

4430

Remote Control System



Installation, operation and service instructions

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Important notice

- Please read the instruction manual carefully.
- Make sure to observe all the warnings.
- Do not expose the unit to water or humidity.
- Clean the unit by wiping carefully with a dry cloth.
- Observe the installation instructions.
- Only use accessories, which have been recommended by Wallas-Marin Oy.
- Do not open the unit or try to repair it when any malfunction occurs. All repairs must be performed by an authorised service provider. Additional information is available from the equipment dealer.



DO NOT expose the unit to water or keep it in a humid room. Water and other liquids can cause malfunctions. The warranty does not cover such damages. The unit is intended for use indoors, and in a dry environment.



Do not open the unit in the case of a malfunction. This will invalidate the warranty.



The unit is remote-controlled and functions in a GSM and GPRS network. The unit can be used if it is installed in an area with GSM network coverage.

Package contents

4430	
1 pcs	GSM/GPRS remote control
1 pcs	GSM/GPRS remote control aerial
1 pcs	Connection cable
1 pcs	Mounting bracket, black
1 pcs	Accessory bag
2 pcs	Fastening screw 4,2 x 13
1 pcs	Installation, operation and maintenance instructions

Introduction

The remote starter **4430** is intended for communicating data through a GPRS network. The unit is intended for remote controlling of heating devices. The unit can be used for starting and stopping the heater, for adjusting thermostat settings (temperature), and for monitoring accumulator voltage and the temperature of the premises being heated. Typical areas of application are ON/OFF switching of boat and cottage heaters, and controlling of temperature and operating voltage. The unit is controlled remotely by a PC via the most generally used web browsers, or by smart phones. In an area with the GPRS network coverage the unit can also be controlled by text messages in a GSM network.

Operating

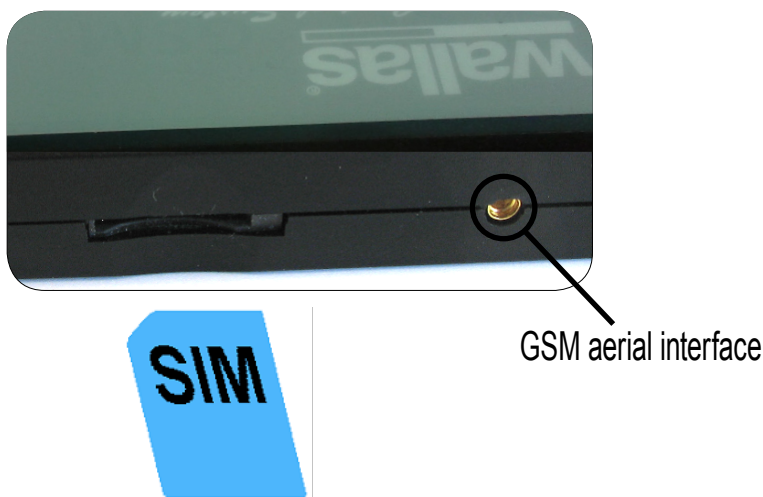
The unit is controlled by a web browser programme (GPRS), or by text messages (GSM). Controlling of the heater on a web browser the heater takes place in the same way as in the control panel of the heater. In addition to signal lamps the virtual panel on the browser displays the accumulator voltage and the room temperature (°C / F). By enquiring status data outside the GPRS network information about all settings are communicated in a clear text message. The return text message is in English.

In order to communicate data the remote starter requires at least GSM network coverage. If the network coverage is poor we recommend using an external aerial. The strength of the signal is displayed by the LED lights of the remote starter. Green light means good signal, red lights means poor signal, and if there is no signal the light is off. The LED light flashes once every ca 7 seconds. If a text command is received the LED light stays green for 1–2 seconds.

