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**POLAR**<sup>®</sup>  
*LISTEN TO YOUR BODY*

17929842.00 MULTI A

## **Polar CS300™**

User Manual  
Gebrauchsanleitung  
Manuel d'utilisation  
Gebruiksaanwijzing  
Manuale dell'utente  
Manual del usuario  
Manual do utilizador

**POLAR**<sup>®</sup>  
*LISTEN TO YOUR BODY*

# POLAR CS300™ CYCLING COMPUTER COMPONENTS



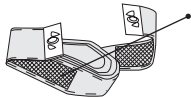
## Wrist Unit

The wrist unit displays and records cycling and exercise data during exercise.

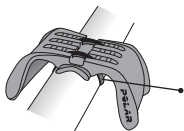


## WearLink™ Coded Transmitter

The connector transmits the heart rate signal to the cycling computer.



The electrode areas of the strap detect your heart rate.



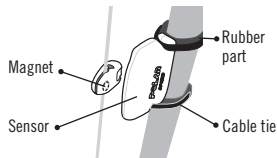
## Polar Bike Mount™

Secure the bike mount to your bike and attach the cycling computer to it.

Cable tie

## Polar Speed Sensor™

A wireless speed sensor measures speed and distance during cycling.



[polarpersonaltrainer.com](http://polarpersonaltrainer.com)

[polarpersonaltrainer.com](http://polarpersonaltrainer.com) is a personal cycling coach tailored to support your training goals. **Free registration** gives you access to a personalized training program, training diary, useful articles, and much more.

For the latest product tips and for online support visit [www.polar.fi](http://www.polar.fi).

## Customer Service and International Guarantee Information

If your cycling computer needs repair, send it with the Polar Service Return Card for service to your Polar Service Center. The two-year Polar guarantee is issued to the original customer/purchaser of the product. Keep the International Guarantee Card as your proof of purchase.

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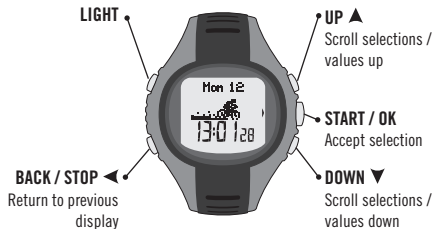
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# 1. GETTING STARTED

## 1.1 BASIC SETTINGS

Before you start exercising with the Polar Cycling Computer, customize the Basic settings. Enter as accurate data as possible to ensure correct feedback based on your performance.



1. To activate your Polar Cycling Computer, press **OK** twice. Once activated, it cannot be switched off!
2. **WELCOME TO POLAR CYCLING WORLD** is displayed. Press **OK**.
3. **Language:** Select **ENGLISH, DEUTSCH, ESPAÑOL, FRANÇAIS** or **ITALIANO** with the **▲ / ▼** buttons. Press **OK**.
4. **START WITH BASIC SETTINGS** is displayed. Press **OK**.

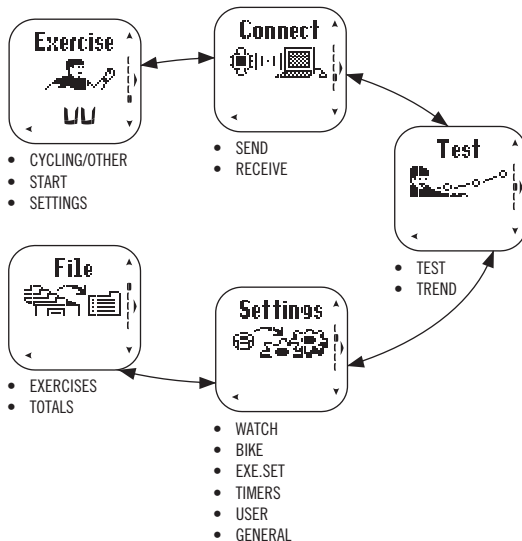
To adjust the following data, use the **▲ / ▼** and **OK** buttons:

5. **Time:** Select either **12 H** or **24 H** and enter the local time.
6. **Date:** Enter today's date; dd = day, mm = month, yy = year.
7. **Units:** Select either metric (**KG/CM**) or imperial (**LB/FT**).  
*Note: By selecting LB/FT, calories are displayed as Cal, otherwise they are shown as kcal.*
8. **Weight:** Enter your weight.  
*Note: To change units, press and hold the LIGHT button.*
9. **Height:** Enter your height.  
*Note: in LB/FT format, first enter feet then inches.*
10. **Birthday:** Enter your date of birth; dd = day, mm = month, yy = year
11. **Sex:** Select **MALE** or **FEMALE**.
12. **SETTINGS OK?** is displayed. Select **YES** or **NO**.
  - **YES:** settings are accepted and saved. The display returns to time mode.
  - **NO:** Basic settings can still be changed. Press **◀** to return to the data you want to change.

## 1.2 MENU STRUCTURE



Press ▲/▼ to scroll and  
OK to enter a mode/menu.

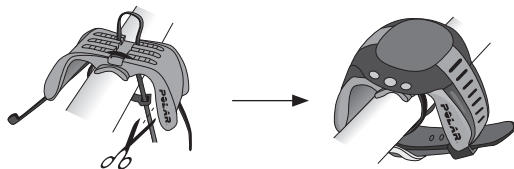


**Tip:**

- To lock/unlock buttons, press and hold **LIGHT** button.
- To return to Time mode, press and hold ◀.

## 2. INSTALL

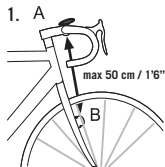
### 2.1 INSTALL BIKE MOUNT



Use cable ties to secure the bike mount snugly on the handlebar as shown above.

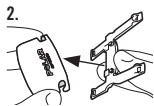
To ensure the most accurate reading, attach the wrist unit to the bike mount every time you do a cycling exercise.

