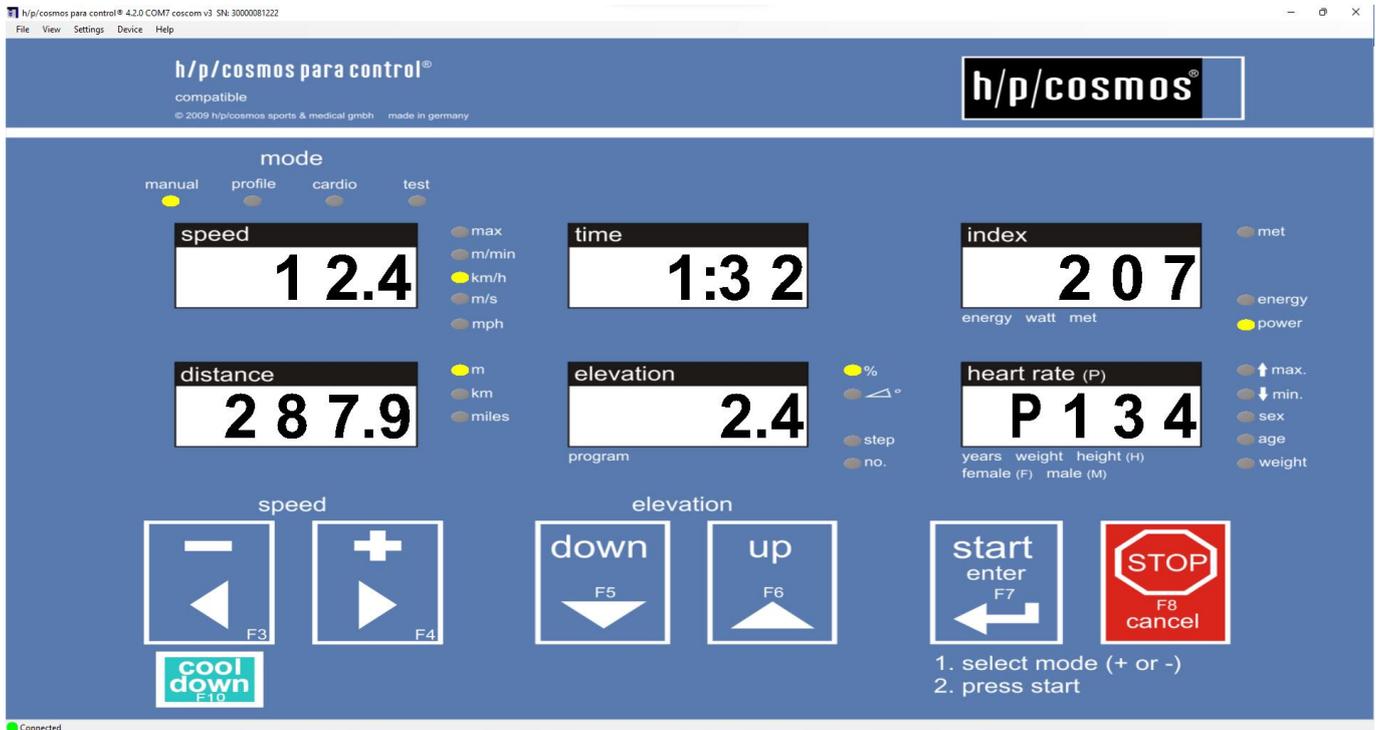




# original instructions for use



para control®

## software para control® 4.2

**IMPORTANT! READ CAREFULLY BEFORE USE!  
KEEP FOR FUTURE REFERENCE!**

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# ahead of time®



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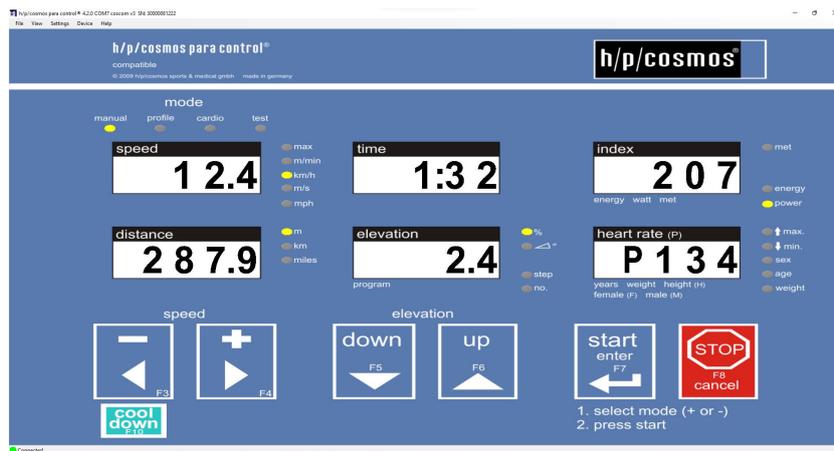
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## application examples for sports and fitness training and testing



athletics



fitness



gait training & gait analysis



functional training



sports science & cycling



motion analysis & biomechanics



rehabilitation & robowalk®



ladder-ergometer discovery®

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## [2.] General information

### [2.A] System requirements

- Personal Computer or laptop / notebook with Pentium IV Processor with 2.0 GHz or higher installed operating system Windows 10
- min. 4 GB RAM
- min. 200 MB free memory on HD
- VGA-Monitor min. 1280 x 1024, CD ROM or DVD drive
- Microsoft .NET Framework 3.5 Service Pack 1
- Microsoft® DirectX 9.c
- free RS 232 interface port for connection of any peripheral equipment.
- RS232 COM port is strongly recommended on the PC/Laptop (USB port and converter not preferred)
- for control via USB interface an optional converter (not all converters work!) is available at h/p/cosmos
- for control via USB interface the processor must be Pentium 2.0 GHz or higher
- Running-machine with RS 232 interface and selected **coscom v3** protocol. (see [www.coscom.org](http://www.coscom.org))
- If the UserTerminal is MCU2 or MCU3 type, then the EPROM firmware release must be at least V 2.31.

PC software for sports and fitness applications.

Not for medical and rehabilitation use!

Compatible with h/p/cosmos and OEM sports running machines and sports ladder ergometers with MCU2, MCU3, MCU4, MCU5

Read manual in full and all warnings and danger precautions of the PC software and of the controlled device (for example running machine) before use!

### [2.B] Fields of application of h/p/cosmos para control 4.2

h/p/cosmos para control 4.2 is a PC sports software which allows to remote control all h/p/cosmos running machines via the interface protocol "coscom". All functions available at the UserTerminal can be remoted from the PC.

Furthermore there are a lot of additional functions like cool down, quick stop, count-down, optional settings, firmware download and update, etc. which are turning the software to a great aid in almost all application areas of running machines.

To make the software as userfriendly as possible it has been designed in exactly the same style as the physical user terminal of the running machine. The great advantage (besides the nice looking) is that everyone who is familiar with the running machine, is also able to control the machine with h/p/cosmos para control 4.2.

Additionally h/p/cosmos para control 4.2 basic is free of charge and comes with every h/p/cosmos running machine and h/p/cosmos ladder ergometer.

#### [2.B1] Intended Use

The h/p/cosmos para control 4.2 is designed for sports and fitness applications and have been released for application in medical areas only for manual control of the h/p/cosmos treadmill. You can apply this software in endurance training walking and running and in the medical field for manual treadmill control. However, no medical evaluation of parameters and data must be performed with this software.

[2.B2] **clinical data**

- All medical diagnostics in terms of clinical data evaluation or similar use are not allowed with this treadmill control software.
- All prohibitions in the chapter "safety precautions, safety regulations, prohibition and warnings"
- The h/p/cosmos para control 4.2 and the running machine must not be used without being carefully instructed by specialist staff and without having received notes on the safety regulations.
- Interrupt the training immediately if you start feeling sick or dizzy and see your medical doctor.
- Subject with a cardiac pacemaker or who suffers from any kind of physical restriction must see a doctor before using the h/p/cosmos para control 4.2 and the running machine and ask for allowance.
- Children and animals are not allowed to use the h/p/cosmos para control 4.2 and the running machine and must not get near (4m safety area) to it.
- Other use, then explicitly listed directed use at the point field of application.
- In case of any detected and/or assumed malfunctions and/or defects or unreadable safety warning labels on the controlled device and/or on the software, the software and the device has to be taken out of operation, the device has to be marked and secured against operation and the supplier and authorized service personnel has to be informed in writing.
- Every kind of overload of test person / subject is forbidden.
- Every kind of use with increased risk, e.g. sprint and increased risk of falling, is forbidden without using additional safety precautions and safety equipment, such as e.g. safety-arch with fall-stop.
- In case of existence of one or more of the following contraindications we strongly suggests to see a medical doctor or a specialist before using the running machine: pregnancy, acute thrombosis, heart- and/or arteries disease, fresh wounds e.g. after surgery, artificial joints and limbs, acute fracture, damaged disc or traumatic caused disease of the spine, diabetes, epilepsy, inflammations, acute migraine and any kind of tumors. Please contact the manufacturer h/p/cosmos, if your doctor or specialist needs further information about the software h/p/cosmos para control® and / or the running machine.
- The automatic operation (modes profile, cardio, test, remote control via PC and peripheral devices) is forbidden, if the health and condition of the test person / subject does not allow it and if a doctor has not authorized it. Disregard may cause injuries and dangerous health problems and even death.
- In environmental conditions, others than specified in the chapter „technical specifications“ and “environmental conditions“, h/p/cosmos devices must not be used (e.g. in wet and humid areas, swimming pools, sauna, environmental chambers, high-pressure-, low-pressure, altitude- and oxygen-chambers, etc.).
- Recording, controlling and / or program sequence can be interrupted and there may be stops or other complications if the power of the CPU is not sufficiently large, if the physical memory is not high enough dimensions (minimum 1 GB), and / or if when using a USB - RS232 adapter, the CPU performance is at least 2,0 GHz.
- During the control of treadmills or other ergometer via a PC / laptop with the h / p / cosmos para graphics ® no connections to the network (LAN, etc.) and / or taken from a network browser are allowed. This is due also for the automatic software update, Messenger etc. Guarantee Turn these options OFF at the PC / laptop.
- The program may not be operated from a desktop remote control (RPC) services / PC remote connection (such as VNC, PC Anywhere, Laplink, etc.), otherwise the recording, controlling and / or program sequence can be interrupted, and it stops or other complications may occur.
- When you insert a CD during the control of treadmills or other ergometer via a PC / laptop recording, controlling and / or program sequence can be interrupted and there may be other stops or complications. Disable the autorun feature of your CD-ROM drive for safety. Avoid access during the control of treadmills or other ergometer on the CD-ROM drive or to another floppy disk drive.
- With external USB keyboard / mouse, and long press or repeatedly press off the Shift key to recording, controlling and / or program, the sequence can be interrupted and there may be stops or other complications. Remedied by disabling the keyboard shortcuts and the delay time in the Windows Control Panel:  
Control Panel-> Accessibility-> snap-> Settings-> shortcut-> deselect “key combination”  
Control Panel-> Accessibility-> snap-> Settings-> Filter Keys-> deselect “key combination”

- At longer test with no keyboard or mouse activity the recording, controlling and / or program sequence can be interrupted and there may be stops or other complications. (especially with laptops / notebooks)

Remedy: Turn off the power saving features in the Control Panel

Workaround: Disable the screen saver.

If the system requirements and / or instructions are not complied, any recording, controlling and / or program sequence can be interrupted and there may cause stops, accidents with serious injury, loss of data or other complications. These safety precautions must be within visual range of the system. Each user must be pointed out with this dangers and safety notes. The manufacturer assumes no liability for personal injury or property damage.



**At the suspicion of unauthorized access or other reasons to lock the running machine, it has to be locked for starting: See „option 40“ in chapter „option settings“. With option 41 ... 44 you can lock also separate modes (manual, profile, cardio, test).**

[2.C] **Safety precautions, safety regulations, prohibitions and warnings**

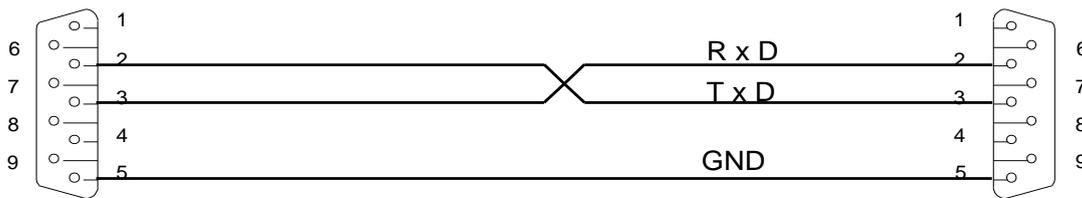
- Follow the safety notes according to the operation instructions of the equipment. Read through the operation instructions carefully.
- In case of nausea or dizziness of the athlete, the training has to be interrupted and a doctor has to be consulted immediately.
- At troubles (or at suspicion on troubles) of wireless transmitting of the heart frequency the automatic load control may not be used.
- The system may only be used by authorized and trained personal.
- Read through all sections of danger notes, warnings and precautions of the software as well as the running-machine or ergometer carefully.
- No other PC software or program than h/p/cosmos para control must run on the same computer at the same time due to possible conflicts or interference of other software.
- No update process of any PC software and/or no update process of Windows® and/or no network search and/or no automatic screensaver must run while operating a motorized running machine with h/p/cosmos para control.
- Use the running machine and accessories only under supervision of your doctor or/and trainer. Using the software h/p/cosmos para control® and the running machine and the accessories without supervisory staff and introduction is forbidden.
- Before using the software h/p/cosmos para control® and the running machine, read the operation manuals, safety precautions and safety regulations carefully.
- Start with slow walking. After some minutes increase the speed slowly according to your fitness level.
- Do not jump onto the rotating running belt. Do not jump off the rotating running belt (not even towards the front). Do not stop moving on the rotating running belt. Do not turn around on the rotating running belt. Do never run sideways or backwards. Do nothing, which could interfere with your balance. Do not set too high loads (speed, elevation).
- Always train with sports or running shoes (no spikes) - never run barefoot - and sports clothing.
- At the time of use the emergency-stop has to be in reach for the subject and the supervisory staff at any time.
- Use emergency-stop only if in danger or in danger of falling.
- When stopping the drive motor at set elevation (e.g. by pressing the stop-button or the emergency-off-button, power failure, etc.), the bodyweight of the subject and the force of gravity may cause an acceleration of the running belt. Do not step on the slant of roller when getting on or off the running surface; the gravity force might cause a movement of the running belt.
- Dangerous capture areas/gaps at the elevation system as well as at the rear end and the sides of the running belt. (At reverse belt rotation: danger as well at the motor hood and the front area).
- Please make sure that, in case of a fall, subjects with long hair, wide clothes, jewellery, etc. do not get caught in the capture area at the rear end of the running belt. Possibly use a hairnet and make the subject aware of the danger or secure the person with a safety harness against fall. Do not deposit any clothes, towels, jewellery, etc. at the running machine – because of danger of tripping over and danger of capturing.
- Children and animals are not allowed to use the running machine and must not get near (4 m distance) to it.
- Using the running machine under the influence of alcohol, drugs and/or anesthetic is prohibited.
- Interrupt the training immediately if you start feeling sick, dizzy or pain and see your doctor.
- Improper or excessive training or strain by tests may cause serious health injury or even death.
- Subjects with a cardiac pacemaker or who suffers from any kind of physical restriction must see a doctor and get a permission before using the running machine.
- The subject has to be secured by chest-belt and fall-stop at the ceiling or the safety arch while performing sprints, max. endurance test and while training on wide running surfaces and/or other higher dangers in any application.
- Please keep a safety area of at least 2 m in length and 1 m width directly behind the running machine. At running machines equipped with reverse-belt-rotation keep a safety area of 2 m in length and 1 m width in the front and the back of the running machine and always use the pull-rope emergency-stop or better the chest belt with fall-stop.
- Explicit warning of improper and forbidden use.
- Ensure that all cables (power connection, interface, potential equalization, etc.) and accessories are installed proper and safely and that nobody can stumble or fall over the cables and/or accessories.
- Pay attention to further safety regulations and operation instructions in the appendix of this instruction manual. Pay special attention to all maintenance and service instructions (also in manuals of accessories).
- In case of any detected and/or assumed malfunctions and/or defects of the device and/or the PC or unreadable safety warning labels the device has to be taken out of operation, the device has to be marked and secured against operation and the supplier and authorized service personnel has to be informed in writing.
- Disregard of warnings, disregard of intended and forbidden use, safety precautions and also unauthorized or lack of maintenance and/or regular safety checks may lead to injuries or death and/or can damage the device and will result in loss of any liability and warranty.
- Do not drink and eat any lubrication material and no other material or parts of this device, and keep all lubrication material and all other parts away from children and animals.

