very accurate, especially for older persons or those who have been fit for many years.

If you have done some hard training in recent weeks and know that you can safely reach maximum heart rate, you can safely take a test to determine your HR_{max} yourself. Having a training buddy with you during the test is recommended. If you are uncertain, consult your physician before undertaking the test.

Here is an example of a simple test.

Step 1: Warm up for 15 minutes on a flat surface, building up to your usual training pace.

Step 2: Choose a hill or stairwell that will take more than 2 minutes to climb. Run up the hill/steps once, building to as hard a pace as you can hold for 20 minutes. Return to the base of the hill/steps.

Step 3: Run up the hill/steps again, building towards a pace you could just about hold for 3 kilometers. Note your highest heart rate. Your maximum is approximately 10 beats higher than the noted value.

Step 4: Run back down the hill, allowing your heart rate to drop 30-40 beats per minute.

Step 5: Run up the hill/steps once again at a pace that you can only hold for 1 minute. Try to run halfway up the hills/steps. Note your highest heart rate. This brings you close to your maximum heart rate. Use this value as your maximum heart rate to set training zones.

Step 6: Make sure you get a good cool-down, a minimum of 10 minutes.

Running Cadence and Stride Length

Cadence* is the number of times the foot with the stride sensor* hits the ground per minute.

Stride length* is the average length of one step. That is the distance between your right and left foot contacting the ground.

Running speed = $2 * \text{stride length} * \text{cadence}$

There are two ways to run faster: moving your legs at a higher cadence or taking longer steps.

Elite long distance runners typically run with a high cadence of 85-95. On uphill, typical cadence values are lower. On downhill they are higher. Runners adjust stride length to gather speed: stride length increases as speed increases.

Yet one of the most common mistakes novice runners make is over-striding. The most efficient stride length is the natural one – the one that feels most comfortable. You will run faster in races by strengthening your leg muscles so they take you forward with a longer stride.

You should also work on maximizing cadence efficiency. Cadence does not progress easily, but if properly

trained, you will be able to sustain it throughout your runs and maximize your performance. To develop cadence, the nerve-muscle connection needs to be trained - and reasonably frequently. A session of cadence training a week is a good start. Incorporate some cadence work into the rest of your week. During long easy runs, you could include some faster cadence every now and then.

When training for longer running events ($\frac{1}{2}$ marathon, marathon or longer), it may be helpful to monitor cadence. A low cadence at expected race pace can cause problems later in the event, as your legs tire. One way around this is to work on increasing leg speed at expected race pace. You can set your training computer to show pace and cadence. Try to shorten your stride and increase cadence while holding the same pace (set a narrow pace zone to give you audio feedback). You can aim to raise running cadence above the following:

- 80/min (4 hour marathoners)
- 85/min (3 hour 30 min marathoners)
- 88/min (3 hour marathoners)

This is a general guide only, taller runners will naturally have slightly lower cadences. Runners should also tune in to what feels comfortable for them personally.

A good way of improving stride length is to undertake specific strength work, like running hills, running in soft sand, or running up steps. A six-week training period including strength work should result in noticeable improvements in stride length, and if combined with some faster leg speed work (such as short strides at best 5km pace), noticeable improvements should be seen in overall speed, as well.

*Optional s3+ stride sensor required.

Polar Running Index

Running Index offers an easy way to monitor performance changes. Performance (how fast/easily you run at a given pace) is directly influenced by aerobic fitness (VO_{2max}) and training economy (how efficient your body is at running), and Running Index is a measurement of this influence. By recording your Running Index over time, you can monitor progress. 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. The Running Index feature calculates such improvements. Running Index also gives you daily information on your running performance level which may vary from day to day.

Benefits of Running Index:

- emphasizes the positive effects of good training sessions and resting days.
- monitors fitness and performance development at different heart rate levels - not only during maximal performance.
- you can determine your optimal running speed by comparing running indexes from different kinds of training sessions.
- stresses progress through better running technique and fitness level.