### 2.2 INSTALL SPEED SENSOR

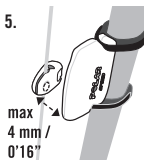
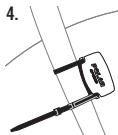
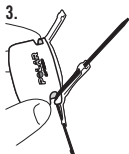


1. Attach the speed sensor on the opposite side of the front fork than the mounted cycling computer. The distance from the cycling computer should be 30-40 cm/1'-1'3". If you are exercising in surroundings with electromagnetic interference, the distance should be minimized (minimum 30 cm/1'). The speed sensor and cycling computer should form approximately a 90° angle.

If the distance between the cycling computer and the speed sensor should be longer than recommended (for example with mountain bikes with the front suspension), the speed sensor should be attached on the same side of the front fork as the cycling computer. In this case the maximum distance is 50 cm/1'6".



2. Attach the rubber part to the sensor.



3. Pass cable ties through the sensor and rubber part holes (picture 3). Adjust the sensor to the front fork so that the POLAR logo faces outward (picture 4). **Adjust the ties loosely. Do not tighten them fully yet.**

4. Attach the magnet to a spoke at the same level as the sensor (picture 5). The magnet hole must be facing the speed sensor. Fasten the magnet to the spoke and tighten it loosely with a screwdriver. **Do not tighten it fully yet.**

Fine-tune the positioning of both the magnet and the speed sensor so that the magnet passes close to the sensor but does not touch it. Adjust the sensor towards the wheel/spokes as much as possible. The gap between the sensor and the magnet should be under 4 mm/0.16". The gap is correct when you can fit a cable tie just about between the magnet and the sensor.

5. Attach the wrist unit to the bike mount and start a **CYCLING** exercise. (See chapter 3.2 Record Your Exercise.) Rotate the front tyre so that you can see a speed reading on the display. The reading indicates that the magnet and the speed sensor are positioned correctly. Tighten the screw on the magnet and the cable ties securely and cut off any excess cable ends.

## BEFORE RIDING YOUR BIKE

- Make sure that you can turn the handlebar and the pedals normally, and that the cable wires for brakes or gearing do not catch on the bike mount or sensors.
- Enter the wheel size of your bicycle into the cycling computer for accurate speed and distance readings. For further information, see chapter 2.3 Bike Settings.

### **Note:**

- *Start exercising slowly and keep your eyes on the road to prevent any accidents and injury.*
- *Avoid hard hits to the speed sensor as these may damage it.*
- *Polar speed sensor may be used in the rain.*

## 2.3 BIKE SETTINGS (BIKE)



The cycling computer can be programmed for two separate bike preferences. Select bike 1 or bike 2 when you start recording.

View or change the following bike settings in the Settings menu.

Select **Settings** -> **Bike** -> **BIKE 1** or **BIKE 2**:

### 1. AUTOSTART: ON / OFF

The AutoStart function starts or stops exercise recording automatically when you start or stop cycling.

You have to install the Polar Speed Sensor to use the AutoStart function. For further information, see chapter 2.2 Install Speed Sensor.

### 2. CADENCE: ON / OFF

Cadence is the speed at which you turn the cranks of your bicycle measured in revolutions per minute (rpm).

Install an optional Polar Cadence Sensor on your bicycle to access the cadence features of your cycling computer.

### 3. DISTANCE: Target dist ON / OFF (Estimated Time of Arrival)

Set the distance you are going to ride, and the cycling computer will calculate and display the estimated time of arrival based on cycling speed. Install the Polar Speed Sensor on your bike to measure speed and distance. For further information, see chapter 2.2 Install Speed Sensor.

#### 4. WHEEL SIZE

Wheel size settings are a prerequisite for accurate cycling information. To measure size, choose one of two methods:

##### METHOD 1

1. Find the wheel diameter printed on the frame.
2. Match the diameter in inches or in ETRTO to wheel size in millimeters on the right side of the chart. Note that wheel sizes in the above chart are approximate, as wheel size depends on wheel type and air pressure.

##### METHOD 2

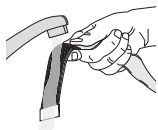
1. Starting with the valve stem exactly at the bottom with a mark on the ground, move your bike on a flat surface straight ahead for one complete wheel rotation. The tire should be perpendicular to the ground. Mark the point at which the valve stem is exactly at the bottom again.
2. Measure the distance between the two marks and subtract 4 mm to account for your weight on the bike. This is the wheel circumference, and the value to use in your cycling computer.

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

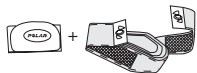
**Note:** Wheel sizes on the above chart are advisory as wheel size depends on the wheel type and air pressure.

## 3. START EXERCISING

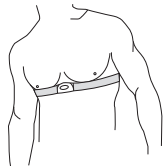
### 3.1 WEAR THE TRANSMITTER



1. Wet the electrodes (bits of cross-ply fabric) on the strap with water.



2. Attach one end of the connector to the strap.  
(LEFT=L or RIGHT=R.)







3. Adjust the length until the strap fits snugly around your chest. The Polar logo should be in a central, upright position. Fasten the other end of the connector to the strap.



4. Unfasten the belt after exercise by applying pressure with your thumb and forefinger and turn as indicated in the picture.

## 3.2 RECORD YOUR EXERCISE



1. Wear the transmitter and wrist unit. Start heart rate measurement by pressing **OK**. **Exercise** is displayed and the cycling computer starts to search for your heart rate. Preferably, there should be no other heart rate monitors nearby (within 1m / 3ft) to avoid interference.
2. Within 15 seconds, your heart rate is shown in digits, and  appears on the display. The frame around the heart symbol indicates that transmission is coded. Coding blocks interference from nearby heart rate monitors.
3. Press **OK**. Select **Exercise** type, **CYCLING / OTHER**, and press **OK**.
  - **CYCLING** exercise  allows you to measure cycling related features such as speed and distance. To select BIKE 1 or 2, press and hold .
  - Choose **OTHER** exercise for running, swimming etc.
4. Record the exercise session by selecting **START** and pressing **OK**. The stopwatch starts running and the exercise recording symbol  is displayed.

You can adjust Exercise settings by selecting **SETTINGS**. For further information, see chapter 3.3 Exercise Settings.

