Manual - Control Unit with 7" touch screen for treadmill (#945814)

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Table of contents

1 - Precautions 4

2 - Intended Use 5

3 - List of symbols used 6

4 - General description 7

4.1 - Self test screen treadmill 7

4.2 - Home screen of the Control Unit 8

4.3 - Swiping the touch screen 9

4.4 - Manual control by touch screen 9

4.5 - Emergency Stop screen 10

4.6 - Executions and options of the Control Unit 11

4.7 - Optional Connections of the control unit 11

5 - Main Menu 12

5.1 - Main Menu of the Control Unit 12

6 - Control with an External Device 14

6.1 - Connect external device 14

6.2 - Select Baudrate 15

6.3 - Communication Interface Connector 15

6.4 - Select Terminal 16

6.5 - Connecting Bloodpressure while in Terminal 17

7 - Settings 18

7.1 - Settings menu 18

7.2 - Languages 18

7.3 - Show HR indication 19

7.4 - Treadmill Settings 19

7.5 - Set Manual Recovery Value 20

7.6 - Set Weight 20

7.7 - Set acceleration / deceleration (optional) 21

7.8 - Pause 21
7.9 - Display settings 22
7.10 - Select Default Menu 22
7.11 - Set unit 23
7.12 - Select Energy Units 23
7.13 - Show HR indication 24
7.14 - Select slope units 24
7.15 - Sleep Mode 26
7.16 - Settings protection 26
7.17 - Safe Control - only treadmill 27
8 - Service 28
8.1 - System Information 28
8.2 - Service menu 29
9 - Additional Modules 30
9.1 - Using the Heart rate option 30
9.2 - Using the SpO2 measurement 30
9.3 - Using Blood Pressure Measurement 31
9.4 - Using the Reverse Walking Option 31
9.5 - Using the Ambient Sensor Pack Option 32
9.6 - Using the Autospeed Option 32
9.7 - Using the acceleration / deceleration option 33
10 - Accessories 34
11 - Specifications 35

1 - Precautions

When options acceleration, autospeed or reverse speed are turned on, the operator should explain the option and warn the test subject.

No modification of this equipment is allowed.

This device should only be sold by, or under the supervision of authorized persons.

2 - Intended Use

This device is intended to be used as a stress test device in a medical environment. The main goal of the use of the devices is to create reproducible stress tests. With cycling ergometers typically workload (watt) is imposed. With treadmills typically speed (km/h) and inclination (% grade) are imposed. This product is designed both for manual operation and for control by external ECG-, pulmonary equipment. Most likely this device will be used in conjunction with another medical device to obtain other important physiological data, allowing a physician to evaluate a test subjects physical status.
The product may also be used for rehabilitation or active aging therapy.
As such the intended use of the device solely cannot be defined specifically.

The device has to be operated under the supervision of well-trained medical specialists in the field of use.
The ultimate judgment whether a test subject should undertake a stress test with the device must be made by the responsible medical specialist, based on the limitations of each individual, the medical history and all other applicable circumstances. Neither the manufacturer nor its distributors assume any responsibility for the final use of its equipment.

3 - List of symbols used

Next

Previous

More

Less

Home

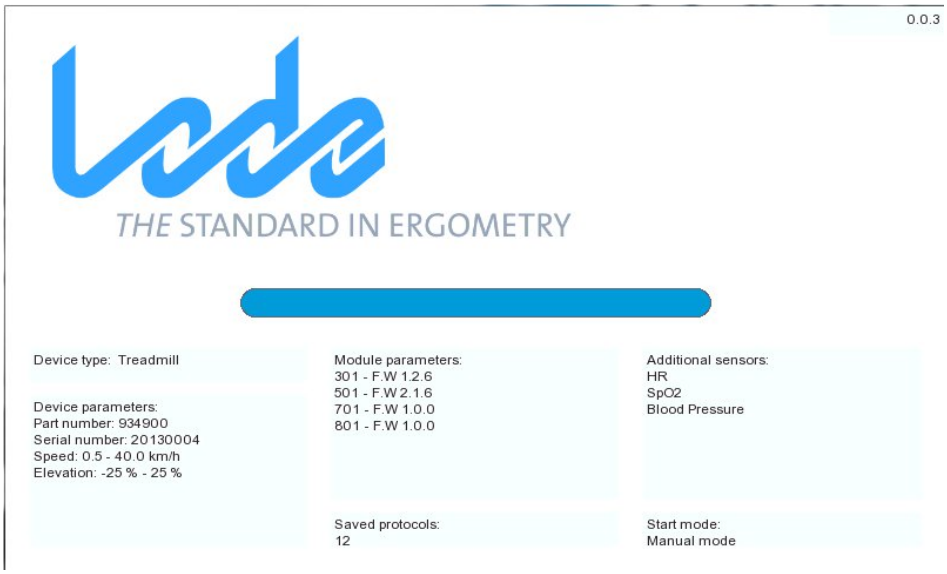
Exit

Start Blood Pressure Measurement

Stop Blood Pressure Measurement

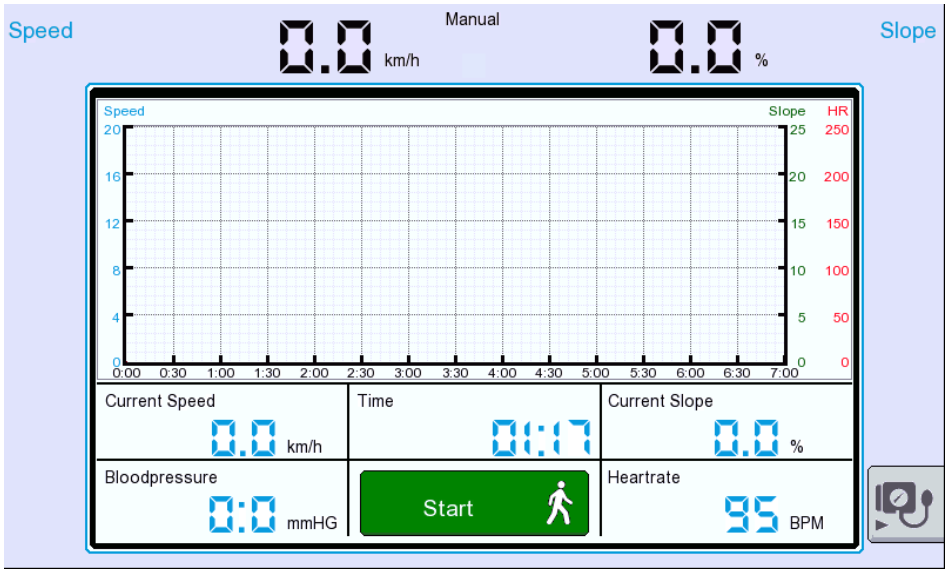
4 - General description

4.1 - Self test screen treadmill



Every time you start up your device this screen will be shown. The device type and additional modules will automatically be detected. As soon as the detection is complete the chosen start-up screen is activated.

4.2 - Home screen of the Control Unit



The home screen consists of the following elements:

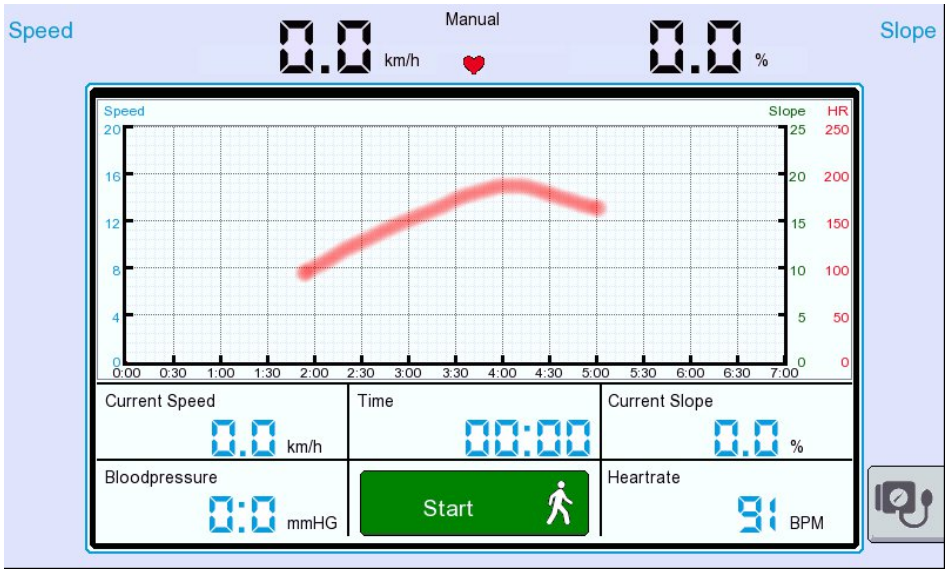
Touch screen: the complete screen is touch sensitive. Depending on the status various parts of the screen can have different functions. In this specific view the Start button can be operated.

- Indicators for Speed and Slope at the top of the screen.
- Top-middle you see the chosen mode op operation (in this case "manual")
- A graphical representation of Speed and Slopeand Heart Rate, when available
- 5 boxes with a digital representation of the parameters you have chosen

When a heart rate module is present the red heart shows up and if heart rate is measured from a heart rate belt the heart will intermittently show.

