beurer heart rate monitor herzfrequenz pulsuhr

germanlengineering

PM 90



Operating Instructions
Gebrauchsanleitung



TABLE OF CONTENTS

Scope of delivery	3
Important Notes	
General Information for Training	
Functions of the HR monitor	
Transmission of signal and methods of Devices	
Getting started	
General operation of the HR monitor	
Buttons on the HR monitor	
Display	
Menus	
Basic settings	21
Overview	
Enter personal data	
Set training zone	
Set units of measure	
Set the LightManager	24
Pairing the signals from the device	
Watch settings	27
Overview	
Set time of day and date	28
Set alarm clock	29
Display speed and distance	30
Recording of training	31
Overview	
Stop run times	34
Record laps	34
Display speed and distance	35

Stop and store recording Delete all recordings	37
Analyzing memory messages	38
Speed and distance	39
Overview	39
Set the speed unit and automatic lap function Calibrate the Speedbox	
Display speed and distance	
Altitude, air pressure and temperature	46
Overview	
Set reference altitude, altitude and temperature units	46
Display altitude profile, temperature and air pressure	48
Results	51
Overview	51
Display training data	51
Transmit weight management data to the monitor	53
Lap results	55
Overview	55
Display lap results	55
Fitness test	56
Overview	56
Conduct fitness test	57
Display fitness values	59
EasyFit software	60
Technical specifications, batteries	61
List of abbreviations	63
Index	66

Scope of Delivery Heart rate monitor with wrist band Chest strap and elastic tension strap (adjustable) Bike mount

PC Software EasyFit (CD) and PC interface cable (USB)

Storage box



In addition: Operating instructions and separate short instructions.

Beurer accessories are available from specialised stores:

Accessory	Function		
Beurer Speedbox (I or II)	You can have your speed and distance values displayed on the HR monitor.		
Beurer scale (e.g. Scale BG56, Item Number 750.30).	You can measure your weight and your body fat with the scale and transmit them to the HR monitor.		

IMPORTANT NOTES

Please carefully read through these operating instructions, keep it for future reference and also make it available to others.



Training

- This product is not a therapeutic device. It is a training instrument, which was developed for the measurement and representation of the human heart rate.
- With high-risk sports, please note that the use of the heart rate monitor can represent an additional source of injury.
- If in doubt or for illnesses, please consult your doctor concerning the values of your upper and lower target heart rate as well as the duration and frequency of training. In such a way, you can achieve optimal results when training.
- WARNING: People suffering from heart and circulatory illnesses or those with pacemakers should only use this heart rate monitor after having consulted their doctor.



Application

- The device is only intended for private use.
- This device may only be used for the purpose it was designed for and in the manner outlined in this operating instructions. Any form of improper use can be dangerous. The manufacturer is not liable for damages that are caused by improper or incorrect use.
- The heart rate monitor is waterproof. (see chapter "Technical Specifications")

(i)

Cleaning and care

- From time to time, carefully clean your chest strap, elastic chest strap, heart rate monitor and if necessary the Speedbox with a soap and water solution. Then rinse off all components with clean water. Carefully dry them with a soft towel. You can wash the elastic chest strap in the washing machine at 30° without fabric softener. The chest strap is not made for the dryer!
- Store the chest strap in a clean and dry place. Dirt impairs the elasticity and functioning of the transmitter. Sweat and moisture can keep the electrodes wet and consequently activate the transmitter, which shortens battery life.



Repair, Accessories and Disposal

- Prior to use, it should be ensured that the device and accessories are free of damage. If in doubt, do not use the device and consult your sales representative or the customer service address provided.
- Repairs may only be conducted by customer service or authorized dealers. Please do not in any case attempt to repair the device!
- Use the device only with the original accessories of Beurer.
- Avoid contact with sunscreen or the like since these can cause damage to the imprint or plastic components.
- Please dispose of the device in accordance with Waste Electric and Electronic Equipment 2002/96/EC - WEEE. For inquiries, please contact the municipal authority responsible for disposal in your area.

GENERAL INFORMATION FOR TRAINING

This heart rate monitor serves to measure the human pulse. By means of various settings, you can support your individual training program and monitor your pulse. You should monitor your pulse during exercise because you should prevent your heart from excessive strain on the one hand and on the other in order to achieve the optimal training results. The table provides you with some information on the selection of your training zone. The maximum heart rate reduces with advancing age. Information on the training heart rate must therefore always be in relation to the maximum heart rate. The following rule of thumb helps to identify the maximum heart rate:

220 - age = maximum heart rateThe following example applies to a 40-year-old person: 220-40 = 180

	Heart/health programme	Fat burning zone	Fitness programme	Endurance trai- ning programme	Anaerobic training
Max. heart rate range	50 - 60%	60 - 70%	70 - 80%	80 - 90%	90 - 100%
Effect	Strengthens the heart and the circulatory system	The body burns the highest per- centage of calo- ries from fat. Strengthens the heart and the circulatory system, enhances fitness	circulatory system. Ideal to promote the basic endurance	Improves speed maintenance and increases basic speed	Overloads specific muscles. High injury risk for athletes at ama- teur level, risk re- lated to the heart in case of disease
Suitable for	Ideal for beginners	Weight control and loss	Athletes at amateur level	Ambitious athletes at amateur level, professional athletes	Only professional athletes
Training	Regenerative training		Fitness training	Endurance training	Fitness training addressing specific zones

See the chapter "Basic Settings", section "Setting your training zone" on how to individually set your training zone. See the chapter "Fitness Test" on how the heart rate monitor sets your individual limits of the suggested training zone through the fitness test.

Analysis of the Training

With the PC software **EasyFit** you can acquire the results from the watch and analyze them in various ways. In addition, **EasyFit** provides useful calendar and administrative functions, which also support optimal training over longer periods of time. Using the software, you can also control and monitor your weight management.