- These safety precautions and regulations are to be displayed within sight of the running machine. The warnings, safety regulations and dangers have to be pointed out to every user and operator. The manufacturer does not undertake any liability for any injury to persons or damage to property.

### [3.] Connection

#### [3.A] How to connect the PC to the running machine

The connection between pc and running machine must be made with a 9-pole Sub-D interface cable with crossed transmission- receive-wires (PIN 2 and PIN 3). It is recommended to select com1 of the running machine to connect to para control 4.2.



PC COM1 oder COM2  
CONNECTOR DB9  
Buchse / female

Laufband / treadmill  
CONNECTOR DB9  
Stecker / male

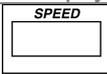
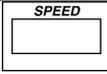
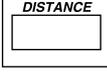
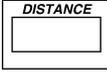
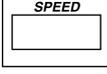
If your pc is not equipped with a serial interface, you can use also an USB/RS232 converter which can be connected to the USB port of your PC. Please note that not all USB/RS232 converters are working properly. It is strongly recommended to order a tested converter from h/p/cosmos.



- To be able to connect para control 4.2 to the running machine, the com-port 1 of the running machine needs to be set to coscom-protocol. Usually on RS 232 / COM1 of the running machine the coscom protocol is active (standard factory setting OPTION 20 1). In order to check if the com-port is set to coscom or to make the correct setting, proceed as described in the instruction below.
- At devices WITHOUT UserTerminal the code for access to the user options can only be entered with para control 4.2. To press 3 buttons at the same time with para control 4.2, use the F-keys on your pc-keyboard. If it is not possible to connect para control 4.2 to running machines WITHOUT UserTerminal, the cause should be that no com-port is set to coscom. If this is the case, please contact h/p/cosmos.
- Some PCs do not allow to press 3 function keys on the PC keyboard simultaneously (some accept max. 2 function keys) and so it would not be possible to enter the optional functions. In this case press F3 and F4 at the same time, keep the buttons pressed and then use the mouse and click on STOP button on the screen and also keep the mouse pressed for more than three seconds. This is the way how to enter the optional functions also with such PCs.
- For detailed description of all parameters in the option mode, please check the manual of the running machine.
- There must be a sufficient potential isolation between PC and running machine.

In the chart below is described how you can set com-1 of the running machine to coscom-protocol.

Initial state: Device is switched on. One of the mode displays (manual, profile, cardio, test) is flashing.

step #	Action	Keystroke	Response / Display
[01]	Select option mode	 and simultaneously  and simultaneously  keep pressed minimum 3 seconds	Display  reports flashing OP 01.
[02]	Select option number OP20	 or 	Display  reports flashing OP 20.
[03]	Confirm option number OP20		Display  reports actual value / protocol for COM1.
[04]	Set option 20 to value "1" for standard coscom	 or 	Display  reports flashing following values: 0 = RS 232 not active / no protocol / interface deactivated <b>1 = coscom by h/p/cosmos</b> 3 = Printer protocol (serial printer or converter required) 10 = Loop Back Test (special test plug required). 12 = Remote-Control Hardware, ext. Terminal MCU 4 20 = coscom v3 speed 115.200 bps
[05]	Save modified value		Display  reports flashing OP 20.
[06]	Quit option settings		Device stands in standby mode. One of the mode displays is flashing.

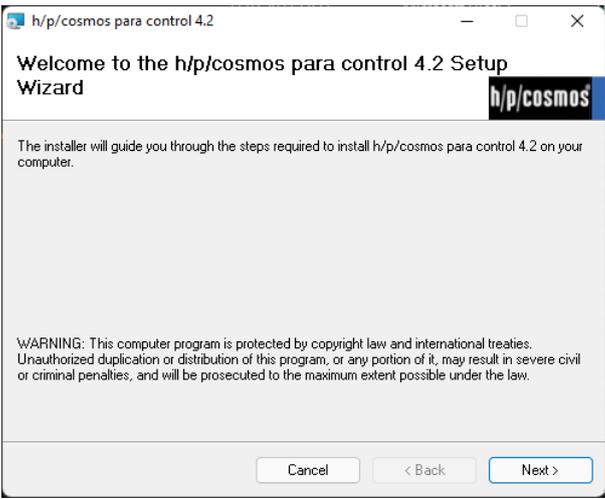
If you have connected the running machine to com-port 2, the required option is OP21.

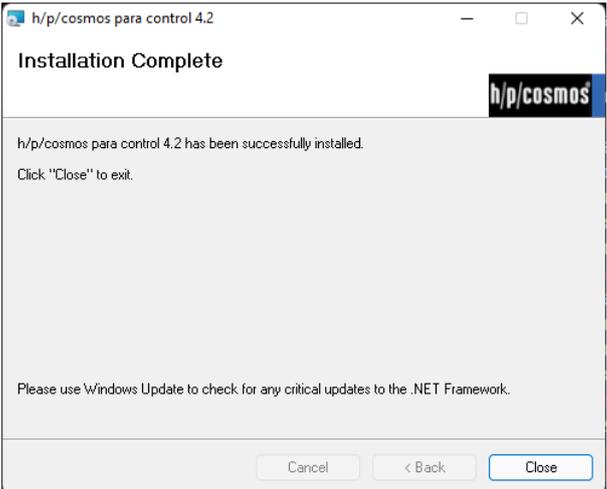
[4.] Installation

[4.A] Installation of h/p/cosmos para control 4.2

	<ul style="list-style-type: none"> <li>■ To install h/p/cosmos para control 4.2 „Microsoft .net Framework 2.0“ incl. local language pack and „Microsoft Windows Installer 3.0“ is required.</li> <li>■ Administrator rights are required for the installation of h/p/cosmos para control 4.2.</li> <li>■ Use the paths which are recommended in the installation process.</li> <li>■ When completed the first installation a small h/p/cosmos para control 4.2 icon will be added to the desktop of the PC.</li> </ul>
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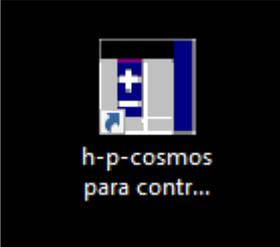
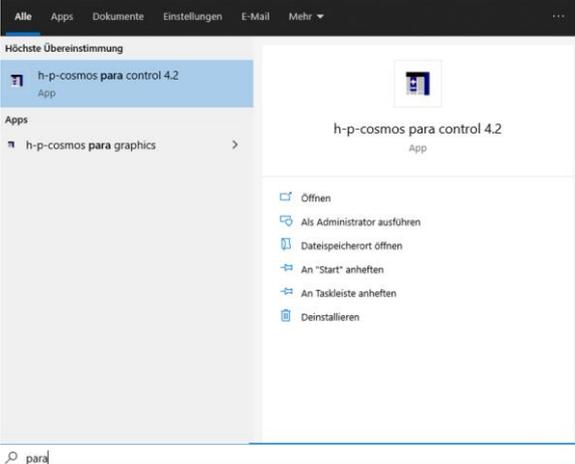
Installation process...

step #	Screenshot	Activity
[01]	<p>Insert the h/p/cosmos USB media stick into your USB-port, browse the content software and select para control to enter the screen of point 2 of this chart.</p> <p>Alternatively h/p/cosmos para control 4.2 can be downloaded from the h/p/cosmos website. Double-click on the .exe file (file name: 20220113_cos10071-v4_2_0-txt_hpocosmos_paracontrol_setup_full_en.exe) and you will enter the screen of point 2 in this chart.</p> <div style="background-color: yellow; padding: 5px; border: 1px solid black;">  <p><b>To install h/p/cosmos para control 4.2 the runtime environment „Microsoft .net Framework 2.0“ incl. local language pack and „Microsoft Windows Installer 3.0“ is required.</b></p> <p><b>The exe-file of para control 4.2 on the h/p/cosmos USB media stick has already included „Microsoft .net Framework 2.0“ and „Microsoft Windows Installer 3.0“. The installation will start automatically and you just need to follow the instructions of the installation guide.</b></p> <p><b>If you download h/p/cosmos para control 4.2 from <a href="http://www.h-p-cosmos.com">www.h-p-cosmos.com</a> you can select between a version which has included „Microsoft .net Framework 2.0“ and „Microsoft Windows Installer 3.0“ and one which has not (smaller file size).</b></p> </div>	
[02]		Click next and follow the instructions of the Wizard.
[03]	From now on the installer will guide you through the steps required for the installation of h/p/cosmos para control 4.2 on your computer.	

<p>[04]</p>		<p>When this window appears on your screen the installation was successful. Click on „close“ to exit from the installation routine.</p>
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[4.B] Program start

After a successful installation you have 2 standard possibilities to start h/p/cosmos para control 4.2.

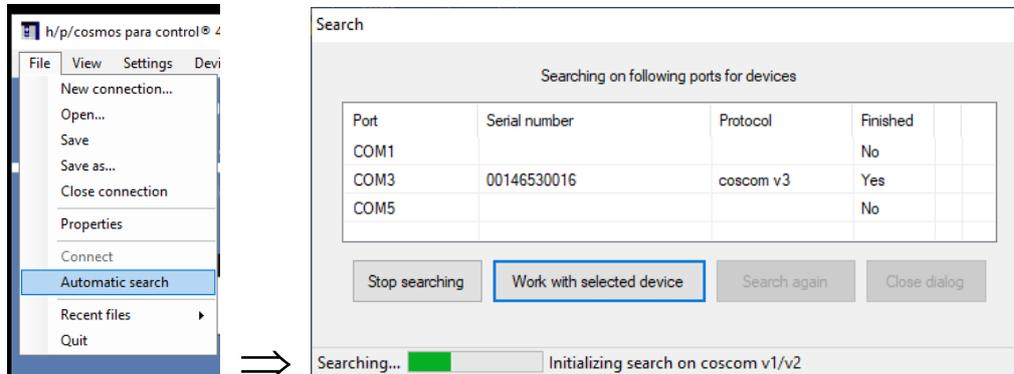
step #	Screenshot	Activity
<p>[01]</p>		<p>Double click on the desktop-icon „h/p/cosmos para control 4.2“</p>
<p>[02]</p>		<p>OR select: start ⇒ programs ⇒ h/p/cosmos ⇒ h/p/cosmos para control 4.2</p>

At the first program start the software will ask you if you want to start the automatic search. When you click on “Yes” the software will enter the automatic search (see chapter Automatic search).

## [5.] Operation

## [5.A] Connection settings

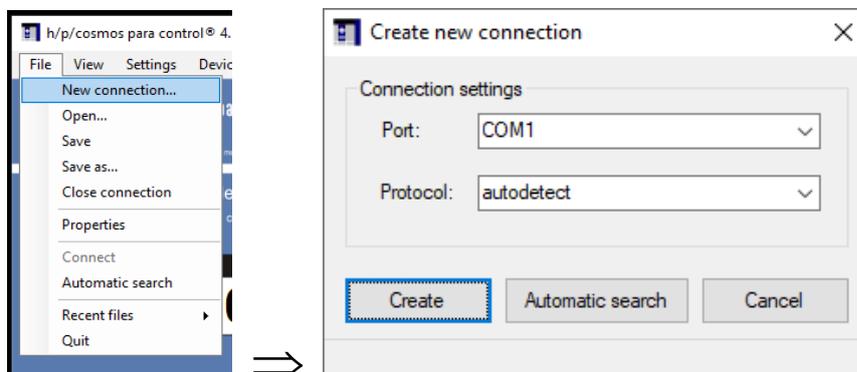
## [5.A1] Automatic search



The „automatic search“ scans all com-ports which are available at the pc in order to find connected h/p/cosmos running machines. After the search is finished, all found running machines are displayed in the „search-window“.

Select the device you want to connect and click on „Work with selected device“. After that the main screen of h/p/cosmos para control 4.2 will open.