Note: the following data is only visible when the options are available on your treadmill:
- Heart rate
- Bloodpressure measurement
- Autospeed
- Reverse Speed
- Ambient Sensor Pack
- Acceleration

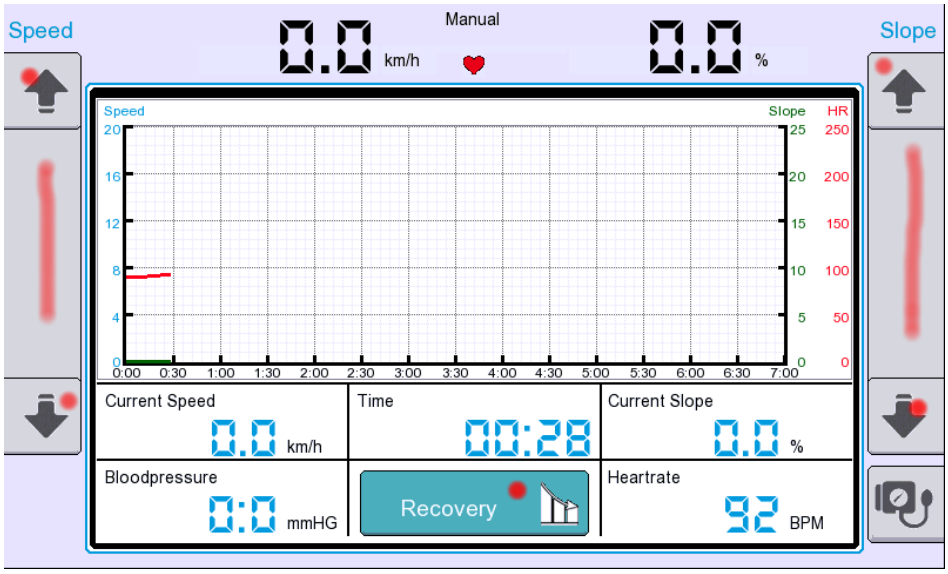
4.3 - Swiping the touch screen



After boot up the device shows the Test window or main menu.

To access the menu from the Test window you need to swipe the graph area of the touch screen as indicated in the picture.

4.4 - Manual control by touch screen



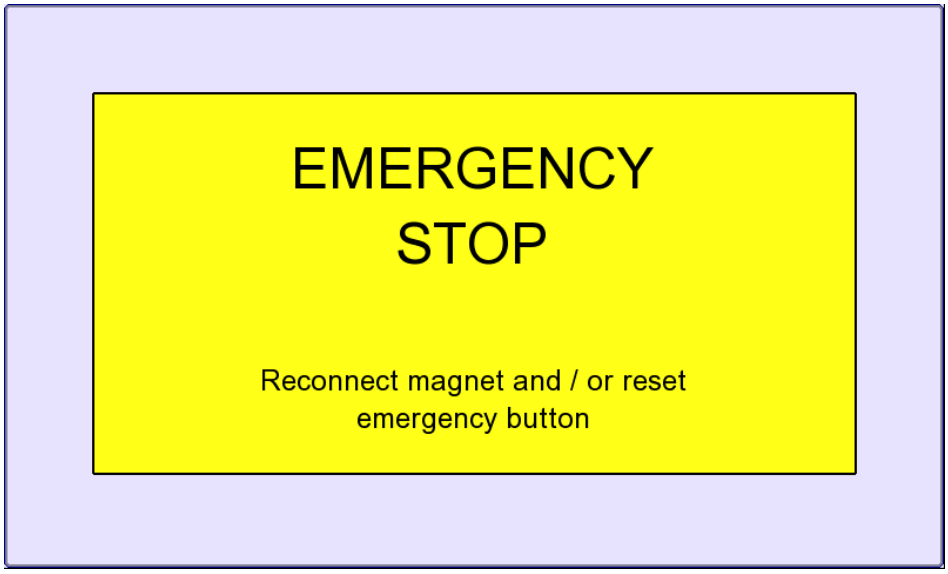
You can control the device by touching the areas indicated.

- Left sensitive area for Speed
- Right sensitive area for Elevation (Slope)
- The blood pressure symbol to start a bloodpressure measurement (only visible when a blood pressure module is present)

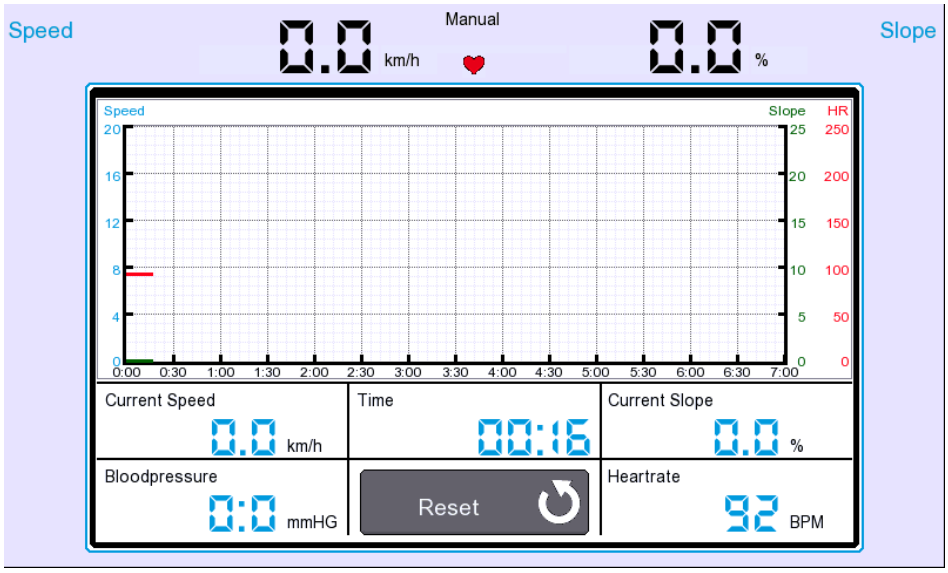
Start to start the test
Recovery to end the protocol

Note: As long as the sensitive area for speed or elevation is touched the speed or elevation will be adjusted. The indicators at the top of the screen display the set points of speed and elevation.

4.5 - Emergency Stop screen



When an emergency stop is made on a treadmill this screen becomes visible. The belt will stop and the elevation will remain as it is at that time.



Prepare the device for use by putting the emergency magnet back in place, or resetting the optional emergency stop button.

Push the "reset" button to prepare the device for a new test.

The elevation will return to zero %. As soon as the treadmill is level it is ready for use.

4.6 - Executions and options of the Control Unit

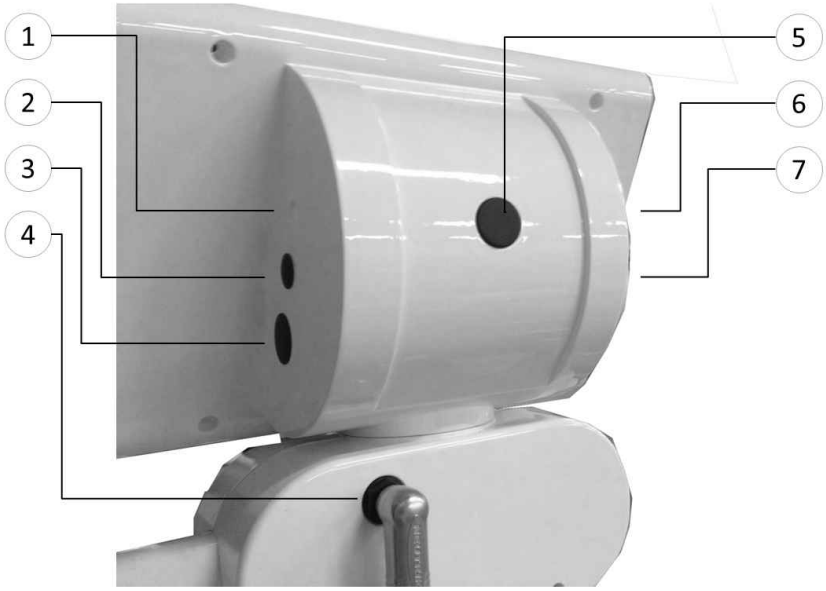
The Control Unit is intended for controlling Lode exercise devices.

There are several executions and options to the control unit.

Executions
945814 - Control Unit Treadmill
945815 - Programmable Control Unit Treadmill

Additional options Treadmill
945820 - Heart Rate Measurement Module
945822 - SpO2 Measurement Module
945824 - Blood Pressure Measurement Module
945826 - Ambient Sensor Pack
945840 - Autospeed
938842 - Reverse Walking
945846 - Adjustable Acceleration & Deceleration

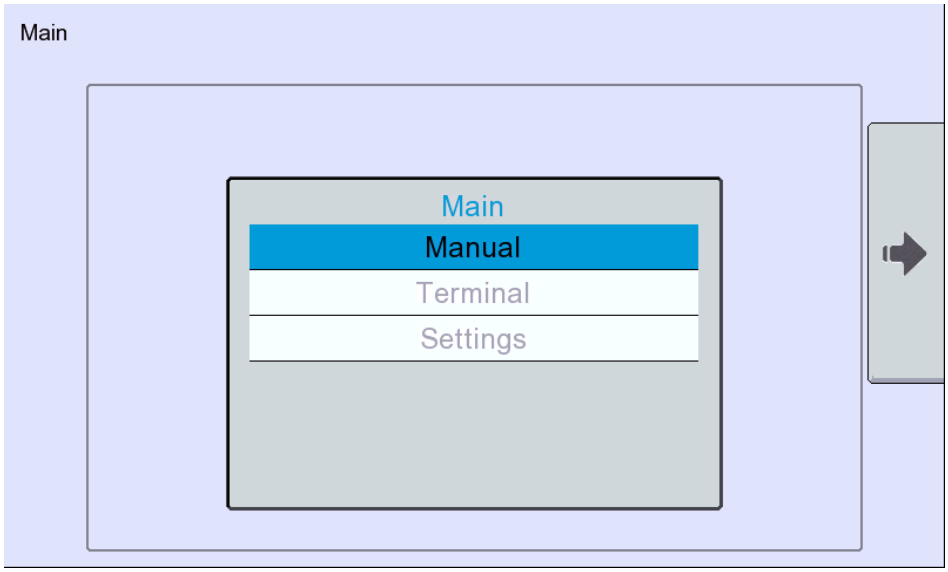
4.7 - Optional Connections of the control unit



1.Airhose connector Bloodpressure cuff (optional)
2.Microphone connector Blood Pressure cuff
3.Headphones set Blood Pressure (not in use)
4. Emergency stop (Treadmill)
5. Second display
6.SpO2 clip connector
7.Heart Rate receiver external

5 - Main Menu

5.1 - Main Menu of the Control Unit



Use the touch screen to scroll through the menus. Press the desired menu to select. The Main Menu button allows you to go back to the main menu. The Next Page button allows you to go up one or more menu levels, wherever you are in the menu.

