

## Training and operating instructions

english



ERGORACE



# Training and operating instructions

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This emblem in the instructions refers to the glossary, where the respective term is explained..

## Safety instructions

**Please observe the following instructions for your own safety:**

- The training appliance must be erected on a suitable and stable surface.
- Before putting into operation for the first time and after the appliance has been in operation for approximately 6 days, all connections must be checked to ensure a secure fit.
- In order to prevent injuries caused by incorrect loading or overloading, the training appliance may only be used as per instructions.
- A permanent erection of the appliance in damp rooms is not recommended since rust will form.
- Conduct regular checks to ensure that the functional efficiency and general overall condition of the training appliance are as they should be.
- The Operator's responsibilities also include technical safety checks and must be conducted at regular intervals and with the required thoroughness and precision.
- Defective or damaged components must be replaced immediately.
- Use only original KETTLER spare parts
- The appliance must not be used until repair work has been completed.
- The level of safety of the appliance can only be maintained if it is checked at regular intervals for damage and wear-and-tear.

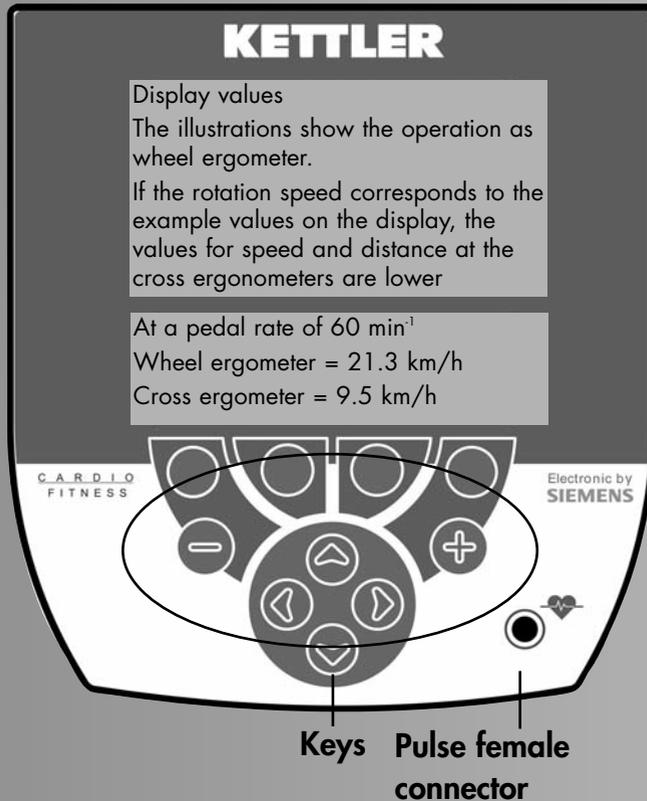
**For your safety:**

- **Before taking up training, consult your GP to ensure that your state of health is such that the appliance is a suitable form of training for you. Your own personal training programme should be based on the medical findings. Incorrect or excessive training can damage your health.**

## Short description

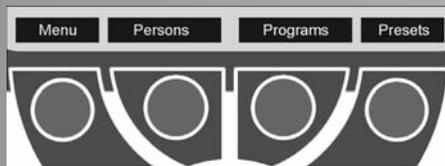
The electronic unit consists of function keys and a display.

### Display area / Display



### Function keys

By means of these 4 keys, you can activate functions, which are then shown in the above display, e.g. Back, Menu etc. The functions of the keys may vary from one menu to the other.



### Navigation keys

Use the navigation keys to select menu features or menu entry fields.



### Enter keys minus - / plus +

By means of these keys, you can alter values, adjust the stress values for training and shift profiles.



- "Plus" increases the values or alters settings
- "Minus" reduces the values or alters settings
- Press "Plus" or "Minus" for a **longer** period of time > quick modification
- Press "Plus" and "Minus" at the **same** time:
  - Stress skips to **smallest performance**
  - Programmes skips to **default setting**
  - Value input skips to **Off**

### Resetting the Display (Software-Reset)

Pressing the three keys at the same time, will restart the equipment.



### Type of pulse measurement

The pulse measurement can be carried out in two ways:

1. Ear clip  
The plug is put into the pulse female connector;



2. built-in receiver and Polar chest strap T34 (please refer to the appropriate instructions) Ear clips must be taken off

### Appliance interface

The USB interface to the PC is located at the backside of the display panel.



### Selecting Language

When switched on for the first time, the language menu.



Use navigation keys "Up" and "Down" to select language. Press "Select" to accept language selection and to open the "Display" menu.

Press "Cancel" to get back to the main menu. Settings will not be saved, display will be shown when switched on again.

### Display Settings

After selecting the language, the menu for selecting brightness and contrast of the display is shown.



Press "Back" to get back to the main menu. The settings will be saved.

Press "Cancel" to get back to the main menu instantly. Settings will not be saved, display will be shown when switched on again.

#### Note:

When the optimal contrast is set, there will be no heavy shades. The setting "Contrast" applies to the lower display and "Brightness" to both displays.

## Training and operating instructions

### Pedal rate

Average (AVG) **RPM** m n Conversion  
 single = request: pedal slower/faster both = dependent from rotation speed

Value 0 - 199

### Speed

Average (AVG) **SPEED** mph km/h Conversion selectable  
 Value 0 - 99,9

### Distance

**DISTANCE** km Conversion selectable  
 Value 0 - 249

### Time

**TIME** Value 0 - 99,59

### Energy Consumption

**ENERGY** kcal kJoule Conversion selectable  
 Value 0 - 9999

### Performance

Max. perform. achieved in HRC mode **MAX POWER** Watt Conversion  
 Value 0 - 600

Average (AVG) **188** % Curr. perform./Max perform.

### Puls

Heart symbol (blinks) Alarm ON/OFF  
 Warning (blinks) max.pulse +1 Target pulse overshoot +11 Percentage  
 Target pulse undershoot -11 Curr. pulse/max pulse

Maximal Puls **MAX PULSE** bpm Conversion  
 Value 0 - 220

Average (AVG) **888**

## Quick Start

### (Introduction, no settings)

After turning on the power switch, first all features will be displayed, then the total distance and total time.

Total Distance: 0.00 km  
 Total Time: 0.0h

1"

10"

### Training stand-by

- After 10 seconds: Display Training Programme "Count Up"

Count Up

### Beginning of training

During pedalling the value displays are counting up.

### Display: current values

Pedal rate, Speed, Distance, Work Out Time, Performance, Energy Consumption and Pulse (if activated). The % indication above POWER shows the ratio of current performance to maximum performance to be set individually by each user.

Changing performance during training:

Press "Plus" to increase performance by 5 points

Press "Minus" to decrease performance by 5 points

### Interruption of training

If you achieve less than 10 pedal rotations/min, the electronic system will recognise a training interruption. Pedal rate and speed are displayed with "0".

Guest m ↑  
 11.07.06  
 14:10:42

Average Values  
 RPM 82  
 Speed 29.1 km/h  
 Power 70 Watt  
 Pulse 0 bpm

Menu Display Presets

### Display: Average values,

pedal rate, speed, performance and pulse (if measuring is active)

### Display: Total values

distance, energy consumption and training time

### Note:

"Menu", "User" will be explained on page 5 ff, "Display" on page 9, "Presettings" on page 7", "CoolDown" and "WarmUp" on page 12/13.