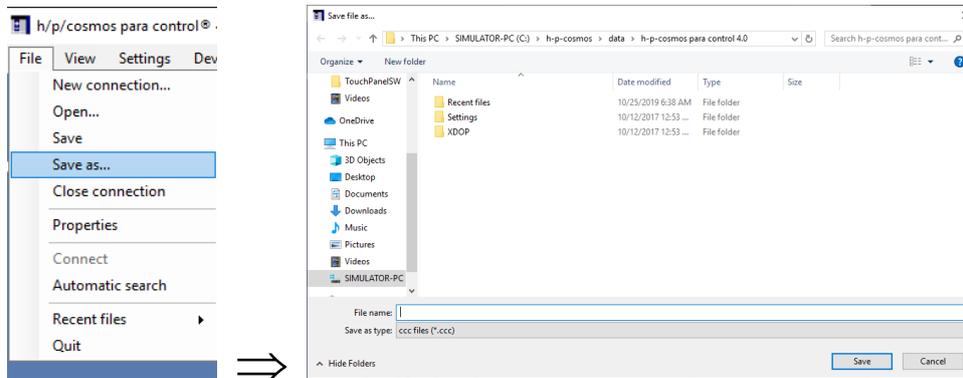
## [5.A2] Manual connecting



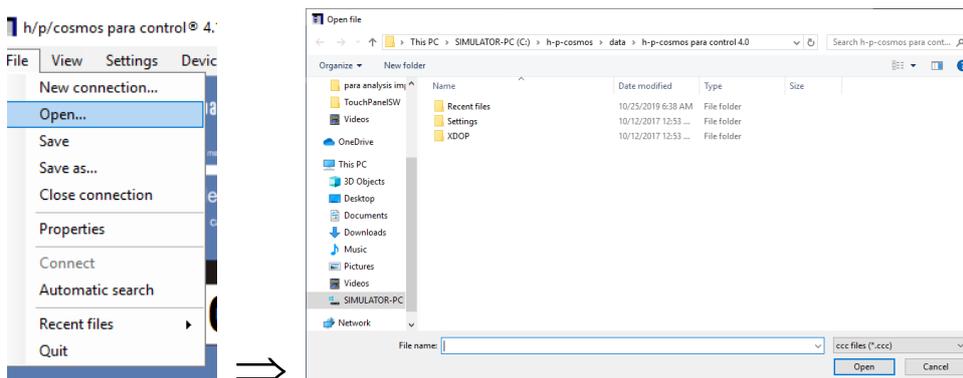
If you know at which com-port the running machine is connected you can setup the connection manually. The protocol-version can be set manually or you use the autodetect function.

## [5.A3] Storing and loading of connections

h/p/cosmos para control 4.2 offers the possibility to store and load connection files. This option is very reasonable when you have more than 1 running machine connected to the PC. To store a connection just enter „File ⇒ Save as...” and you can store the connection-file to the according directory. When storing a connection file you should take care that you choose a file-name with which you can easily identify the running machine later (example: h-p-cosmos\_quasar\_diagnostics.ccc).

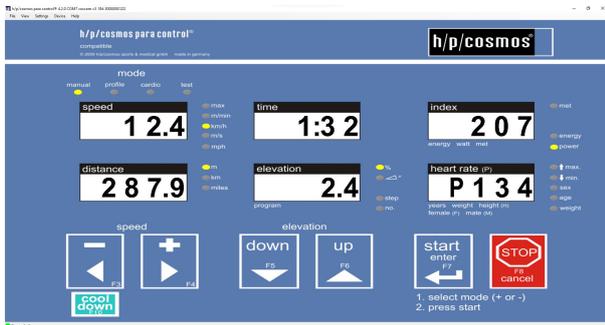


To open a connection file, enter „File ⇒ Open...” and select the according connection-file (ccc-file). After that h/p/cosmos para control 4.2 will connect to this running machine.



[5.B] General instructions for use

h/p/cosmos para control 4.2 is compatible to every h/p/cosmos running machine and ladder ergometer with MCU2, MCU3, MCU4 and MCU5. Depending on the connected running machine / ladder ergometer one of the following displays appear on the screen:

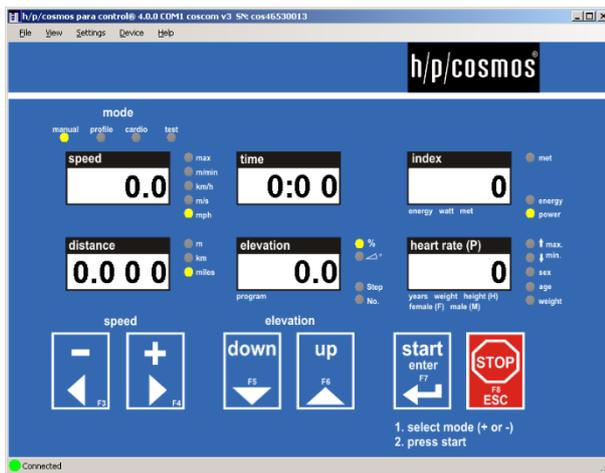


**User Terminal MCU4/MCU5 (coscom v3):**

h/p/cosmos para control 4.2 display for running machines equipped with MCU5 (all running machines delivered as of October 2007) or MCU4 with Firmware-Version higher than V4.03.1.

All functions and additional options of h/p/cosmos para control 4.2 are available!

The flash-firmware-update option is only available at running machines equipped with MCU5.



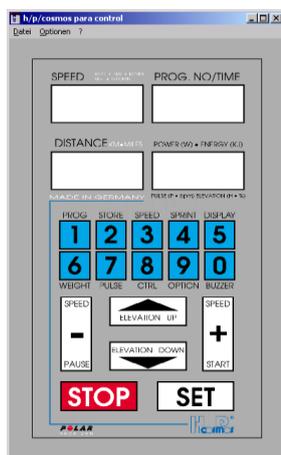
**User Terminal MCU4 (coscom v2):**

h/p/cosmos para control 4.2 display for running machines equipped with MCU4 with Firmware-Version lower or similar than V4.03.1.

The use of h/p/cosmos para control 4.2 is limited.

In short you can use only the standard remote functions by clicking with the mouse on the buttons or by using the keyboard.

The option mode functions are not available at coscom V2.

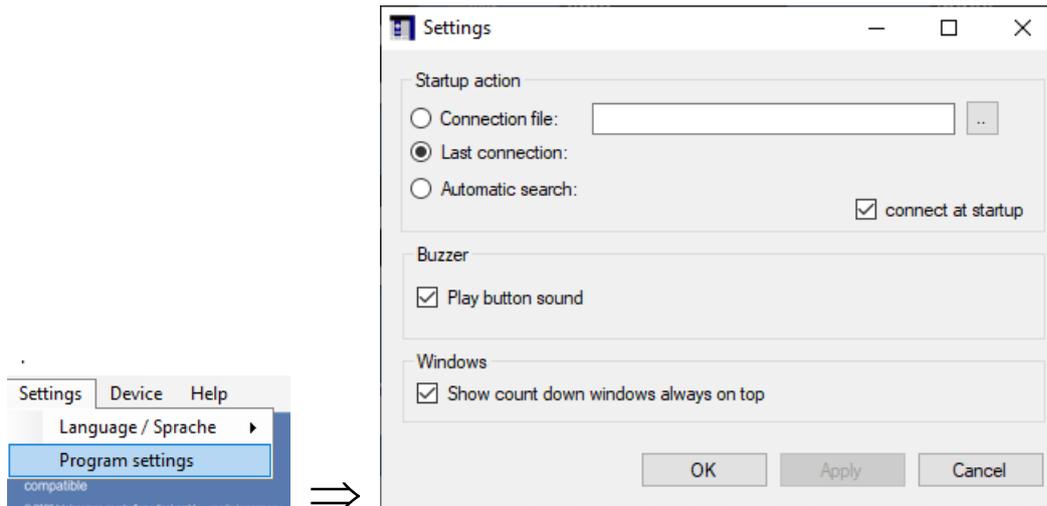


**User Terminal MCU2 and / or MCU3:**

h/p/cosmos para control 4.2 display for running machines equipped with MCU2 and / or MCU3. The Firmware-Version must be V2.31 or higher.

The use of h/p/cosmos para control 4.2 is limited.

In short you can use only the standard remote functions by clicking with the mouse on the buttons.

[5.C] **General program settings**[5.C1] **Startup action:**

At the first program start after the installation, h/p/cosmos para control 4.2 will always ask if the automatic search shall be started. At every further program start, there can be selected between 3 possibilities what h/p/cosmos para control 4.2 will do after starting the software.

- Connection file: You can select a connection file to which h/p/cosmos para control 4.2 will connect after the start.
- Last connection: h/p/cosmos para control 4.2 will memorise the last connection before the shutdown and connect again to the same. This is recommended when using only one running machine with h/p/cosmos para control 4.2.
- Automatic search: h/p/cosmos para control 4.2 will start the automatic search function at every start of the software. The automatic search will also be activated automatically at the first start after the installation.

[5.C2] **Buzzer**

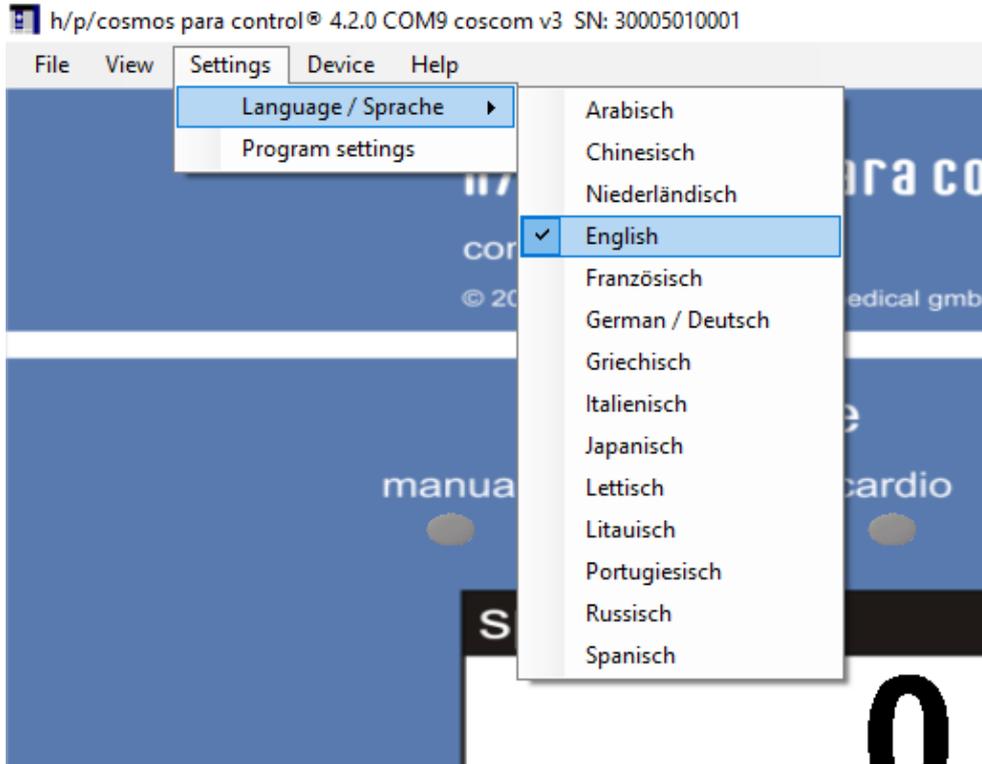
When the tick is activated you can hear the button sound over the soundcard of your pc (if available).

[5.C3] **Windows**

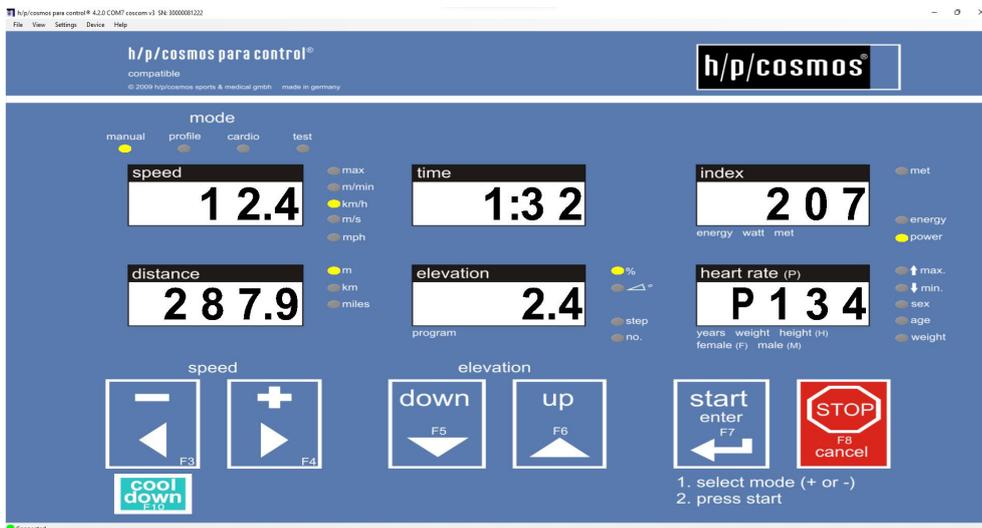
When the tick is activated, count-down windows will always be shown in the foreground of you screen.

[5.D] Language settings

You can select between 14 languages.



[5.E] Standard remote functions



 The standard remote functions of h/p/cosmos para control 4.2 are applicable with all h/p/cosmos running machines. Please note that ALL OTHER functions which are described in this manual are only applicable when the running machine is equipped with the coscom v3 interface protocol. Coscom v3 is integrated in all running machines with MCU5 control logic (all h/p/cosmos running machines as of the year 2008) and with MCU4 control logic with firmware-version higher than V4.03.1.

There are 3 ways to press the buttons of h/p/cosmos para control 4.2 software and to control the running-machine:

- use mouse of PC and click on virtual buttons START / STOP / Speed + / - Elevation UP / DOWN
- use PC keyboard: Enter (for START), ESC (for STOP), cursor arrow keys ← → (for Speed - / +) and ↓ ↑ (for Elevation DOWN / UP)
- use the functions keys of the PC keyboard (not MCU2 and MCU3):  
F3(-) F4(+) F5(DOWN) F6(UP) F7(START) F8(STOP).  
The function keys allow also to press 2 or 3 buttons to enter the optional functions (see running-machine manual)

With the above described methods you are able to control the running machine and use any function of it. There can be made exactly the same settings as you can enter in the hardware UserTerminal.

#### [5.F] Parallel operation

h/p/cosmos para control 4.2 has the function to remote up to 8 running machines from one PC. Please consider that every running machine needs to be connected to its own com-port at the pc. To use this function you can start h/p/cosmos para control 4.2 as often as you want and connect to different running machines. To keep an overview to which running machine you are connected, it is recommended to save the connection file (see chapter [Storing and loading of connections](#)) of each running machine. Use a filename for the connection file with which you can later identify the running machine properly. In order to connect to the required running machine you just need to open the according connection file then (see chapter [Storing and loading of connections](#)).