Menu	Submenu 1	Submenu 2	Submenu 3
Main	Manual		
	Autospeed *		
	Terminal		
	Settings	Language	
		Treadmill Settings	Set manual recovery
			Select weight
			Pause settings
			Safe control
			Adjustable acceleration & deceleration*
		Display settings	Select default menu
			Set unit
			Set energy units
			Select slope units
			Show HR indication
			Select display options
			Sleepmode
			Settings protection
			Ambient sensor *
		Terminal	
		Service	

6 - Control with an External Device

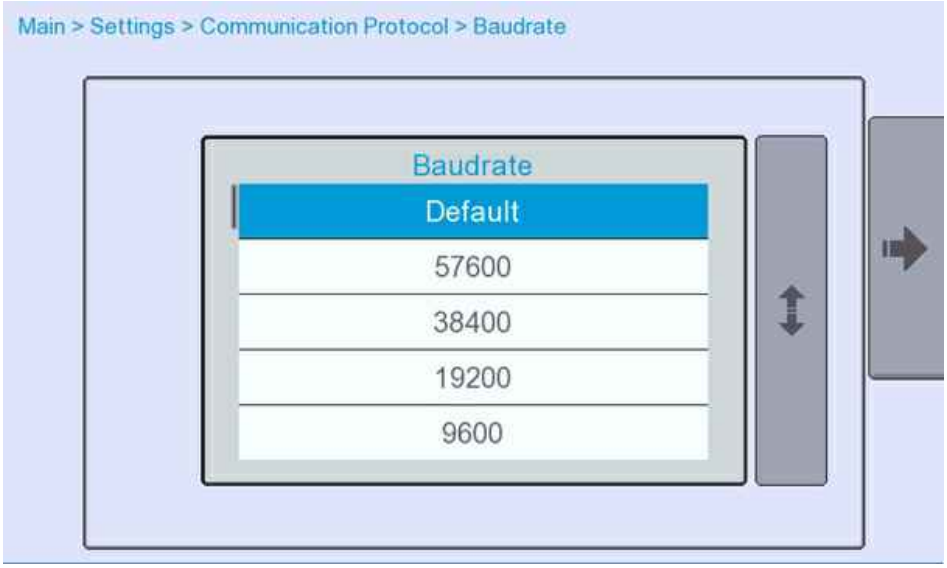
6.1 - Connect external device

A Lode ergometer [rehab] is standard supplied with a Network card to communicate with the Lode software packages L(C)RM and LEM. To connect select the Lode 38K4 communication protocol.

A Lode [cpet] ergometer has a Communication Card installed. You can connect the system to the external control device (i.e. ECG, metabolic card) using a correct RS232 or USB cable (see the manual of the exercise device). If you are not sure whether your device can be connected to the ergometer or not, please check the website of Lode http://lode.nl or the website of the ECG manufacturer or contact your local distributor. After selecting the required communication protocol, you have to select the Baudrate and the communication interface (RS232 or USB).

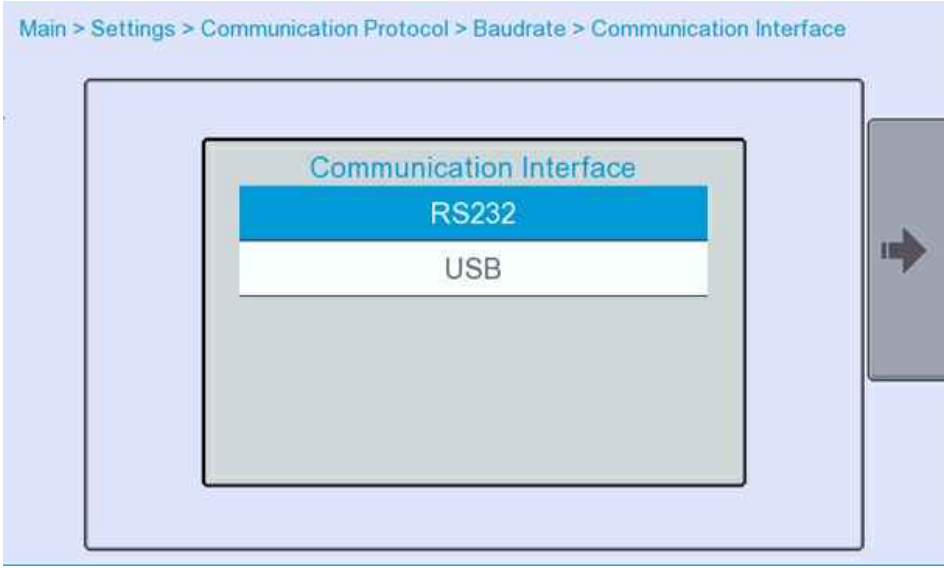
After selecting the required communication protocol, you have to select the Baudrate and the communication interface (RS232 or USB).

6.2 - Select Baudrate



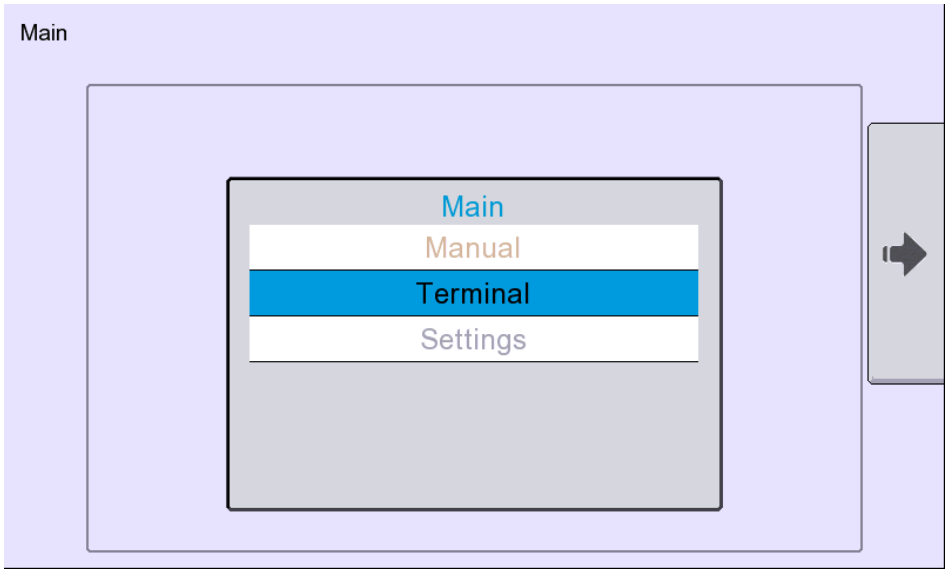
After selecting the desired communication protocol automatically the Baudrate kan be selected in the next menu. You can choose several baudrates.
In most cases Default is the safe choice. In the interface instructions you can dowload from http://lode.nl you can find your specific settings.

6.3 - Communication Interface Connector

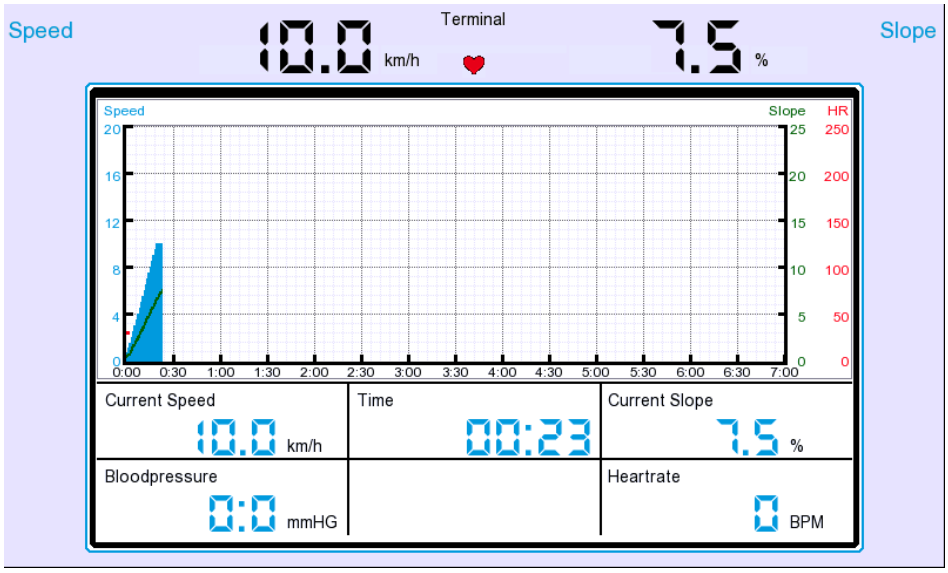


Next setting is the communication interface connector. Here you can choose in which way you want to connect your device to a PC, ECG or ergospirometry

6.4 - Select Terminal



Switch on the ergometer and select the menu TERMINAL on the display of the control panel.



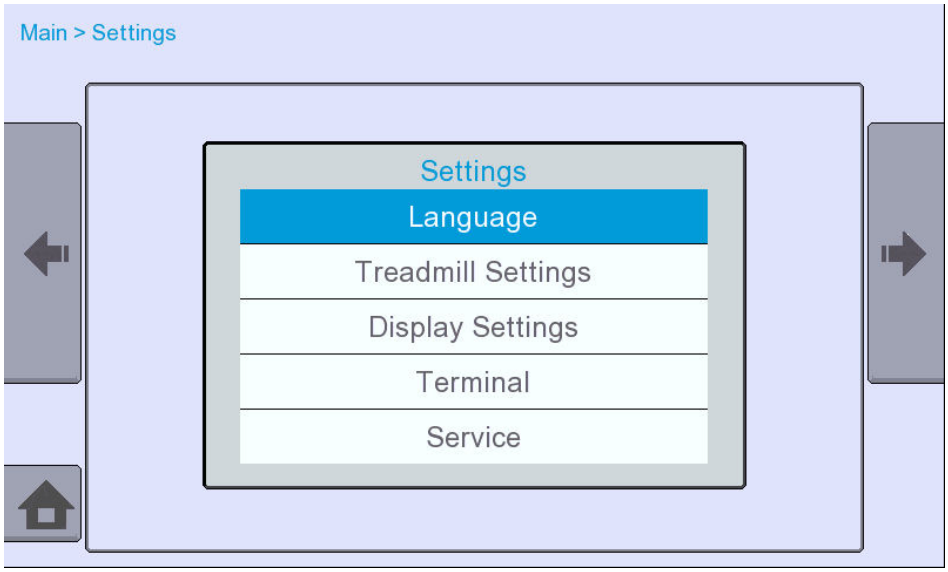
In Terminal setting, the display of the control panel shows the same information as described in manual control.