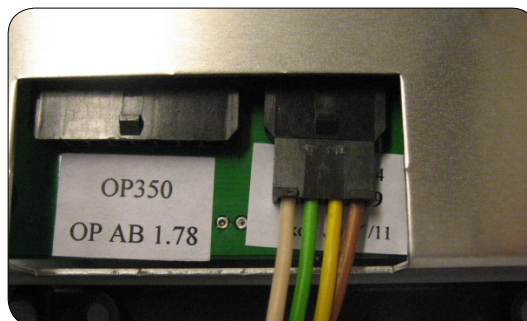
Technical information

Type	300-8011V16
GSM / GPRS modem	Four frequency GSM / GPRS modem (850, 900, 1800 and 1900 MHz)
Power	Class 4 (2 W), 850 / 900 MHz Class 1 (1 W), 1800 / 1900 MHz
SIM card	push/push type
Case	IP class: IP20
Aerial	GSM with a direct MMCX connector
Operating voltage	7.5 -15.0 V DC At least 1 A, operating output at least 1 W
Power consumption	Average: 20 mA, 12 V DC Relays: Each for 32 mA, 12 V DC
Relay	5 A, 50 V
Measurements	20 x 106 x 60 mm
Weight	80 g
Operating temperature	-20 - +40 °C
Maintenance temperature	-30 - +50 °C
Humidity	< 93 % RH

1. Switch off the main power from the heater (disconnect the accumulator cable)
2. On web page remote.wallas.fi check that the SIM card operator is included in the tested operator list.
3. Check that the PIN code request of the SIM card is disabled. If necessary, disable it.
4. Install the SIM card in the remote control

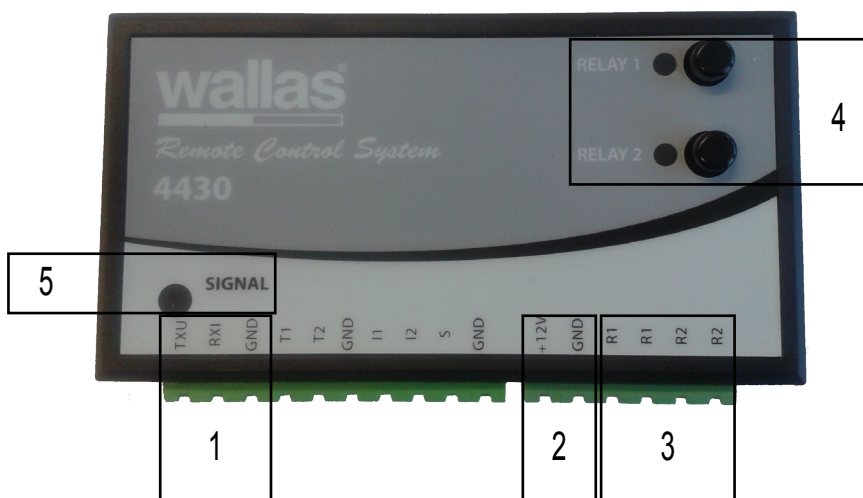


5. Connect the remote control to the heater's operating switch



6. Install and connect the aerial
7. Switch of the heater's main power
8. Ensure that the green LED light starts flashing with 7 sec intervals
9. Register as a user on the web page remote.wallas.fi by using the instructions on the screen
10. Save the control page as a bookmark (ask to confirm your password), this facilitates the use of the remote control

General information



- 1) Data communication serial port
- 2) Power supply input (heaters **1800 t** and **2400 t**)
- 3) Relay output
- 4) Buttons and the LED light relays activation on the spot.
- 5) LED light indicating the GSM signal status.

Subscriptions and SIM cards

All data communication takes place in a GSM/GPRS network. In order to communicate with the unit it is required to install a SIM card in it. The unit accepts SIM cards of different operators, the list of approved/tested operators is available on the web page remote.wallas.fi. Ask the unit dealer for more information concerning suitable SIM cards, since there is a number of different SIM cards available.

Note:

It is advisable to get a monthly charged SIM card with data transmission features for your unit.

If you use prepaid SIM cards do not forget to reload them, when the balance is about to run out. **4430** does not function properly if the SIM card is not used correctly.

Prepare the SIM card

4430 requires the SIM card's PIN code request to be OFF.

Deactivating the PIN code request feature.

1. Install the SIM card in the GSM phone.
2. Activate the phone and enter the PIN code.
3. Go to the security settings of the phone and disable the PIN code request feature. See more detailed instructions in the GSM phone's user manual.

In some SIM cards the PIN code request feature is not activated, which means that the card is ready for use.

Installing the SIM card

1. Make sure that **4430** has not been connected to the operating switch through a cable.
2. Place the card in the position shown on the figure below.



3. Push the SIM card into the card slot. A click indicates that the card has been locked in place.

To remove the SIM card push it inwards and it springs up from the SIM card slot.

Installing the GSM aerial

Try to position the aerial vertically as high as possible.