- Press  to stop recording. Select **EXIT** to view an exercise summary.

### 3.3 EXERCISE SETTINGS (EXE. SET)



Access exercise settings by selecting **Settings** -> **EXE. SET**, or before recording an exercise, by selecting **Exercise** -> **CYCLING / OTHER** -> **SETTINGS**. The settings allow you to customize the target zone alarm sound, target zone limits and heart rate view.

#### 1. ALARM: VOL 2 / VOL 1 / OFF

Adjust the target zone alarm sound volume. This symbol  indicates that the alarm is activated.

#### 2. LIMITS: OWNZONE / AUTOMATIC / MANUAL / CADENCE / OFF

Heart rate (or cadence) limits help you maintain a specified level of intensity during exercise. The target heart rate zone is a range between lower and upper heart rate limits. If you have installed an optional cadence sensor, you can also make use of lower and upper cadence limits.

You can choose to exercise within four different limits. For exercise without any given limits, select **OFF**.

- **OWNZONE** limits - See chapter 3.3.1 OwnZone Limits.
- **AUTOMATIC** limits - See chapter 3.3.2 Automatic Limits.
- **MANUAL** limits - See chapter 3.3.3 Manual Limits.
- **CADENCE** limits - See chapter 3.3.4 Cadence Limits.

#### 3. HR VIEW: HR / HR%

Select **HR** to display your heart rate in beats per minute (bpm) or **HR%** to view a percentage of maximum heart rate.

For more information on  $HR_{max}$ , see chapter 5.2 User Settings.

### 3.3.1 OWNZONE LIMITS (OWNZONE)

OwnZone is your individual aerobic (cardiovascular) training zone that is determined automatically. OwnZone ensures that you exercise within safe limits, and makes exercising easier and more enjoyable.

OwnZone is based on measuring changes in heart rate variability. OwnZone may vary daily, depending on your physical and mental condition. For most adults, OwnZone corresponds to 65-85% of maximum heart rate.

It is advisable to use OwnZone every time you exercise. Otherwise, define your OwnZone,

- When changing exercise environment or exercise mode.
- When taking up exercise after more than a week's break.
- If you are not 100 percent sure of your physical or mental state. For example, if you are not recovered from previous training, not feeling well or are stressed.
- After changing your user settings.


OwnZone has been developed for healthy persons. Some health conditions may cause heart rate variability-based OwnZone determination to fail, e.g. high blood pressure, certain cardiac arrhythmias, and some medication. In such cases, your age-based limits are used in OwnZone determination.

## Determining Your OwnZone Heart Rate Limits

Find your OwnZone limits in 1-5 minutes during a warm up period by cycling or walking/jogging. You should start exercising gently at a light intensity and gradually increase intensity to raise heart rate.

Before you start, make sure that,

- Your user settings are correct.
- The OwnZone function is activated. The cycling computer will automatically determine OwnZone every time you start exercising if the OwnZone function is on.

1. Start recording exercise. The OwnZone symbol  appears on the display. To skip OwnZone determination and use the limits from your previous session, press **OK**.
2. OwnZone determination begins. The process happens in five stages. A beep will signal the end of each stage (if the sound settings are on), and the display will automatically light up (if you have switched the backlight on once before). Avoid stopping during OwnZone determination.

 \_\_\_\_\_ 1. Cycle or walk at a slow pace for 1 min. Keep your heart rate below 100 bpm/ 50 %  $HR_{max}$  during this first stage.

 \_\_\_\_ 2. Cycle or walk at a normal pace for 1 min. Slowly increase your heart rate by approximately 10 bpm/ 5 %  $HR_{max}$ .

 \_ 3. Cycle or walk at a brisk pace for 1 min. Increase your heart rate by approximately 10 bpm/ 5 %  $HR_{max}$ .

 \_ 4. Cycle at a brisk pace or jog at a slow pace for 1 min. Increase your heart rate by approximately 10 bpm/ 5 %  $HR_{max}$ .

 5. Cycle or jog at a brisk pace or run for 1 min. Increase your heart rate by approximately 10 bpm/ 5 %  $HR_{max}$ .

3. At some point during the session, you will hear two, consecutive beeps. This means OwnZone has been determined. If determination was successful, **OwnZone Updated** will alternate with the heart rate limits on your display. The limits are displayed in beats per minute (bpm) or as a percentage of maximum heart rate (%HR<sub>max</sub>) depending on your settings.
4. If OwnZone determination was not successful, your previously determined OwnZone will be used and **OwnZone Limits** appears with the limits on the display. If OwnZone has not previously been recorded, age-based limits will be used.
5. Proceed with your exercise. Try to stay inside the given heart rate zone to maximize exercise benefits.

**Note:** *If you skip the OwnZone determination or if the determination fails, the previous OwnZone limits or age-based limits will be used.*

### 3.3.2 AUTOMATIC LIMITS (AUTOMATIC)

Automatic limits are determined using an age-based formula (220 minus age). The limits are displayed either in beats per minute (bpm) or as a percentage (%) of your maximum heart rate. Your date of birth is required for the cycling computer to calculate the automatic limits.

Choose automatic limits in four exercise intensities:

#### **HARD**

80-90%  $HR_{max}$ . For relatively short exercise at high intensity, for example cycling anaerobically in intervals of up to 12 minutes. The shorter the interval, the higher the intensity. Make sure you recover sufficiently between intervals.

#### **MODERATE**

70-80%  $HR_{max}$ . Enhances aerobic power. Training may consist of long intervals, such as uphill or high-cadence intervals.

#### **LIGHT**

60-70%  $HR_{max}$ . Endurance training at this easy pace increases metabolic economy. It helps save glycogen for higher intensities, and uses fat as the main source of energy. It also prepares your body for higher intensity training.

#### **BASIC**

Basic intensity zone (65-85%  $HR_{max}$ ) is suitable for general aerobic exercise.

*Tip: Consult with your personal cycling coach and create your own training program at [polarpersonaltrainer.com](http://polarpersonaltrainer.com).*

### 3.3.3 MANUAL LIMITS (MANUAL)

Determine and set your target heart rate limits manually, either in bpm or % of your HR<sub>max</sub>.