FUNCTIONS OF THE HR MONITOR

HR functions

- Exact ECG heart rate measurement
- Transmission: digital
- Individual training zone adjustable
- Acoustic and visual alarm
- Average heart rate (average)
- Maximum training heart rate
- Calorie consumption in Kcal (basis jogging)
- Fat burning in g/oz

Time functions

- Time of day
- Calendar and weekday
- Date
- Alarm / alarm clock
- Stop watch
- 50 laps for each training, recall of all of them or each one.
 Display of lap time and average heart rate
- Automatic lap function (400 m -10 km) (0,25 mi - 6,21 mi)

Settings

- Gender, Weight, Height, Age
- Unit of weight kg/lb
- Unit of height cm/inch
- Maximum heart rate
- Speed units km(mi)/h or min/km(mi)
- LightManager (display illumination)

Fitness test

- Fitness index
- Maximum oxygen-breath volume (VO₂max)
- Basal metabolic rate (BMR)
- Active metabolic rate (AMR)
- Calculated maximum heart rate
- Suggested training zones

Altitude, air pressure and temperature

- Altitude measurement and evaluation of its variation during training
- Reference altitude for the respective measurement
- Air pressure and temperature display
- Temperature unit °C or °F
- Altitude unit metres or feet

TRANSMISSION OF SIGNAL AND METHODS OF DEVICES MEASUREMENT

Receiving range of the heart rate monitor

Your heart rate monitor picks up the heart rate signals sent by the chest strap transmitter within a range of 70 centimeters.

Your HR monitor receives the signals from the Speedbox within a range of three meters.

Sensors on the chest strap

The entire chest strap consists of two components: the actual chest strap and an elastic tension belt. On the inside of the chest strap contacting the body, there are two rectangular, corrugated sensors. Both sensors determine your heart rate ECG exactly and transmit this to the heart rate monitor.

The digital transmission works almost without interference. Your HR monitor only receives the signal from the corresponding transmitter. There can be no interfering signals from other transmitters.

The chest strap is not compatible with analogue devices, such as e.g. ergometers.

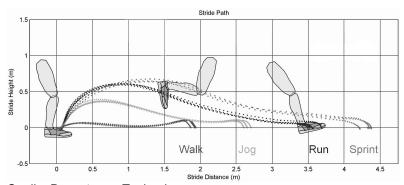
Signal transmission from the diagnostic scale

The Beurer Diagnostic Scales BG56 are also available at specialised dealers and offer additional options for comprehensive weight management. You can measure your current weight and your body fat at any time with the scale and transmit them to the HR monitor. The weight values registered manually in the HR monitor are then updated by the values of the scale.

Measuring device of the Speedbox

Your HR monitor has all the functions to analyze the signals from the Beurer Speedbox. A multidimensional measuring device is installed in the Speedbox. This calculates the acceleration of your foot and transmits this value to the HR monitor. The HR monitor displays the distance covered and the speed, which is calculated from the acceleration and the time of each individual pace.

The following diagram shows the measured movements of feet over two paces depending on the type of pace i.e. walking, jogging, running and sprinting.



Quelle: Dynastream Technology

Altitude, air pressure and temperature measurement

With your HR monitor you can measure the altitude above sea level, the air pressure and the temperature.

The altitude is calculated according to the present air pressure. The measurement principle of the monitor is based on the assumption that the air pressure changes are caused by a change in the altitude. The air pressure decreases at higher altitudes. As a rule of thumb: An altitude difference of 10 m causes a change of 1.25 hPa in the air pressure at sea level.

To be able to measure the altitude correctly, you have to set the exact reference altitude of your location on the monitor before starting the training.

If the air pressure changes during training due to the different weather conditions, the altitude displayed will be different from the actual altitude. Big variations in air pressure are a sign of a weather change. During the course of a day, it is possible to have considerable variations in air pressure. Therefore, the altitude displayed on the monitor should be compared from time to time to the reference altitude of your location and adjusted if necessary.

The altitude details of your location can be taken from a topographical map, for example.



The body temperature can have a strong influence on the temperature displayed as well as if the monitor is also covered by clothing. The monitor should be removed from your wrist for approx. 2 hours to enable a correct temperature measurement.

GETTING STARTED

Insert battery/Change battery



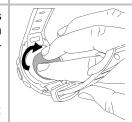
If you do not want to insert or change the battery yourself, please bring it to a watchmaker.

The battery compartment of the HR monitor is located on the back of the monitor. Place the monitor with the front facing downwards on a soft surface and insert the battery as follows:

Using a coin, turn the lid of the battery compartment anticlockwise until the lid comes off 2 Only when changing the battery: remove the battery from the battery compartment with the aid of a pointed, nonmetallic tool, e.g. toothpick. Put the battery into the battery compartment in such a way that the battery is underneath the clip and the transparent insulation sheet and the positive pole (+) faces upwards. Lock the battery into place.

4 Check the seal. The seal has to lie flat in the casing of the monitor and there must be no visible damage to it. The impermeability of the monitor cannot be guaranteed otherwise.

Turn the lid clockwise with your fingers without pressure for at least one turn until the lid is level with the battery compartment.



①

Caution! Do **not** continue to turn the lid, if it cannot be turned into the battery compartment without resistance. Repeat the process after changing the position of the lid. The thread could be damaged otherwise.

Tighten the lid with the coin until it stops so as to guarantee continued impermeability.



7 The monitor is now in power-saving mode and only displays the current time and the date.

Press any button in order to activate the HR monitor.

Putting on the heart rate monitor

You can wear your heart rate monitor like a wrist watch. If you would like to use the HR monitor when riding a bike, fix the monitor to the handlebars. This improves the signal transmission greatly. Use the assembly bracket supplied and fix the HR monitor firmly on to the handlebars so that the monitor does not slip when riding the bike.

Initial activation of the heart rate monitor

You can activate your heart rate monitor from the transport mode by pressing any button for 5 seconds.

Activating the heart rate monitor from power saving mode

If the heart rate monitor has not received any signal for approx. five minutes, it switches to the power saving mode. At that point, only the current time and the date will be displayed. Press any button in order to reactivate the watch.

Putting on the chest strap

■ Tighten the chest strap with the elastic tension belt. Adjust the length of the belt such that the belt is snug, but neither too loose nor too tight. Position the belt around the chest such that the logo is facing outwards and in the correct position directly over the breast bone. For men, the chest belt should be located directly below the pectoral muscles, for women, directly below the breast.



Since optimal contact between the skin and the heart rate sensors can not be created immediately, it may take some time until the heart rate is measured and displayed. If necessary, alter the position of the transmitter in order to achieve optimal contact. Most of the time, sufficient contact is achieved through the accumulation of sweat beneath the chest strap. You can, however, also wet the contact points on the inside of the chest strap. For this, lift the chest strap up from the skin slightly and wet the two sensors with saliva, water or ECG gel (available at chemistry). The contact between skin and chest strap may not be interrupted also with greater movements of the thorax such as during deep breathing. Significant chest chair can interfere with and even prevent contact.

Put on the chest strap a few minutes before starting in order to warm it up to body temperature and establish optimal contact.