Running Index is calculated during every training session when heart rate and the Polar s3+ stride sensor / Polar G5 GPS sensor / Polar G3 GPS sensor W.I.N.D.* signal is recorded, and when the following requirements apply:

- speed should be 6 km/h / 3,75 mi/h or faster and duration 12 minutes minimum.
- heart rate should be above 40% of HRR (heart rate reserve). Heart rate reserve is the difference between maximum heart rate and resting heart rate.

Make sure that the stride sensor is calibrated. Calculation begins when you start recording the session. During the session, you may stop once at traffic lights, for example, without interrupting the calculation.

In the end, your training computer displays a Running Index value and stores the result in the Training files section. Compare your result to the table below. Using the software, you can monitor and analyze your progress in Running Index values against time and different running speeds. Or compare values from different training sessions and analyze them in short and long term.

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 due to running circumstance changes, for example different surface, hills, wind or temperature.

Long-term analysis

The single Running Index values form a trend that predicts your success in running certain distances.

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:mm:ss)	42.195 km (h:mm:ss)
36	1800	0:36:20	1:15:10	2:48:00	5:43:00
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

*Optional Polar s3+ stride sensor or Polar G5 GPS sensor / Polar G3 GPS sensor W.I.N.D. required.

Polar Training Load Feature

The training load feature in the calendar view in polarpersonaltrainer.com will conveniently tell you how hard your training session was, and how much time is needed for complete recovery. This feature tells you if you have recovered enough for your next session, helping you find the balance between rest and training. In polarpersonaltrainer.com you can control your total workload, optimize your training, and monitor your performance development.

Training load takes into consideration different factors which affect your training load and recovery time, such as heart rate during training, duration of training, and your individual factors, e.g. sex, age, height, and weight. Continuous monitoring of training load and recovery will help you recognize personal limits, avoid over or under training, and adjust training intensity and duration according to your daily and weekly targets.

Training Load feature helps you to control total workload, optimize your training, and monitor your

performance development. The feature makes different kinds of training sessions comparable with each other, and helps you to find the perfect balance between rest and training.

For more information on Training load, see polarpersonaltrainer.com Help.

Polar Endurance Training Program for Running and Cycling

Polar has created tailored Endurance training programs for running and cycling, which are available for you in polarpersonaltrainer.com. You get a personalized training program to best suit your current fitness level.

Endurance training programs are ideal for you, if running or cycling is incorporated in your main fitness routine. Endurance programs improve cardiovascular fitness and are not targeted to any sport event.

Endurance training programs are continual i.e. the program will continue as long as you want to stop it. The program guides you to train in the correct way by defining the training volume, training intensity and training placement on weekdays, for the optimal fitness improvement.

The training program works together with the ZoneOptimizer feature, which means that the training program sessions are modified according to your personal sport zones determined by the ZoneOptimizer. For more information, see Polar ZoneOptimizer (page 45).

Suitable Program Starting Level for Everybody

Program level must be known before a suitable training module can be selected. The determination of the program level can be done:

- automatically using your previous training history in polarpersonaltrainer.com
- or using a short questionnaire which you will have to fill in.

General programs are compiled of 4 week long training modules. Training module in level 1 is the least demanding and the module in level 20 is the most demanding. Steps between 1-20 are linear, which means that you can improve your fitness step by step (for example from level 7 to level 8 et cetera).

Training modules and your training activity are linked together so that training modules get more challenging as your training activity increases, and also less challenging if your training activity decreases.

Beginner stage consists of levels 1-5. At this stage the 4 weeks training module contains mainly medium and long training sessions; interval training sessions are given from level 5 onwards.

Moderate stage consists of levels 6-10. At this stage the 4 weeks training module contains mainly medium, long and interval training sessions; tempo training sessions are given from level 11 onwards.

Advanced stage consists of levels 11-20. At this stage the 4 weeks training module contains mainly medium, long, interval and tempo training sessions; easy training sessions are given from level 12 onwards.

For more information on Polar Endurance training programs see polarpersonaltrainer.com Help.

Polar Training Articles

For more facts and know-how to enhance your running, visit Polar Article Library [http://www.polar.com/en/training_with_polar/training_articles] .

13. IMPORTANT INFORMATION

Caring for Your Product

Like any electronic device, the Polar training computer should be treated with care. The suggestions below will help you fulfill guarantee obligations and enjoy this product for many years to come.