#### [5.G] Advanced remote functions



Please note the below mentioned functions are only applicable when the running machine is equipped with the coscom V3 interface protocol. Coscom V3 is integrated in all running machines with MCU5 control logic (all h/p/cosmos running machines as of the year 2008) and with MCU4 control logic with firmware-version higher than V4.03.1.

All modes can be selected by a direct click with the left mouse button on the according LED.



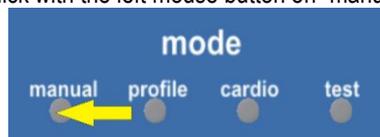
Example: click directly on the test LED to get access to the test mode.

[5.G1] **Manual mode**

For detailed information about the manual mode please check the h/p/cosmos running machines manual.

To start the manual-mode proceed as following:

Click with the left mouse button on "manual".



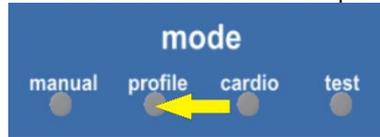
Running machine starts...

[5.G2] Profile mode

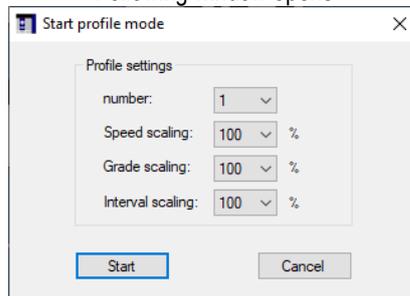
 For detailed information about the profile mode please check the h/p/cosmos running machines manual.

To start the profile-mode proceed as following:

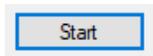
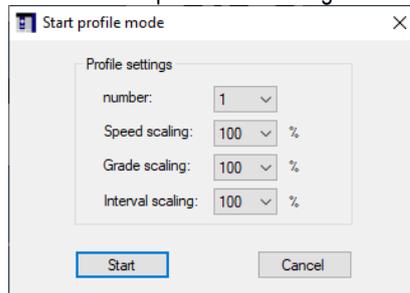
Click with the left mouse button on "profile".



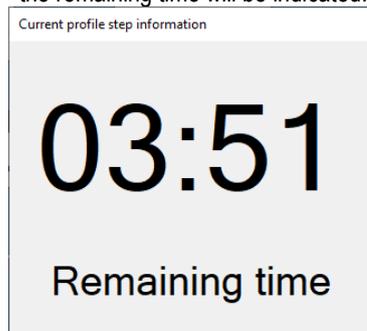
Following window opens



Select profile and scaling.



After 5 beeps the running machine starts and the remaining time will be indicated.



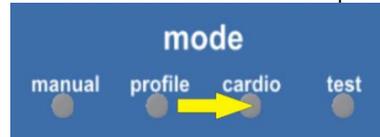
## [5.G3] Cardio mode



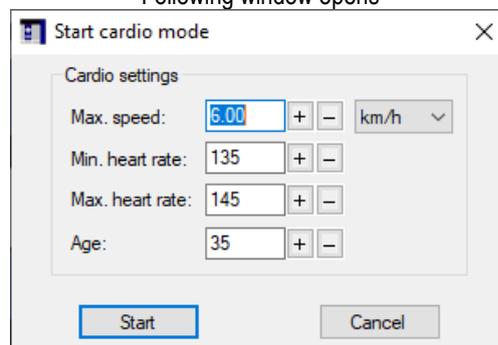
For detailed information about the cardio mode please check the h/p/cosmos running machines manual.

To start the cardio-mode proceed as following:

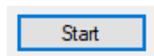
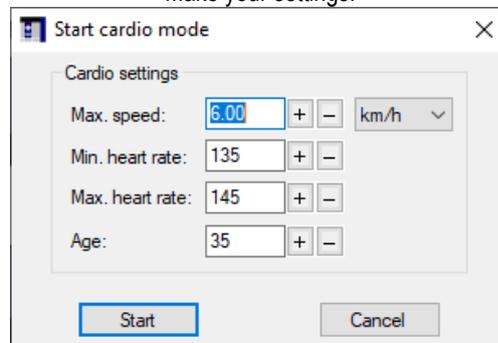
Click with the left mouse button on "profile".



Following window opens



Make your settings.



Running machine starts...

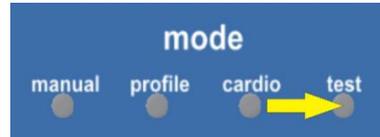
## [5.G4] Test-Mode



For detailed information about the test mode please check the h/p/cosmos running machines manual.

To start the test-mode proceed as following:

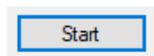
Click with the left mouse button on "test".



Following window opens



Make your settings.



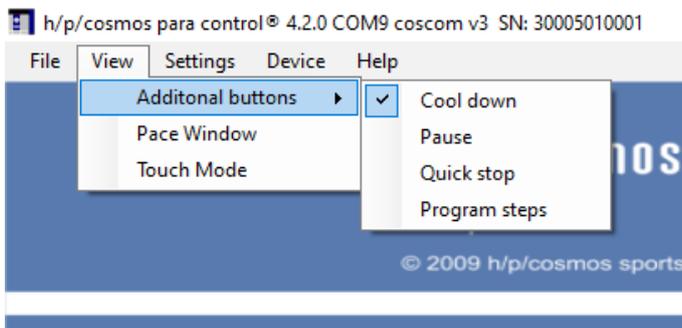
After 5 beeps the running machine starts...

[5.H] Additional keys

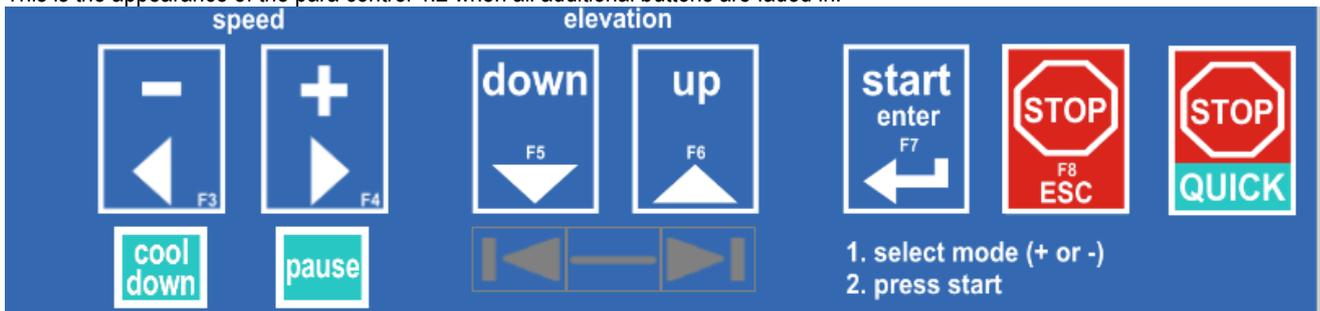


Please note the below mentioned functions are only applicable when the running machine is equipped with the coscom V3 interface protocol. Coscom V3 is integrated in all running machines with MCU5 control logic (all h/p/cosmos running machines as of the year 2008) and with MCU4 control logic with firmware-version higher than V4.03.1.

The additional buttons of para control 4.2 can be faded in at „view→additional buttons“.



This is the appearance of the para control 4.2 when all additional buttons are faded in.

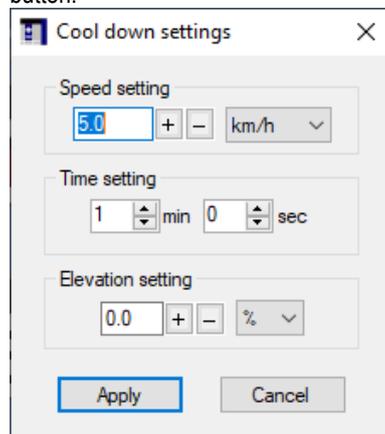


[5.H1] Cool down key



The „cool down“ function is available as soon as the running machine is in action. When activating „cool down“ all running automatic programs (profile, cardio, test) will be aborted.

Following settings can be made when pressing the right mouse key on the cool down button:



[5.H2] **Pause key**

The „pause“ function can be used, when the exercise shall be continued after a short break. Displays like TIME, INDEX and DISTANCE will continue with their last values after restarting the machine. PROFILES, TESTS will start also from the point where they have been stopped.

[5.H3] **Program steps keys**

The „program steps“ button is available when using the PROFILE or the TEST mode. With its help it is possible to jump between the steps of profiles or tests. The minus button in the middle works as FREEZE function. After pressing this button a profile step is frozen and the running machine does not switch to the next profile step until the freeze function has been deactivated.

[5.H4] **Quick stop key**

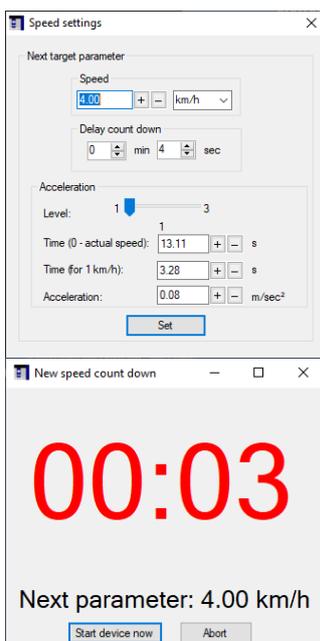
When pressing the QUICK STOP button the running machine performs it's quickest possible stop.

**Caution / Warning!**

Quick Stop can be dangerous and lead to accidents and serious injuries in case if it was triggered without warning the subject in time to prepare for the quick stop.

[5.I] **Advanced functions**

Please note the below mentioned functions are only applicable when the running machine is equipped with the coscom V3 interface protocol. Coscom V3 is integrated in all running machines with MCU5 control logic (all h/p/cosmos running machines as of the year 2008) and with MCU4 control logic with firmware-version higher than V4.03.1.

[5.I1] **Target speed settings**

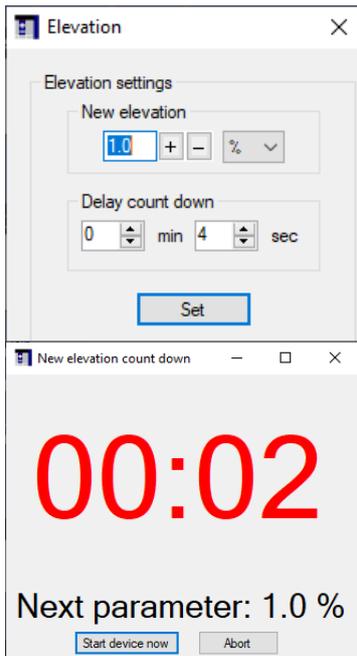
When clicking with the left mouse button at the speed display the window “speed settings” is opening.

Following adjustments can be made:

- target speed
- delay count down
- acceleration setting

After confirming the settings the “speed countdown” window is opening which indicates the remaining time of the count down and the target speed.

[5.12] Target elevation settings



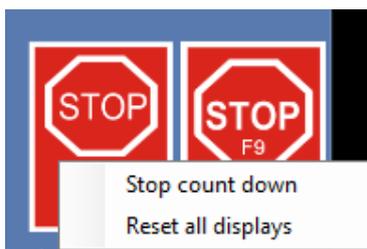
By clicking with the left mouse button at the elevation display the window “elevation” is opening.

Following adjustments can be made:

- target elevation
- delay count down

After confirming the settings the “elevation countdown” window is opening which indicates the remaining time of the count down and the target elevation.

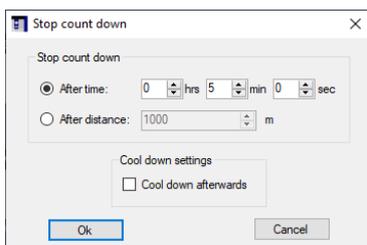
[5.13] Stop countdown



To use the „stop countdown” function, click with the right mouse button at the stop key and select „stop count down”. After that the „stop count down” window is opening.

You can select either a stop after a specific time or after a specific distance.

It can also be set that the cool down function shall be activated after the count down.



[5.14] Direct read out of current values over the LED's

Following values can be read out by moving with the mouse over the according LED.



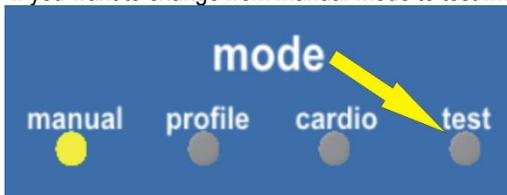
[5.15] **Direct LED switching**

Following LED's can be switched direct by a click with the left mouse button:

- manual
- profile
- cardio
- test
- m/min
- km/h
- m/s
- mph
- m
- km
- miles
- %
- degrees

Example:

- If you want to change from manual-mode to test-mode, just click on the test-LED.



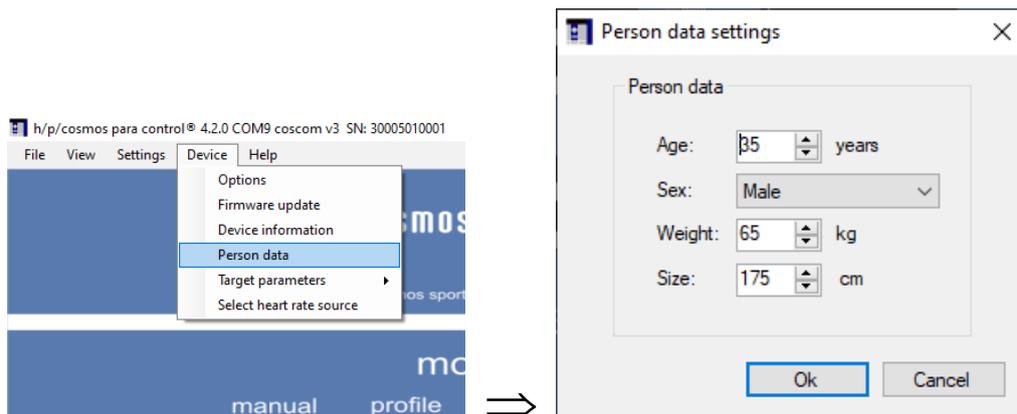
- If you would like to indicate the speed in m/s during the operation, change it by clicking on the m/s-LED.
- ...
- ...