### Stand-by (sleep mode)

If there are no more workout impulses and no keys will be pressed, the display switches to standby mode. The only feature being displayed is "POWER". The switch off time can be set in the menu "Settings/Standby". Pressing a key or resuming work out, will activate the workout mode again.

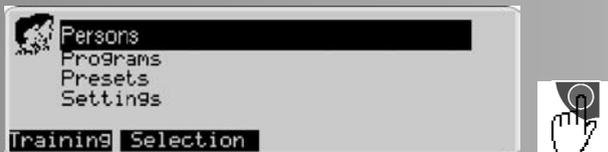


## Main menu:

The functions of the 4 menus: Users, Programmes, Presettings and Settings are grouped by topics.

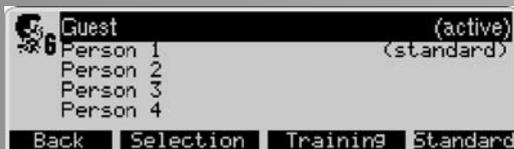
## Users

Use this menu to enter users and their individual data and settings and to select who will be the users during the next work out and who will be the users the next time the equipment will be switched on.



Press **"Select"** to access the submenu under the menu option highlighted in black.

Press **"Training"** to jump to the standard workout programme of the "active" user.



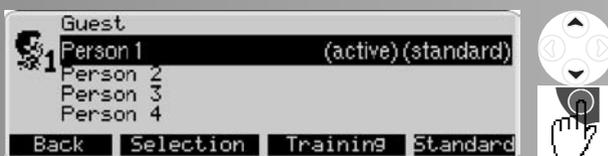
Example:

"Guest" (active) will be working out next.

"User 1" (standard) is to be activated the next time the equipment is switched on.

This setting will be saved until changed again.

## User → select User

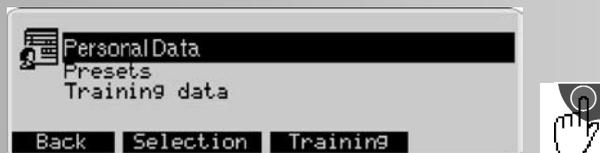


Press **"Back"** to jump to the "Users" menu.

Press **"Training"** to jump to the user's standard workout programme.

Press **"Standard"** to set the user highlighted in black as user the next time the equipment is switched on.

Press **"Select"** to open the respective submenu of the user highlighted in black.



In this menu, you can choose from 3 submenus:

### User Data

Use to enter user-related data.

### Presettings

Use to enter data related to display and functions, set workout options and pulse rates.

### Workout Data

Use to access overall workout data.

## User → User 1 → User Data

Press **"Select"** to access the "User Data" submenu: "User 1".

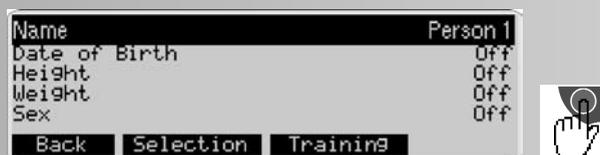
Enter user-related data into this menu.

## User 1 → User Data

Enter user-related data into this menu.

- Here, entering the name replaces "User 1".
  - The Date of Birth affects the pulse-rate presettings.
  - The height affects the B.M.I. calculation.
  - The weight affects the B.M.I. calculation.
  - At this stage, the user's "Sex" is irrelevant.
- The "BMI" will be calculated from your data.

## User data → enter Name



Highlight "Name" and press **"Select"** to access the submenu "Enter Name".



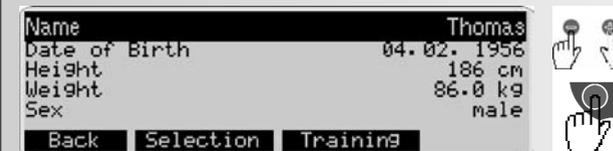
## Note:

Delete the entry **User 1** before entering name

Use the navigation keys to select areas and/or characters. The active area is highlighted in black.

Press **"Insert"** to insert the selected character. A maximum of 8 characters may be entered.

Press **"Back"** to enter the entry. Enter at least 1 character, otherwise the option "Back" will not be displayed.



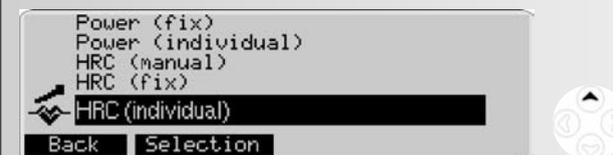
Use the **-/+** keys to adjust "Age", "Height" and "Weight" and to select the "Sex".

The personal data of our fictitious user "Thomas" could look like this.

## Menü:

### Programme

This menu contains the overview of the equipment's workout programmes.



## Note:

If the content of a menu cannot be displayed within the space of the display, use the navigation keys "Up" and "Down" to scroll the display. The selection will move and be highlighted in black as you scroll. For the first menu option, the highlighting will be on top, for the last ones it will be on the display's bottom.

## Training and operating instructions

### Performance (manual):

Changing the performance while working out. Features such as Time, Distance... may be increased or decreased.

### Performance (preset):

The performance will be controlled by performance profiles.

### Performance (individual)

Adjust the performance profile according to your requirements.

### HRC (manual) HRC =Heart Rate Control.

Enter a pulse rate and the performance will be controlled automatically by your pulse rate.

### HRC (fixed)

Pulse-profile programmes control the performance according to changing pulse rates.

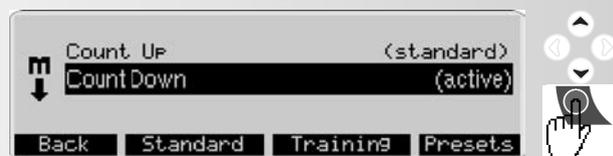
### HRC (individual)

Adjust basic pulse-profile programmes according to your requirements.

## Programmes → Performance (manual)

Under the option "Performance (manual)", there are two workout programmes: "Count Up" and "Count Down". Use both programmes to adjust the performance while working out. "Count Up" increases and "Count Down" decreases the settings you entered or that were taken over from the menu:

### Presets → Workout Settings



Use the navigation keys "Up" and "Down" to highlight the selection in black and to activate.

Press "Standard" to select the highlighted programme as Standard programme of the "active" user.

Press "Training" to select the highlighted programme and to view the "Ready for Training" mode.

"Presets" displays the Presets that yet need to be or have already been entered into "active" programmes.

### Remark:

The functions assigned to the function keys do not change when selecting a workout programme. To avoid redundancy,

they will not be repeated in the following.

## Programmes → Performance Profiles (fixed)

Under the option "Performance Profile (preset)", 10 training profiles of varying duration and intensity are listed.

Performance will be adjusted according to profile presets.

Next to the programme number, the duration and the distance of the programme are indicated.



Use the navigation keys "Up" and "Down" to highlight in black and to activate.

## Programmes → Performances (individual)

Under the option "Performance Profiles (individual)", 5 workout profiles are listed. Duration, distance and intensity of these profiles may be changed.



### Note:

On how to create "Performance Profiles (individual)" pressing "Edit", please see page 14.