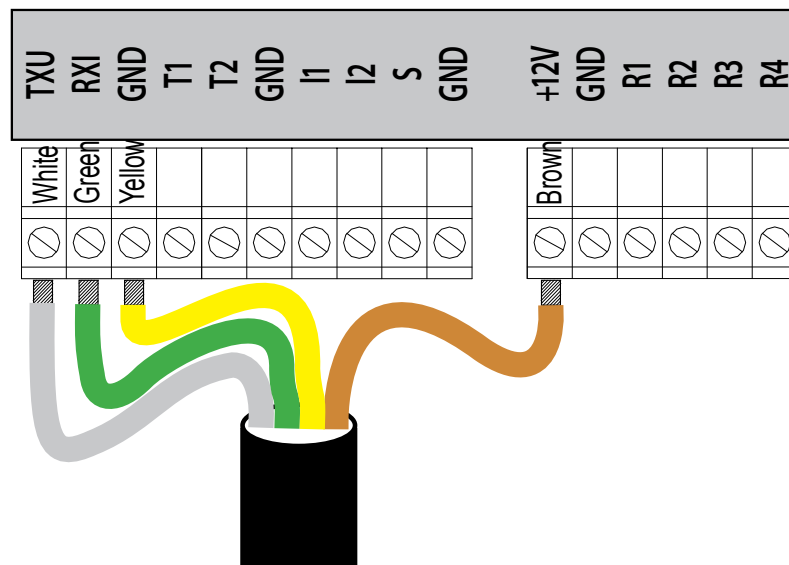
Note that the aerial **MUST NOT** be mounted directly on a metal surface or near metal objects. These can interfere with GSM signals. GSM aeriels covering all the four frequency areas with MMCX connector can be used as aeriels.

Connecting of heaters 22 Dt, 30 Dt, 40 Dt, 26CC and 40CC

The cables are pre-connected to the connectors at the manufacturer's plant.

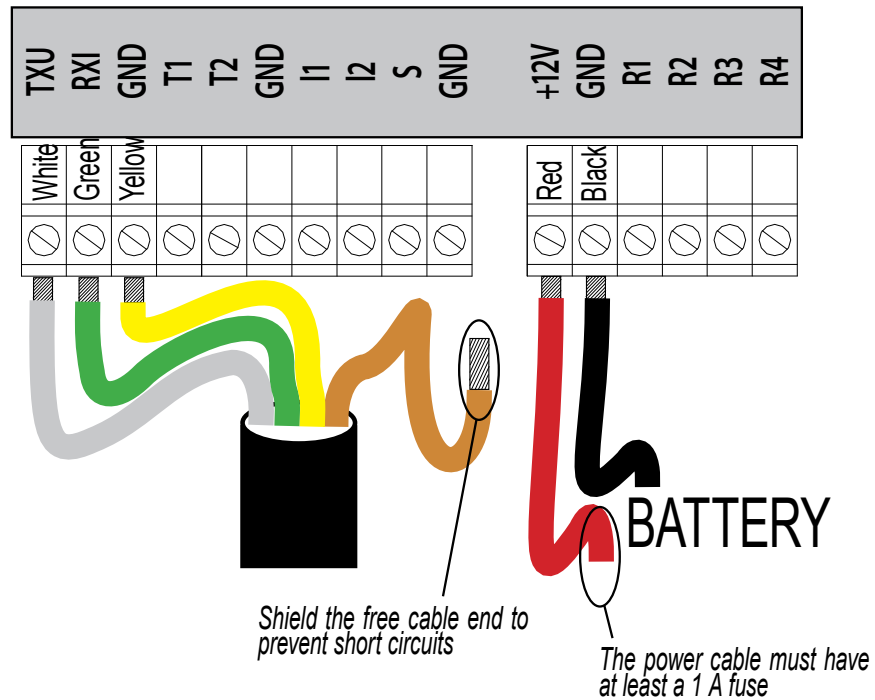
Connect the connectors to the **4430** unit as shown on the figure.

Note that the **4430** unit gets its operating voltage from the heater's control panel, no separate power supply is required.