Connector: Detach the connector from the strap after every use and dry the connector with a soft towel. Clean the connector with a mild soap and water solution when needed. Never use alcohol or any abrasive material (eg. steel wool or cleaning chemicals).

Strap: Rinse the strap under running water after every use and hang to dry. Clean the strap gently with a mild soap and water solution when needed. Do not use moisturizing soaps, because they can leave residue on the strap. Do not soak, iron, dry clean or bleach the strap. Do not stretch the strap or bend the electrode areas sharply.



Check the label on your strap to see if it is machine washable. Never put the strap or the connector in a dryer!

Training computer and sensors: Keep your training computer and sensors clean. To maintain the water resistance, do not wash the training computer or the sensors with a pressure washer. Clean them with a mild soap and water solution and rinse them with clean water. Do not immerse them in water. Dry them carefully with a soft towel. Never use alcohol or any abrasive material such as steel wool or cleaning chemicals.

Keep your training computer and sensors in a cool and dry place. Do not keep them in a damp environment, in non-breathable material (a plastic bag or a sports bag) nor with conductive material (a wet towel). The training computer and heart rate sensor are water resistant, and can be used in water activities. Other compatible sensors are water resistant, and can be used in rainy weather. Do not expose the training computer to direct sunlight for extended periods, such as by leaving it in a car or mounted on the bike mount.

Avoid hard hits to the training computer and the sensors, as these may damage the sensor units.

Operating temperatures are -10 °C to +50 °C / +14 °F to +122 °F.

Service

During the two-year guarantee/warranty period we recommend that you have service, other than battery replacement, 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 (page 59)

For contact information and all Polar Service Center addresses, visit www.polar.com/support [<http://www.polar.com/support>] and country specific websites.

Register your Polar product at <http://register.polar.fi/> to ensure we can keep improving our products and services to better meet your needs.



The same user credentials are also valid, when registering for polarpersonaltrainer.com, Polar Newsletter and Discuss Forums.

Changing Batteries


The RCX5 training computer and the WearLink®+ Hybrid / H2 heart rate sensor both have a user changeable battery. To change the battery yourself, please follow the instructions carefully as instructed in chapter Change Batteries Yourself.

The batteries for the speed and cadence sensors cannot be replaced. Polar has designed speed and cadence sensors to be sealed in order to maximise mechanical longevity and reliability. The sensors have long-life batteries inside. To purchase a new sensor contact your authorized Polar Service Center or retailer.

For information on how to change the battery for the Polar s3+ stride sensor, Polar G5 GPS sensor or Polar G3 GPS sensor W.I.N.D., consult the user manual for the product in question.

Prior to changing the battery, please note the following:

- The low battery indicator is displayed when 10-15% of the battery capacity is left.
- Before battery change, transfer all data from your RCX5 to polarpersonaltrainer.com to avoid data loss. For more information, see Transfer Data (page 26).
- Excessive use of the backlight drains the battery more rapidly.
- In cold conditions, the low battery indicator may appear, but will disappear when the temperature rises.
- The backlight and sound are automatically turned off when the low battery indicator is displayed. Any alarms set prior to the appearance of the low battery indicator will remain active.

 *Keep the batteries away from children. If swallowed, contact a doctor immediately. Batteries should be disposed of properly according to local regulations.*

Change Batteries Yourself

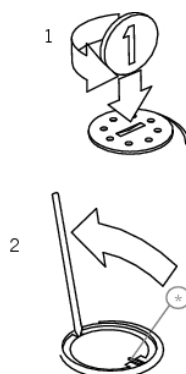
To change the batteries of the training computer and heart rate sensor yourself, carefully follow the instructions below:

When changing the battery, make sure the sealing ring is not damaged, in which case you should replace it with a new one. You can purchase the sealing ring/battery kits at well-equipped Polar retailers and authorized Polar Services. In the USA and Canada, the additional sealing rings are available at authorized Polar Service Centers. In the USA the sealing ring/battery kits are also available at www.shoppolar.com [<http://www.shoppolar.com>]. Go to www.polar.com [<http://www.polar.com>] to find your own country's shoppolar online store.