## Programmes → HRC programmes (manual)

The menu item "HRC (manual)" contains two training programmes: "Count Up" and "Count Down". In both programmes a target pulse is achieved by performance regulation and is maintained over the training period. The target pulse is either adopted from the default settings in the menu: **Default Settings → Default Setting Pulse** or is set to 130, if no data is available. The values, which you preset or which have been

adopted from the default settings in the menu: **Default Settings → Training values**, are counted up in the "Count Up" mode and are counted down in the "Count Down" mode.



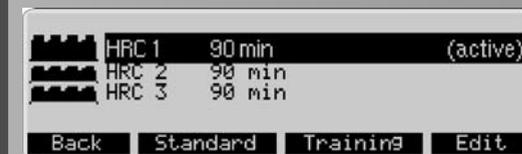
## Programmes → HRC (fixed)

The menu item "HRC (fixed)" contains 5 training profiles, which differ in duration and intensity. In these programmes, changing target pulses are achieved by performance regulation. The profile height of the programme depends on the entries of your maximum pulse in the menu: **Default Settings → Default Setting Pulse**. If no data is available, an age of 50 years and a maximum pulse of 170 are set automatically.



## Programmes → HRC (individual)

The menu item "HRC (individual)" contains 3 training profiles. You can edit the duration and the intensity of these profiles.



### Note:

On how to create an "HRC (individual)" pressing "Edit", please see page 15.

## Training

### Selecting a training programme

You can select two different programmes:

#### 1. Training according to performance default settings

a) Manual performance input

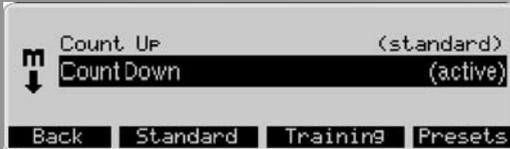
b) Performance profiles

## 2. Training according to pulse default settings

- a) Manual pulse input  
b) Pulse profiles

### 1a

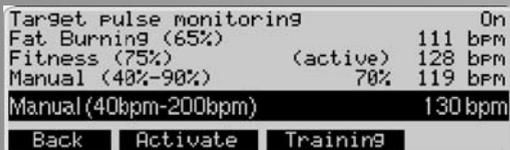
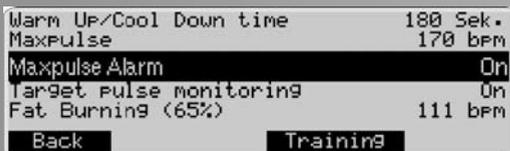
Selecting a training programme by means of manual performance input e.g. "Count Down"



By pressing "Presets" you will skip to the menu "Current default settings". The menu displays the default settings, which are to be entered or have already been entered at the "active programme".

## Performance (manual) -> Current default settings

In this menu, you can view, change or maintain the default settings for the active programme.



**Display:** Current default settings

The default settings are the values, which the active user "Thomas" entered beforehand under **Default Settings ->**

### Training values and pulse default settings:

Energy consumption = 800 kJoule  
Training time = 30 min

Workout distance = 7.50 km  
Maximum pulse (selected) = 170 bpm  
Alarm at exceeding the maximum pulse = on  
Target pulse monitoring = on  
Fitness (75%) = active

By pressing "Training" you will adopt the values and settings and you skip to the view "Training stand-by"

## Training stand-by

This image illustrates values and settings



**Display:** Top

Current pedal rate = 0 min<sup>-1</sup>  
Current speed = 0.0 km/h  
The following was taken over from "Thomas" presets: workout distance = 7.50 km  
Duration of work out = 30:00 min  
Energy consumption = 800 kJoule  
Current performance ratio = 4 % (current performance to set maximum performance 600 watt.) preset performance = 25 watt  
Current pulse = 70 bpm [beats/min] Current pulse ratio = 41% (current pulse to maximum pulse)

**Display:** Bottom

Active person = Thomas  
Programme symbol  
Current date and time

Active programme = perform. (manual) Count Down

Press "Menu" to jump back.

Press "User" to jump back to the "Users" menu

Press "Presets" to jump to the "Current Presettings" menu to display the presettings that yet need to be or have already

been entered in "active" programmes.

### Note:

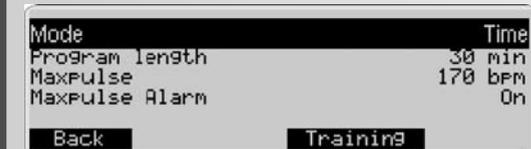
The performance can be increased or decreased by **25 Watt** by means of the **navigation keys** or by **5 Watt** by means of the **-/+ keys** during training stand-by or training

### 1b

Selecting a training programme with performance profile: e.g. Performance (fixed) Programme 1"



By pressing "Presets", you will skip to the menu "Current Default Settings" and the default settings, which are to be entered or which have already been entered at the "active" programme are displayed.



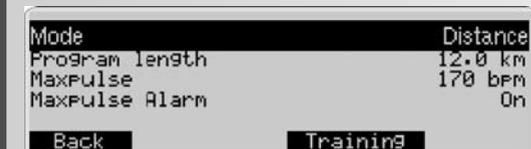
**Display:** Current default settings

Mode = time  
Programme length = 30 min  
Max. pulse (selected) = 170 bpm  
Alarm at exceeding the maximum pulse = on

Here the default settings are the values, which the active user "Thomas" entered beforehand under **Default Settings -> Pulse default settings:**

## Programme Mode Time or Distance

Pressing "-/+" will switch the **mode** of the programme from **time** to **distance**. Under **programme length**, you can adjust the **time** from 20 - 90 minutes and the **distance** from 8 kilometres to 36 kilometres (cross ergometer 4 - 18 kilometres).



**Display:** Current default settings

Mode = Distance

## Training and operating instructions

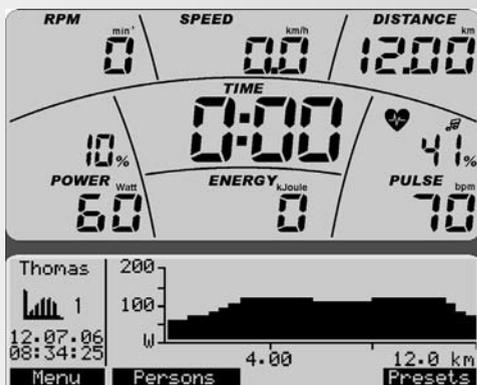
Programme length = 12.0 km

By pressing "Training" the values and settings are adopted and you skip to the view "Training stand-by".

### Note:

With the bike ergometer, 1 minute corresponds to 400 metres. With a cross ergometer it is 200 metres.

## Training stand-by



Display: Top

Distance = 12.0 km

Display: Bottom

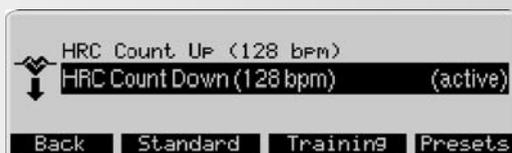
Displaying programme profile in distance mode

### Note:

The performance profile may be increased or decreased while working out or in the training stand-by mode by **5 watt** by using the **-/+** keys or by **25 watt** by using the **navigation keys left/right**.

### 2a

Selecting a training programme, entering the pulse manually, e.g. "HRC Count Down"



By pressing "Presets", you will skip to the menu "Current Default Settings" and the default settings, which are to be entered or which have already been entered at the "active" programme are displayed.