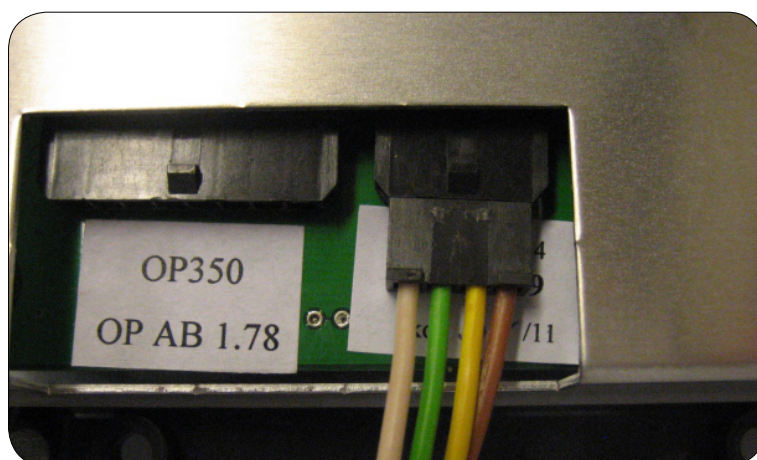


Connecting of heaters 1800 t and 2400 t

With the heaters **1800 t** and **2400 t** the operating switch turns on 8V voltage, which runs the **4430** unit, but the voltage reading on the display is incorrect (8V). It is advisable to take the power for these units directly from the accumulator via a separate fuse, in which case the reading on the display will be correct.



Connecting to the heater’s control panel



Relays

4430 has 2 zero-voltage relays. These can only be controlled by text messages or with two buttons on the equipment. Relay outputs are marked as R1 and R2.

Data input

4430 has 2 data interfaces, TXU and RXI. They are intended only for connecting to an external Wallas equipment using the cable included in the delivery.

Power source

A Wallas heater functions as a power source in the following equipment **22 Dt, 30 Dt, 40 Dt, 26CC** and **40CC**.

When heaters **1800 t** and **2400 t**, are used, it is advisable to connect the **4430** unit directly to the same 12V accumulator, which is used by the heater.



Do not switch the power on (connect the power cable to the heater) before all connections have been made.



When the power is connected to the heater it is prohibited to touch (disconnect or connect) any 4430 connectors.

Preparing for start-up

Starting

After all the connections have been made and the SIM card (with disabled PIN code) has been installed, the **4430** unit may be started.

Switch on the heater's main power / heaters power cable back, and monitor the LED light on the remote control.

- During the starting stage the LED light is red, and after a while its colour turns green and it starts flashing uniformly with 7 second intervals.
- If the SIM card is missing or if the SIM card is faulty, the LED light starts flashing green after a couple of seconds. In this case check the PIN code and ensure that the card is well in its place.
- Errors are signalled by two short repetitive flashes (two flashes – a pause – two flashes ...) (e.g. if the PIN code request has not been disabled).
- A red flashing LED light signals of an error in the self-checking program. Please contact the equipment dealer.

GSM signals

The strength of the GSM signal can be determined by the LED light of the signal. The LED light flashes with the interval of ca 7 seconds.

- A green light means that the signal is good.
- A red light means that the signal is weaker/ poor.
- No light means that there is no signal. In this case the unit cannot be remotely controlled.

In the two latter cases try to move the GSM aerial to improve the signal. One of the options is to purchase an external aerial. GSM aerials covering all the four frequency areas with MMCX connector can be used as aerials.



Boat trips between several countries:

If you intend to take boat trips to more than one country, please check whether the SIM card features are suited for the local operator (Roaming)

Please note that applicable charges differ considerably under different Roaming agreements!

If necessary remove the SIM card from the unit to prevent excessively high charges.

If you intend to stay abroad for a long time, it is advisable to purchase a SIM card of a local operator, if you intend to use the 4430 remote starter.