### 3.3.4 CADENCE LIMITS (CADENCE)

Set the upper and lower cadence limits for a cycling session. For this you need an optional cadence sensor.

**Note:** *If you choose the cadence limits for a non-cycling (OTHER) exercise, automatic limits are in use by default.*

**Tip:** *In general, it is advisable to maintain cadence between 80 and 100 rpm. To build muscular strength, ride with low gears and low cadence. To increase suppleness, use high gears and high cadence.*

## 3.4 TIMERS (TIMERS)

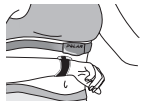
Your cycling computer is equipped with two alternating timers, allowing you to set one repeating or two alternating time intervals. The timers function during exercise recording.

**Tip:** *Use the timers as a reminder to drink at certain intervals or as a training tool in interval training, prompting you to switch from a harder pace to a lighter one or vice versa.*

### 3.5 FUNCTIONS DURING EXERCISE

There are two types of button presses:

- **Short press**; press and release the button
- **Long press**; press and hold the button for at least one second



#### **Heart Touch** (hands free button)

To view the time or target zone limits during exercise without pressing buttons, bring the wrist unit near the Polar logo on the transmitter belt.

#### **Tip:**

- In Exercise mode, press the **LIGHT** button to activate **Night mode** (🌙). The display will now light up with every button press, including Heart Touch.
- When recording a session with limits on, arrows on the display guide you to increase or decrease heart rate or cadence to keep within the limits.

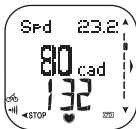
### 3.6 EXERCISE MODE VIEWS

View combinations of exercise data. Switch displays with ▲ / ▼.



**Speed** view can only be displayed in **CYCLING** mode.

- Total distance / trip alternating
- Speed (km/h or mph)
- Heart rate



**Cadence** only when cadence data is available in **CYCLING** mode.

- Current speed (Spd) / average speed (AvgSp) alternating
- Cadence (cad)
- Heart rate



**Duration**

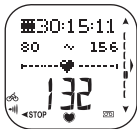
- **CYCLING** mode: Total expended kilocalories (kcal/Cal)
- **OTHER** mode: Total expended kilocalories (kcal/Cal) and estimated calorie consumption per hour (Cal/h) alternate
- Session duration
- Heart rate

**Note:** In Cycling mode, if heart rate is 00, current speed (Spd) and average speed (AvgSp) alternate on the upper row.



### Time

- Estimated Time of Arrival (ETA) based on cycling speed.
- Note: If ETA function is not in use, speed (Spd) and average speed (AvgSp) alternate on the upper row.*
- Time
- Heart rate



**Zone Pointer** helps you stay inside the target zone. Current heart rate / cadence appears as a heart / cadence symbol between upper and lower limits.

*Note: Zone Pointer view is only displayed when HR / cadence limits are turned on.*

- InZone symbol and time spent in zone
- Lower / upper limit values and Zone Pointer
- Heart rate



**Energy Output / Calorie Consumption** view can only be displayed in **CYCLING** mode.

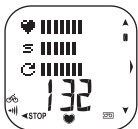
Energy Output tracks the cycling workload in Cal/h and Cal/km or Cal/mi. By predicting calorie consumption, you can make sure you have a sufficient supply of snacks on a long ride. This feature is also useful for comparing and analyzing the workloads of various training types. It can also measure training economy.

- Average heart rate (AvgHR)
- Energy Output (Cal/km or Cal/mi) and Calorie consumption rate (Cal/h) alternating
- Heart rate



**Timers** are displayed only when at least one timer is in use. For further information, see chapter 3.4 Timers.

- Timer 1 or Timer 2
- Time left
- Heart rate



**Graphical Comparison** view can only be displayed in **CYCLING** mode.

The three bars represent current

- Heart rate, the number of bars representing the current HR depends on the maximum heart rate you have set (min: 30 bpm; max :  $HR_{max}$ )
- Speed, 1 bar represents 5 km/h or 3 miles/h (min: 1 km/h or 1 mile/h; max : 50 km/h or 30 miles/h)
- Cadence, 1 bar represents 12 rpm (min: 30 rpm; max: 150 rpm)

Heart rate is displayed below the bars.

## 3.7 VIEW EXERCISE SUMMARY

Press ◀ to pause exercise recording. You are given three options:

- **CONTINUE** exercise
- **EXIT** Recording mode and enter Exercise summary view
- Adjust exercise **SETTINGS**

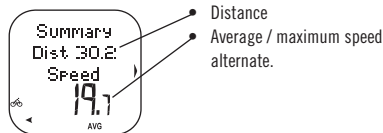
### Summary File

After exiting a **CYCLING** 🚲 exercise, two summary views alternate on the display:

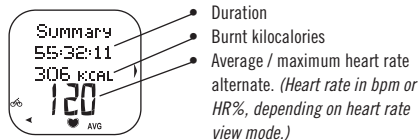
- Cycling information and
- Heart rate information.

After an **OTHER** exercise, only heart rate information is displayed.

#### Cycling information



#### Heart rate information



- Exit Exercise summary view by pressing **OK** or ◀.
- Detailed exercise information is placed in **File**. For further information, see chapter 4. Monitor Your Performance.

## 4. MONITOR YOUR PERFORMANCE

### 4.1 FILE



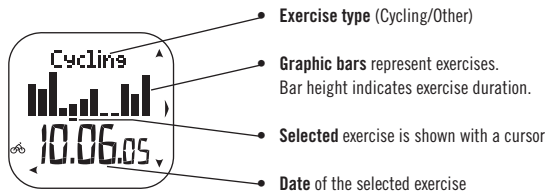
Exercise file allows you to review heart rate and other information recorded during an exercise session.

In the File view, you have two options:

- Detailed information on individual **EXERCISES**.
- This week's / season's **TOTALS**.

#### 4.1.1 EXERCISE FILE (EXERCISES)

The cycling computer can store up to 14 exercise files. Select an exercise you wish to view by pressing ▲ / ▼ and **OK**.