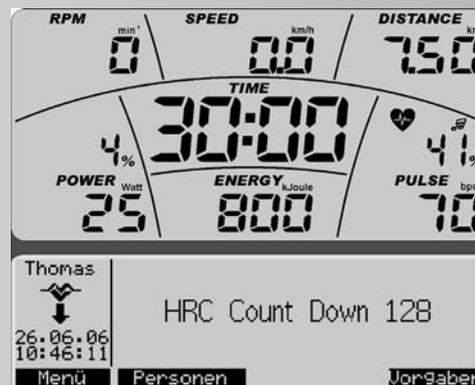


Display: Current Default Settings

The value **128** is selected as pulse default setting for the training by selecting Fitness (75%) actively as **target pulse**.

By pressing "Training" the values and settings are adopted and you skip to the view "Train stand-by".

## Training stand-by



Display: Training stand-by

The values were adopted from the current default settings of the programme.

### Note:

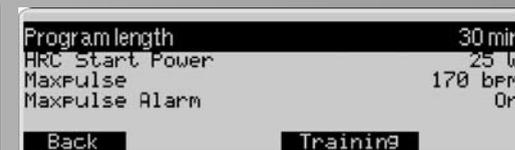
The **target pulse** can be increased or reduced by the **-/+** keys during training stand-by or during training.

### 2b

Selecting a training programme with pulse profiles: e.g. "HRC (fixed) HRC Profile 1"

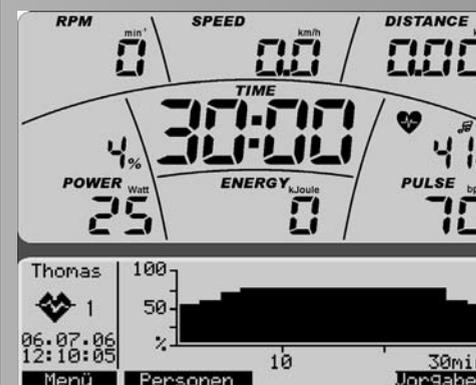


By pressing "Presets", you will skip to the menu "Current Default Settings" and the default settings, which are to be entered or which have already been entered at the "active" programme are displayed.



By pressing "Training" the values and settings are adopted and you will skip to the view "Training stand-by"

## Training stand-by



Display: Training stand-by

The values were adopted from the current default settings of the programme.

### Note:

The pulse profile height can be increased or reduced by the **-/+** keys: during training stand-by the entire profile and during training only the workout.

## Training

The training programme "Performance (manual) Count Down" is used as an example for the training display.



#### Display: Training stand-by

If you pedal with more than 10 rpm, the training display will start.



During training, you can change the multi-purpose display in order to view more information.

Pressing "Display" switches the information from "Current Training" to "Programme Indication", then to "Pulse Information", then "Average Values" etc.

#### Display : Current Training

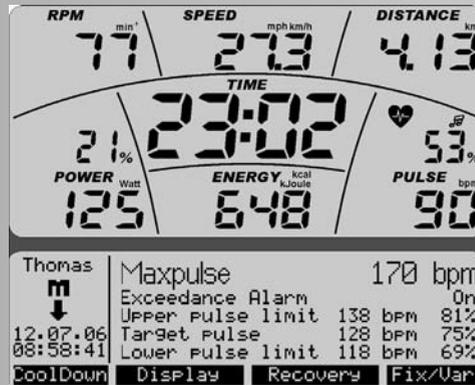
The upper display shows the Presettings in count-down mode and the lower display shows workout values in count-up mode.

In this example the performance has been increased to 125 Watt and the pulse has increased to 90 beats/min.



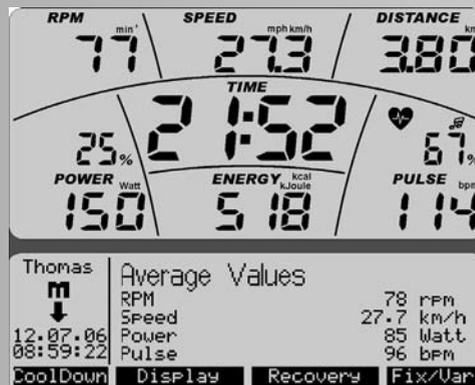
#### Display: Programme indication

The current programme is displayed



#### Display: Puls information

The pulse settings and default settings are display



#### Display: Average values

The average values are displayed.

#### Note:

If a default setting has counted down to "Zero", a count-up mode will start. When the last default setting has been reached, you can hear a short beep.

## Training Functions

### Shifting from rotation-speed independent to rotation-speed dependent operating mode.

At the beginning of the training the appliance is always in rotation-speed independent mode. Pedal rate is only displayed as a value.



Pressing "P = Fix/Var" will shift from rotation-speed independent to rotation-speed dependent operating mode.

A double-headed arrow in the pedal rate display shows the rotation-speed dependent operating mode. The limitation of performance is canceled. A change is only possible during training.

### Rpm and Performance Control



If the displayed performance cannot be achieved at a given pedal rate in non-rpm-linked mode, an upwards- or downwards-pointing arrow will be displayed.

For technical reasons, a performance of 400 watt cannot be achieved at 50 rpm, for instance, or 25 watt at 120 rpm, for that matter. The arrows indicate that you need to pedal faster or slower to make it possible to achieve a given performance.

### Pulse Monitoring (Target Pulse)

If you activated the monitoring mode in target pulse, your pulse will be monitored before and during the work out. Our fictitious user "Thomas" activated a target pulse of 128. If the target is overshot by 11 beats (139), the control function dis-

## Training and operating instructions

plays a downward pointing **HI** arrow.



Conversely, if the target is undershot by 11 beats (117), an upward pointing **LO** arrow will be displayed.

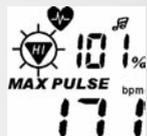


### Note:

The lower limit will only be displayed, if you are training and the target pulse had been reached before.

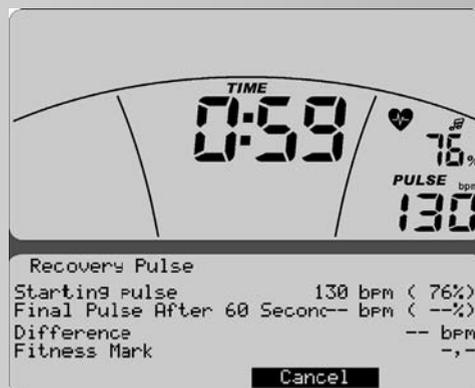
### Pulse Monitoring (Maximum Pulse)

If maximum pulse has been activated in pulse monitoring and the maximum pulse has been overshot, **MAX** and a blinking **HI** arrow will be displayed. If the alarm signal has been activated (note symbol), an audible double alarm signal will also be given.



### Recovery Pulse Taking

Recovery pulse means taking the pulse within one minute while counting down. Your pulse will be taken twice, at the beginning and at the end of the time interval; from the difference, a level of fitness will be calculated. Press **"Recovery"** to start a new function.



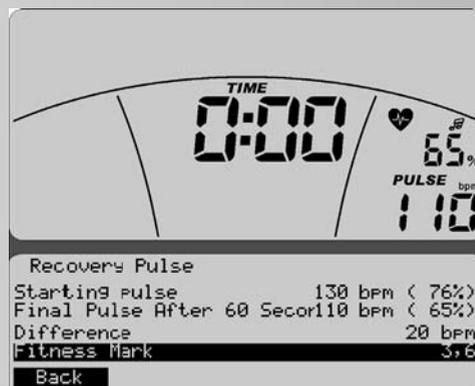
#### Display: Recovery Pulse Rate

Counting down, displaying current pulse rate and pulse rate at the start of the recovery pulse rate function. The percentage indicates the ratio of current pulse rate to maximum pulse

Press **"Cancel"** to stop the recovery pulse taking and to jump to the training stand-by mode, displaying average values.