Remote control via a web browser

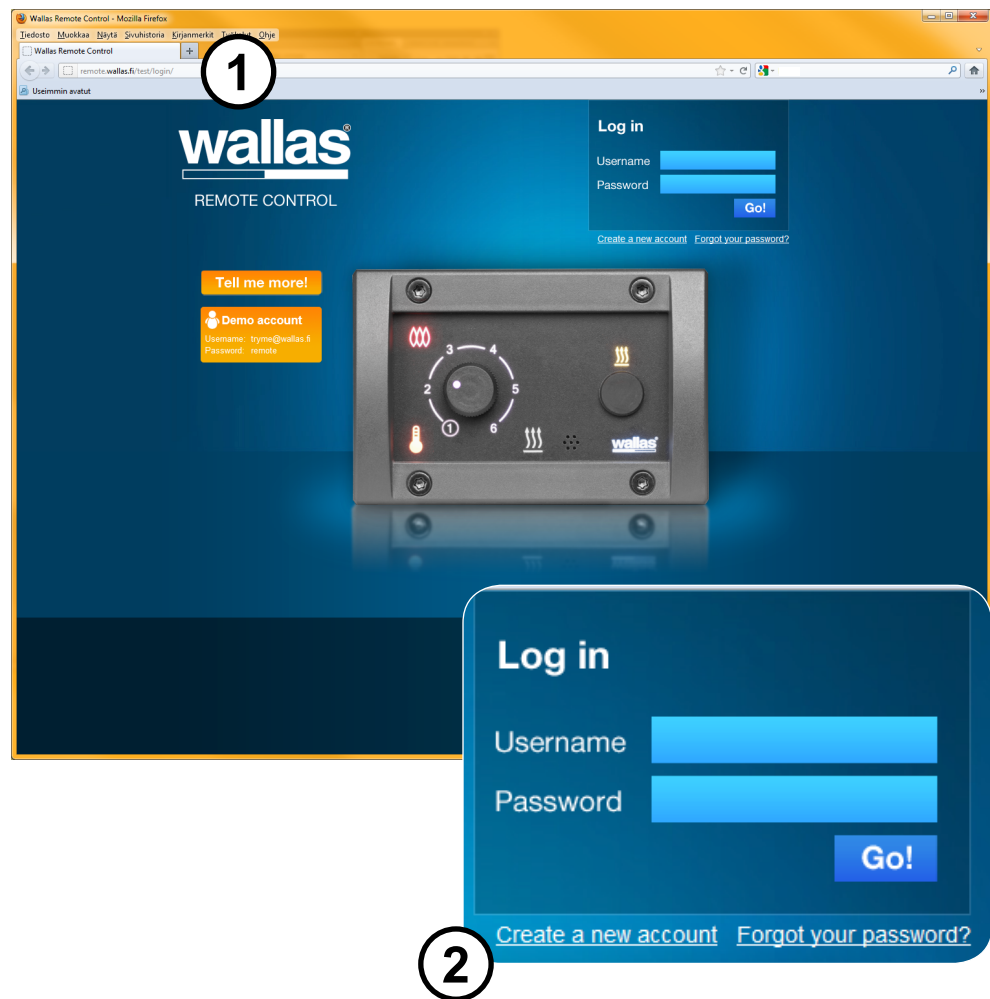
Supported browsers

Internet Explorer (IE), Mozilla Firefox, Safari, Chrome.

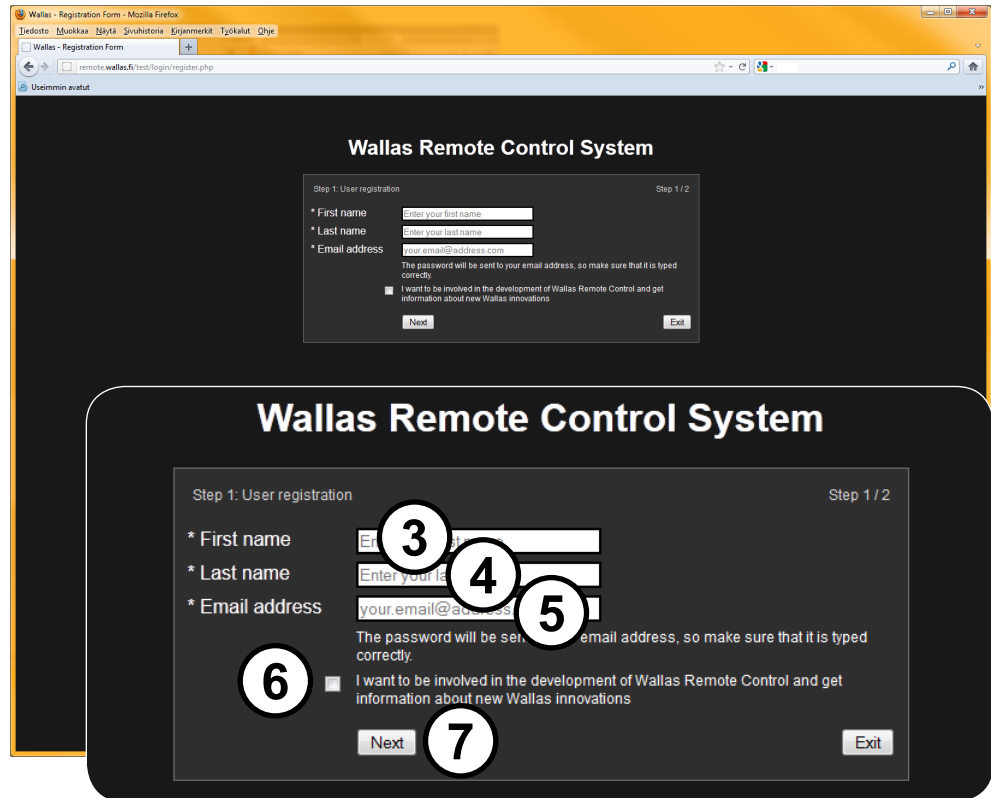
The browser must allow JavaScript and cookies (during the session).