Pairing the signals from the device

The digital transmitters (chest strap, Speedbox, diagnostic scale) and receiver (HR monitor) have to be paired. If you buy each device separately, e.g. as a replacement, or if you change the batteries, then you have to pair the devices before use.

You can find out how to pair the devices by reading the chapter "Basic settings", section "Pairing the device signals".

Connecting the devices

from the chest strap.

Your HR monitor receives signals from the digital transmitters, chest strap and Speedbox, as soon as you have activated them and have changed into the Training menu by pressing the menu button. How you can identify on the display whether signals are being received:

If the heart symbol flashes, then the heart rate is being received

If "0" is displayed in the 1st line for a longer period, then the HR monitor cannot receive the signals from the chest strap. The display "0" can occur in the Training, Time and Spd'nDist menus. In this case, change into the Training menu with the menu button. The HR monitor tries once more to make contact with the devices.

Attaching the Speedbox

Put on the Speedbox as described in the manual of the Speedbox.



Calibrating the Speedbox

You will get the most accurate results if you calibrate your Speedbox. You can read how to calibrate your Speedbox in chapter "Speed and distance", section "Calibrate the Speedbox".

Weight management data

You can transmit your weight data and your body fat from the diagnostic scale to the HR monitor. Your can read how to transmit the data in chapter "Results", section "Transmit weight management data".

GENERAL OPERATION OF THE HR MONITOR

Buttons on the HR monitor



1 start / stop

Starts and stops functions and adjusts values. Press and holding accelerates the entry.

2

Switches between different displays for speed, distance, altitude and heart rate values.

option / set

Switches between the functions within one menu and confirms settings.

4 menu

Switches between the different menus.

5 Sensor

To measure the temperature and the air pressure

6 》 ※

Pressing quickly illuminates the display for five seconds.

By pressing for a long time, the key tone and the acoustic alarm when leaving the training zone is activated/deactivated.

Display

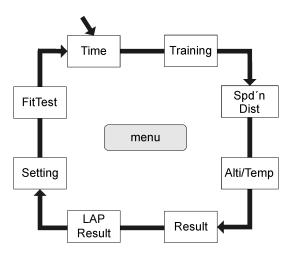


- 1 Top line
- 2 Middle line
- 3 Bottom line
- 4 Scale to display the current speed in [km/h]
- 5 Symbols
 - Alarm clock is activated.
 - Heart rate is being received.
 - Training zone has been exceeded.
 - ▼ Training zone has been underrun.
 - Acoustic alarm for key tone and for exit from the training zone is activated.

An explanation of the display abbreviations can be found in the list of abbreviates at the end of the operating instructions.

Menus

You can switch menus with the menu button.



Power saving mode

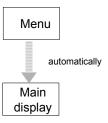
If your heart rate monitor has not received any signal for approx. five minutes, it switches to the power saving mode. In that case, only the current time and the date will be shown. Press any button to reactivate the HR monitor.



Main display

When changing menus, the name of the menu is first shown, then your HR monitor will automatically switch to the main display of the active menu.

From there, you have to first choose a submenu or you can directly access functions.



Overview of the menus

Menu	Meaning	Description: see chapter	
Time	Time	"Watch Settings"	
Training	Training	"Recording of Training"	
Spd'nDist	Speed and distance	"Speed and distance"	
Alti/Temp	Altitude, air pressure and temperature measurement	"Altitude, air pressure and temperature"	
Result	Result	"Results"	
Lap Result	Lap result	"Lap results"	
Setting	Settings	"Basic settings"	
FitTest	Fitness test	"Fitness test"	

BASIC SETTINGS

Overview

Overview	
In the menu Setting you can:	138
Enter your personal data (user). Based on this data, your HR monitor determines your calorie consumption and your fat burning during train- ing!	Settina
■ Set your training zone (limits). See chapter "General Information on Training" for explanations on how to set the training zones. Your HR monitor issues an acoustic and visual alarm during your training when the training zone is exited.	
Change the units of measurement (units) for height and weight.	
Adjust the display illumination to the situation encountered when running in the dark (Light- Manager).	
Pair the signals of your new devices (Pair- NewDev).	
Once you are in the menu Setting, your HR monitor automatically switches to the main display. This displays User.	138

Enter personal data

menu	Switch to the menu Setting.	138
		User
start / stop	Gender is displayed. start / stop Select M, if you are male. Select F, if you are female.	- A
option / set	AGE is displayed. start / stop Set your age (10-99).	- NO PORTON OF THE PORTON OF T
option / set	MaxHR is displayed. The HR monitor automatically calculates the maximum heart rate according to the formula: 220 - age = MaxHR. Please note that the HR monitor also determines the MaxHR after every fitness test and sets it as a suggested value. Start / stop You can overwrite the value calculated (65-239).	HEAT MaxHR
option / set	Weight is displayed. Please note that when using the diagnostic scales, this value is overwritten during each weight measurement.	ŽG Ag Weisht

	start / stop Please select your weight (20-226 kg or 44-499 lbs).	
option / set	Height is displayed. start / stop Set your height (80-227 cm or 2'6"-7'6" feet).	PEB EB Heisht
option / set	Return to the display User.	

Set training zone

You can set your individual upper and lower heart rate limit as described below.

Please note that both limits are automatically set as a training zone suggestion after every fitness test and that the old data are consequently overwritten. For this, the lower limit of the suggested training zone totals 65%, the upper limit 85% of the maximum heart rate.

menu	Switch to the menu Setting.	
option / set	Limits is displayed.	
start / stop	Lo limit is displayed. start / stop Set the lower limit for your training zone (40-238).	Lo limit
option / set	Hi limit is displayed. start/stop Set the upper limit (41-239).	750 Hilimit
option / set	Return to the display Limits.	

Set units of measure

menu	Switch to the menu Setting.	138
		User
option / set	Limits is displayed.	
option / set	Units is displayed.	
start / stop	kg/lb is displayed. The weight unit blinks. Start / stop Switch between the units.	為 ka/lb
option / set	cm/inch is displayed. The unit of measurement for height blinks. Start / stop Switch the units.	上河 cm/inch
option / set	Return to the display Units.	