[5.16] **Display reset**



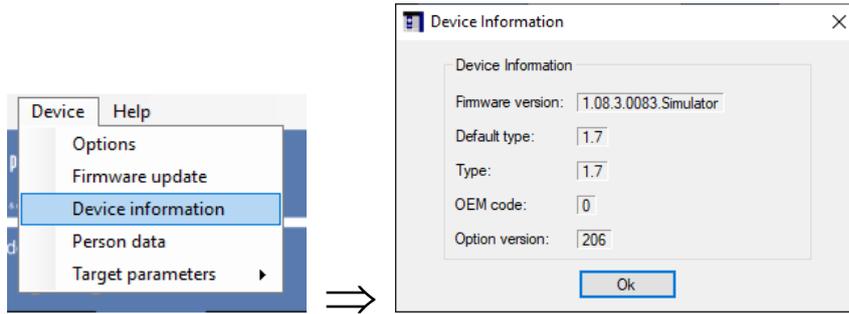
By clicking the right mouse button on the time, distance or index display you have the possibility to select between a reset of this single display or all displays (instead of speed and elevation).

[5.17] **Person data settings**



For all modes where person data needs to be entered (for example cardio mode, UKK-walk-test) default values can be set in para control 4.2.

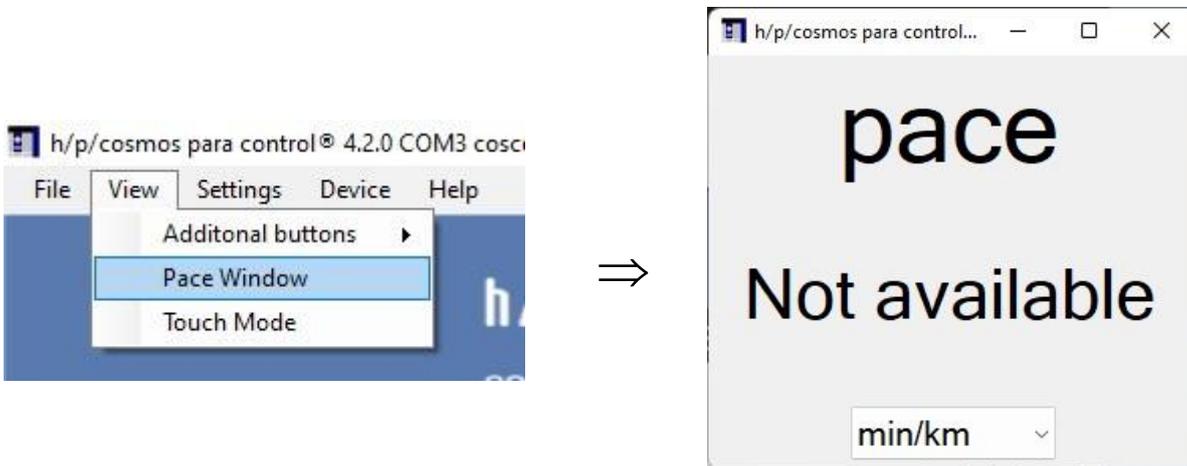
[5.18] **Device information**



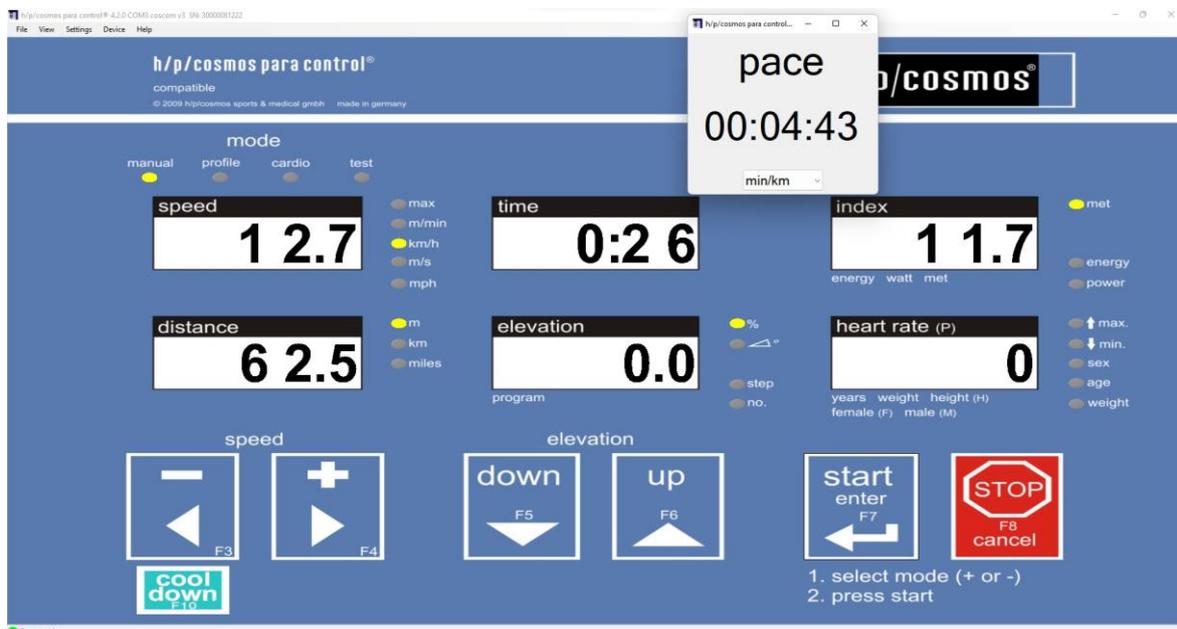
For information about the firmware of the connected device.

[5.19] **Pace Window**

It is possible to display the current time per kilometer (pace = min/km).

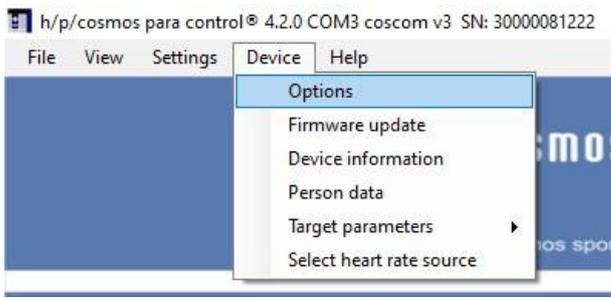
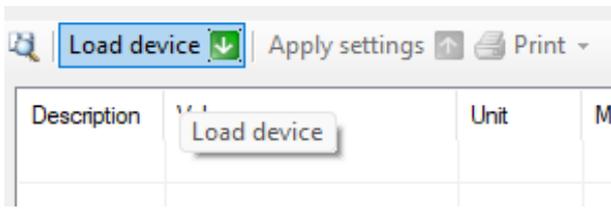
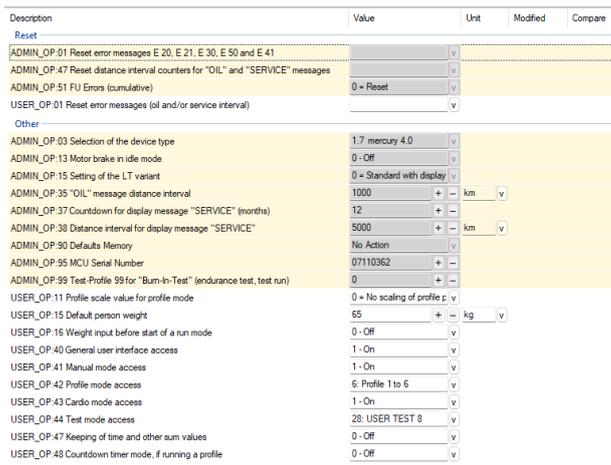


Via View -> Pace Window the window on the right opens. If the treadmill is now started, the screen looks similar to the picture below. Via the dropdown menu you can choose between minutes per kilometer and minutes per miles.

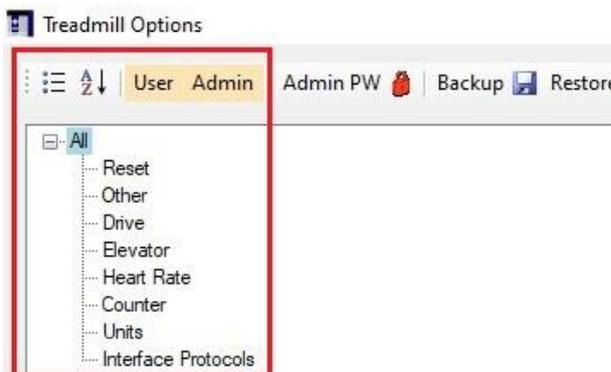


[5.J] Option mode functions

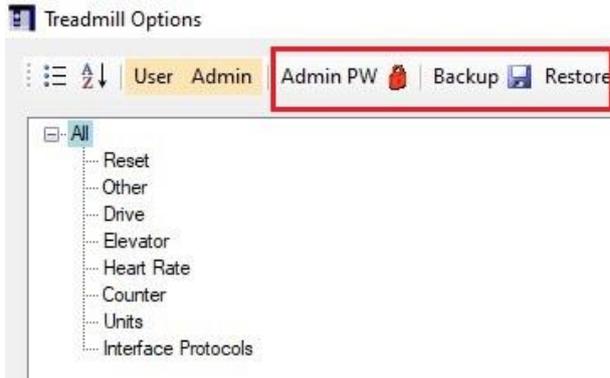
[5.J1] Read out of current option values

step no.	Screenshot	Action
[01]		Choose „Device“ => Options
[02]		Click on „Load device“
[03]		Device options are loaded. Please wait until your screen shows the options (see figure on the left).

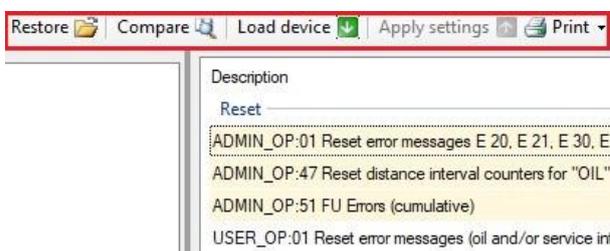
[5.J2] Layout of the option window



In the red box the view filters can be set. These are explained in point „Appliance of the view filter“.



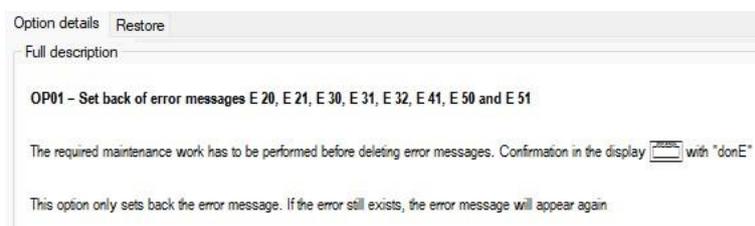
The admin password can be entered under the „Admin PW“ item (see „Administrator access to the option dialog“). Using the „Backup“ button, a copy of the options can be created (chapter „Save and restore backups“).



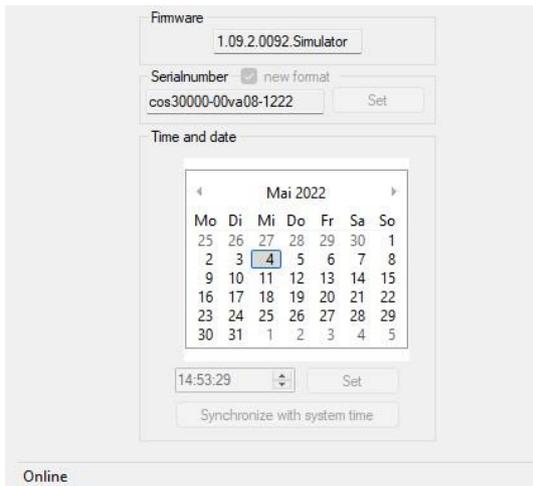
Once a backup has been created, it can be loaded using „Restore“ (chapter „Save and restore backups“). The „Compare“ button allows you to load an already saved option file and compare it with the one currently on the device. „Load device“ is explained in „Read out of current option values“. With „Apply settings“ changed values can be played on the device. The „Print“ button is explained in „Print out current option settings“.

Description	Value	Unit	Modified	Compare
<b>Reset</b>				
ADMIN_OP:01 Reset error messages E 20, E 21, E 30, E 50 and E 41				v
ADMIN_OP:47 Reset distance interval counters for "OIL" and "SERVICE" messages				v
ADMIN_OP:51 FU Errors (cumulative)	0 = Reset			v
USER_OP:01 Reset error messages (oil and/or service interval)				v
<b>Other</b>				
ADMIN_OP:03 Selection of the device type	1.7 mercury 4.0			v
ADMIN_OP:13 Motor brake in idle mode	0 - Off			v
ADMIN_OP:15 Setting of the LT variant	0 = Standard with display			v
ADMIN_OP:35 "OIL" message distance interval	1000	km		v
ADMIN_OP:37 Countdown for display message "SERVICE" (months)	12			v
ADMIN_OP:38 Distance interval for display message "SERVICE"	5000	km		v
ADMIN_OP:90 Defaults Memory	No Action			v
ADMIN_OP:95 MCU Serial Number	07110362			v
ADMIN_OP:99 Test-Profile 99 for "Bum-In-Test" (endurance test, test run)	0			v
USER_OP:11 Profile scale value for profile mode	0 = No scaling of profile p			v
USER_OP:15 Default person weight	65	kg		v
USER_OP:16 Weight input before start of a run mode	0 - Off			v
USER_OP:40 General user interface access	1 - On			v
USER_OP:41 Manual mode access	1 - On			v
USER_OP:42 Profile mode access	6: Profile 1 to 6			v
USER_OP:43 Cardio mode access	1 - On			v
USER_OP:44 Test mode access	28: USER TEST 8			v
USER_OP:47 Keeping of time and other sum values	0 - Off			v
USER_OP:48 Countdown timer mode, if running a profile	0 - Off			v

The window below shows all options (admin and user options) and their values.