- Press and hold ◀ to enter Time mode.

**Note:** Exercise information is saved only if the stopwatch has been on for more than one minute.

Press ▲ / ▼ to scroll through the following:

### 1. Duration

- The time exercise recording started
- Duration of exercise

**Note:** You can delete the active file by pressing and holding the **LIGHT** button.

### 2. Time in Zone

- Target zone limits
- Time spent in, above and below zone alternate

**Note:** Time in Zone is shown only if HR or Cadence limits are in use during the session.

### 3. Heart Rate

- Maximum heart rate in pbm / %HR<sub>max</sub> alternate
- Average heart rate in pbm / %HR<sub>max</sub> alternate

### 4. Calorie Expenditure

- Burnt calories (kcal / Cal)
- Fat percentage of burnt calories

**Note:** Estimated fat consumption is calculated using total kilocalories expended during a training session. Fat percentage can vary between 10 to 60%. For example, if total energy expenditure during exercise is 245 kcal/Cal and fat percentage is 45%, then 45% of the energy needed for exercise is taken from fat resources and 55% from carbohydrates.

### 5. Distance and Speed

- Distance (km / miles)
- Average and maximum speed (km/h / mph) alternate

### 6. Riding time and Cadence

- Riding time
- Average and maximum cadence

## 4.1.2 TOTALS FILE (TOTALS)

The Totals file has two options for total values since last reset: this **WEEK**'s or this **SEASON**'s total exercise information.

- 1. Exercise Time (Exe.Time)**
    - Reset date
    - This week's/season's total exercise time
  - 2. Riding Time (RideTime)**
    - Reset date
    - This week's/season's total riding time
  - 3. Calories**
    - Reset date
    - This week's/season's total calorie expenditure
  - 4. Exercise Count (Exe.Count)**
    - Reset date
    - Number of exercise sessions this week/season
  - 5. Riding Count (Ride.Count)**
    - Reset date
    - Total number of riding sessions this week/season
  - 6. Odometer (Only in Season Totals)**
    - Odometer (km/miles) for bike 1 and bike 2 alternate
  - 7. Riding Distance (Distance 1 / 2) for bike 1 / bike 2**
    - Reset date
    - This week's/season's total cycling distance.
  - 8. Maximum Speed (MaxSp)**
    - The date maximum speed was recorded
    - This week's/season's maximum speed
  - 9. Maximum Cadence (Max.cad), only if cadence data is available**
    - The date maximum cadence was recorded
    - This week's/season's maximum cadence
  - 10. Heart Rate Zones (HR zones)**
    - Reset date
    - Heart rate zones in graphic mode
    - Total time spent in zones this week/season
- To see details for each zone, press **OK**.  
**Light / Moderate / Hard Zone Views**
- Heart Rate zones in graphic mode
  - Time spent in zones
- 11. Reset Total Counters? (Only in Season Totals)**  
More information in the next chapter.

## Resetting Season Values

1. In the **File** menu, select **TOTALS -> SEASON -> Reset Total Counters?**
2. Choose the value you wish to reset from the menu and confirm with **OK**.
  - **EXE.TIME** (Exercise time)
  - **RIDETIME** (Riding time)
  - **CALORIES**
  - **EXE.COUNT** (Exercise count)
  - **RIDE.COUNT** (Riding count)
  - **DISTANCE 1**
  - **DISTANCE 2**
  - **MAX.SPEED** (Maximum speed)
  - **MAX.CAD** (Maximum cadence)
  - **HR ZONES** (Heart rate zones)

To reset all values, select **ALL** in the menu.

3. **ARE YOU SURE?** is displayed. To reset, select **YES. Deleted information cannot be retrieved.**  
Select **NO** to return to the Reset menu.

### **Note:**

- *The odometer can only be reset using the Polar UpLink Tool software. For further information, see chapter 4.2 Data Transfer.*
- *Weekly totals are reset automatically every Sunday at midnight.*

## 4.2 DATA TRANSFER (CONNECT)



The cycling computer offers two means of data communication with a PC:

- **SEND** data with Polar WebLink™  
Transfer exercise data to the Polar web service using Polar WebLink software.
- **RECEIVE** data with Polar UpLink™ Tool  
Edit cycling computer settings and upload logos from a PC to your wrist unit using Polar UpLink Tool software.

To download the Polar WebLink and Polar UpLink Tool free of charge visit [www.polar.fi](http://www.polar.fi).

### **polarpersonaltrainer.com**

**polarpersonaltrainer.com** is your personal cycling coach on the Web. Register for the service and get access to features such as

- Cycling Training Programs - a customized training program developed by elite coaches in cooperation with Polar.
- Training Diary - to store your training data and follow up on your development.
- Articles - Relevant cycling and training articles by Polar professionals keeping you informed and up to date.

### 4.3 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, predicts your maximal oxygen uptake ( $VO_{2max}$ ).

The Polar Fitness Test also calculates the predicted maximum heart rate ( $HR_{max-p}$ ). The Polar Fitness Test is designed for healthy adults.

To make sure 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 place, at the same hour, and in the same environment.
- 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.

### 4.3.1 PERFORMING THE FITNESS TEST (TEST)

**Note:** To carry out the Polar Fitness Test, enter your personal user information and long-term physical activity level in the User settings. See chapter 5.2 User Settings for further information. Wear the transmitter during the test.

1. In Time mode, select **Test** -> **TEST**. The fitness test begins immediately. **Fitness Test** > \_\_\_\_\_ is displayed. Arrows >> indicate the test is ongoing.
2. When the test is over, you will hear two beeps.  
**OwnIndex** is displayed with a numerical value and level evaluation, as well as the date. Press **OK**.
3. **UPDATE USER SET? NO / YES** is displayed. By selecting **YES** the OwnIndex value is saved in your user settings.
4. **HR<sub>max</sub> predicted** is displayed, as well as a numerical value and the date. Press **OK**.
5. **UPDATE USER SET? NO / YES** is displayed. By selecting **YES** the HR<sub>max-p</sub> value is saved in your user settings.