6.5 - Connecting Bloodpressure while in Terminal

If you intend to use blood pressure as well, take care of the following:
- For a blood pressure measurement the ergometer requires a so called Heart Rate Trigger signal. The TTL pulse can be obtained from an exercise ECG system.
- It is strongly advised to read the manual of the ECG device before starting with blood pressure measurement on your ergometer.

7 - Settings

7.1 - Settings menu



In the "settings" menu you can set device specific settings. Please note that the list can be longer then the screen.

7.2 - Languages

You can choose different languages for the Control Unit.

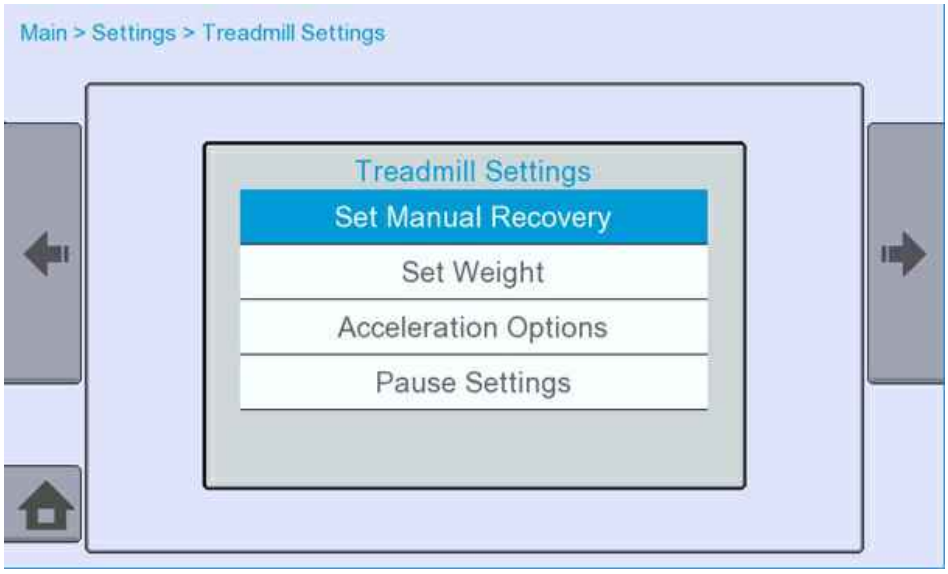
The default setting is English.

7.3 - Show HR indication

Whenever you have the Heart Rate option, you do have the possibility to show or hide the Heart Rate indicator.

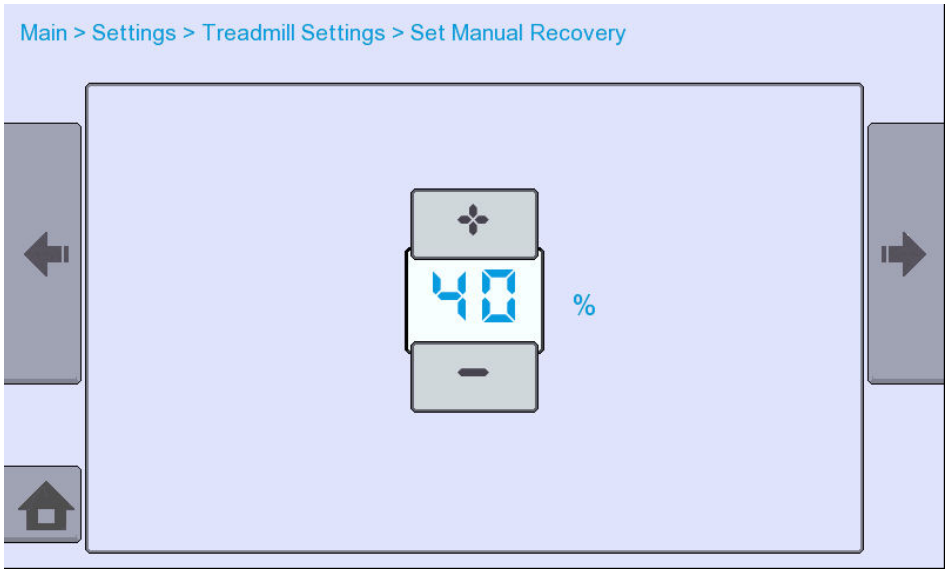
This option is not visible when no Heart Rate option is installed.

7.4 - Treadmill Settings



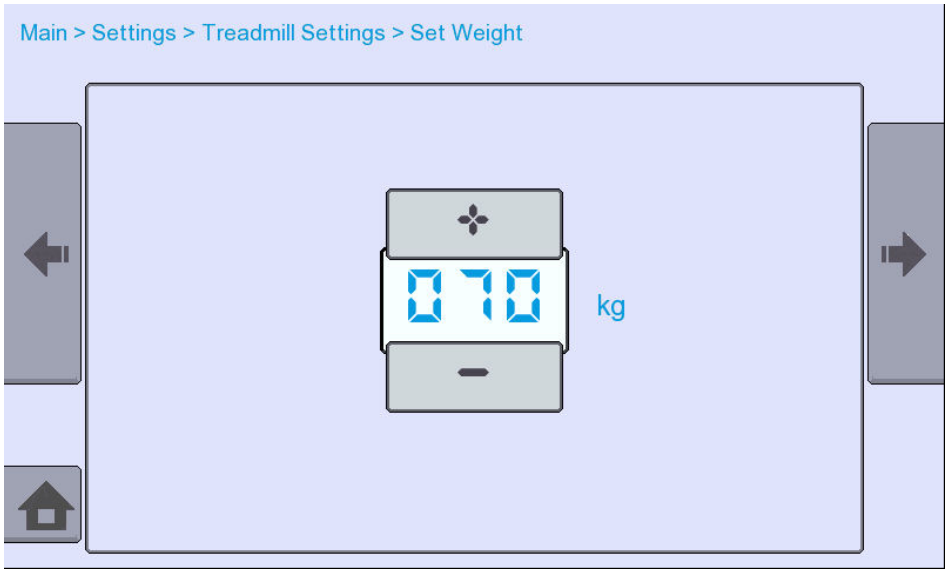
In the settingsmenu you can set device specific settings.

7.5 - Set Manual Recovery Value



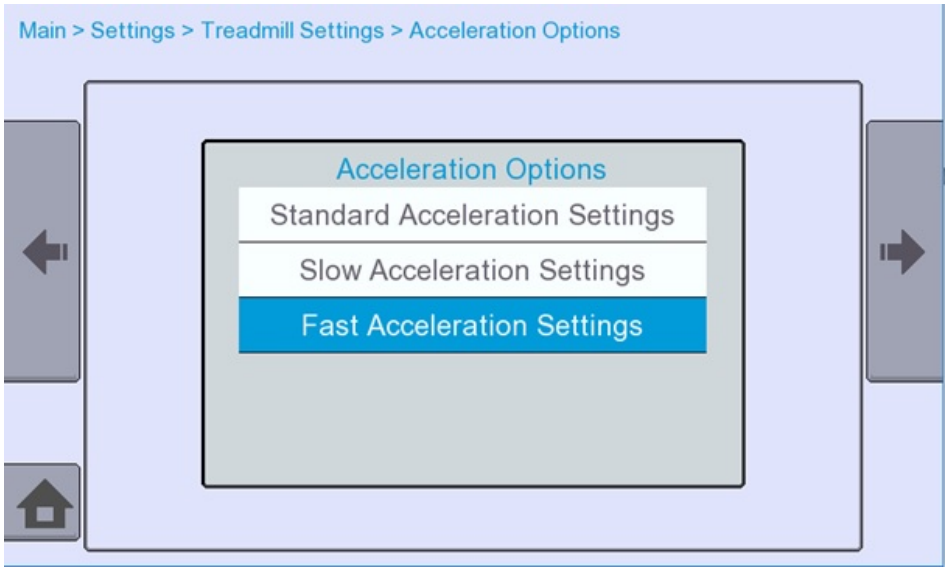
The recovery value can be defined as a percentage of the last workload with the "+" and "-" buttons. The slope will automatically return to zero.

7.6 - Set Weight



The body weight of a test subject can be set to define the energy used in Kj on the treadmill.

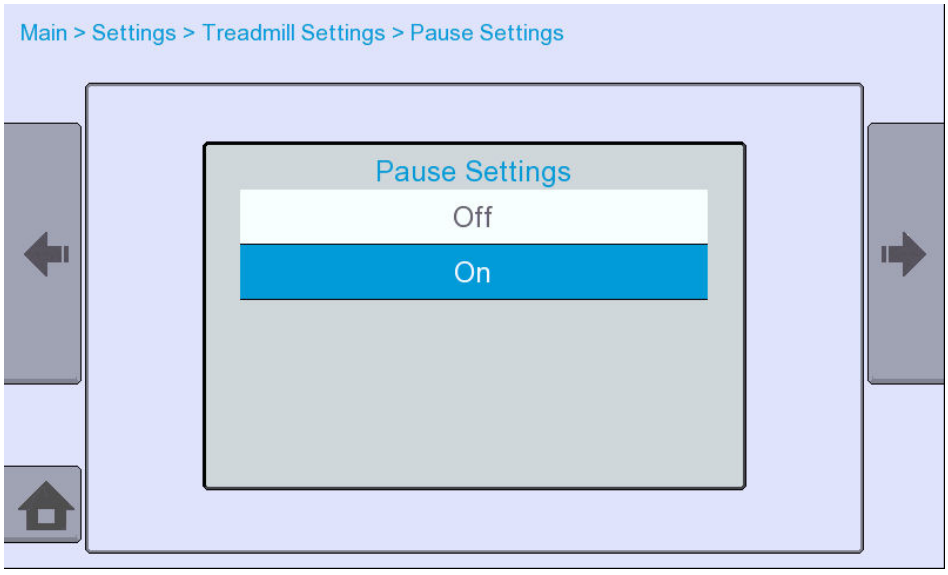
7.7 - Set acceleration / deceleration (optional)



In the Treadmill settings the standard, slow or fast accelerations settings can be activated. When the standard Acceleration is selected (default) the acceleration can't be changed before the exercise test.