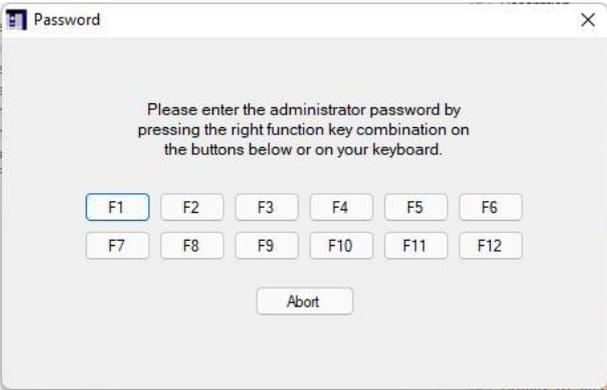
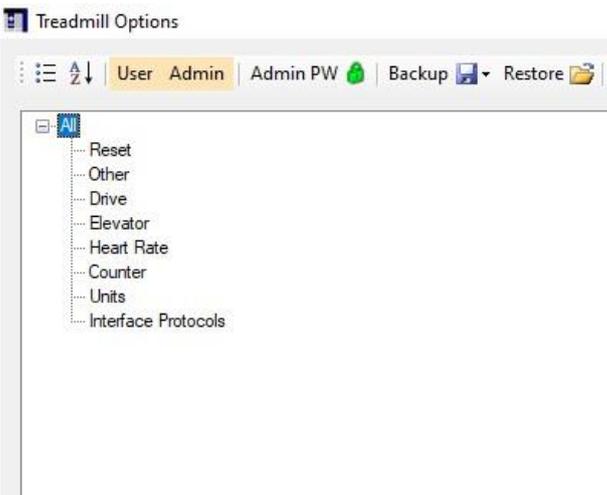
In „Option details“ a detailed description of the selected option can be found.



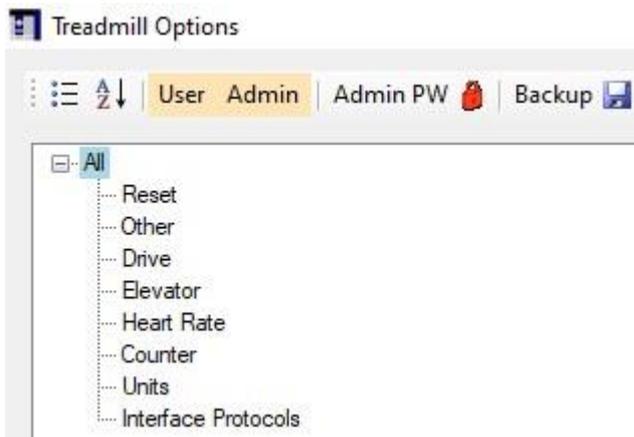
In the lower left area of the window the firmware is indicated, the serial number, time and date can be set if the admin password has been entered. At the bottom left you can see that the device is „connected“ to the PC.

[5.J3] Administrator access to the option dialog

step no.	Screenshot	Action
[01]	<p>The screenshot shows the 'Treadmill Options' dialog box. The 'Admin PW' button is highlighted with a blue selection box. The dialog contains a list of options: Reset, Other, Drive, Elevator, Heart Rate, Counter, Units, and Interface Protocols.</p>	Click on „Admin PW“

[02]		Enter the administrator password.
[03]		The green lock symbolizes that the administrator options, the serial number of the treadmill and the time are now changeable.

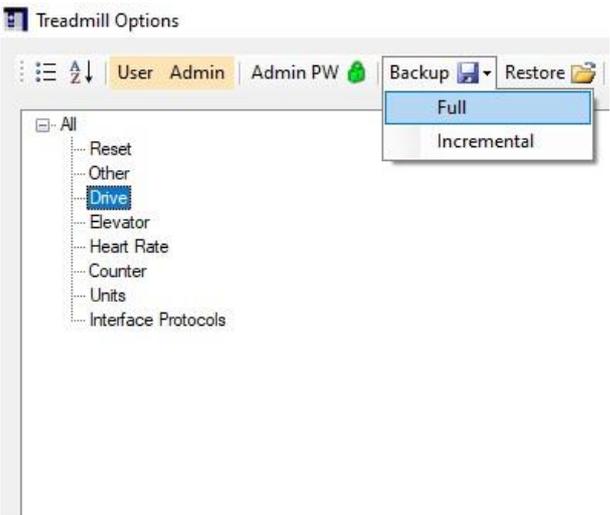
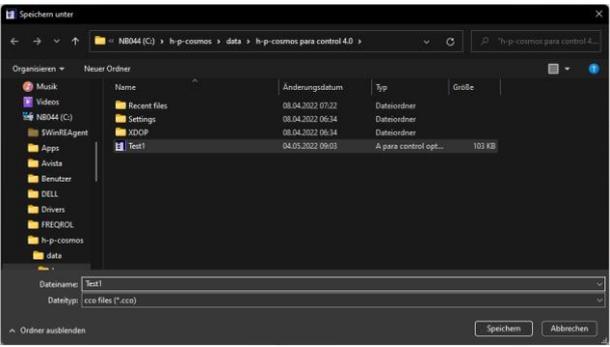
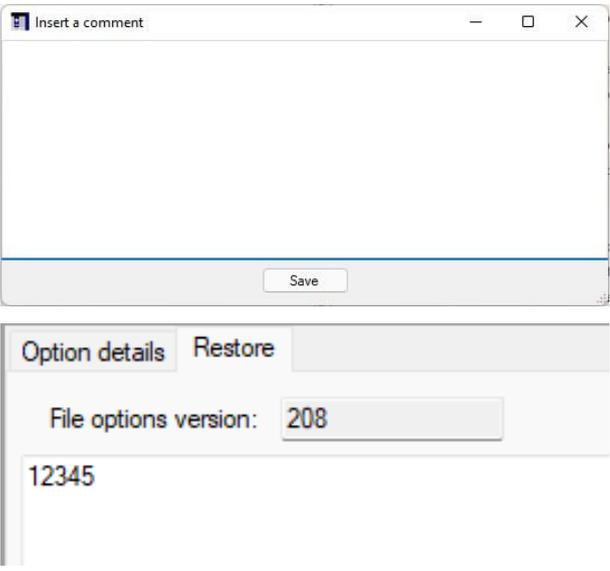
[5.J4] **Appliance of the view filter**

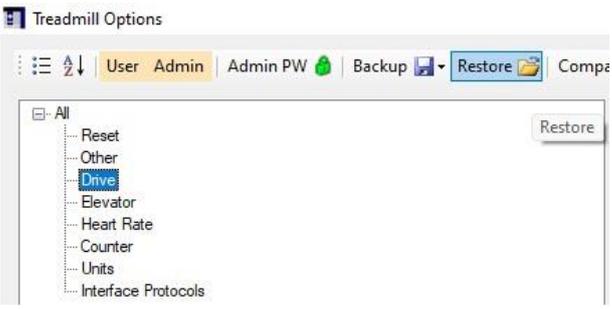
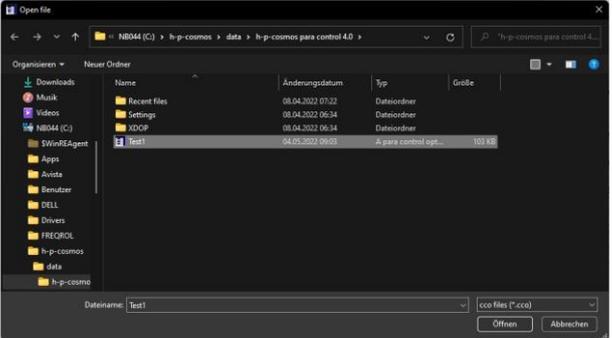


There are several ways to sort the options. You can distinguish between category view (☰) and alphabetical view (A-Z ↓). Using the category view, the options are divided into the categories below. With the alphabetical view the options are sorted alphabetically. Additionally, the options can be sorted by category (Reset, Other, Drive, etc.). Using the „User“ and „Admin“ buttons, you can show or hide the respective options.

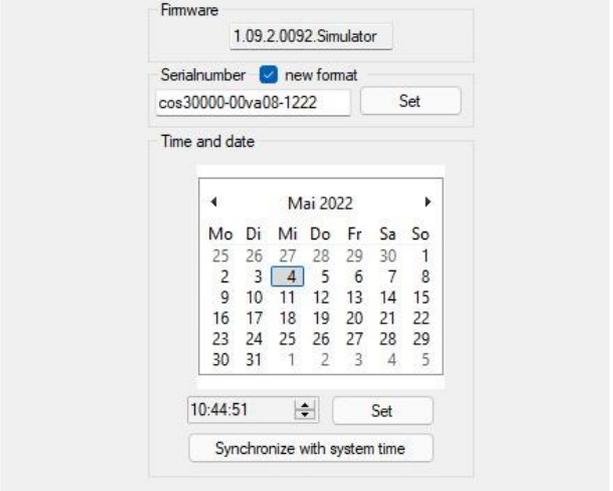
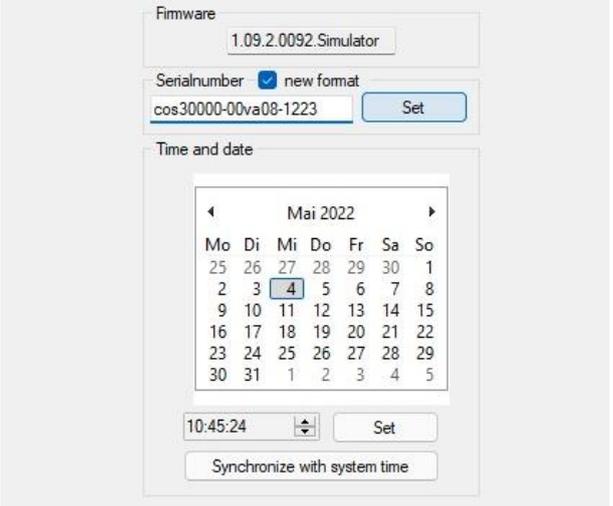
[5.J5] **Save and restore backups**

step no.	Screenshot	Action
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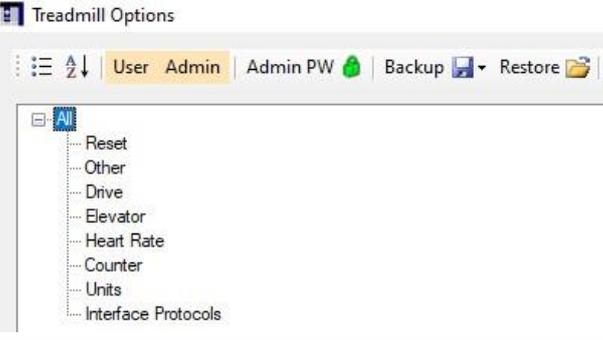
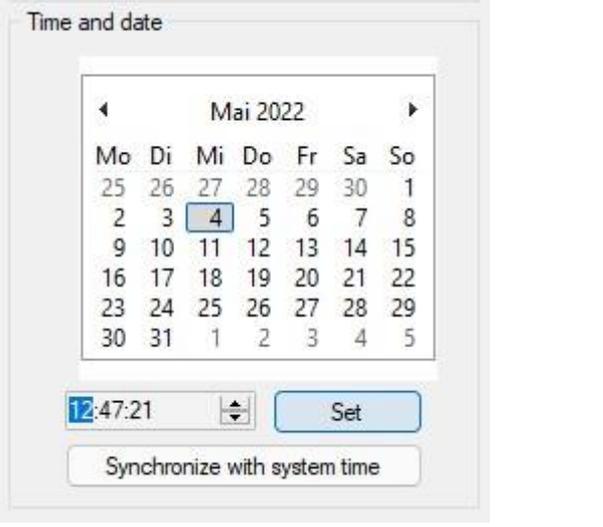
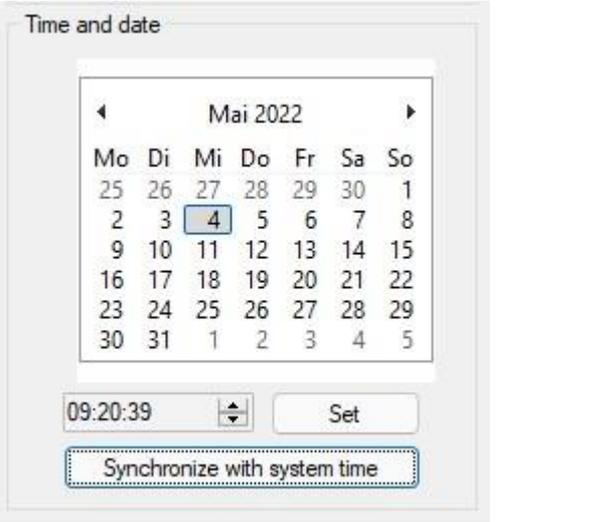
<p>[01]</p>		<p>Press „Backup“. Select „Full“ (all options) or „Incremental“ (single option) if administrator password has been entered.</p>
<p>[02]</p>		<p>Select a location and assign a file name. The software will always search in the suggested folder when restoring.</p>
<p>[03]</p>		<p>You can add a comment to the saved file. This is displayed under „Restore“.</p>
<p>[04]</p>		<p>If the admin password was entered, you can additionally create a password for the backup copy.</p>

<p>[05]</p>		<p>To restore, press „Restore“ in the bar at the top.</p>
<p>[06]</p>		<p>Now select the option file with the extension .cco which you want to load.</p>

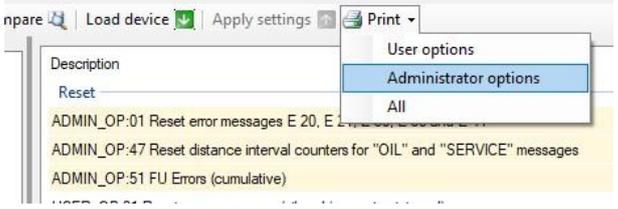
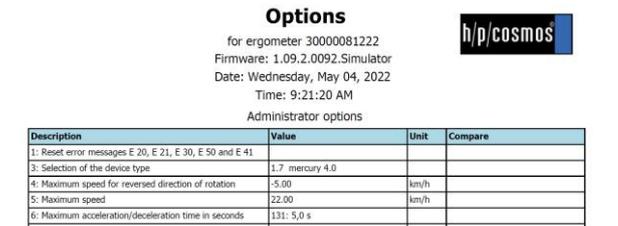
[5.J6] Serial number setting

step no.	Screenshot	Action
[01]		<p>First follow the steps from „Administrator access to the option dialog“. The green lock icon shows that the Administrator options are unlocked and, among other things, the serial number can be changed.</p>
[02]		<p>In the left lower window, the serial number is enabled for editing. Change this according to your default.</p>
[03]		<p>After modification, press „Set“ to set the new serial number.</p>

[5.J7] Time and date setting

step no.	Screenshot	Action
[01]		<p>Folgen Sie zunächst den Schritten aus „<b>Fehler! Verweisquelle konnte nicht gefunden werden.</b>“. Das grüne Schloss Symbol zeigt, dass die Administrator-Optionen freigeschalten sind und u.a. die Uhrzeit geändert werden kann.</p>
[02]		<p>In the lower left window, the time is enabled for editing. Change it according to the current time.</p>
[03]		<p>After change, press „Set“ to set the new time. Alternatively, you can press „Synchronize with system time“ to adopt the time of your system (PC, laptop).</p>