When handling a new, fully charged battery, avoid clasp-like contact, i.e. simultaneously from both sides, with metal or electrically conducting tools, like tweezers. This may short circuit the battery, causing it to discharge more rapidly. Typically, short circuiting does not damage the battery, but it may decrease the capacity and the lifetime of the battery.

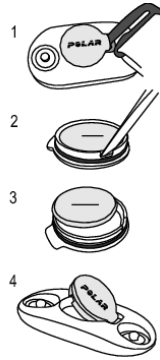
Changing Training Computer Battery

1. Open the battery cover with a coin by turning it from CLOSE to OPEN.
2. When changing training computer battery (2), remove the battery cover and lift the battery out carefully with a suitable sized small rigid stick or bar, for instance, a toothpick or small screwdriver. However, prefer a non-metal tool for wrenching the battery out. Be careful not to damage the metal sound element (*) or the grooves. Insert a new battery with the positive (+) side outwards.
3. Replace the old sealing ring with a new one (if available), fitting it snugly in the cover groove to ensure water resistance.
4. Put the cover back on and turn it clockwise to CLOSE.
5. Re-enter the basic settings.



Changing Polar H2 Heart Rate Sensor Battery

1. Lever the battery cover open by using the clip on the strap.
2. Remove the old battery from the battery cover with a suitable sized small rigid stick or bar, such as a toothpick. A non-metal tool is preferable. Be careful not to damage the battery cover.
3. Insert the battery inside the cover with the negative (-) side outwards. Make sure the sealing ring is in the groove to ensure water resistance.
4. Align the ledge on the battery cover with the slot on the connector and press the battery cover back into place. You should hear a snap.



Changing Polar WearLink+ Hybrid Heart Rate Sensor Battery

1. Using a coin, open the battery cover by turning it counterclockwise to OPEN.
2. Insert the battery inside the cover with the negative (-) side outwards. Make sure the sealing ring is in the groove to ensure water resistance.
3. Press the cover back into the connector.
4. Use the coin to turn the cover clockwise to CLOSE.



For video tutorials on how to change the batteries, go to http://www.polar.com/en/polar_community/videos.



Danger of explosion if the battery is replaced with wrong type.

Power Save Mode

The power save mode is enabled by default. During the night, in between the hours 24:00 - 06:00 / 12:00am - 06:00am, the training computer display will be switched off automatically. During this time the AutoSync function is not enabled. To exit the power save mode, press any button. After five minutes, the display returns to power save mode.

***i** The time period during which the power save mode is enabled, can be modified in the WebSync software, to better suit your training schedule. For more information, see WebSync Help.*

Battery Lifetime in RCX5

The battery lifetime for the RCX5 training computer is on average 8-11 months and depends on which features and sensors you use. The suggestions below will help you to lengthen the battery lifetime.

To ensure 11 month lifetime of the battery:

- Set the AutoSync feature off in Connect # AutoSync.
- Set GPS sensor off when you do not need speed, distance or location data.

If you do not need speed, distance, cadence, location or heart rate data, make sure that the corresponding sensor (GPS/Stride/Speed/Cadence/Heart rate) is disabled. Go to **Settings > Sport profiles** and select **Off** to disable the sensor you are not using. When a sensor is set **On**, the training computer searches for the sensor signal throughout the training session. This consumes the battery capacity which is likely to shorten the battery lifetime.

Remove the connector from to the strap after training. If you leave the connector attached to the strap, it will keep the sensor awake and consumes the sensor battery. The heart rate sensor is on whenever you are wearing it on your chest, even when the training computer is not measuring your heart rate.

The battery is inserted at the factory. Therefore, when you purchase the product, the actual lifetime of the first battery can seem shorter than estimated.

- The low battery indicator is displayed when 10-15% of the battery capacity is left.
- To avoid data loss, transfer all data from your RCX5 to polarpersonaltrainer.com before changing the battery.
- If you use the backlight a lot, the battery drains more rapidly.
- In cold conditions, the low battery indicator may appear, but will disappear when the temperature rises.
- The backlight and sounds are automatically disabled when the low battery indicator is displayed. Any alarms set prior to the appearance of the low battery indicator will remain active.