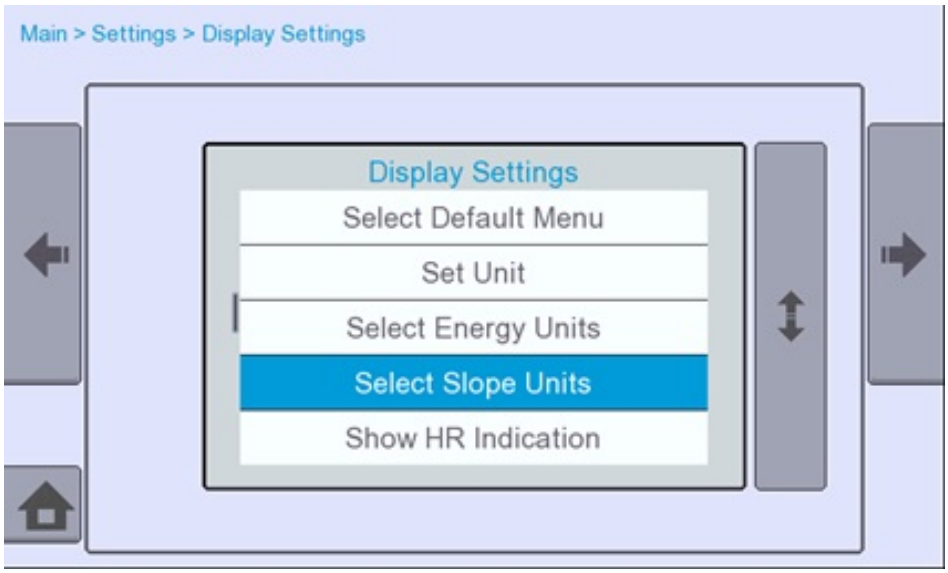
- the standard acceleration of each Lode treadmill is 6, in accordance with the medical guidelines. This means it takes 6 seconds to reach 10 km/h.
- the Slow Acceleration is the range from 7 up to 24. The slowest acceleration of 24 means it takes 24 seconds to reach 10 km/h. The slow acceleration is marked in green.
- the Fast acceleration is the range of 3 to 6 which is frecommended for the Valiant and Katana treadmills. Optional for the Katana is a fast range from 1 to 6, meaning it takes only 1 second to reach 10kmh. The Fast range acceleration is marked in orange.

7.8 - Pause



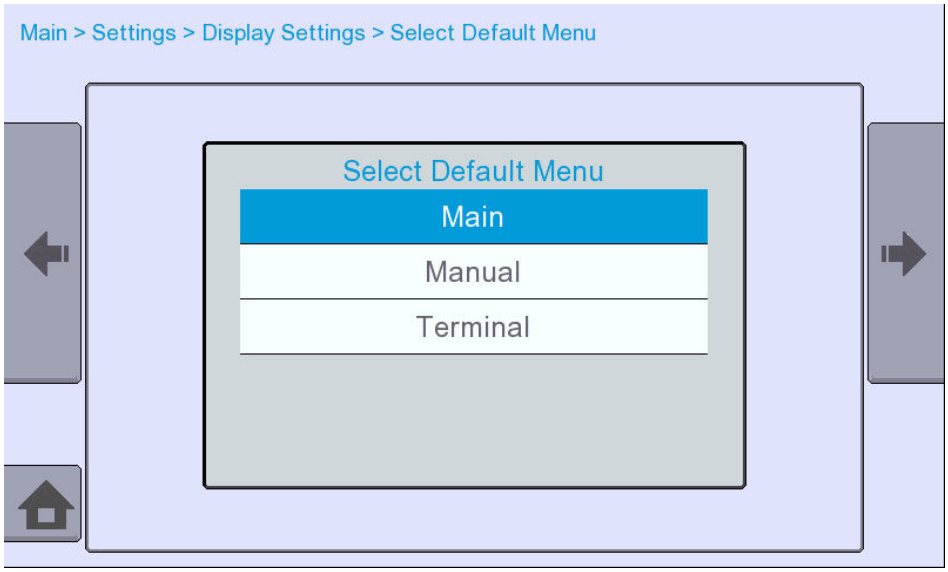
The Pause functionality can be activated or de-activated. When Pause is active, the protocol or exercise time will stop. Pressing the [Resume] button will start the timer again.

7.9 - Display settings



All menu's to define the settings of the display can be found with the scroll down button.

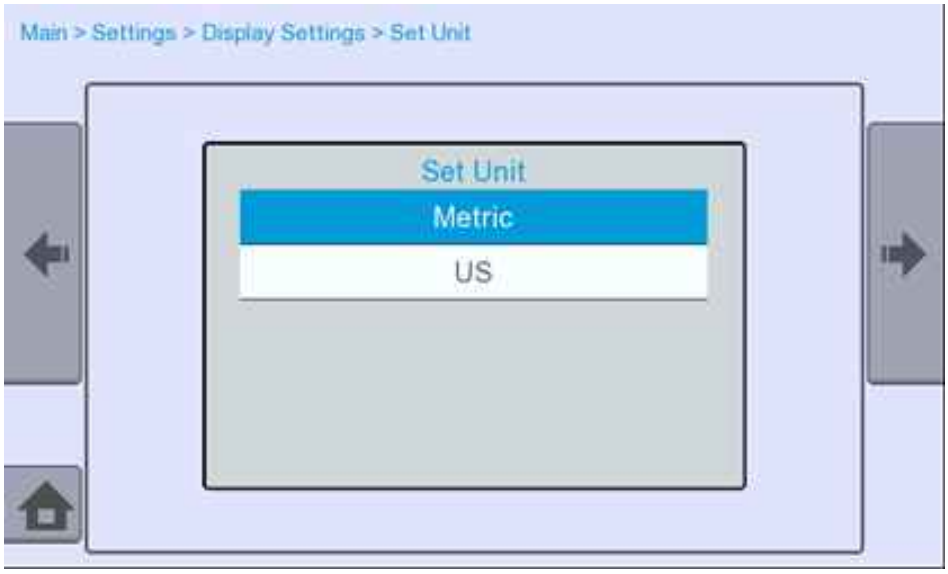
7.10 - Select Default Menu



Normally your ergometer starts in the main menu, but you can modify this menu to your own desired settings. This is convenient when your ergometer is often used in the same setting, i.e. controlled by an ECG device or always as a stand-alone device.

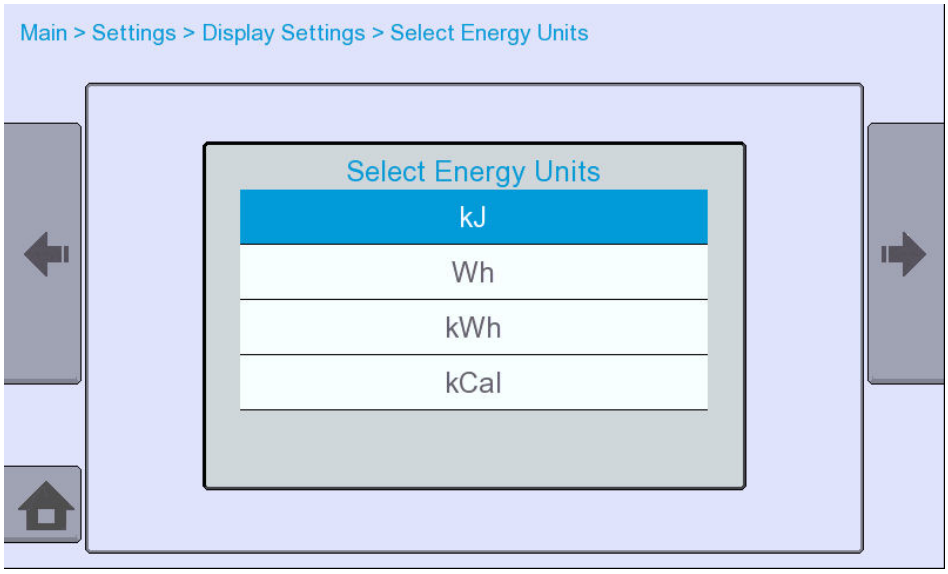
At the next start-up of your ergometer the selected menu will be activated.

7.11 - Set unit



The Control Unit can display the parameters in Metric or US.

7.12 - Select Energy Units



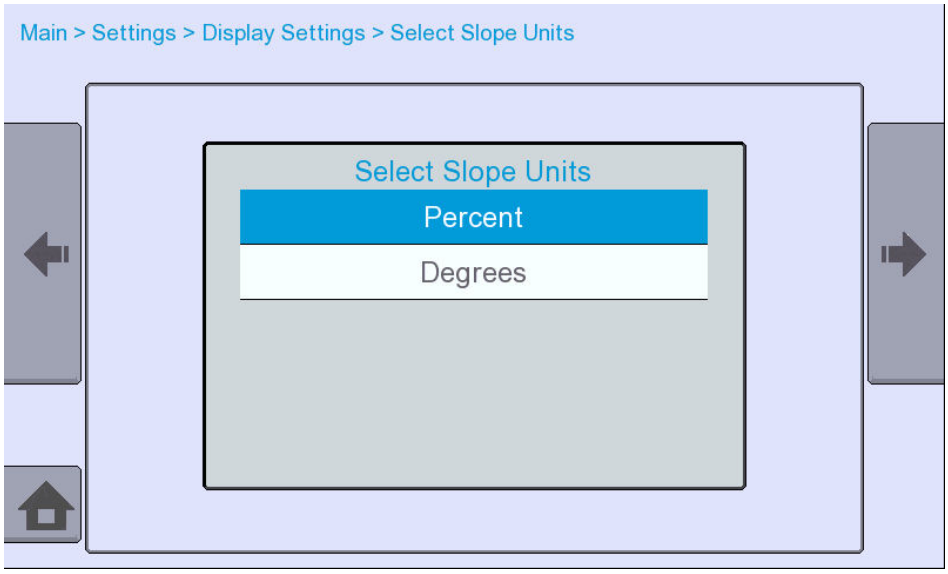
Default kJ is selected as Energy unit, you can select Wh, kWh or kCal when necessary.