### Note:

The recovery pulse function will only be offered, if the pulse rate is being displayed.



#### Display: Recovery Pulse Rate

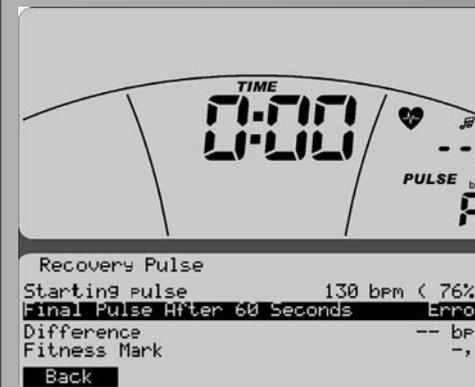
End of recovery pulse taking, displaying the end pulse after 60 seconds, from the difference between the pulse rates at the start and the end a fitness level will be determined accordingly.

### Note:

Press **"Back"** to jump to the training stand-by mode, displaying average values.

## Recovery Pulse Taking and Pulse Loss

If the pulse taking is interrupted, the count down will be completed, without calculating a fitness level.



Press **"Back"** to jump to the training stand-by mode, displaying average values.

## Interrupting or Terminating the training

If there are less than 10 pedal rotations/min or the **"recovery"** function is being pressed the electronic equipment registers interruptions in the work out. Average values will be displayed.



#### Display:

The training data will be displayed as long as has been set in the menu **"Settings -> Standby"**. If you do not press any keys and do not work out in this time, the electronic equipment will switch to the standby mode.

## Resuming the Training

If you resume the training within the **"Standby Time"**, your last

values will be continued or counted down.

### Individual training Profiles (Edit)

The menu "Programmes" includes an option for creating individual performance profiles and HRC-profile programmes.

### Performance (individual)

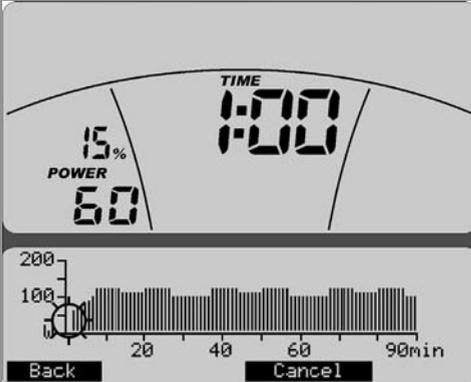
There are 5 performance programmes with the same distance and duration, which may be adjusted individually.

Pr-g1	90 min/36.0 km	(active)
Pr-g2	90 min/36.0 km	
Pr-g3	90 min/36.0 km	
Pr-g4	90 min/36.0 km	
Pr-g5	90 min/36.0 km	

Back Standard Training Edit

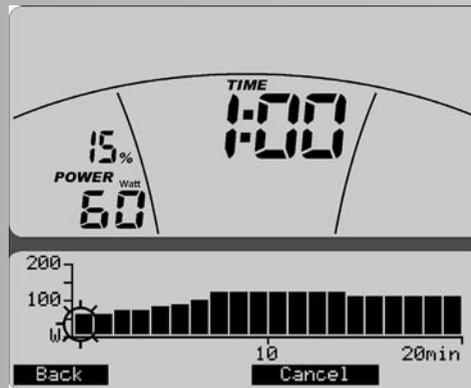


Press "Edit" to change to the submenu "Editing Programmes".



Each minute will be displayed as a bar. The workout time (duration) may be set between 20 and 90 minutes. Use -/+ keys to shorten or extend the training time by 10 minutes.

The navigation keys left/right mark a bar. It will be displayed **blinking**. The applicable period of time will be displayed under **TIME** and the performance under **POWER**. Use the navigation keys up/down to change the performance of the blinking bar.



An adjusted programme could look like this. Press "Back" to save your individual profile.

Pr-g1	20 min/8.00 km	(active)
Pr-g2	90 min/36.0 km	
Pr-g3	90 min/36.0 km	
Pr-g4	90 min/36.0 km	
Pr-g5	90 min/36.0 km	

Back Standard Training Edit

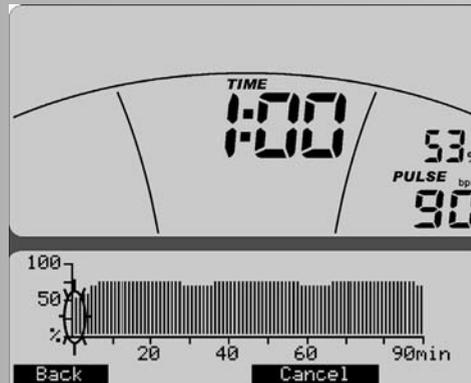
**Display:** programme selection with adjusted programme 1 HRC (individual)

You can choose from 3 pulse profiles for editing.

HRC 1	90 min	(aktiv)
HRC 2	90 min	
HRC 3	90 min	

Zurück Standard Training Edit

Press "Edit" to change to the submenu "Editing Programme".



Each minute will be displayed as a bar. The training time (duration) may be set between 20 and 90 minutes. Use -/+

keys to shorten or extend the workout time by 10 minutes.

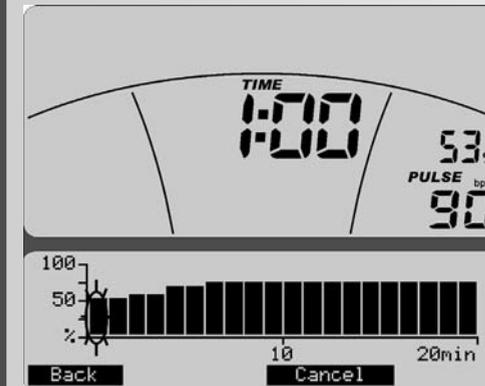
Use the navigation keys left/right to mark a bar. It will be displayed **blinking**. The applicable period of time will be displayed under **TIME** and the pulse under **PULSE**.

Use the navigation keys up/down to change the target pulse of the blinking bar.

The target pulse of a given bar, will be displayed in percent and in beats and refers to your maximum pulse, provided you entered it in. The target pulse may be adjusted by 20 - 100% of the maximum pulse.

### Note:

If the maximum pulse of the active person is not available, a 50-year-old standard user with a maximum pulse of 170=100% will be used.



An adjusted programme could look like this. Press "Back" to save your individual profile..

HRC 1	20 min	(active)
HRC 2	90 min	
HRC 3	90 min	

Back Standard Training Edit

**Display:** Programme Selection with adjusted programme 1

### Note:

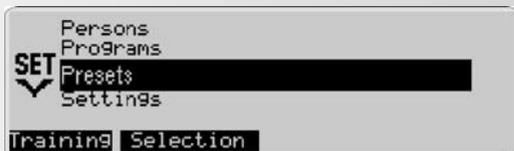
The adjusted individual programmes and profiles will be saved under each individual user and will not replace the programmes and profiles of other users.