The OwnIndex value is saved in the **Trend** menu. See chapter 4.3.2 Fitness Test Trend for further information.

#### Interrupting the Test

You can stop the test anytime by pressing ◀. **Fitness test failed** is displayed for a few seconds. The previous OwnIndex and HR<sub>max-p</sub> are not replaced.

## 4.3.2 FITNESS TEST RESULTS

### OwnIndex

The Polar Fitness Test results in a value called the OwnIndex. This is a value comparable to maximal oxygen uptake ( $VO_{2max}$ ), which is commonly used to evaluate aerobic (cardiovascular) fitness. Your long-term level of physical activity, heart rate, heart rate variability at rest, gender, age, height and body weight all influence OwnIndex.

OwnIndex is useful for following the development in your fitness level over a longer period of time. When aiming to improve aerobic fitness, a noticeable change in OwnIndex can be seen in 6 weeks on average. Less fit individuals may see progress occur even more rapidly, while more time is needed for fitter individuals. The better your aerobic fitness, the smaller the improvements in OwnIndex.

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. Then, repeat the test approximately once a month.

### Predicted Maximum Heart Rate (HR<sub>max-p</sub>)

The HR<sub>max-p</sub> is also calculated during the Polar Fitness Test. The HR<sub>max-p</sub> score predicts your individual maximum heart rate more accurately than the age-based formula (220 minus age).

For further information on HR<sub>max-p</sub>, see chapter 5.2 User Settings.

## Fitness Classes

Your OwnIndex is most meaningful when comparing your individual values and changes in them over time. OwnIndex can also be interpreted based on your gender and age. Locate your OwnIndex on the table below and find out how your aerobic fitness compares to others of the same gender and age.

	Age	1	2	3	4	5	6	7
	YEARS	VERY	LOW	FAIR	MODERATE	GOOD	VERY	ELITE
		LOW					GOOD	
<b>MEN</b>	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

	Age	1	2	3	4	5	6	7
	YEARS	VERY	LOW	FAIR	MODERATE	GOOD	VERY	ELITE
		LOW					GOOD	
<b>WOMEN</b>	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 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.

**Note:** Top athletes typically score OwnIndex values above 70 (men) and 60 (women). Olympic-level endurance athletes can reach values as high as 95. OwnIndex is highest in sports that involve large muscle groups such as cycling and cross-country skiing.

### 4.3.3 FITNESS TEST TREND (TREND)

In the **Trend** menu, you can see how your OwnIndex value has been developing. Up to 47 OwnIndex values and respective dates are included in the display.

#### Deleting OwnIndex values

Select the value you wish to delete and press and hold the **LIGHT** button. **DELETE VALUE? NO / YES** is displayed. Confirm your selection by pressing **OK**.

## 5. SETTINGS


### 5.1 WATCH SETTINGS (WATCH)



#### 1. ALARM: OFF / ONCE / MON - FRI / DAILY

You can set the alarm to function **ONCE**, from Monday to Friday (**MON-FRI**) or **DAILY**. The alarm functions in all modes except in Exercise mode and will sound for a minute unless you press ◀ to cancel. To delay the alarm an extra 10 minutes, press ▲ / ▼ or **OK**. To cancel the snooze, press ◀.

#### Note:

- If  appears in the display, the alarm cannot be activated.
- The alarm will still sound even if you have turned the sound off in the General settings.

*Tip:* In Time mode, press and hold ◀ to access the Alarm menu.

#### 2. TIME 1

#### 3. TIME 2

#### 4. TIME ZONE: TIME 1 / TIME 2

You can set two time zones in the cycling computer. Once you have set **TIME 1**, continue to **TIME 2** to configure a new time zone.

*Tip:* In Time mode, press and hold ▼. The '2' next to the time indicates that **TIME 2** is now in use.

#### 5. DATE

*Note:* For additional information about **BIKE** settings, **EXE. SET** (exercise settings) and **TIMERS**, see chapters 2.3 Bike Settings, 3.3 Exercise Settings and 3.4 Timers.

## 5.2 USER SETTINGS (USER)

Entering accurate personal information ensures that you receive correct feedback based on your performance (calorie consumption, OwnZone determination etc).

1. **Weight**

2. **Height**

3. **Birthday**

4. **Sex: MALE / FEMALE**

5. **Activity: TOP / HIGH / MODERATE / LOW**

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 in the past three months.

### **TOP**

You participate regularly in heavy physical exercise at least 5 times a week, or you exercise to improve performance for competitive purposes.

### **HIGH**

You participate regularly, at least 3 times a week, in heavy physical exercise, e.g. you run 10-20 km / 6-12 miles per week or spend 2-3 hours per week in comparable physical activity.

### **MODERATE**

You participate regularly in recreational sports, e.g. you run 5-10 km / 3-6 miles per week or spend 1/2-2 hours per week in comparable physical activity, or your work requires modest physical activity.

### **LOW**

You do not participate regularly in programmed recreational sport or heavy physical activity, e.g. you walk only for pleasure or occasionally exercise hard enough to cause heavy breathing or perspiration.

## Extra User Settings

The cycling computer uses  $HR_{max}$ ,  $HR_{sit}$  and  $VO_{2max}$  values for estimating your energy expenditure.

*Note: Default values of  $HR_{max}$ ,  $HR_{sit}$  and  $VO_{2max}$  based on your age may be used when no other accurate values are available.*

### 1. $HR_{max}$ (Maximum heart rate)

$HR_{max}$  is the highest number of heartbeats per minute during maximum physical exertion.  $HR_{max}$  is used to determine exercise intensity.  $HR_{max}$  may vary to some extent according to sport genre, for example running  $HR_{max}$  > cycling  $HR_{max}$  > swimming  $HR_{max}$ .

The most accurate method for determining individual  $HR_{max}$  is to perform a maximal exercise stress test in a laboratory.  $HR_{max}$  can also be deduced from the  $HR_{max-p}$  score given by the Polar Fitness Test. Or, calculate an estimate of  $HR_{max}$  with the age-based formula '220 minus age'.