Set the LightManager

Basically, you have the possibility to illuminate the display for 5 seconds by pressing the $^{\begin{subarray}{c} \end{subarray}$ / $^{\begin{subarray}{c} \end{subarray}$ button. The LightManager function available on the HR monitor is an additional support for runners training in the dark. If the LightManager function is activated, the display will be illuminated for 5 seconds simply by pressing a button. The LightManager differentiates between three different functions when switching off:

If the LightManager was activated (ON) during a pulse measurement, this function will be automatically switched off (OFF) when

- you stop training and the power saving mode is subsequently activated.
- If the LightManager was activated (ON) while the pulse was not being measured, the LightManager function will remain active for an hour and then it will be automatically switched off (OFF). If you press a button during this time, the LightManager will be active for a further sixty minutes.
- You can switch off the LightManager manually at any time to reduce the power consumption as much as possible.

menu	Change into the Setting menu.	138
		User
option / set	Limits is displayed.	
option / set	Units is displayed.	
option / set	LightMan is displayed.	l l
		Lighttan
start / stop	OFF LightMan is displayed. The display flashes. Start / stop Switches the LightManager function alternately on (On) and off	0FF LightMan
	(Off).	Continue Light*
option / set	Back to the LightMan display.	

Pairing the signals from the device

The digital transmitter and receiver have to be paired. If you buy each device separately, e.g. as a replacement, or if you change the batteries, then you have to pair the devices before use.

The devices have to be switched on for this operation. To do this put on the chest strap, activate the Speedbox and switch on the scale by pressing it slightly with your foot.

menu	Change into the Setting menu.	138
		User*
option / set	Limits is displayed.	
option / set	Units is displayed.	
option / set	LightMan is displayed.	
option / set	Pair NewDev is displayed.	
start / stop	Hr Search is displayed. Your HR monitor starts to search for the devices. You can follow the success of the search on the display: HR-Belt signals that the chest strap has been successfully connected. SPD Dev signals that the Speedbox has been successfully connected. Scale signals that the scale has been successfully connected. If the scale has switched itself off automatically in the meantime, then switch them on again.	Search

	After the signal search is completed, the monitor displays all existing devices once more: HR OK: Chest strap is connected Spd OK: Speedbox is connected Scale OK: Scales are connected The display No Device found ap-	
	pears at the end of the search for the devices, if no devices were con- nected.	
option / set	Back to the main display.	

WATCH SETTINGS

In the Time menu you can:

Set the time and the date.

Set the alarm clock.

With fine, information on the speed/distances can be displayed in the bottom line.

When you are in the Time menu the heart rate monitor automatically activates the main display. In this mode both the weekday and the current date are displayed. On the display: Fri 12.04 (Friday 12th April).

By pressing the button you can change the information in the bottom line.

Set time of day and date

menu	Switch to the menu Time.	12:0049 Fri 12:04
start / stop 5 sec	Set Time is shown briefly. Hour is displayed. The hour setting blinks. start / stop Set the hour (0-24).	-) #38 Hour
option / set	Minute is displayed. The hour setting blinks. Start / stop Set the minute (0-59).	8200 Minute
option / set	Year is displayed. The year setting blinks. Start / stop Set the year. The calendar goes up to 2099.	ZÝÚ5 Year
option / set	Month is displayed. The monthly setting blinks. Start / stop Set the month (1-12).	Mon
option / set	Day is displayed. The day setting blinks. Start / stop Set the day (1-31).	Day Day
option / set	Back to the main display.	

Set alarm clock

You can turn off the alarm clock by pressing any button. On the following day, we will be woken up at the same time.

menu	Switch to the menu Time.	20049 Fri 12:04
option / set 2 sec	Alarm is displayed.	
start / stop 5 sec	Set Time is shown briefly. Off Alarm is displayed. Start / stop Turns the alarm clock off (Off) and on (On).	5EL Alarm
option / set	Hour is displayed. The hour setting blinks. Start / stop Set the hour.	-`\ \ \ 3 0 Hour
option / set	Minute is displayed. The hour setting blinks. Start / stop Set the minute.	### Minute
option / set	Back to the main display.	

Display speed and distance

If you run with the Speedbox, then you can have your speed and distance values displayed. While you are running, you have the option to change between the different displays. If you prefer to use one particular display, then you can keep this for your entire run.

menu	Change into the Time menu.	12:004 Fri 12:04
•	Your average heart rate is displayed in the bottom line. If you have set a particular display for the speed and distance in advance in the Time menu, then you will see this in the bottom line.	138 . 1200,49 130 AV6
•	Your total training time [Hrs:Min:Sec] is displayed in the bottom line. This display allows you to activate two functions: Start / stop Start and stop the training time. Option / set Stop a new lap. The display shows the Lap symbol for 2 seconds.	00:19:10
•	Your current laps and the lap time [Hrs:Min] are displayed in the bottom line. This display allows you to activate two functions:	L2 01:20

	start / stop Start and stop the training times. option / set Stop a new lap	
•	Your current speed is displayed in the bottom line.	7.8
•	The current cadence is displayed.	ČAD 120
•	Your average speed is displayed in the bottom line.	ĀŪG 7.1
•	The distance you have just covered is displayed in the bottom line.	3.21
•	Your current altitude is displayed.	*83
•	Back to the main display.	

RECORDING OF TRAINING

Overview

As soon as you change into the **Training** menu, your HR monitor will look for the paired digital transmitters, the chest strap and the Speedbox. As soon as a signal is identified, contact is made. In the menu **Training** you can:



- Stop your run times and thereby record your training session.
- Record individual laps.
- Stop and save your recording.

Delete all recordings.	
Analyze memory messages.	
With information on the speed/distances can be displayed in the bot- tom line.	
Once you are in the menu Training , your HR monitor automatically switches to the main display. This displays the already recorded training time on the middle line (after Save/Delete: 00:00:00) and on the line below Start .	138 S DUDUoo Start
By pressing the button you can change the information in the bottom line.	

Things to know about the recordings

- As soon as you have started the recording, your HR monitor starts recording your training data. Your HR monitor continually records your training data until you save or delete this. This also applies when you first start training on the following day. The running time also allows you to stop your training session at any time.
- If "0" is displayed for a longer period on the display, this means that the receipt of the signals has been interrupted. In this case change into the Training menu, by pressing menu 8 times. The HR monitor tries to make contact with the devices once more.
- Your HR watch has a memory. You can record up to 7 hours of your training session. A maximum of 50 laps is possible for each training. Your HR watch informs you if the memory is almost full. At this point, at the latest, we recommend transmitting the recordings to your PC and thus emptying the memory on the HR watch. Alternatively you can delete all recordings manually. Read the section "Delete all recordings" in this chapter to find out how to delete the recordings.
- You can let your training data be displayed. In the Result menu, the last recording stopped can be called. In the menu Lap Result you can see the laps for this recording.
- As soon as you have transferred the recordings into the EasyFit software, you can view and analyze them there. The memory will be deleted every time you have successfully transferred the data to the PC. You can find explanations regarding the transfer of data to the PC in the chapter "EasyFit Software".