Registration

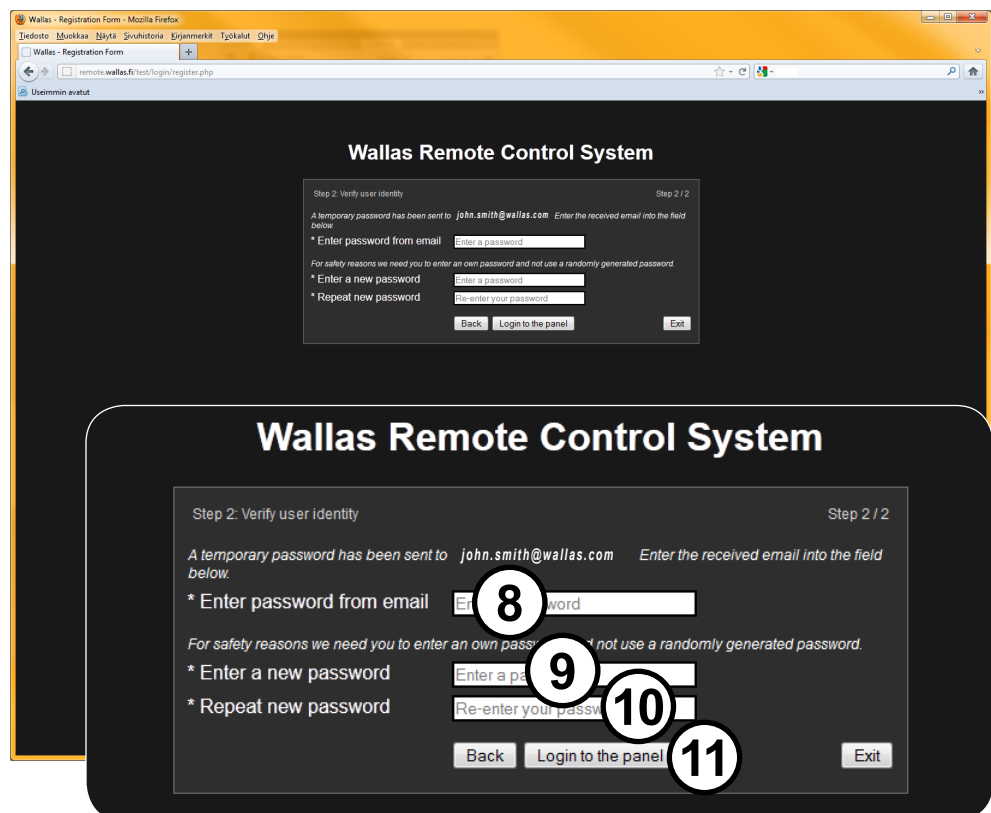
1. Open the web browser at **remote.wallas.fi**.
2. Move the cursor to the link [Create a new account] and click. This opens a new log-in screen.



3. Enter your first name.
4. Enter your last name.
5. Enter your e-mail address (Wallas will send you the password to this address). Two units cannot be registered with one and the same e-mail address.
6. You may uncheck the box "I want to be involved in the development of Wallas Remote Control and get information about new Wallas innovations" if you do not wish to receive any e-mails from Wallas-Marin Oy.
7. Click [Next] to go to the next page.



8. Enter the password received by e-mail here.
9. Enter your new password.
10. Repeat your new password here again.
11. To log in, click [Login to the panel].