[5.J8] Print out current option settings

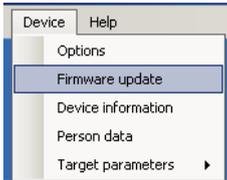
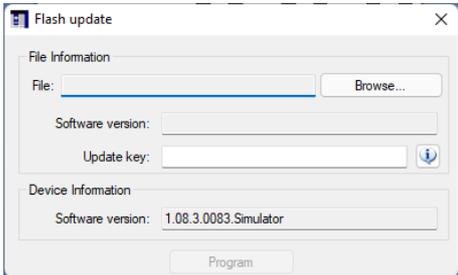
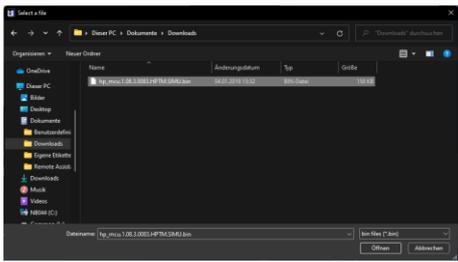
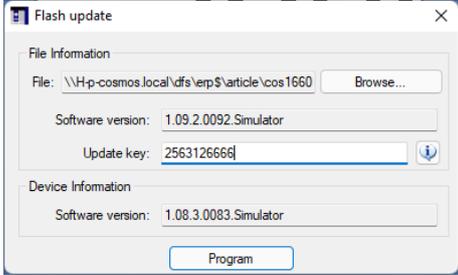
step no.	Screenshot	Action																								
[01]		Click on „Print“ and in the menu on the options you want to print.																								
[02]	 <p style="text-align: center;"><b>Options</b> for ergometer 30000081222 Firmware: 1.09.2.0092.Simulator Date: Wednesday, May 04, 2022 Time: 9:21:20 AM Administrator options</p> <table border="1" data-bbox="300 728 858 826"> <thead> <tr> <th>Description</th> <th>Value</th> <th>Unit</th> <th>Compare</th> </tr> </thead> <tbody> <tr> <td>1: Reset error messages E 20, E 21, E 30, E 50 and E 41</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3: Selection of the device type</td> <td>1.7 mercury 4.0</td> <td></td> <td></td> </tr> <tr> <td>4: Maximum speed for reversed direction of rotation</td> <td>-5.00</td> <td>km/h</td> <td></td> </tr> <tr> <td>5: Maximum speed</td> <td>22.00</td> <td>km/h</td> <td></td> </tr> <tr> <td>6: Maximum acceleration/deceleration time in seconds</td> <td>131: 5,0 s</td> <td></td> <td></td> </tr> </tbody> </table>	Description	Value	Unit	Compare	1: Reset error messages E 20, E 21, E 30, E 50 and E 41				3: Selection of the device type	1.7 mercury 4.0			4: Maximum speed for reversed direction of rotation	-5.00	km/h		5: Maximum speed	22.00	km/h		6: Maximum acceleration/deceleration time in seconds	131: 5,0 s			Select your printer and press Print. The current option settings are printed.
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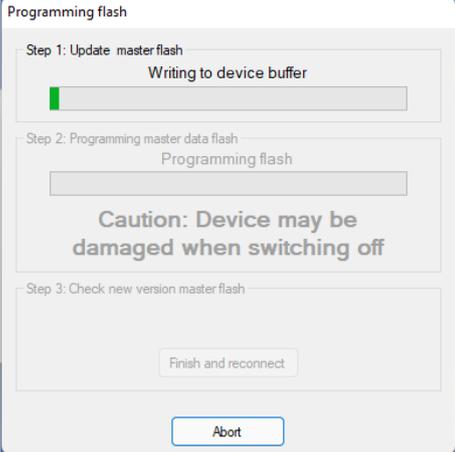
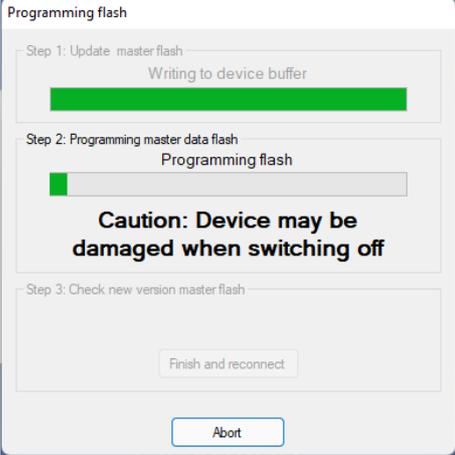
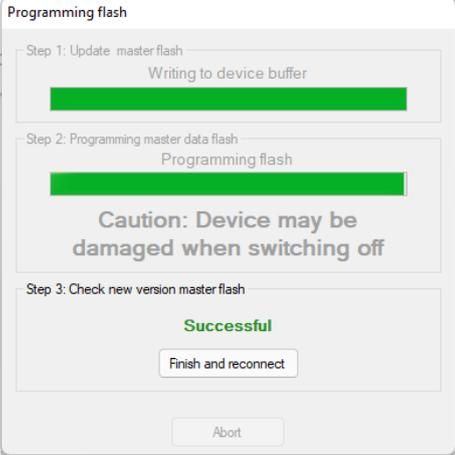
[5.K] Firmware update at h/p/cosmos running machines with MCU5 control logic

All h/p/cosmos running machines with delivery date > October 2007 are equipped with MCU5 control logic whose firmware can be updated in a flash-eprom writing process. The update process must be started with h/p/cosmos para control 4.2.

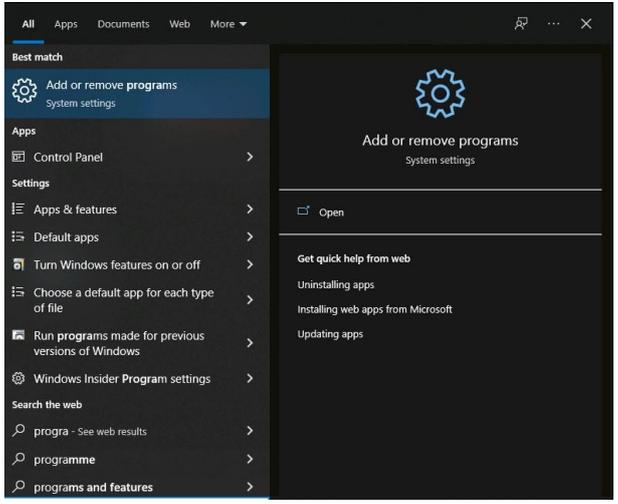
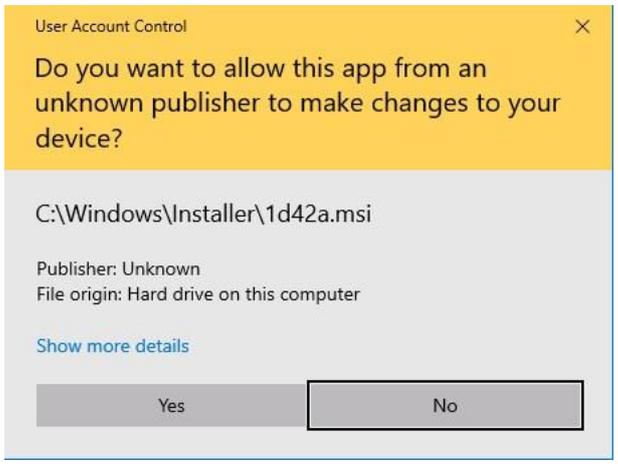
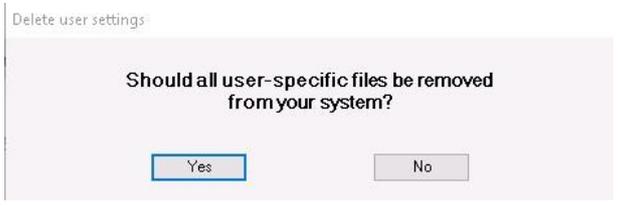
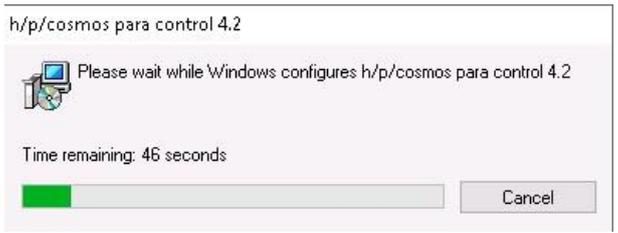
	<p><b>Caution / Warning!</b></p> <p>Please take care that you never switch off the running machine or the PC during the update process. Also the RS232 interface cable must not be disconnected during the update process. Otherwise an irreversible damage of the MCU control board could be caused. Please use COM3 (service port) of the running machine for the firmware update!</p>
---	--

To update the running machine's firmware please proceed as described in the following chart:

Step no.	Screenshot	Activity
[01]		Start para control 4.2 and connect to the running machine. You need to have the green connected LED on the bottom left side of para control 4.2 screen.
[02]		To start the firmware update enter „Device⇒Firmware update“
[03]		The „Flash update“ window opens.  Click on „Browse“.
[04]		Navigate to the directory of the “bin-file” of the firmware. Example: your CD / DVD drive  Double-click on the “.bin-file”. Example: your CD / DVD drive: 20071205_cos16600-v1.02.2_mcu5_firmware_hp_mcu.1.02.2.0027.HPTM.BIN
[05]		To start the update you need an individual update key for your treadmill. Please request this from h/p/cosmos. Then click on "Program".

<p>[06]</p>		<p>h/p/cosmos para control 4.2 starts to write the device buffer.</p> <p>Depening on the speed of the interface and coscom this may take between 3 to 8 minutes</p> <p><b>Caution / Warning !</b></p> <p>The treadmill MCU5 electronic device may be damaged when disconnecting interface cable or when switching off the running machine or the PC during the firmware update procedure!</p> <p>Make sure that this process will be completed without any interruption and do not operate any other program on this computer during update process.</p>
<p>[07]</p>		<p>After approximately 3 to 8 minutes h/p/cosmos para control 4.2 starts to program the flash storage.</p>
<p>[08]</p>		<p>When the update was sucessful the left screen appears.</p> <p>Click on „Finish and reconnect“ to get back to the normal para control 4.2 screen.</p> <p>Update process of the running machine’s firmware has been completed successfully. Congratulations!</p>

[6.] Deinstallation

step no.	Screenshot	Action
[01]		<p>Press the Windows key on your keyboard and search for „Add or Remove programs“ .</p>
[02]		<p>In the list that opens, look for the program „h/p/cosmos para control 4.2“. Press the three dots and select „Uninstall“ (Windows 11) or press „Uninstall“ twice (Windows 10).</p>
[03]		<p>Allow the request for permission to make changes to continue.</p>
[04]		<p>Select whether all user-specific files should be deleted.</p>
[05]		<p>The software „h/p/cosmos para control 4.2“ is now being uninstalled.</p>

[7.] **Accessories**

**Overview:**

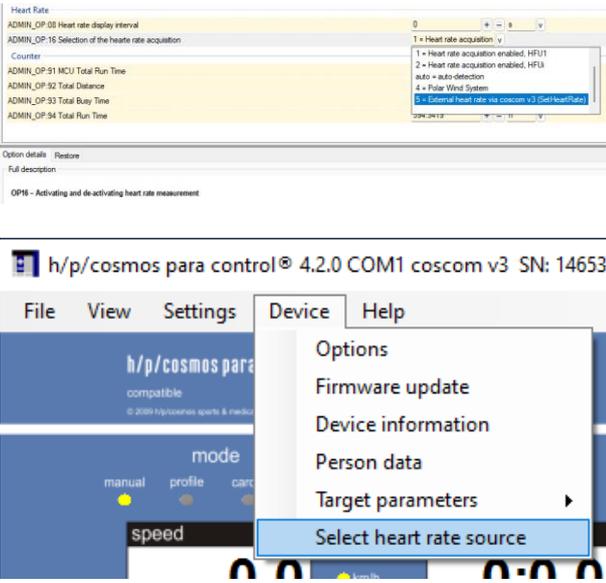
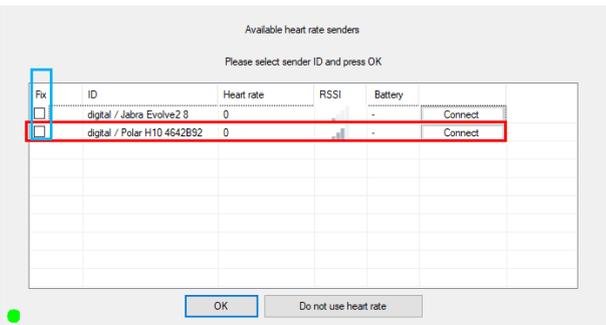
Article number	Accessory	Purpose	Information
cos00097010034	Interface connection cable RS232 5m	Connection	Included
cos00097010035	Interface connection cable RS232 10m	Connection	Optional
cos12769-01	USB-RS232 converter	Connection	Optional
cos00098010025	COM 2 interface RS232	Connection	Optional
cos16487	COM 3 interface RS232	Connection	Optional
cos16488	COM 4 interface RS232	Connection	Optional
cos101000_BT	Heart rate measurement Bluetooth	Heart rate measurement	Optional