Stop run times

menu	Switch to the menu Training . If you have already stopped a run time, the recorded training time is displayed on the middle line.	138 5 000000 Start
start / stop	Start the recording. Run or information which you have selected with the button are displayed in the bottom line. Even if you change to another menu during the recording, the time continues to run in the background.	138 1000a : Run
start / stop	Stop the recording. Stop is displayed. You can interrupt and resume your recordings at any time by pressing the button start / stop.	138 to Stop

Record laps

While the recording of your entire training is in progress, you can record individual laps. The time continues to run as the laps are recorded.

You are in the menu Training and your training is currently being recorded. Run is displayed.	138 0000a / Run
--	-----------------------

option / set	Time a new lap. The display shows the time and number of the last lap timed for five seconds, for example Lap 1.	138 ; 000009 Lap 1
	The display automatically switches back to Run and shows the number of the current lap, for example Run 2.	138 5 0000 24 Run 2
option / set	Record additional training laps as needed. You can record up to a total of 50 laps for each training.	138 5 00: 10: Lap 2

Display speed and distance

If you run with the Speedbox, then you can have your speed and distance values displayed. While you are running, you have the option to change between the different displays. If you prefer to use one particular display, then you can keep this for your entire run.

	You are in the Training menu. A training session is just being recorded. Run is displayed.	138 . 0000a i Run
•	Your average heart rate is displayed in the bottom line. If you have set a particular display for the speed and distance in advance in the Training menu, then you will see this in the bottom line.	138 w 12:00:49 130 AVG

•	Your current laps and the lap time [Hrs:Min] are displayed in the bottom line.	L2 01:20
•	Your current speed is displayed in the bottom line.	7.8
•	The current frequency of your pace is displayed [steps/minute].	CAD 120
•	Your average speed is displayed in the bottom line.	ÄVG 7.1
•	The distance previously covered is displayed in the bottom line.	km "") (") † "a" o troo de
•	Back to the main display.	

Stop and store recording

Please note that after finishing and saving, you can no longer have the data displayed in the Result and Lap Result menus.

	You are in the menu Training. You have just recorded a training. Stop is displayed.	138 5 0000:03 Stop
start / stop 5 sec	Save the recording. You can store up to 10 hours. Hold Save is displayed.	Ha ld Save

The display automatically switches back to the main display.

The data is now ready to be transmitted to the PC.



Delete all recordings

Your HR watch informs you automatically when the memory is almost full. Before you then delete the memory, we recommend analyzing the training recording or transmit to the PC! The memory on the HR watch will be deleted automatically every time you successfully transfer data to the PC. Alternatively you can delete the memory manually as described here.

The automatic or manual deletion causes all training recordings including your laps to be deleted.

	You can delete the data before or after the training:	
	You are in the menu Training. Start is displayed.	
	You are in the menu Training. You have just recorded a training. Stop is displayed.	
option / set 5 sec	Delete all recordings. MEM Delete is displayed.	7767 Delete

The monitor automatically switches to the main display.



Analyzing memory messages

In the menu Training your HR watch automatically informs you if the memory is almost full or if almost all the laps are occupied.

Message	Meaning
PER LOW	When switching to the menu Training the HR watch signals MEM LOW, if less than 10% of the memory or less than 10 laps are free.
138 w 767 8% Free	During training, the HR watch signals every 5 seconds MEM x% Free, if less than 10% of the memory is free. On the display: MEM 8% Free (still 8% free).
138 w 199 Rest 7	During training the HR watch signals every 5 seconds LAP Rest x, if there are less than 10 (of a total of 60) laps . On the display: LAP Rest 7 (still 7 laps free).

Read in the previous section "Delete all recordings" to find out how to delete the memory manually.

The memory is also deleted every time the data is transferred to the PC. You can find the relevant explanations in the chapter "EasyFit Software".

SPEED AND DISTANCE

Overview

IMPORTANT: All settings in this menu only have an effect if the Speedbox is used!

You can also use the Speedbox only to measure your pace.

In the Spd'nDist menu you can:

- Change the speed units. In the basic setting [cm], you can change from [km/h] to [min/km], in the basic setting [inch] from [mi/h] to [min/mi].
- Activate the automatic lap function and set a lap distance between 400 and 10,000 metres.
- Calibrate the Speedbox.
- With information on the speed/distances can be displayed in the bottom line.

As soon as you are in the **Spd'nDist** menu, your HR monitor changes automatically into the main display. This displays the current speed in the middle line. The bottom line displays the average heart rate.

By pressing the button you can change the information in the bottom line.

138 7₈ Sed'nDist



Set the speed unit and automatic lap function

There are two functions available in this setting menu.

As some people prefer to have the speed display in a particular unit when training, two different units are offered as an option. Many runners prefer the information in min/km instead of km/h.

With the automatic lap function you can set your own specified distance between 400 and 10,000 metres. The HR monitor then activates for example a new lap every 400 metres. Example: You run several 400-metre laps in the stadium and would like to check your running times. Thanks to the lap function you do not need to press the option/set button as soon as you reach the finish line. You just have to set the lap distance of 400 metres in this menu once at the beginning of your training and then the laps will be automatically recorded and saved through the distance measurement.

menu	Change into the Spd'nDist menu.	138 S 130 AV6
option / set 2 sec	Set Spd'nDist is displayed.	
start / stop	By pressing repeatedly you can change between the speed units.	- ***- Speed
	In the basic setting [cm]: min/km (minutes per kilometer) or km/h (kilometer per hour) is displayed.	- km/a -
	In the basic setting [in]: min/mi (minutes per mile) or mi/h (miles per hour) is displayed.	330 V - 480 - 330 - 330

option / set

CAL Distance is displayed.

If you would like to calibrate your Speedbox, continue to read in section "Calibrate Speedbox". [AL Distance

option / set

OFF AutoLap is displayed.

start / stop Switches the automatic lap function alternately on (On) or off (OFF).

Great Auto Lar

When OFF appears, you come back to the main display option / set.

When **On** appears, you can set a lap distance between 400 and 10,000 metres (0,25 and 6,21 miles) with the option / set button. Set the value in the first display with start / stop.