Precautions

The Polar training computer shows your performance indicators. Polar training computer is designed to indicate the level of physiological strain and recovery during and after exercise session. It measures heart rate, speed and distance when cycling with a Polar CS speed sensor W.I.N.D. It also measures speed and distance when running with a Polar s3+ stride sensor or with a Polar G5 GPS sensor / Polar G3 GPS sensor W.I.N.D.. The Polar CS cadence sensor W.I.N.D. is designed to measure cadence when cycling. No other use is intended or implied.

The Polar training computer 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 computer. 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 computer 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 computer in this interference-free area as much as possible.

If the training computer still does not work with the training equipment, it may be electrically too noisy for wireless heart rate measurement.

For further information, see www.polar.com/support [<http://www.polar.com/support>].

Minimizing Risks When 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?

ENGLISH

- 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, you can use Polar training computers. 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 (page 56). 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.

Your safety is important to us. The shape of the s3+ stride sensor* is designed to minimize the possibility of it getting caught in something. In any case, be careful when running with the stride sensor in brushwood, for example.

 *The combined impact of moisture and intense abrasion may cause a black color to come off the heart rate sensor's surface, possibly staining light-colored clothes. If you use perfume or insect repellent on your skin, you must ensure that it does not come into contact with the training computer or the heart rate sensor.*

WARNING: This product and its packaging contain chemicals known to the State of California to cause cancer, birth defects or reproductive harm. This notice is provided in accordance with California's Proposition 65. More information: http://www.polar.com/regulatory_information

*Optional s3+ stride sensor W.I.N.D. required.

Technical Specifications

Training computer

Battery life:	Average 8-11 months (if you train on average 1h/day, 7 days/week)
Battery type:	CR 2032
Battery sealing ring:	EPDM O-ring 24.30 x 0.8 mm (No need to change during battery replacement, if sealing ring is not damaged.)
Operating temperature:	-10 °C to +50 °C / 14 °F to 122 °F
Training computer materials:	PMMA lens with hard coating in top surface, training computer body ABS+GF metal parts stainless steel
Wrist strap and buckle materials:	Polyurethane (TPU) and stainless steel
Watch accuracy:	Better than ± 0.5 seconds / day at 25 °C / 77 °F temperature.
Accuracy of heart rate monitor:	± 1% or 1 bpm, whichever larger. Definition applies to stable conditions.
Heart rate measuring range:	15-240
Current speed display range:	0-127 km/h or 0-75 mph
Water resistance:	30 m (Suitable for bathing and swimming)

Training computer limit values

Maximum number of files:	99
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Maximum number of training sessions in multisport file:	99
Maximum time recorded to file:	99 h 59 min 59 s
Maximum number of laps:	99
Maximum number of laps in multi sport sessions:	99 per sport
Total distance:	999 999 km / 621370 mi
Total duration:	9999h 59 min 59 s
Total calories:	999 999 kcal
Total training files count:	9999

WearLink®+ Hybrid heart rate sensor

Battery life:	600 hours of use
Battery type:	CR2025
Battery sealing ring:	O-ring 20.0 x 1.0, material silicone
Operating temperature:	-10 °C to +40 °C / 14 °F to 104 °F
Connector material:	Polyamide
Strap material:	Polyurethane/Polyamide/Polyester/Elastane/Nylon
Water resistance:	30 m (Suitable for bathing and swimming)

H2 heart rate sensor

Battery life:	800 h
Battery type:	CR2025
Battery sealing ring:	O-ring 20.0 x 0.90 Material Silicone
Operating temperature:	-10 °C to +40 °C / 14 °F to 104 °F
Connector material:	ABS
Strap material:	38% Polyamide, 29% Polyurethane, 20% Elastane, 13% Polyester
Water resistance:	30 m (Suitable for bathing and swimming)

The Polar RCX5 training computer applies the following patented technologies, among others:

- OwnIndex® technology for fitness test.
- OwnCal® personal calorie calculation.
- OwnZone® assessment for determining personal target heart rate limits for the day.
- OwnCode® technology for wireless data transmission.
- WearLink® technology for heart rate measurement.