7.13 - Show HR indication

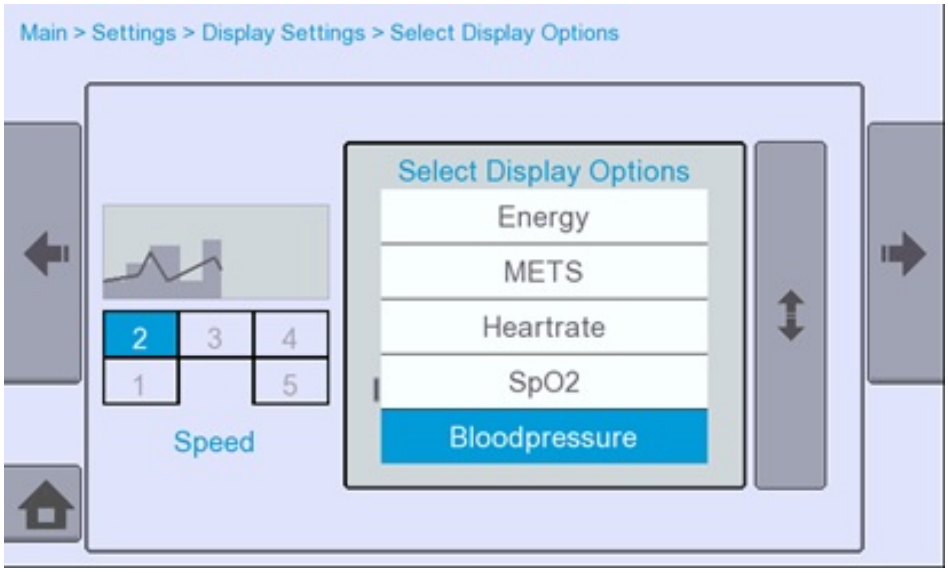
Whenever you have the Heart Rate option, you do have the possibility to show or hide the Heart Rate indicator.

This option is not visible when no Heart Rate option is installed.

7.14 - Select slope units

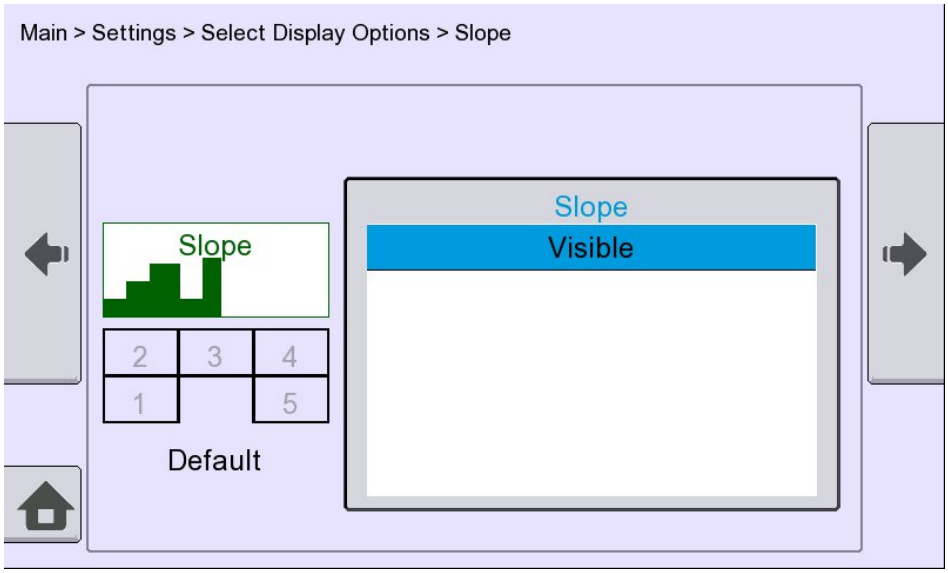


Default the slope on the Lode treadmills is defined in percentage %. It is possible to adjust this unit by selecting degrees in the display settings.



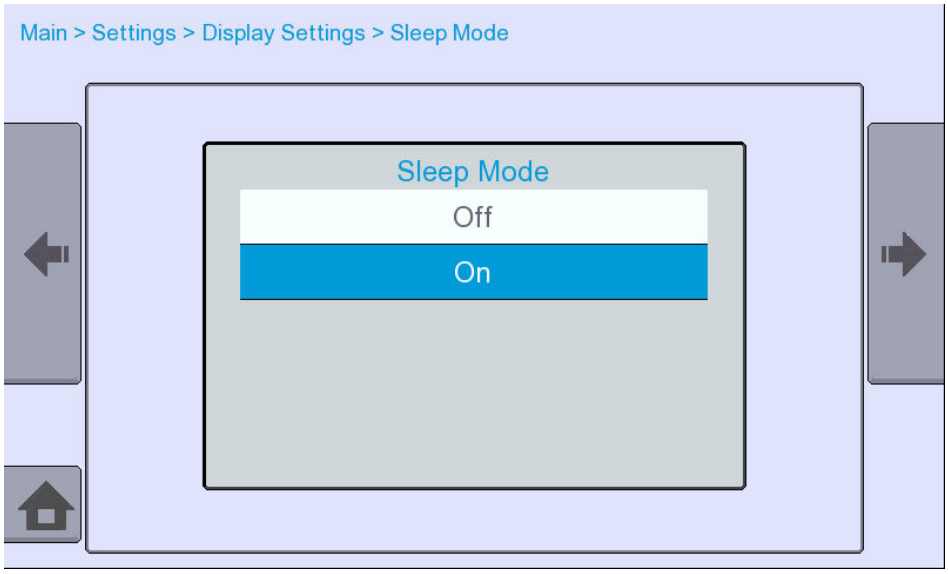
You can customize your display, by choosing which parameter you want to see in which box and which graphs you would like to see.

By pressing next, you will go to the next box.



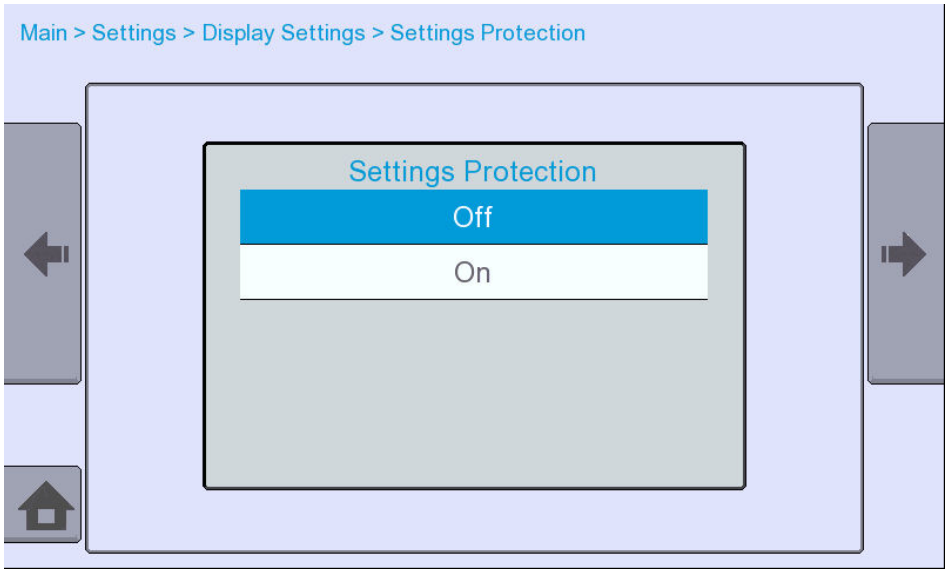
After you have choosen the content of the 5 boxes, you are guided to select which parameters you want to see in the graph.

7.15 - Sleep Mode



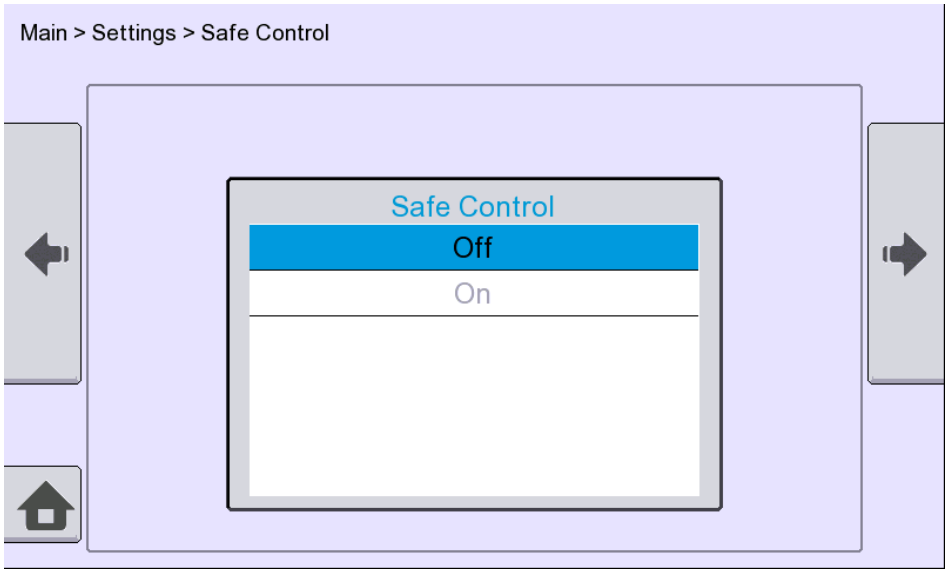
The Sleep mode can be turned On or Off. Default this setting is ON! When the ergometer is not used for 5 minutes the display will turn black. Touching the screen again will activate the display.