### 2. $HR_{sit}$ (Heart rate value in a sitting position)

$HR_{sit}$  is your typical heart rate when you are not doing any physical activity (while sitting). To easily determine  $HR_{sit}$ , wear your transmitter, sit down and do not engage in any physical activity. After two or three minutes, press **OK** in Time mode to view your heart rate. This is your  $HR_{sit}$ . For a more precise measurement, repeat the procedure several times and calculate your average.

### 3. $VO_{2max}$ (Maximal oxygen uptake)

$VO_{2max}$  is your body's maximum capacity for oxygen consumption during maximum exertion. The most accurate way of determining  $VO_{2max}$  is to perform a maximal stress test in a laboratory.

If you know your exact clinically tested  $VO_{2max}$ , select the value from the scroll list. Otherwise, measure a comparable value, OwnIndex, by taking the Polar Fitness Test. For further instructions, see chapter 4.3 Polar Fitness Test.

## 5.3 GENERAL SETTINGS (GENERAL)

### 1. SOUND: VOL 2 / VOL 1 / OFF

Adjust the sounds of the cycling computer.

**Note:** When **!** and **Battery low** are displayed, the backlight and cycling computer sounds are automatically deactivated.

### 2. KEYLOCK: MANUAL / AUTOMATIC

Keylock prevents accidental pressing of the buttons.

- **Manual** keylock - press and hold the **LIGHT** button (for at least one second to turn keylock on / off).
- **Automatic** keylock - is activated when you have not pressed the buttons for a minute.

### 3. HELP: ON / OFF

When the Help function is on, help notes guide you through the functions.

For example, when you change to a different view during exercise recording, a help text is displayed on the upper row.

### 4. UNITS: KG/CM / LB/FT

Select metric or imperial units.

### 5. LANGUAGE: ENGLISH / DEUTSCH / ESPAÑOL / FRANÇAIS / ITALIANO

**Tip:** Settings can be configured and transferred to your cycling computer using a PC. For further information, see chapter 4.2 Data Transfer.

## CARE AND MAINTENANCE

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

Taking Care of Your Polar Cycling Computer	Wrist Unit	Transmitter (Connector / Strap)	Speed Sensor
Keep in a cool and dry place, not in a damp environment, in non-breathable material (a plastic bag or a sports bag) nor with conductive material (a wet towel).	X	X	—
Do not immerse in water.	—	—	X
Clean with a mild soap and water solution, dry with towel. Never use alcohol or any abrasive material (steel wool or cleaning chemicals). Detach the connector from the strap when not in use.	X	Connector	X
Wash after use in pool water with high chlorine content. Can be washed in a washing machine at 40 °C / 104 °F. Use a washing pouch. Do not spin-dry or iron.	—	Strap	—
Operating temperatures are -10 °C to +50 °C / +14 °F to +122 °F.	X	X	X
Do not expose to direct sunlight for extended periods.	X	—	—


### Service

During the two-year guarantee/warranty period, we recommend that you service the product at an authorized Polar Service Center only. The warranty does not cover damage or consequential damage caused by service not authorized by Polar Electro.

### Wrist Unit Battery

Do not open the wrist unit yourself. To ensure water resistance properties and the use of qualified components, the wrist unit battery should be replaced by an authorized Polar Service Center only. At the same time, a full periodic check of the cycling computer will be done.

#### Note:

-  and **Battery low** are displayed when 10-15% of the cycling computer battery capacity is left. The backlight and cycling computer sounds are automatically deactivated when these are displayed.
- Excessive use of the backlight drains the cycling computer's battery more rapidly.
- In cold conditions, the low battery indicator may appear, and disappear again when you return to a warmer environment.

### Speed Sensor Battery

Contact your authorized Polar Service Center to replace the speed sensor.

### Transmitter Battery

If your transmitter stops working, it might be due to the battery running out. To change the battery, you need a coin, sealing ring, and battery (CR 2025).



1. Open the battery cover of the connector with a coin by turning it counter clockwise from CLOSE to OPEN.
2. Remove the battery cover, lift the battery and replace it with a new one.
3. Remove the sealing ring of the battery cover and replace it with a new one.
4. Place the negative (-) side of the battery against the bottom.
5. Place the cover with the arrow pointing to OPEN. Make sure that the sealing ring is placed correctly in its groove.
6. Gently press the cover deep enough so that its exterior surface is on the same level as the connector's surface.
7. Turn the cover with the coin clockwise until the arrow points to CLOSE. Make sure that the cover is closed properly!

#### Note:

- In order to ensure the maximum life span of the battery cover, open it only when changing battery. Change the sealing ring every time you change battery. Sealing rings / battery kits are available at well-equipped Polar retailers and authorized Polar Service Centers. In the USA and Canada, sealing rings are available at authorized Polar Service Centers only.
- Keep batteries away from children. If swallowed, contact a doctor immediately.
- Batteries should be disposed of properly according to local regulations.

## PRECAUTIONS

The Polar cycling computer displays performance indicators. It indicates the level of physiological strain and exercise intensity. It also measures speed and distance when cycling with a Polar speed sensor. No other use is intended or implied.

### Minimizing Possible Risks When Exercising

Exercise may include some risk. Before beginning a regular exercise 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?
- Do you have symptoms of any disease?
- Are you taking any blood pressure or heart medication?
- Do you have a history of breathing problems?
- 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 exercise 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 exercise.** If you feel unexpected pain or excessive fatigue when exercising, it is recommended that you stop the exercise or continue at a lighter intensity.

**Notice to individuals with pacemakers, defibrillators or other implanted electronic devices.** Individuals who have a pacemaker use the Polar cycling computer at their own risk. Before starting use, we always recommend a maximal exercise stress test under a doctor's supervision. The test is to ensure the safety and reliability of the simultaneous use of the pacemaker and the Polar cycling computer.

**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 chapter Technical Specifications. To avoid any skin reaction to the transmitter, wear it over a shirt. However, moisten the shirt well under the electrodes to ensure flawless operation.