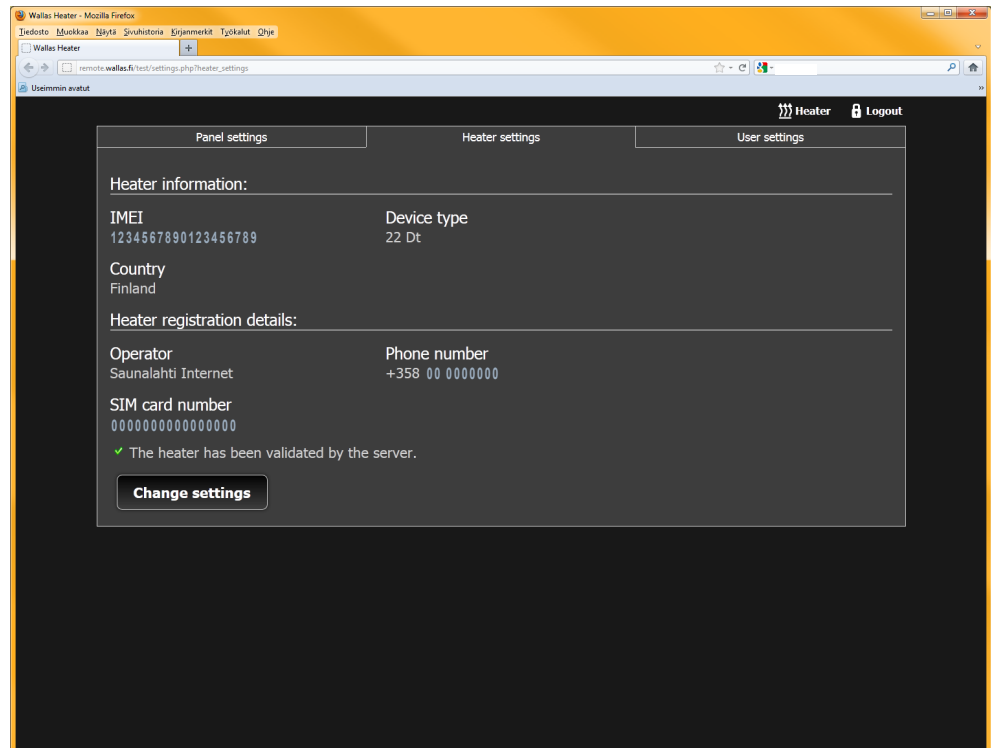
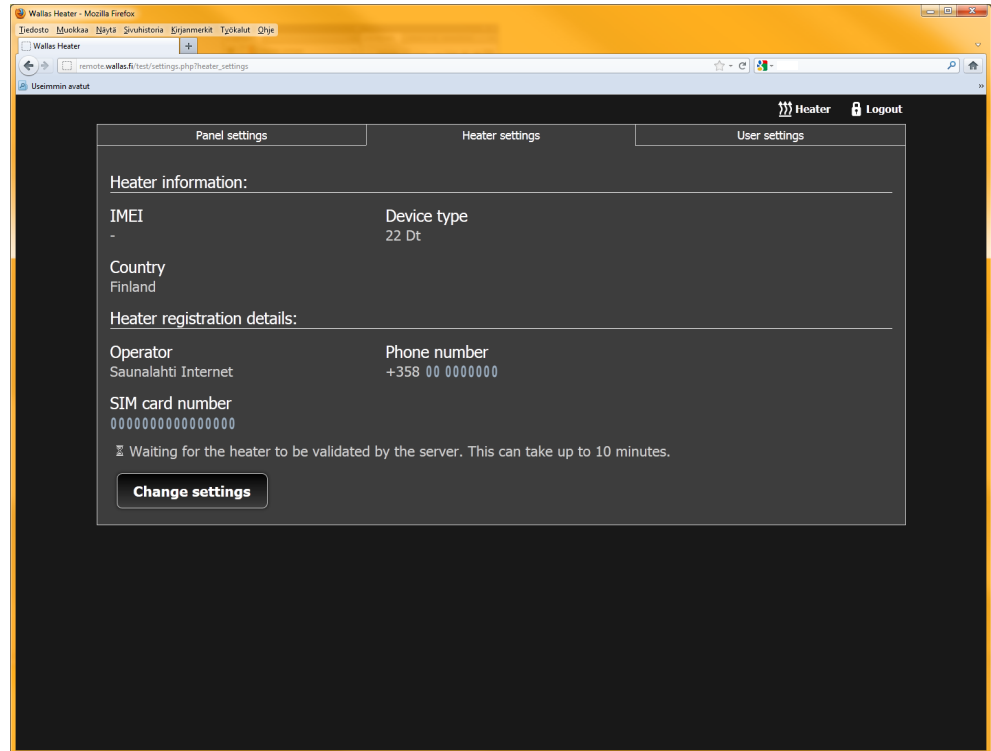