7.16 - Settings protection



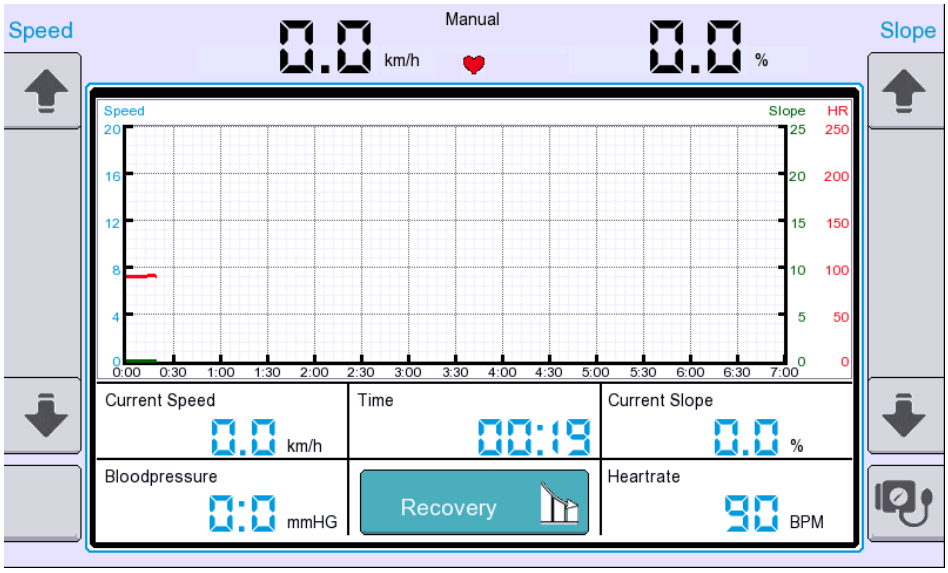
To protect your personal settings you can turn the Settings Protection On. Default the Settings Protection is Off.

7.17 - Safe Control - only treadmill



In case you would not like to allow the subject to unexpectedly operate the treadmill (e.g. a child) you can set up "Safe Control". In this case the setting of speed and elevation can not be done with 1 hand.

This option is only available in the pediatric version of a treadmill.

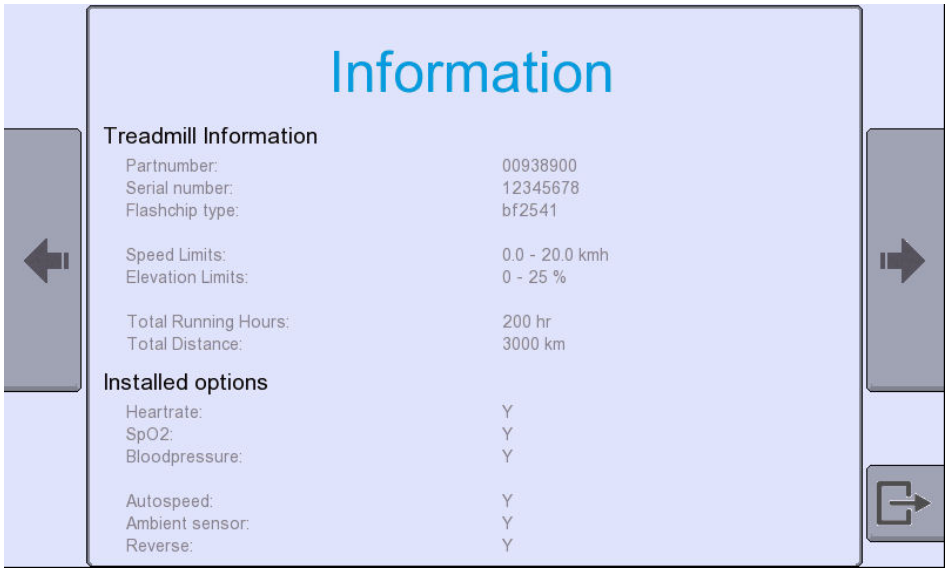


When Safe Control is set to ON you will see an extra button in the lower left position of the screen without symbol.

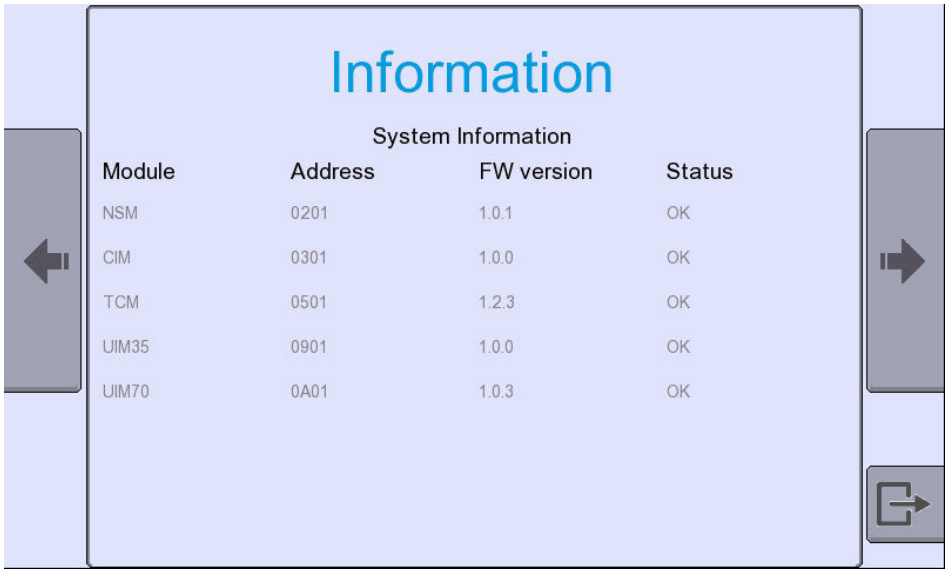
To be able to adapt the speed and/or the elevation you need to press this button first and press the speed or elevation controls quickly after..

8 - Service

8.1 - System Information

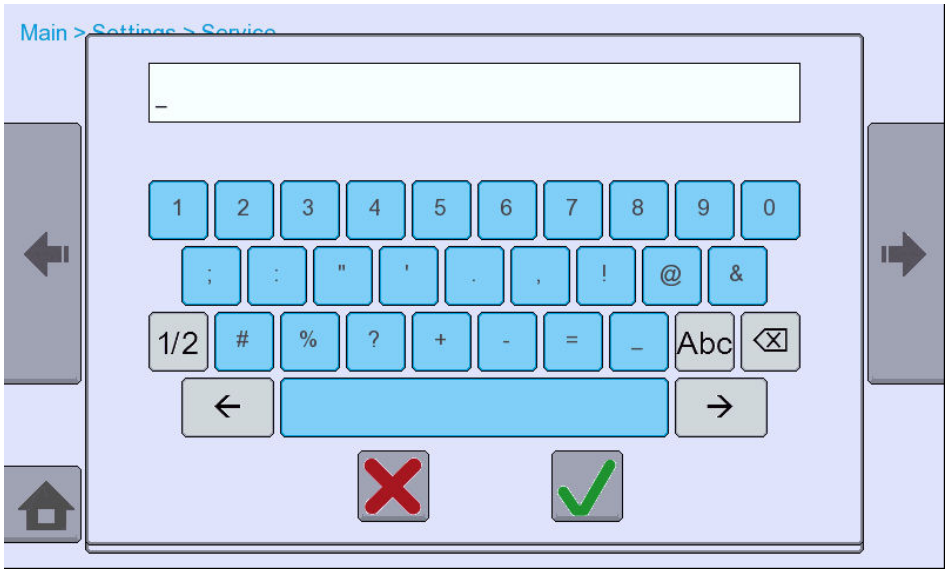


In the Service menu you will find under the INFORMATION menu, information about the device and the installed options.



On the second page of the System information, the firmware version and status is visible. This is the information your service engineer might ask when you have a problem with the device.

8.2 - Service menu



The service Settings menu is only available for the authorized Lode service engineers. A password is needed to enter the menu.

The service settings menu is described in the service manual of your Lode device.

9 - Additional Modules

9.1 - Using the Heart rate option

If you have a heart rate option installed it is automatically recognized by the exercise device. The Polar belt should be mounted at the test subject's heart height around the chest with Polar trade mark pointing forwards from the middle of the chest. The belt should not be to loose.

If you have a weak signal, check following tips:
- Wet the contacts on the right and left backside of the Polar belt for good contact
- Stay near the receiver (within a range of 0,5 meter)
- Due to the integration measurement principle it can take a few seconds before the readout on the display shows the correct value. Be patient.

To use the Heart Rate Measurement option you need option 945820 to be installed. If you do not have this option you can order P945820 from your local distributor.

9.2 - Using the SpO2 measurement

When your Control Unit is extended with the optional SpO2 module you can show the data on the screen.

After the test the data is stated in the session summary.

When your exercise device is connected to a PC with LEM the data is also uploaded to your database.

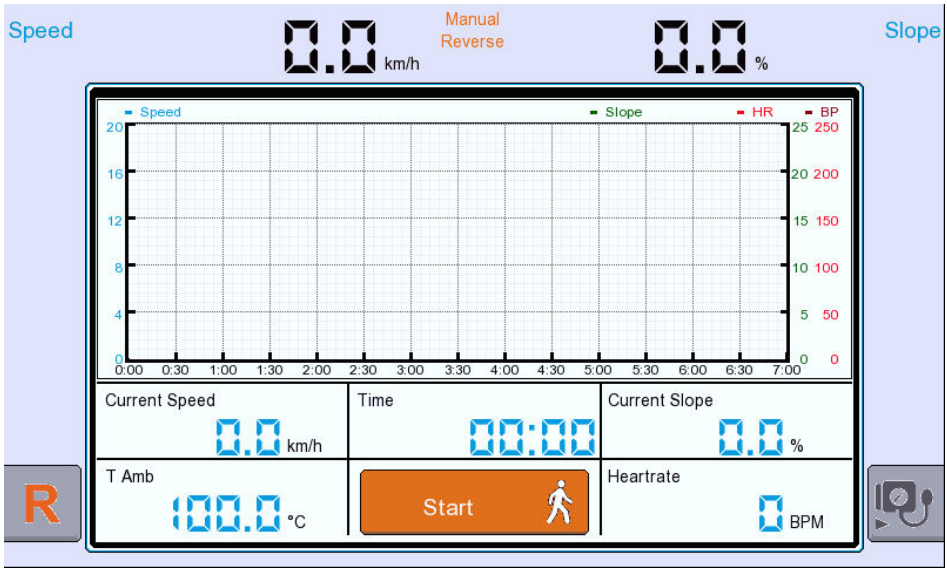
To use the SpO2 Measurement option you need option 945822 to be installed. If you do not have this option you can order P945822 from your dealer.