The option / set button enables you to set the value.

With start / stop you can set the value in 100 metres (0,1 miles) paces.

Finally, by pressing the option/set button you get back to the main display.

IMPORTANT: If you have activated the automatic lap function, you can also stop the laps manually. The information on the laps recorded automatically will not change.

<u>O</u>n

Auto Lap

I 40°

Calibrate the Speedbox

For the kind of pace "Jog" the measurement precision of your wrist watch with speedbox is at least 95% even without calibration. After calibration the precision increases to reach at least 97%. Please refer to the instruction manual of your speedbox.

For the kind of paces Walk, Run and Sprint the speedbox has to be necessarily calibrated. Recalibrate it every time you would like to change your pace.

	You are in the Spd'nDist menu. Now activate your speedbox and put on your chest strap. If you have set the speed units in advance, then CAL Distance will already be displayed. If you have called up the menu for the first time, then press option / set, then start / stop and once more option / set. CAL Distance is displayed.	[#L Distance
start / stop 5 sec	Change to the calibration operation. CAL 000 Start is displayed.	[AL 000 Start
start / stop	Start running. CAL 000 Run is displayed. Run a distance where you know the exact length (reference distance). For example 4 stadium laps = 1600 m. Your monitor will display	CAL 000 Run

start / stop	CAL Distance is displayed. ■ You would like to activate the automatic lap function. Please refer to page 40 "Set speed unit and automatic lap function".	[AL Distance
start / stop	If the calibration was successful CAL OK is displayed. If the distance measured is shorter than 100 m, i.e. too short for an accurate calibration, the error message bad Range is displayed.	CAL OK BAB Ranse
start / stop	End your run. The HR monitor displays the measured length of the distance, e.g. 1596 m. ■ If the displayed value is lower than the distance covered, increase the value with menu. ■ If the displayed value is higher than the distance covered, decrease the value with option / set.	
	the distance (meters) in the middle line during the run. Please note that the calibration only applies to the relevant type of pace. If you change the type of pace, then this has an effect on the accuracy of the speed and distance recordings.	

If you would like to leave the menu, press the menu button.

Display speed and distance

If you run with the Speedbox, then you can have your speed and distance values displayed. While you are running, you have the option to change between the different displays. If you prefer to use one particular display, then you can keep this for your entire run.

menu	Change into the Spd'nDist menu The main display shows the current speed in the middle line. The bottom line displays the average heart rate. If you have set a specific display for speed and distance in advance in the Spd'nDist menu, you will see this in the bottom line.	130 AV6
•	Your total training time [Hrs:Min:Sec] is displayed in the bottom line. This display allows you to activate two functions: start / stop Start and stop the training time. option / set Stop a new lap. The display shows the symbol Lap for 2 seconds.	00:19:10
•	Your current laps and the lap time [Hrs:Min] are displayed in the bottom line.	L2 01:20

	This display allows you to activate two functions: start / stop Start and stop the training time. option / set Stop a new lap.	
•	The current cadence is displayed.	Ć P D 120
•	Your average speed is displayed in the bottom line.	ĀŪG 7.1
•	The distance you have just covered is displayed in the bottom line.	3.21
•	The current altitude is displayed.	.
•	Back to the main display.	

ALTITUDE, AIR PRESSURE AND TEMPERATURE

Overview

In the Alti/Temp you can:

- Enter the reference altitude of a specific location as well as set the altitude and temperature units
- v iEU♥ 58n Alti/Temp
- Display the altitude profile, the temperature and the air pressure during a training session.

As soon as you are in the Alti/Temp menu, your HR monitor changes automatically into the main display.

This displays the absolute altitude above sea level in the middle line. If you have just started a training session, you see the total ascent of the training or any other information entered with the button in the bottom line.



Set reference altitude, altitude and temperature units

To obtain a precise altitude measurement, you have to set an exact reference altitude from the start. To do this, go to a place where you know the exact altitude. You can also get this information from a map or calculate it with a GPS device.



option / set	Set Alti/Temp is displayed.	SEŁ Att/Tenp
start / stop	By pressing the start/stop button repeatedly, you can switch between the units m (metres) or Ft (feet) for altitude measurement.	FŁ
option / set	Alti Cal is displayed. Here you can set the reference altitude. This information is displayed in the middle line. With the button you can increase the value of the altitude above sea level, with the / * button you can decrease it.	58 n Atti Cal
option / set	If the altitude setting is outside the tolerance range, the error message bad Range appears. With the start / stop button you can set the temperature units of measure (see next step).	HHH Ranse

option / set	You can switch between two units of measure for the temperature. By pressing the start/stop button repeatedly, you can switch between the units °C (Celsius) or °F (Fahrenheit).	Tenp Tenp
option / set	Back to the main display.	

Display altitude profile, temperature and air pressure

menu	Change into the Alti/Temp menu. The main display shows in the middle line the current altitude and any information selected with the button in the lower line.	√ 120 → 581
C	The total ascent during a training session [in metres or feet] is displayed in the bottom line. IMPORTANT! The training session must have started at	<u>6</u> 2
•	this stage. The total descent during a training session [in metres or feet] is displayed in the bottom line.	<u>4</u> .51
	important! The training session must have started at this stage.	

•	The maximum altitude [in metres or feet] is displayed in the bottom line. IMPORTANT! The training session must have started at this stage.	83
•	The descent or ascent speed is displayed in the bottom line. IMPORTANT! The data is displayed in the unit [m/min], even if the unit [feet] is set.	m/ who the desire of the desir
•	The number of descents is displayed in the bottom line. All descents of more than 50 metres will be displayed. A descent is counted only if an ascent is recorded between two descents. Tip: When skiing, you can count the number of downhills! IMPORTANT! The training	Desc 0
	session must have started at this stage.	
S	The temperature is displayed in the bottom line. IMPORTANT! In order to determine the temperature exactly, the monitor should be removed from your wrist for approx. 2 hours. Otherwise your body temperature will alter the measurement.	26.9°C

	In order to update the temperature display more quickly, you can call the menu Alti/Temp repeatedly. The display will be updated each time it is called.	
•	The air pressure is displayed in the bottom line.	114.2
•	Back to the main display.	