## Training and operating instructions

### Menu

#### Presets

Under "Presets" all users (guest, U1-U4) may adjust and save settings and presettings for the long term, irrespective of each other. The settings entered under guest will be replaced by standard values when the equipment is restarted.



This menu includes 3 submenus:

#### 1. Display & Functions

Access to set your performance values, speeds and how the energy consumption is displayed.

#### 2. Training Values

Access to set values for energy, workout time and distances that will be taken over as standard values under Presets.

#### 3. Presetting Pulse Rates

Access to set how your pulse will be monitored and which value will be used.

### Presettings -> 1. Display & Functions



- Use "Transmission" to set the speed that is to be displayed: Mountain: 60 pedal rotations result in 15.5 km/h, Touring: 21.3 km/h and Racer: 25.5 km/h.

#### Note:

This menu option is not included in the Cross Ergometer.

- Use "Maximum Performance" to retain or limit the maxi-

mum performance of the equipment. Above this limit, no performance will be tolerated. The % bar in the performance display shows the current ratio to the set maximum performance.

- Use "HRC Start Performance" to set the starting performance between 25 - 100 watt in pulse-monitored programmes, if the preset value appears too high or too low to you.
- Use "WarmUp- / CoolDown Performance" to enter a value between 25 - 100 watt as target performance, resulting in an automatic performance increase in the programmes Count Up/Count Down (WarmUp) or performance decrease (CoolDown) in relation to the target performance.
- Use "WarmUp-/CoolDown-Duration" to set the duration of the WarmUp-/CoolDown function between 60-240 seconds

### WarmUp

During the initial 30 seconds, the performance remains constant, then the performance will be increased until the target performance is reached (previously set performance).



Press "WarmUp" to display a progress bar.



The progress bar standing at 0%.



When pedalling, the progress bar is growing to 100%. In this example, the performance increased from 25 to 60 watt.



When 60 watt = 100% have been reached, there will be three sound signals before the function will be terminated.

#### Note:

The function "WarmUp" will **only** be offered, if the performance set is higher than the WarmUp-/CoolDown- performance under Display & Functions.

### CoolDown

The performance will be lowered down to the WarmUp/ CoolDown performance which will be kept for 30 seconds until the WarmUp/CoolDown duration has been reached.



Press "CoolDown" to display a progress bar.



The progress bar standing at 1%.



Example: When the CoolDown performance = 100% is reached, there will be 3 audible signals and the function terminates.

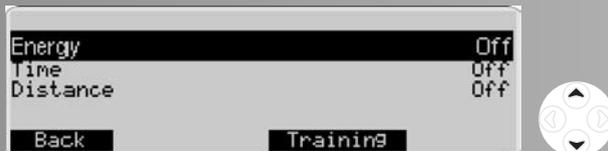
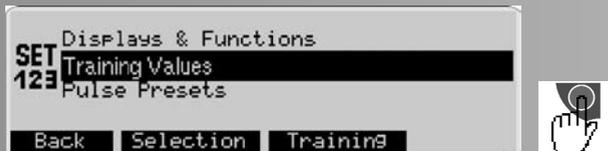


**Note:**

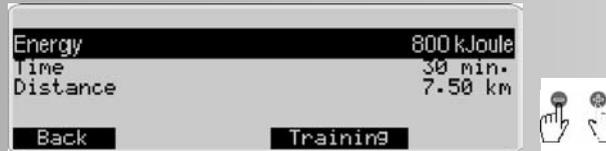
The "CoolDown" function will **only** be offered, if the current workout performance is higher than the WarmUp/CoolDown performance under Display & Functions. Press "CoolDown" to display a progress bar.

- Use "Energy Calculation" to set whether, your energy consumption (in real terms) or the energy turnover of the ergometer (physical) is to be displayed.
- Use "Energy Unit" to set whether energy consumption is to be displayed in kJoule or kcal.

**Presettings -> 2. Training Values**



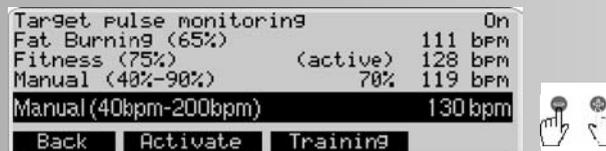
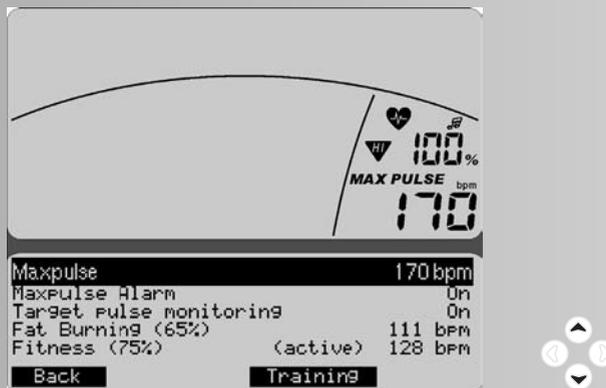
When accessing the menu initially, values are set to "Off".



After entering energy consumption, workout duration and distances, the values could look like this. When you enter workout values, they will be loaded into the "ready for work out" mode of the workout programmes. These values may still be changed. At the start of the work out, these values will be counted down, at zero blinking characters indicate that the values preset have been reached. The values will not influence the operation of the ergometer.

**Presettings -> 3. Pulse Settings**

Once the user data of the "active" user has been entered, some pulse-rate values will be displayed. If not, the display will show "Off" instead of the values.



- The Value "Maximum Pulse" 170. This value has been informed by the user's data (220 - age), e.g., Thomas' (50 years). Medically founded, it indicates the maximum tolerable pulse

rate that users of a given age may have but should not have while working out.

- Use "Maximum Pulse" to reduce or deactivate this value. The pulse rate indicated in % refers to this value: Current pulse to maximum pulse and the depths of sections of pulse programmes. You may enter values to select target pulse values.
- Use "Alarm if Maximum Pulse Exceeded" to set whether an audible alarm should be activated when the maximum pulse has been exceeded. If "Maximum Pulse" has been set to Off, the alarm will also be deactivated.
- In "Target Pulse", you have 2 options: "Target Pulse Control" On or Off.

Off will disable the target pulse monitoring function.

On gives you further options, if "Maximum Pulse" has been set to On:

"Fat Burning (65%)". This means that 65% of your age-specific maximum pulse will be controlled or monitored according to the user's data (220 - age) as pulse rate value. Example: 111

"Fitness (75%)". This means that 75% of your age-specific maximum pulse has been used as a basis. Example: 128

"Manual (40%-90%)". This means that you may enter a value in % between 40% and 90 % by using the +/- keys. Example: 128 (70% will be calculate as recommended value)

On gives you just one option, if "Maximum Pulse" has been set to Off:

Manual (40bpm - 200bpm). This means that you may enter a non-age-specific pulse value between 40 and 200 by using the +/- keys. Example: 130 (Will be displayed as recommended value)

Press "Activate" to activate the selection highlighted in black (active).

The selected target pulse will be used as presetting for pulse programmes. During the work out, this value will be achieved and held constant by performance control. For the other workout programmes, it will be used as a guideline to achieve pulse values that are 10 beats below or over the workout target pulse. This pulse rate will be controlled by two arrows in the pulse display.