Polar WebSync Software and Polar DataLink™

System Requirements:	Operating system: Microsoft Windows XP/Vista/7 or Intel Mac OS X 10.5 or newer
	Internet connection
	Free USB port for DataLink

Water resistance

Water resistance of Polar products is tested according to International IEC 60529 IPX7 (1m, 30min, 20°C). Products are divided into four different categories according to 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.

Marking on case back	Water resistant characteristics
Water resistant IPX7	Not suitable for bathing or swimming. Protected against wash splashes and raindrops. Do not wash with a pressure washer.
Water resistant	Not suitable for swimming. Protected against wash splashes, sweat, raindrops etc. Do not wash with a pressure washer.

Marking on case back	Water resistant characteristics
Water resistant 30 m/50 m	Suitable for bathing and swimming
Water resistant 100 m	Suitable for swimming and snorkeling (without air tanks)

Using the Training Computer in Water

The training computer may be worn when swimming. It is not, however, a diving instrument. To maintain water resistance, do not press the buttons of the training computer under water. When measuring heart rate in water, you may experience interference for the following reasons: Pool water with a high chlorine content, and seawater, are very conductive. The electrodes of a heart rate sensor may short-circuit, preventing ECG signals from being detected by the heart rate sensor. Jumping into water or a strenuous muscle movement during competitive swimming may shift the heart rate sensor to a location on the body where ECG signals cannot be picked up. The ECG signal strength is individual and may vary depending on the individual's tissue composition. Problems occur more frequently when measuring heart rate in water. If you are having problems measuring heart rate in salt water or highly chlorinated water, we recommend you use the Polar T31c heart rate sensor.

Frequently Asked Questions

What should I do if...

...the battery symbol and Low battery is displayed?

The low battery indicator is usually the first sign of an expired battery. However, in cold conditions the low battery indicator may appear. The indicator will disappear as soon as the temperature rises enough. When the symbol appears, the training computer sounds and backlight are automatically deactivated. For further information on changing the battery, see Important Information (page 52).

...I do not know where I am in the menu?

Press and hold BACK until the time of day is displayed.

...there are no reactions to any buttons?

Reset the training computer by pressing all the buttons simultaneously for two seconds until the display fills with digits. Press any button, select language and set the time and date in Basic Settings after the reset. All other settings are saved. Skip the rest of the settings by pressing and holding BACK.

...the heart rate reading becomes erratic, extremely high or shows nil (00)?

- Make sure the heart rate sensor strap has not loosened during exercise.
- Make sure the textile electrodes in the sports apparel fit snugly.
- Make sure the electrodes of the heart rate sensor strap are moistened.
- Make sure the heart rate sensor is clean. Strong electromagnetic signals can cause erratic readings. For further information, see Precautions (page 55).
- If the erratic heart rate reading continues despite moving away from the source of disturbance, slow down your speed and check your pulse manually. If you feel it corresponds to the high reading on the display, you may be experiencing cardiac arrhythmia. Most cases of arrhythmia are not serious, but consult your doctor nevertheless.
- A cardiac event may have altered your ECG waveform. In this case, consult your physician.

...Check heart rate transmitter! is displayed and your training computer cannot find your heart rate signal?

- Make sure the heart rate sensor strap has not loosened during exercise.
- Make sure the electrodes of the heart rate sensor are moistened.
- Make sure the electrodes of the heart rate sensor are clean and undamaged.

If you have done all of the above-mentioned actions, and the message still appears and heart rate measurement does not work, the battery of your heart rate sensor may be empty. For further information, see Important Information (page 52).

...Calibration failed is displayed?*

Calibration did not succeed and you need to re-calibrate. Calibration fails if you move during the process. Once you reach lap distance, stop running and stand still for calibration. The range of the calibration factor during manual calibration is 0.500-1.500. If you have defined the calibration factor below or above these values, calibration fails.

*Optional s3+ stride sensor required.

...Memory 90...99% full is displayed?