RESULTS

Overview

In the menu Result you can: Display your training data of the last recording	138
stopped: mean and maximum heart rate, times within and outside of the training zone as well as calorie consumption and fat burning.	Result
Transmit your weight management data from the diagnostic scale to the HR monitor.	
As soon as you are in the Result menu, your HR monitor changes automatically into the main	
display. This displays TrData.	TrData

Display training data

menu	Change into the Result menu. TrData is displayed.	
		TrData
start / stop	BPM AVG (average training heart rate) is displayed.	129 697 AVG

option / set	HRmax (maximum training heart rate) is displayed.	180 627 HRmax
option / set	In [min] (time within the training zone) is displayed.	1 G (min)
option / set	Lo [min] (time below the training zone) is displayed.	
[option / set]	Hi [min] (time above the training zone) is displayed.	H : QQQ (min)
option / set	 [kcal] (the total calorie consumption during the recording of the training session) is displayed. The calculation is conducted based on moderately fast jogging. The basis for the display of the calorie consumption and fat burning are: Personal data (basic settings) the time and heart rate measured during the training session. 	IZB [Kcal]

option / set	Fat[g] (Fat burning during the entire training recording) is displayed.	### Fat(s)
option / set	Back to the main display.	

Transmit weight management data to the monitor

You can transmit your weight data and your body fat from the diagnostic scale to the HR monitor. Your HR monitor can store up to 10 recordings of the scale with the current date and time. If you record more than ten times, then the oldest recordings will be overwritten. You can transmit one recording per day to the monitor. If a second recording within one day is transmitted, then the previous recording of the same day is overwritten. Hold your HR monitor in your hand during transmission and proceed as follows:

menu	Change into the Result menu. TrData is displayed.	
		TrData
option / set	WMData (Weight management) is displayed.	WMData
	Activate your scale by tapping the standing surface briefly but with pressure. Select the storage place where you would like to store your personal data by pressing the "User" button on the scale several times. It is displayed one after the other until the	

	display "0.0" appears. Step onto the scale barefoot. Pay attention that you are standing calmly on the stainless steel electrodes.	
start / stop	The scale calculates your weight and your body fat and transmit both values to the monitor. For a short period during the transmission horizontal lines are shown on the display. Please note that the body fat can only be measured and transmitted, if you have set the personal user data on the scale. You can however also transmit your weight without measuring your body fat. Your weight is automatically updated during the measurement in the Setting menu. Your weight which was calculated by the scale Weight[kg] is displayed. If you do not measure your weight, then the last weight stored will be displayed.	Weishilks
option / set	Your body fat which was calculated by the scale BF[%] is displayed. If you do not measure your body fat, then the last body fat stored will be displayed.	₽ &s BF(%)
option / set	Press the button again and again until you get into the main display.	

LAP RESULTS

Overview

In the menu LAP Result you can have the time and average heart rate as well as the last training recording and the individual laps displayed.

138 (_*AP* Result

Once you are in the menu LAP Result, your HR monitor automatically switches to the main display. The top line shows the average heart rate, the middle line the training time last recorded.

120 0 124a AVG-Run

Display lap results

menu	Switch to the menu LAP Result.	
option / set	AVG 1: Results in lap 1 are displayed. The top line shows the average heart rate, the middle line displays the lap time.	100 000852 AVG 1
option / set	Pressing again switches to the individual result display for the following lap (maximum 50 laps for each training).	82 80 10 50 AV6 50
option / set	Back to the main display.	

FITNESS TEST

Overview

In the menu FitTest you can:

- Test your personal fitness in a 1600m run (1 mile).
- Have your fitness evaluated: Fitness index (1-5), maximum oxygen-breath volume (VO₂max), basal metabolic rate (BMR) and active metabolic rate (AMR).
- Have your individual upper and lower limit calculated automatically as a recommended training zone and overwritten the two limits in the menu Setting. Also see the chapter "Setting training zone".
- Have your maximum heart rate (MaxHR) automatically calculated and have it overwritten in the menu Setting.

The fitness test is not just designed for active athletes, but also for those with a lower fitness level from all age groups.

After one second, the main display appears. The top line displays your fitness index:

- 0 = No test has been conducted yet
- 1 = Poor
- 2 = Fair
- 3 = Average
- 4 = Good
- 5 = Elite

138

FitTest



On the middle line, the date of your last fitness test is displayed. If you have not yet completed a fitness test, then the preset date is displayed.

Conduct fitness test

The units displayed "m" or "mile" result from the basic settings. In the chapter "Basic Settings", section "Setting units", you can read how to change these units.

menu	Switch to the menu FitTest.	
start / stop	The scrolling display appears Press START to begin. Put on the chest strap. Your pulse will now be shown on the display and you have five minutes to warm up. Your HR monitor signals the end of the 5-minute warmup phase with a beep. In the event you would like to shorten the warmup phase, you can press the button start/stop to switch to the next screen. Briskly walk exactly 1600m (1 mile). For this, choose a level route of exactly 1600m. Ideally, you will cover a distance of four stadium laps (4 times 400m = 1600m).	III PressST

	The scrolling display Press STOP after 1600 m reminds you to press the button start / stop after 1600m.	138 😝 458 Press5T
	The scrolling display Test Finished appears and the time required is displayed.	138 1023z ; TestFinis
start / stop	Back to the main display. It displays your fitness index (1-5) with evaluation and the current date.	

Display fitness values

The display of the fitness values only makes sense, if you have completed at least one fitness test. The fitness values displayed refer to the last test.

menu	Change to the menu FitTest. The fitness index (1-5) and the date of your last fitness test is shown. If no fitness test has been completed yet, a 0 is displayed.	12:15:05 6ood
option / set	VO ₂ max is displayed. The maximum oxygen-breath volume is displayed in millilitres within one minute per kg of body weight. It is the basis for the evaluation of your fitness test.	VORME
option / set	BMR (Basal Metabolic Rate) is displayed. The basal metabolic rate is calculated based on the values of age, gender, body height and weight. The BMR specifies the calories needed to maintain your vital functions - in the absence of movement.	15 7 3 BMR
option / set	AMR (Active Metabolic Rate) is displayed. The active metabolic rate is calculated based on the basic metabolic rate and an "activity premium", which is dependent on the fitness level.	2348 AMR
option / set	Back to the main display.	

EASYFIT SOFTWARE

You can analyze your training data optimally with the EasyFit software. In addition to that, you will find many other functions for weight management and for workout planning.

- Calendar functions
- Transmission of all training recordings
- Weekly workout planning for achieving the desired weight
- Various analyses and graphics for observing the training progress

Installation of the software

To install the software, please pay attention to the printed instruction or to the file "Install_Readme" on the enclosed CD. Please follow the instructions carefully.