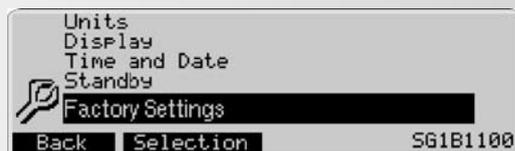
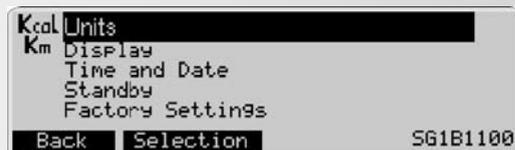
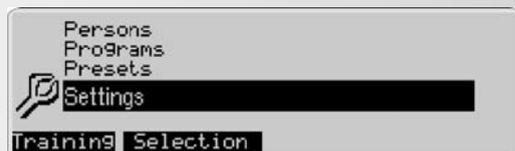
Press "Back" to save the settings.

## Training and operating instructions

### Menu

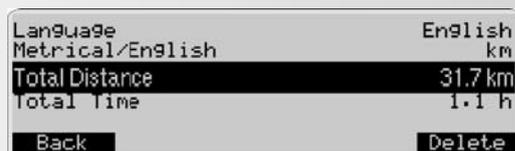
#### Settings (for all users)

This menu offers the possibility to carry out display- and appliance-specific settings and adjustments in 5 sub menus. These adjustments apply to all users.



#### Settings -> 1. Units

Here you determine in which language the menus are displayed, the display of speed and distance in kilometres or miles. You can also delete the values of the overall kilometres and the overall training time.



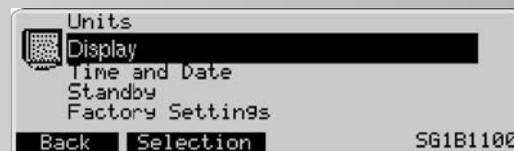
Press "Delete" followed by "Delete OK" to execute this operation.

Press "Back" to save the settings.

#### Note:

"Delete OK" deletes the total kilometre values and the total time.

#### Settings -> 2. Display



Here you can adjust the contrast and the brightness of the display.



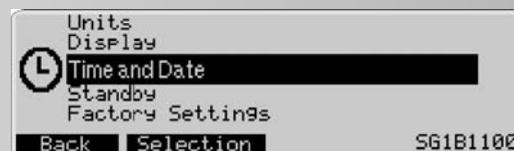
Press "Back" to jump back to the main menu. The settings will be saved.

Press "Cancel" to jump back to the main menu. The settings will not be saved.

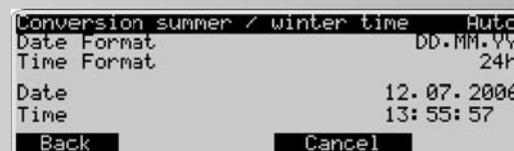
#### Note:

When the optimal contrast is set, there will be no heavy shades. The setting "Contrast" applies to the lower display and "Brightness" to both displays.

#### Settings -> 3. Time and Date.



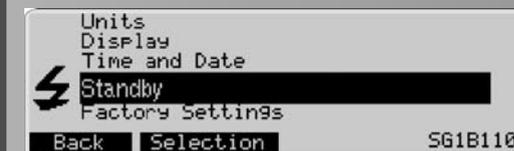
In this menu you may set time and date, display formats and other display options.



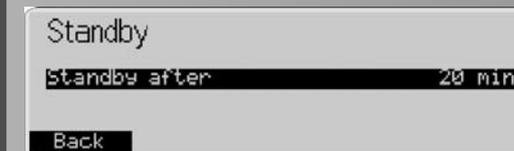
Use "-/+ " to change settings, formats and values.

Press "Back" to save the settings.

#### Settings -> 4. Standby

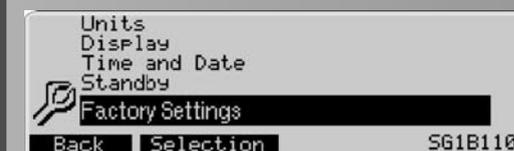


In this menu, you may set the period of time the display takes to switch off after the work out when no more keys will be pressed.

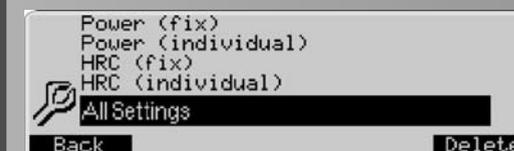


Press "Back" to save the settings.

#### Settings -> 5. Factory Settings



In this menu, the original programmes of the different groups of programmes can be restored. Any programme changes will be deleted.



Press "Delete" to get to the function "Delete OK".

Press "Delete OK" to delete the entries and changes of the menu options highlighted in black. For programmes, the original settings will only be restored for **active** users.

**Press All Settings to delete all settings of all users.**

Press "Back" to jump to the menu "Settings".

#### Firmware Update

The display of the operating software (firmware) is on the right bottom side in the menu "Settings".



The last 3 numerals indicate the firmware version: here 170. If we offer updated versions (higher numbers) on our homepage, you can carry out an update. For further information, go to: <http://www.kettler-sport.net/sport/service/software-fuer-trainingsgeraete.html>

## General Information

### System beeps

#### Switch-on

Upon switching-on during the segment test, a short beep is heard.

#### End of programme

A programme end (profile programmes, count-down) is indicated by a short beep.

#### Exceeding maximum pulse

If the preset maximum pulse is exceeded by one pulse beat, every 5 seconds two short beeps can be heard.

#### Error indication

In case of an error, 3 short beeps can be heard.

### Recovery

In this function, the flywheel mass is braked automatically. Further training is not recommended.

Calculation of the fitness grade (F):

$$\text{Grade (F)} = 6.0 - \left( \frac{10 \times (P1 - P2)}{P1} \right)^2$$

P1 stress pulse,

P2 = recovery pulse

F1.0 = very good,

F6.0 = insufficient

### Switching time/distance

With the programmes "Performance Profiles", you can switch the profile per column in the settings from time mode (1 minute) to distance mode (400 metres or 0.2 miles). Cross ergometer: (200 metres or 0.1 miles).

### Profile display during training

At the beginning the first column is flashing. After that, one column after the other is flashing, from left to right during training.

### Rotation-speed independent mode

(constant performance)

The electromagnetic eddy-current brake regulates the braking torque to the preset performance in case of alternating pedal rates.

### Arrows pointing upwards/downwards

(Rotation-speed independent mode)

If a certain performance cannot be achieved with the rotation speed (e.g. 400 Watt at 50 pedal rotations), the upward or downward arrow indicates when faster or slower pedalling is required.

### Rotation-speed dependent mode

(constant braking torque)

The eddy-current brake sets a constant braking torque. Only pedalling will change the performance.

### Calculation of the average values

The calculation is effected per training session.

### Pulse measuring

If you lose the pulse signal, the performance of the device will remain constant for approx. 60 seconds and is then slowly adjusted downwards.

### Information on pulse measuring

The pulse calculation starts when the heart symbol in the display flashes according to your pulse beat.

### With ear clip

The pulse sensor operates with infra-red light and measures the changes in the light permeability of your skin caused by your pulse beat. Before fastening the pulse sensor to your ear lobe, please rub it strongly 10 times in order to increase blood circulation.