#### **Note:**

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

### Using Your Polar Cycling Computer in Water

The wrist unit may be worn when swimming. It is not, however, a diving instrument. To maintain water resistance, do not press the buttons of the wrist unit 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 transmitter may short-circuit, preventing ECG signals from being detected by the transmitter.
- Jumping into water or a strenuous muscle movement during competitive swimming may shift the transmitter 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.

### Electromagnetic Interference and Exercise Equipment

- Disturbances may occur near high-voltage power lines, traffic lights, overhead lines of electric railways, electric bus lines or trams, televisions, car motors, bike computers, some motor driven exercise equipment, cellular phones, or when you walk through electric security gates.
- To avoid erratic readings, move away from possible sources of disturbance.
- Several pieces of exercise equipment with electronic or electrical components such as LED displays, motors, and electrical brakes may cause interfering stray signals. To tackle these problems, try the following:
  1. Remove the transmitter from your chest and use the exercise equipment as you would normally.

2. Move the wrist unit around until you find an area in which it displays no stray reading or does not flash the heart symbol. Interference is often worst right 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 transmitter back on your chest and keep the wrist unit in this interference-free area as much as possible.
- If the cycling computer still does not work with the exercise equipment, this piece of equipment may be electrically too noisy for wireless heart rate measurement.

### Crosstalk

When in non-coded mode, the wrist unit picks up transmitter signals within 1 m / 3ft. Simultaneous non-coded signals from more than one transmitter can cause an incorrect reading.

- If another person with a cycling computer or a heart rate monitor is causing interference, move away from that person and continue your exercise normally.
- Alternatively, to avoid other people's heart rate signals:
  1. Take the transmitter off your chest for 30 seconds. Move away from the other device.
  2. Put the transmitter back on and bring the cycling computer up to your chest near the transmitter's Polar logo. The cycling computer will start looking for a heart rate signal again. Continue your exercise normally.

To avoid crosstalk from another cyclist with a speed sensor, keep a distance of at least one meter between your cycling computer and the speed sensor of the other cyclist.

## FREQUENTLY ASKED QUESTIONS

### What should I do if...


#### **...appears and the wrist unit battery must be replaced?**

See the chapter Care and Maintenance for further instructions.

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

Press and hold  until the time is displayed.

#### **...there are no reactions to any buttons?**

Reset the wrist unit by pressing all the buttons simultaneously for two seconds. 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 .

#### **...the cycling computer does not measure the calories?**

Burnt calories are calculated only when you are wearing the transmitter.

#### **...another person with a cycling computer or a heart rate monitor is causing interface?**

Consult the chapter Precautions.

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

- Make sure the wrist unit is no further than 1 m / 3 ft from the transmitter.
- Make sure the transmitter belt has not loosened during exercise.
- Make sure the textile electrodes in sports apparel fit snugly.
- Make sure that the electrodes of the transmitter / sports apparel are moistened.
- Make sure the transmitter / electrodes in the sports apparel are clean and undamaged.
- Make sure that there is no other heart rate transmitter within 1 m / 3 ft.
- Strong electromagnetic signals can cause erratic readings. See Precautions.
- 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.
- If the heart rate measurement does not work with the sports apparel, try measuring with WearLink strap. If your heart rate can be found with the strap, the problem is most probably in the apparel. Please contact the apparel retailer/manufacturer.
- If you have done all the above mentioned actions, and heart rate measurement does not work, the battery of your transmitter may be empty. For further information see chapter Care and maintenance.

	WRIST UNIT	TRANSMITTER	SPEED SENSOR
<b>Battery life</b> (1h/day, 7 days/week)	Average 2 years	Average 2 years	Average 4500 hours
<b>Battery type</b>	CR 2430	CR 2025	–
<b>Battery sealing ring</b>	–	O-ring 20.0 x 1.0 Material: FPM	–
<b>Operating temperature</b>	-10 °C to +50 °C / 14 °F to 122 °F	-10 °C to +50 °C / 14 °F to 122 °F	-10 °C to +50 °C / 14 °F to 122 °F
<b>Materials</b>	<b>Wrist strap:</b> Polyurethane <b>Back cover and wrist strap buckle:</b> Stainless steel complying with the EU Directive 94/27/EU and its amendment 1999/C 205/05 on the release of nickel from products intended to come into direct and prolonged contact with the skin.	<b>Connector:</b> Polyamide <b>Strap:</b> Polyurethane, polyamide, nylon, polyester and elasthane	Thermoplastic polymer ABS+GF
<b>Current speed display range</b>	0-127 km/h or 0-75 mph	–	–
<b>Accuracy</b>	<b>Watch:</b> better than $\pm 0.5$ seconds / day at 25 °C / 77 °F temperature. <b>Heart Rate Monitor:</b> $\pm 1\%$ or 1 bpm, whichever larger. Definition applies to stable conditions.	–	$\pm 1\%$
<b>Heart rate measuring range</b>	15-240	–	–
<b>File</b>	14 exercise files Maximum time recorded in a file 99 h 59 min 59 s	–	–

Water resistance of Polar products is tested according to International Standard ISO 2281. Products are divided into three different categories according to their water resistance. Check the back of your Polar product for the water resistance category and compare it to the chart below. Please note that these definitions do not necessarily apply to products of other manufacturers.

Marking on the case back	Wash splashes, sweat, raindrops etc.	Bathing and swimming	Skin diving with snorkel (no air tanks)	SCUBA diving (with air tanks)	Water resistant characteristics
Water resistant	X				Splashes, raindrops etc.
Water resistant 50m	X	X			Minimum for bathing and swimming*
Water resistant 100m	X	X	X		For frequent use in water but no SCUBA diving

*\*) These characteristics also apply to Polar WearLink Transmitters marked Water resistant 30m.*

#### SYSTEM REQUIREMENTS

##### Polar WebLink™

- PC
- Windows® 98/98SE/ME/ 2000/XP
- Sound card
- Microphone

##### Polar UpLink Tool™

- PC
- Windows® 98/98SE/ME/2000/XP
- Sound card
- Dynamic loudspeakers or headphones

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