System requirements

Please refer to our homepage www.beurer.de for the current version of the PC software package EasyFit as well as for the system requirements.

TECHNICAL SPECIFICATIONS, BATTERIES

HR monitor

Waterproof	to 50 m (suitable for swimming)	
	The impermeability of the monitor to moisture cannot be guaranteed if you jump into water (high pressure load) and also if the buttons are pressed in the rain. The pulse cannot be measured under water.	
Transmission frequency	2.4 GHz	
Surrounding temperature	From -10 to +60°C (14 to 140°F)	
Heart rate range	From 40 to 240	
Speed display range	From 0 to 20 km/h (0 to 12,4 mi/h), speed range can only display in km/h	
Battery HR monitor	3V lithium battery, type CR2032 (Recommendation: Energizer batteries). Battery life: circa 12 months (depends on the time of trainings and the quantity of connected devices)	
Altitude display	From -500 m to +9.000 m (-1.640 ft to 29.527 ft), Ascent resolution: 1 m (1 ft)	
Temperature display	From -10 to +60°C (14 to 140°F), Resolution: 0.1°C or 0.1°F	
Number of descents	All descents > 50 m (164 ft)	

Chest strap

Waterproof	suitable for swimming
Battery chest strap	3V lithium battery, type CR2032 Service life: approx 28 months

Replacing the batteries

You can change the batteries of the HR monitor and the chest strap yourself. Please read how to change the battery in your HR monitor in Chapter "Getting started", Section "Insert battery/Change battery". The battery compartment of the chest strap is on the inside of the chest strap. Use a coin to open the battery compartment. The positive pole (+) of the battery inserted must face upwards. Close the battery compartment again carefully to guarantee impermeability.

Used batteries do not belong in the household garbage. Dispose of these through your electronics dealer or your local collecting point for recoverables. You are legally required to do this. We will find this symbol on batteries containing toxic chemicals:



Pb = battery contains lead

Cd = battery contains cadmium

Hg = battery contains mercury

LIST OF ABBREVIATIONS

Abbreviations on the display in alphabetical order:

Abbreviation	English
°C, °F	Degrees Celsius, degrees Fahrenheit
AGE	Age
Alarm	Alarm
ALTI	Altitude
AMR	Calories needed for the activity
AutoLap	Automatic lap function
AVG	Average heart rate during training
AVG Run	Average heart rate during training
BF [%]	Body Fat [%]
BMR	Basal Metabolism
BPM	Heart beats per minute
bPM AVG	Average heart rate during training, beats per minute
bPM Hrmax	Maximal heart rate during training, beats per minute
CAD	Cadence (pace frequency, number of paces per minute)
CAL	Calibration
cm/inch	Centimeter/Inch
Day	Day
Desc	Descents (>50 metres)
FitTest	Fitness Test
Ft	Feet
f	female
Fat [g]	Fat in gram
Fri	Friday
Gender	Gender
Height	Height
Hi	Time above the training zone
Hi limit	Highest training limit
Hold Save	Save the recording
Hour	Hour

Abbreviation	English
hPa	Air pressure in hectopascal [hPa]
HR	Heart Rate
HR Search	Heart Rate Search
HR-Belt	Heart Rate Belt Found
HRmax	Max. heart rate during training
In	Time within the training zone
Kcal	Calorie consumption in Kcal
kg	Kilogram
kg/lb	Kilogram/pound
km/h	Kilometer per hour (speed)
km/h AVG	Average speed
L1	Lap 1
lap	Lap
LapDist	Lap distance
LightMan	LightManager (automatic illumination function)
Limits	Training limits
Lo	Time below the training zone
Lo limit	Lowest training limit
М	Metre
m	male
MaxHR	Maximum Heart Rate (formula: 220 - age)
MEM	Memory
MEM Delete	Memory Delete
Minute	Minute
mi/h	Miles per hour (speed)
Min	Minute
min/km	Minutes per kilometer
min/mi	Minutes per Mile
Mon	Monday
Month	Month
PAIr NewDev	Pair New Device

Abbreviation	English
PC-Link	PC Link
Result	Result
Run	Run time is measured
Sat	Saturday
Scale	Scale Found
SCL search	Scale search
Setting	Settings (Menu)
SEt	Setting
Spd'nDist	Speed and Distance
Speed	Speed
SPd Dev	Speedbox found
SPd Search	Speedbox Search
Start	Start
Stop	Stop
Sun	Sunday
Temp	Temperature
Time	Time (Menu)
Thu	Thursday
Training	Training (Menu)
TrData	Training Data
Tue	Tuesday
Units	Units
User	User
VO₂max	Maximal Amount of Oxygen
Wed	Wednesday
Weight	Weight
WMData	Weight Management Data
Year	Year

INDEX Α Accessories 5 Installation of the software 60 Air pressure 46 Altitude 46 Lap results 55 Application 4 List of abbreviations 63 R М Basic settings 21 Main display 20 Batteries 61 Memory messages analyzing 38 C Menu overview 20 Calibrate the Speedbox 42 Menus 19 Care 5 Methods of Device Measurement 9 Cleaning 5 Ν Conduct fitness test 57 Notes 4 ח P Delete all recordings 37 Pacemakers 4 Display air pressure 48 Pairing the signals from the device 26 Display altitude profile 48 PC Software EasyFit 7 Display fitness values 59 Power saving mode 19 Display lap results 55 Display speed and distance, Menu R Spd'nDist 44 Record laps 34 Display speed and distance, Menu Recording of training 31 Training 35 Recordings delete 37 Display Speed/Distance, Menu Time 30 Repair 5 Display temperature 48 Replacing the batteries 62 Display training data 51 Results 51 Display weight management data 53 S Disposal 5 Scope of delivery 3 Set alarm clock 29 Enter personal data 22 Set altitude unit 46 Set lap function 40 Set LightManager 24 Fitness index 56 Set reference altitude 46 Fitness test 56 Set speed unit 40 G

Getting started 12

Set temperature unit 46

Set time of day and date 28 Set training zone 23

Set units of measure 24 Software EasyFit 60 Speed and Distance 39 Stop and store recording 36 Stop run times 34 Stopwatch 34

7

Technical specifications 61

Temperature 46 Training 6 Transmission of Signal from Devices 9 type of pace 10

W

Watch settings 27

FCC ID: O4GPM90 MADE IN CHINA

This device complies with part 15 of the FCC Rules, operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

NOTE:

THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER AUTHORITY TO OPERATE THE EQUIPMENT

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.