9.3 - Using Blood Pressure Measurement

When your exercise system is extended with the optional automatic Blood Pressure Measurement module you can either program a measurement interval (see Protocol edit and Example Programming Protocol) or press the Blood Pressure Measurement button to start a Blood Pressure Measurement manually when running a protocol.

To use the Blood Pressure Measurement option you need option 945824 to be installed. If you do not have this option you can order P945824 from your dealer.

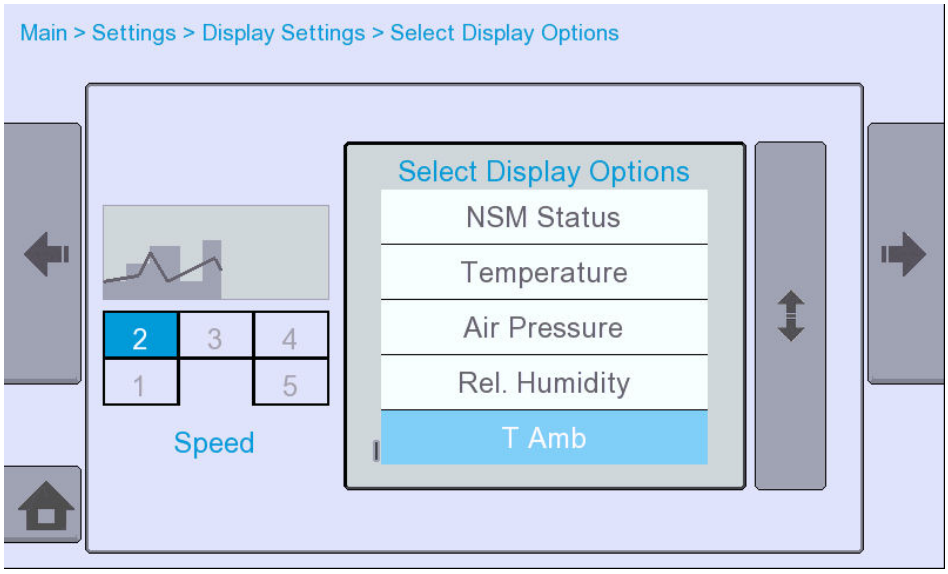
9.4 - Using the Reverse Walking Option



Select the [R] button in the left corner, the Start button will turn orange. You can start now, the belt will have a maximal reverse speed of 5 km/h (see additional manual M938842).

To use the Reverse Walking option you need option 938842 to be installed, this has to be done during assembly of the treadmill.

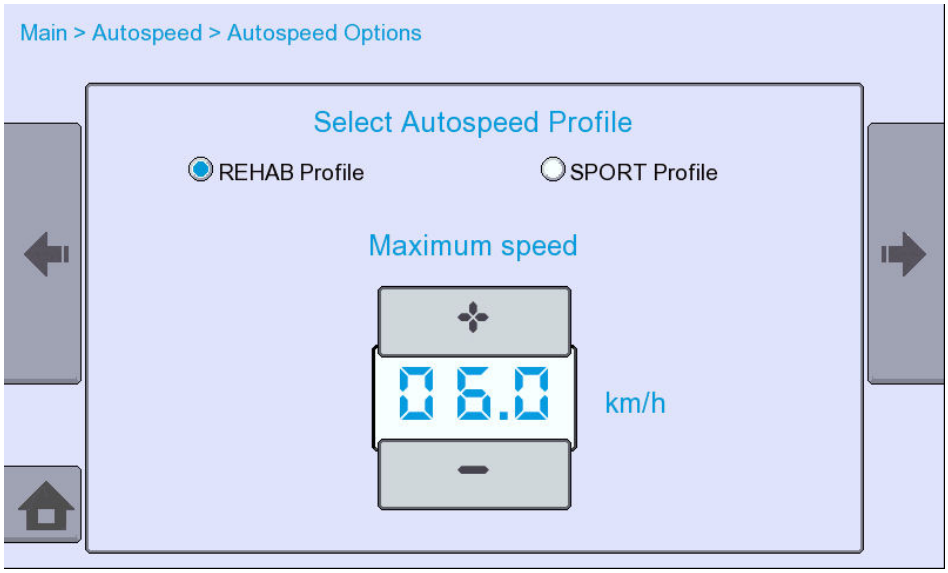
9.5 - Using the Ambient Sensor Pack Option



The ambient sensor pack will measure the ambient temperature (C), the air humidity (%) and airpressure (mBar). You can select them in the Select Display Options. The results will be visible in the summary after each test.

To use the Ambient Sensor Pack option you need option 945826 to be installed. If you do not have this option you can order P945826 from your dealer. The complete Control Unit has to be replaced.

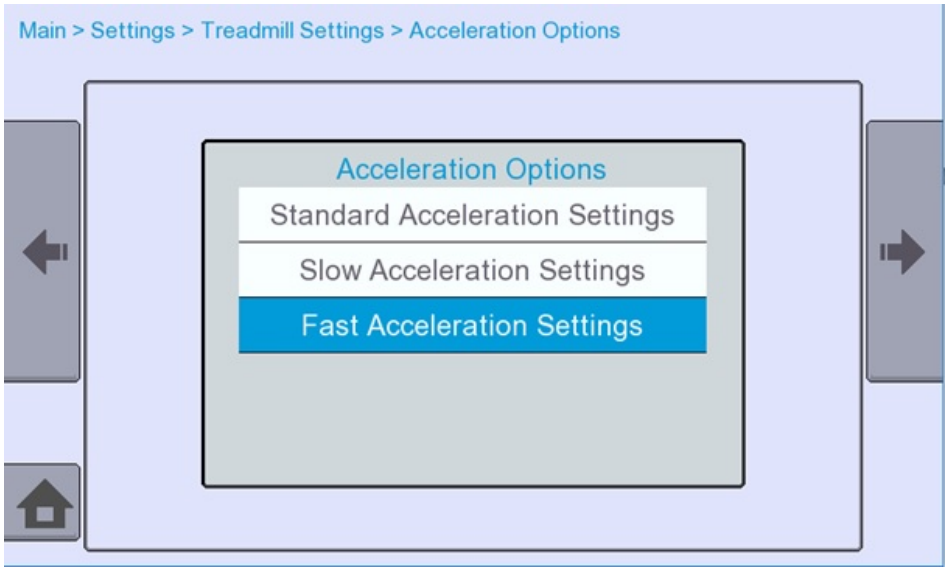
9.6 - Using the Autospeed Option



With the Autospeed option the speed is to be adjusted to the walking rythm of the test subject. When the subject is close to the frontbar of the treadmill it speeds up. In the middle it keeps a constant speed. Close to the end of the belt, the speed decreases. This is ideal for a timetrial (e.g. a 6 or 12 minute walking test).

To use the Autospeed option you need option 945840 to be installed. If you do not have this option you can order P945840 from your dealer. The complete control unit has to be replaced.

9.7 - Using the acceleration / deceleration option



This option makes it possible to adjust the speed of the acceleration (and deceleration) of the Lode treadmill. The standard acceleration is set to 6 seconds per 10 km (according to the medical guidelines). This means it takes 6 seconds to reach 10 km/h.

When this option is installed on your treadmill, it is possible to set the value between 3 and 24 seconds per 10 km. The slowest acceleration of 24 means it takes 24 seconds to reach 10kmh.
The Fast acceleration is the range of 3 to 6 which is recommended for the Valiant Sport and Katana treadmills.

When the slow or High acceleration settings is selected in the Treadmill settings , the acceleration can be defined before the exercise test starts in the Manual mode.

To use the adjustable acceleration and deceleration option you need option #945846 to be installed. If you do not have this option, you can order #P945846 from your local distributor.

10 - Accessories

Remote Control for treadmill

Partnumber: 945831

Ease of use

Remote Control for treadmill

Table foot for Control Unit with Touchscreen

Partnumber: 945818

Control from any desired place

Support for Control Unit with Touchscreen

Colour Display 3.5" - 2nd screen

Partnumber: 945819

Multifunctionality

Colour Display 3.5"

Add program function to 7" touch screen for Treadmill

Partnumber: U945815

Programmable

Add Program function to Control Unit

Bluetooth Smart heart rate

Partnumber: 945833

Heartrate available within an extreme wide

Bluetooth Smart heart rate

11 - Specifications

User Interface

English user interface	✓
Chinese user interface	✓
Croatian user interface	✓
Czech user interface	✓
Danish user interface	✓
Dutch user interface	✓
Finnish user interface	✓
French user interface	✓
German user interface	✓
Greek user interface	✓
Hungarian user interface	✓
Italian user interface	✓
Japanese user interface	✓
Korean user interface	✓
Latvian user interface	✓
Lithuanian user interface	✓
Norwegian user interface	✓
Polish user interface	✓
Portugese user interface	✓
Romanian user interface	✓
Russian user interface	✓
Spanish user interface	✓
Swedish user interface	✓
Turkish user interface	✓
Ukrainian user interface	✓
Readout Angle	✓
Readout Target Angle	✓
Readout Distance	✓
Readout Speed	✓
Readout Target Speed	✓
Readout Heartrate	✓
Readout Energy	✓
Readout Time	✓
Readout Mode	✓
Readout Height	✓
Readout BPM	✓

Connectivity

Lode ERM interface protocol	✓
"HP Cosmos" interface protocol	✓
"Woodway" interface protocol	✓
"Trackmaster" interface protocol	✓
"GE" interface protocol	✓

Dimensions

Screen resolution	800 x 240 pixels	
Product depth (cm)	10 cm	3.9 inch
Product length (cm)	24 cm	9.4 inch
Product width (cm)	18 cm	7.1 inch

Readout SpO2	✔
Manual operation mode	✔
Quick start operation mode	✔

Order info

Partnumber	945814