[7.A] **cos101000\_BT - Heart rate measurement via Bluetooth**

**Needed materials:**

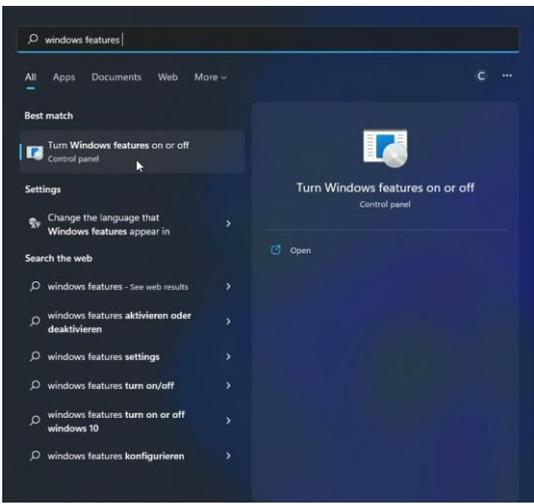
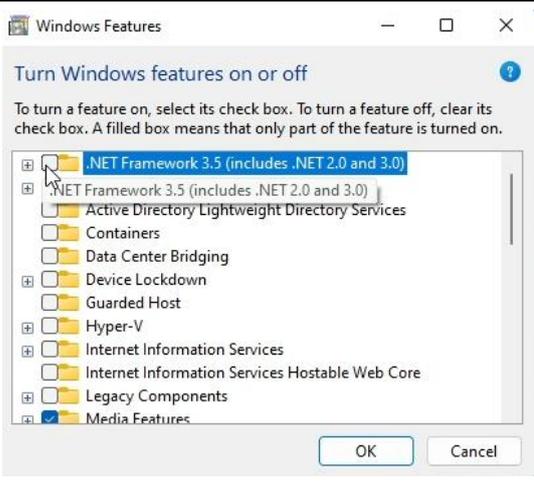
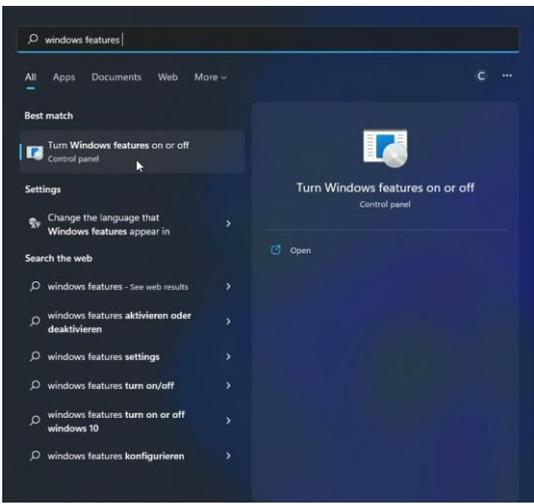
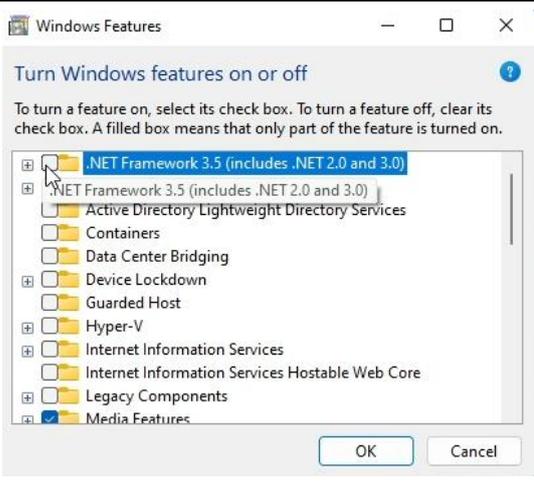
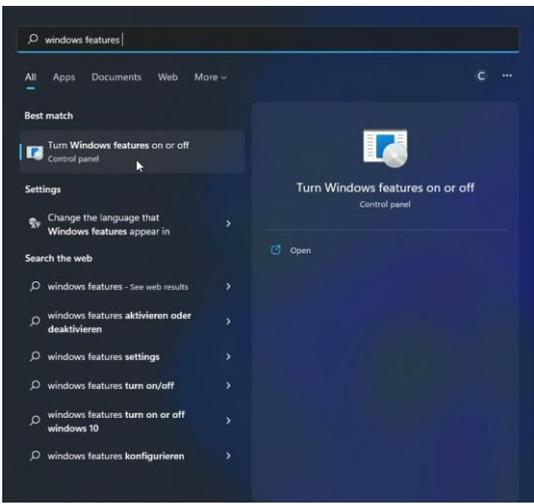
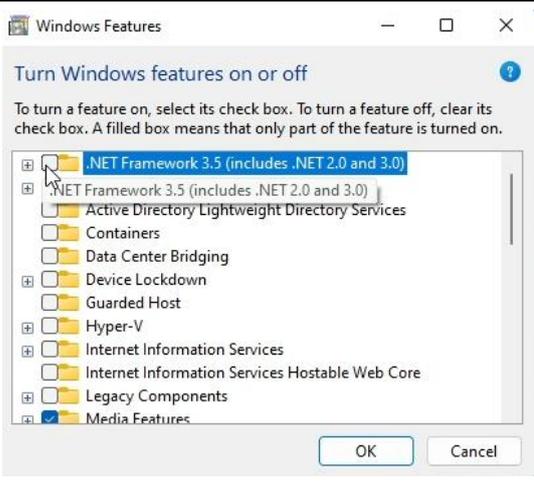
Item	Discription	Image
cos103625	USB Bluetooth Stick	
<b>Optional heart rate sensor:</b>		
cos101787	POLAR HeartRateSensor H7 Bluetooth Smart	
cos101787-01	POLAR HeartRateSensor Set H10	
cos101787_OH1	POLAR Heart Rate Monitor Set OH1 arm belt	

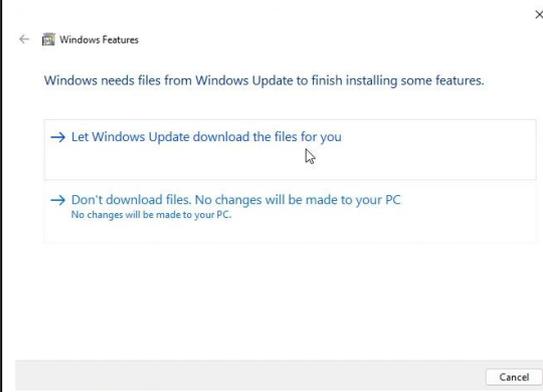
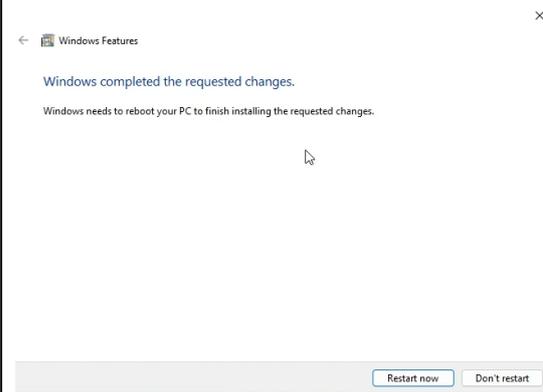
**Wiring:**

Step no.	Screenshot	Activity
[01]		Save all options as a backup before installing the new software. Install the latest versions of software and firmware. After installation plug in the USB Bluetooth stick cos103625 into a free USB slot of the Touch PC or PC.
[02]		Set "Admin OP 16" to 5 – coscom v3. The heart rate source is selectable: device -> Select heart rate source
[03]		Select the <b>heartrate transmitter</b> (H7, H10 or OH1) and press "connect". Select the "Fix" checkbox to assign the transmitter permanently.

[8.] Connection problems

Problem	Solution
No connection via RS232 (wrong cable)	For connection to PC with h/p/cosmos software and most external devices use the included RS232 interface connection cable [cos00097010034].
No connection via RS232 (cable defect)	Check cable and plugs for defects. Replace defective cable.
No connection via RS232 (wrong COM port)	Do not use COM3 on the device (see "connection of external devices / interfaces")
No connection via RS232 (wrong settings)	Choose correct interface protocol on device (it must be OPTION 20 -> 1 for coscom protocol) Choose correct interface protocol on periphery. Check installation of peripheral software.

	(see chapter <a href="#">How to connect the PC to the running machine</a> )										
No connection via RS232 (blocked COM port)	Restart peripheral software. Restart peripheral device										
No connection via RS232 (wrong driver)	Check if USB-RS232 adapter / dongle driver is correctly installed in control panel hardware										
No connection via RS232 (superposition)	Another PC program is using the COM-port of the PC (e.g. COM1). Exit all other programs on the PC and start only h/p/cosmos para control 4.2										
No connection via RS232 (Serial interface port RS232 defective)	Please contact your h/p/cosmos dealer.										
Acceleration via external device too slow	Check max. acceleration and deceleration level via RS232 ("User Options" OP29)										
<b>Para control 4.2 does not work because .NET Framework 2.0 is not enabled</b>	Activating .Net Framework 2.0:										
	<table border="1"> <thead> <tr> <th>Step No.</th> <th>Screenshot</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>[01]</td> <td></td> <td>Search for „windows features“ and choose „Turn Windows features on or off“.</td> </tr> <tr> <td>[02]</td> <td></td> <td>Check „.NET Framework 3.5“ to enable .NET Framework 2.0 and press „OK“.</td> </tr> </tbody> </table>	Step No.	Screenshot	Action	[01]		Search for „windows features“ and choose „Turn Windows features on or off“.	[02]		Check „.NET Framework 3.5“ to enable .NET Framework 2.0 and press „OK“.	
	Step No.	Screenshot	Action								
[01]		Search for „windows features“ and choose „Turn Windows features on or off“.									
[02]		Check „.NET Framework 3.5“ to enable .NET Framework 2.0 and press „OK“.									

	<p>[03]</p> 	<p>Select „Let Windows Update download the files for you“.</p>
	<p>[04]</p> 	<p>Click „restart now“ to complete the process and activate .NET Framework 2.0. The software should now work.</p>
<p>Any other problem</p>	<p>Unplug device, exclude reconnection, mark clearly and inform h/p/cosmos service personnel via telephone and writing.</p>	

We suggest **not** to change the physical connection to the interface port of the computer any more after the first installation.

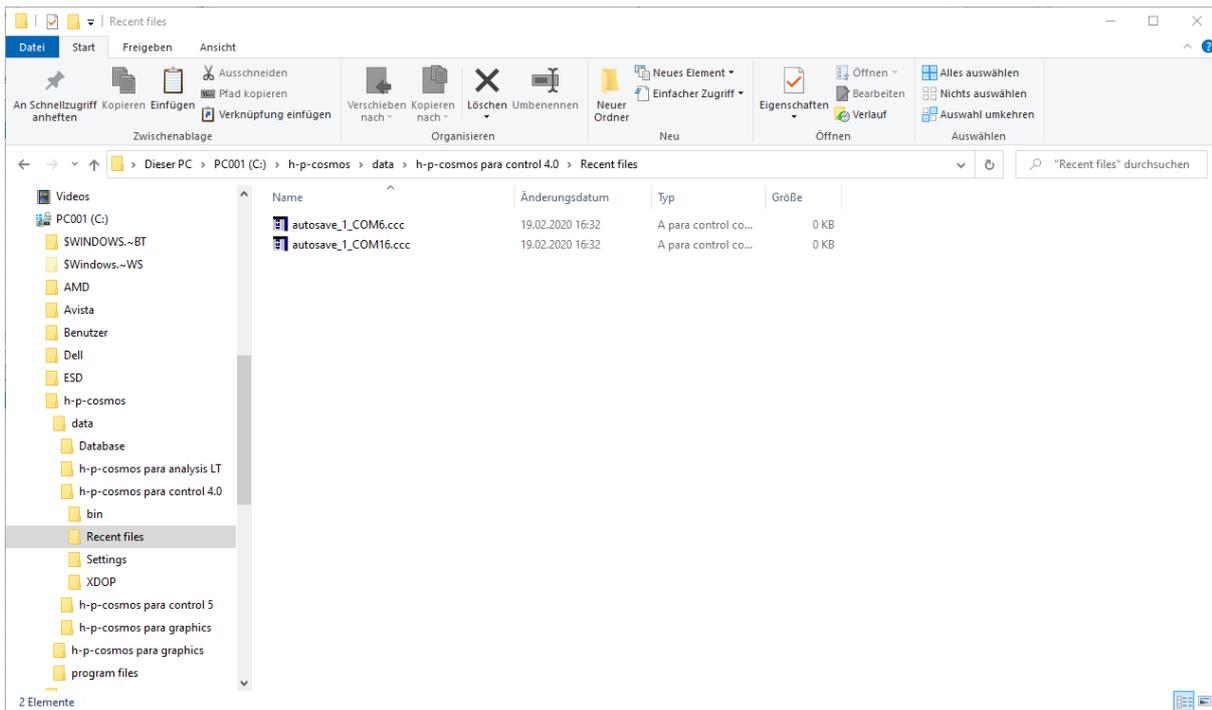
In case the USB port has been changed (physically through plug in to another interface port or automatically through Windows, for example after power safe mode or restart) or in case of a software crash or a crash of the computer's operating system (Windows) it may occur that the assignment in the h/p/cosmos para control software for the USB is not correct any more.

If the manual search for the treadmill and the manual assignment of the interface port in the software menu of h/p/cosmos para control also fails, then proceed as following:

- a) close h/p/cosmos para control software
- b) delete all autosave files from the folder:

C:\h-p-cosmos\data\h-p-cosmos para control 4.2\Recent files\

Example: delete: autosave\_1\_COM6.ccc and autosave\_1\_COM16.ccc

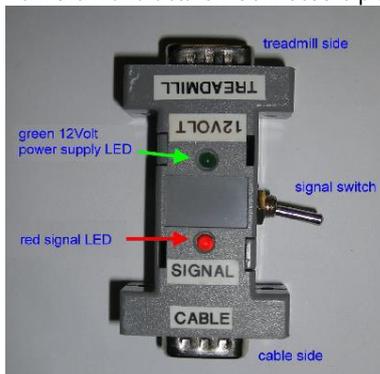


After deleting all the autosave files re-start h/p/cosmos para control and re-establish the interface connection to the treadmill with the autosearch function.

After successful connection one new autosave file will be generated automatically by h/p/cosmos para control software in this folder.

#### [8.A1] Testing of the RS232 interface

- Loop-Back Test: For testing the RS232 of the running machine a special RS232 test plug including testing instruction is available from the manufacturer. Connect the plug to the RS232 port and adjust OPTION 20 = 10



Tester for RS232 interface + cable [cos13601]

- A blinking code and the instruction will tell you if input and output of the RS232 are working well.

## [9.] Contact

For any service or sales enquiries, please have the model type and serial number of your device ready. For service support, we recommend using Skype with webcam.

### Service & Sales

h/p/cosmos sports & medical gmbh  
Am Sportplatz 8  
DE 83365 Nussdorf-Traunstein, Germany  
phone +49 86 69 86 42 1025  
fax +49 86 69 86 42 49  
email [service@hpcosmos.com](mailto:service@hpcosmos.com)  
Skype [@hpcosmos.com](https://www.skype.com/name/@hpcosmos.com) (search & select name)

### Manufacturer:

h/p/cosmos sports & medical gmbh  
Am Sportplatz 8  
DE 83365 Nussdorf-Traunstein, Germany  
phone +49 86 69 86 42 0  
fax +49 86 69 86 42 49  
email [email@hpcosmos.com](mailto:email@hpcosmos.com)  
web [www.hpcosmos.com](http://www.hpcosmos.com)  
EUDAMED SRN: DE-MF-000006147