1 hour of memory left is displayed when there is approximately 1 hour of memory left. To maximize the remaining memory capacity, select the longest recording rate (1 minute) from **SETTINGS > GENERAL SET. > Recording rate**. Once the memory has been depleted **Memory full** is displayed. To free memory transfer the training files to polarpersonaltrainer.com and delete them from the training computer memory.

ZoneOptimizer determination fails?

- Make sure the electrodes of the heart rate sensor are moistened.
- Make sure the heart rate sensor strap has not loosened during exercise.
- Make sure the electrodes of the heart rate sensor are clean and undamaged.
- Make sure you have followed the instructions carefully.

If you have done all of the above-mentioned actions, and the message still appears and heart rate measurement does not work, the battery of your transmitter may be empty. For further information, see Important Information (page 52).

Limited International Polar Guarantee

- This guarantee 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.
- This limited Polar international guarantee is issued by Polar Electro Inc. for consumers who have purchased this product in the USA or Canada. This limited Polar international guarantee is issued by Polar Electro Oy for consumers who have purchased this product in other countries.
- Polar Electro Oy/Polar Electro Inc. guarantees the original consumer/purchaser of this device that the product will be free from defects in material or workmanship for two (2) years from the date of purchase.
- **The receipt of the original purchase is your proof of purchase!**
- The guarantee does not cover the battery, 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, armband, elastic strap and Polar apparel.
- The guarantee does not cover any damage/s, losses, costs or expenses, direct, indirect or incidental, consequential or special, arising out of, or related to the product.
- Items purchased second hand are not covered by the two (2) year warranty, unless otherwise stipulated by local law.
- During the guarantee period, the product will be either repaired or replaced at any of the authorized Polar Service Centers regardless of the country of purchase.

Guarantee with respect to any product will be limited to countries where the product has been initially marketed.

CE 0537

This product is compliant with Directives 93/42/EEC, 1999/5/EC and 2011/65/EU. The relevant

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Declaration of Conformity is available at www.polar.com/support [<http://www.polar.com/support>].

Regulatory information is available at www.polar.com/support [<http://www.polar.com/support>].



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INDEX

AutoSync	35	Reset week summaries	25
Basic settings	8	Running Cadence	47
Battery symbol	58	Running Index	48
Bike settings	28	Running settings	27
Blank display	58	Service	52
Button functions	8, 17	Set heart rate view	30
Buttons do not react	58	Set zone lock	30
Cadence sensor pairing	42	Set ZoneOptimizer	30
Calibration	10	Speed sensor pairing	42
Calibration by running	11	Sport profiles	10
Calibration manually	11	Sport profile settings	27
Care instructions	52	Sport Zones	44
Change batteries	52	Start training	13
Connection settings	35	Stop recording	20
Create new sport profiles	27	Stride length	47
Customize training views	18	Stride sensor pairing	43
Cycling settings	28	Swimming settings	29
Delete files	25	Time 1	34
Endurance program	10, 51	Totals	25
Erratic readings	58	Training files	22
Fitness Level Classes for men	38	Training load	50
Fitness Level Classes for women	38	Training results	22
Fitness Test	37	Transfer data	26
General settings	33	User information settings	31
GPS sensor pairing	42	Using a new accessory	42
Heart rate sensor	13	Using new heart rate sensor	41
Heart rate settings	30	Watch face	34
HeartTouch	17	Watch settings	34
HR _{max}	47	Water resistance	57
Information on display	18	Week summaries	24
Interference	55	ZoneLock	17
Low battery	58	ZoneOptimizer	14, 14, 45, 59
Measure wheel size	29	Zoom display	17
Memory full	59, 59	Zoom training view	8
Memory low	59		
Menu	8		
Minimizing risks	55		
Modify settings	27		
Multisport training	16		
Multisport training file	24		
Night mode	18		
On-the-fly calibration	11		
Other sport settings	30		
OwnIndex	37		
Pause recording	20		
Pause training	18		
Precautions	55		
Quick menu	35		
Quick menu in Pre-training mode	35		
Quick menu in Time mode	35		
Quick menu in Training mode	35		
Race pace	5, 16, 39		
Reminder	20		
Remove pairings	35		
Reset totals	25		
Reset trip	25		