### Avoid interfering impulses.

- Fasten the ear clip carefully at your ear lobe and try to find the most favourable point for sensing (heart symbol flashes without interruption).
- Do not train directly under strong incidence of light, e.g. neon light, halogen light, spot light, sunlight.
- Completely avoid any vibrations and wobbling of the ear sensor including cable. Always fasten the cable with the clip at your clothes or - even better - at a headband.

### With a chest strap

Please read the instructions on the back of the packaging. Mobile telephones, TV sets and other electronic equipment generating an electric field may create problems for heart-frequency measurement.

### Malfunction in the training computer

Turn the main switch off and then on again. In case of a malfunction at the date or time display, change the battery on the backside of the display panel. (See assembly instructions)

### Information on the interface

The training programs "TourConcept", item no. 7926-700, which is available at your specialist dealer, makes possible to control this KETTLER device by means of a PC /notebook via the interface. For further information and for information on software updates (firmware) of this device, go to

<http://www.kettler-sport.net/sport/service/software-fuer-trainingsgeraete.html>.

## Training Instructions

You can determine whether or not your course of training has had the desired effects after a few weeks by doing the following:

1. You achieve a certain level of staying power with less cardiovascular output than before;
2. You achieve a certain level of staying power for a longer period of time, though with the same cardiovascular output;
3. After achieving a certain level of cardiovascular output, you recover more quickly than previously.

### Standard values for endurance training

**Maximum pulse rate:** Maximum stress means achieving the individual maximum pulse rate. The achievable maximum heart rate depends on the age.

The following rule of thumb applies: The maximum heart rate per minute equates to 220 pulse beats minus your age.

Example: Age 50 years > 220 - 50 = 170 pulse beats/min

**Weight:** Another criterion for determining the optimal training data is the weight. The target specification for stress is 3 Watt/kg weight for men and 2.5 Watt/kg weight for women. You must also take into consideration that the physical efficiency decreases at the age of 30 and beyond: with men approx. 1% and with women approx. 0.8% per life year.

Example: Man, age 50; weight 75 kg

> 220 - 50 = 170 pulse beats/min maximum pulse

## Training and operating instructions

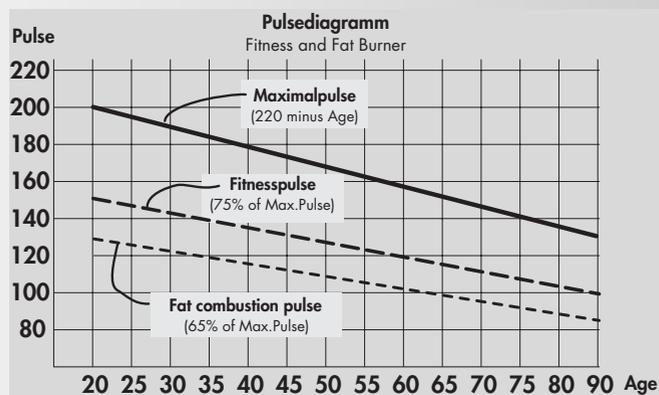
3 Watt x 75 kg = 225 Watt

> Minus "age discount" (20% of 225 = 45 Watt)

> 225 - 45 = 180 Watt (target specification in case of stress)

### Stress intensity

**Stress pulse:** The optimal stress intensity is achieved at 65 - 75% (see diagram) of the individual cardiovascular performance. This value will change, depending on the age.



### Amount of stress

#### Duration of a training session and frequency per week:

The amount of stress can be regarded as ideal when 65 - 75% of your personal cardiovascular performance is achieved over an extended period of time.

#### Rule of thumb:

Training frequency	Duration of training
daily	10 minutes
2-3 times a week	20-30 minutes
1-2 times a week	30-60 minutes

You should select the Watt performance in such a way as to maintain your muscle stress over an extended period of time. Higher performances (Watt) should be effected in connection with a higher pedal rate. Too low a pedal rate (less than 60 rpm) leads to a static stress on the muscles and thus to premature fatigue.

### Warm-Up

At the beginning of each training session you should limber up for about 3-5 minutes, slowly increasing the exercise so as

to get your cardiovascular system and your muscles going

### Cool-Down

So-called "cooling down" is equally important. After each training session (after/without recovery), you should carry on pedalling with a small pedal resistance for a further 2-3 minutes.

The stress in your further endurance training should first of all be increased via the amount of stress, e.g. instead of 10 minutes, do 20 minutes a day; or instead of training 2x a week, train 3x. Along with structuring your endurance training to suit your personal requirements, you can always fall back on the training programmes integrated in your training computer.

## Glossary

### Age

Input for the calculation of the maximum pulse.

### B.M.I

Body Mass Index: Value depending on weight and height.

Calculation of the BMI:

$$\frac{\text{Weight (kg)}}{\text{Height}^2(\text{m}^2)} = \text{Body Mass Index}$$

### Example of Thomas:

Weight 86 kg

Height 1.86 m

$$\frac{86 \text{ (kg)}}{1,862 \text{ (m}^2)} = 24,9$$

### Standard values:

Age	BMI		
	Classification	m	f
19-24 years	19-24		
25-34 years	20-25	Underweight <20	<19
35-44 years	21-26	Normal weight 20-25	19-24
45-54 years	22-27	Overweight 25-30	24-30
55-64 years	23-28	Adiposity 30-40	30-40
> 64 years	24-29	Severe adiposity >40	>40

The result of Thomas (50 years) shows a BMI of 24.9, which is a normal value. Deviating from the standard values can result in damages to your health. Please consult your doctor.

### Control

The electronic system regulates the performance and the pulse on manually entered or preset values.

### Dimension

Units for displaying km/h or mph, Kjoule or kcal, hours (h) and performance (Watt).

### Energy (realistic)

Bike ergometer:

The energy metabolism of the body is calculated with a degree of efficiency of 25% necessary for the mechanic output. The other 75% are converted into heat.

Cross ergometer:

Here the ratio is 16.7% and 83.3%.

### Fat consumption pulse

Calculated value: 65% max. pulse

### Fitness pulse

Calculated value: 75% max. pulse

### Manual

Calculated value from: 40 - 90% max. pulse

### Maximum pulse

Calculated value: 220 - age

### Pulse monitoring

If an arrow appears, which is pointing downwards, your pulse is 11 beats above the target pulse. If an arrow appears, which is pointing upwards, your pulse is 11 beats below the target pulse.

### Menu

Display, in which values are shown or settings are changed

### Percentage scale

Comparison between the current performance and the maximum preset appliance performance.

### Performance

Current value of the mechanic (braking) power in Watt. This is the power, which the appliance converts into heat.

### Profiles

A bar display showing performances or pulses over a period of time or a distance.

**Programmes**

Training possibilities which present manual performances or target pulses or performances or target pulses determined by the programme.

**Pulse**

Measuring the heart beat per minute.

**Recovery**

Measuring the recovery pulse at the end of the training. A difference is calculated from the starting and the end pulse and a fitness grade is calculated on that basis. If you do not change your training, the improvement of this grade is an indicator of your fitness.

**Reset**

Delete the contents and restart the display

**Interface**

USB female connector for data transfer with a PC.

**Target pulse**

Pulse value, which is to be achieved, either manually or determined by the programme.

# KETTLER

MADE IN GERMANY



HEINZ KETTLER GmbH & Co. KG  
Postfach 1020 . D-59463 Ense-Parsit  
www.kettler.net  
docu 2503a-l/08.09