Settings

Heater settings

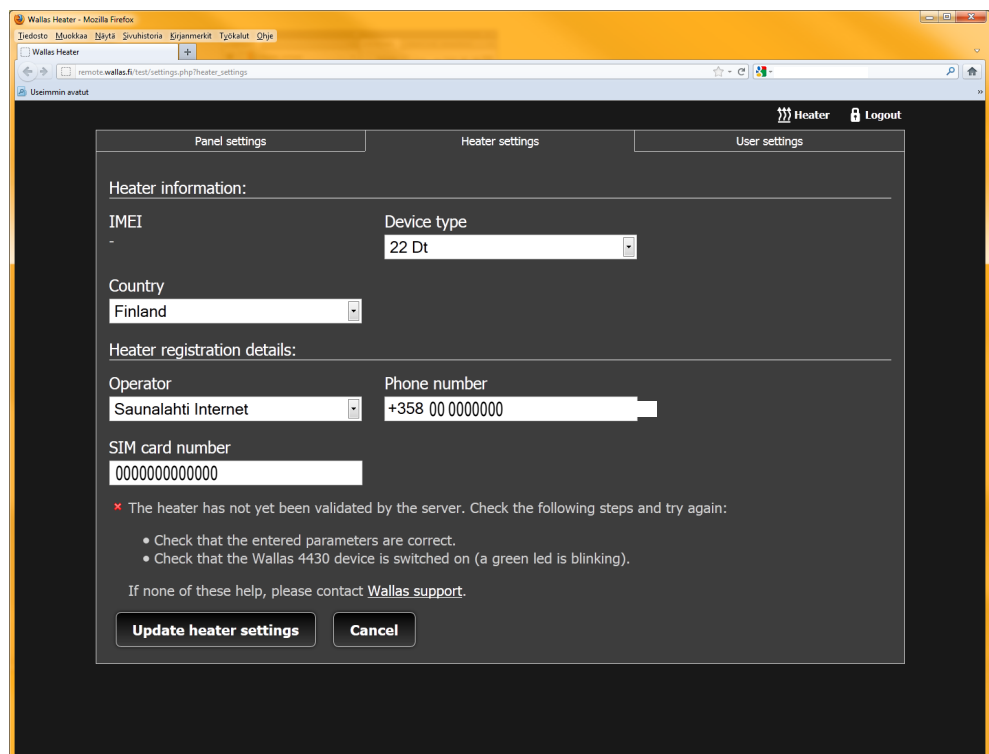
1. Select your heater from the drop-down menu [Device type].
2. Select your country from the drop-down menu
3. Select from the drop-down menu the operator [Operator] whose SIM card you have got for your **4430**. The accepted/ tested operators for the country selected in the previous menu [Country] are displayed in the drop-down menu; choose your own from the options provided. Only SIM cards provided by the operators included in the list are acceptable; the unit will make the appropriate configuration.
4. Enter the phone number for the SIM card in the **4430** unit in the field [Phone number]. The area code for the respective country will be displayed according to the country you selected in Step 2. Note that the first zero (0) of your phone number has to be omitted (e.g. +358441234567, not +3580441234567)
5. Enter the SIM card number in the **4430** unit in the field [SIM card number]. (The number can be found on the SIM card and it consists of at least 12 digits.)
6. Click the [Update heater setting] button to configure the equipment.

Equipment validation takes a couple of minutes; an acceptance message will be sent to your e-mail, and a green ✓ symbol is displayed on the screen; furthermore, the IMEI code of the registered equipment is displayed on the settings page.



If the validation was not successful, a red ✘ symbol is displayed on the screen. Check whether you have entered the correct SIM card number, telephone number, and have selected the correct operator, also ensure that the 4430 unit has been connected and a green LED is flashing with an interval of 7 seconds. After verification click the [Update heater setting] button again to configure the equipment.

If the GPRS signal is weak or the traffic of the operator is overcrowded registration can take a while. Wait calmly for registration, it can take even hours before the unit is validated and you will receive a successful registration message to your e-mail. Registration will continue even if you shut the browser on your computer.



Registered users can change the operator and SIM card data in the [Heater Settings] tab. After having entered the new information click the [Update heater setting] button again to configure the equipment.



Wait calmly for registration, it can take even hours before the unit is validated and you will receive a successful registration message to your e-mail.

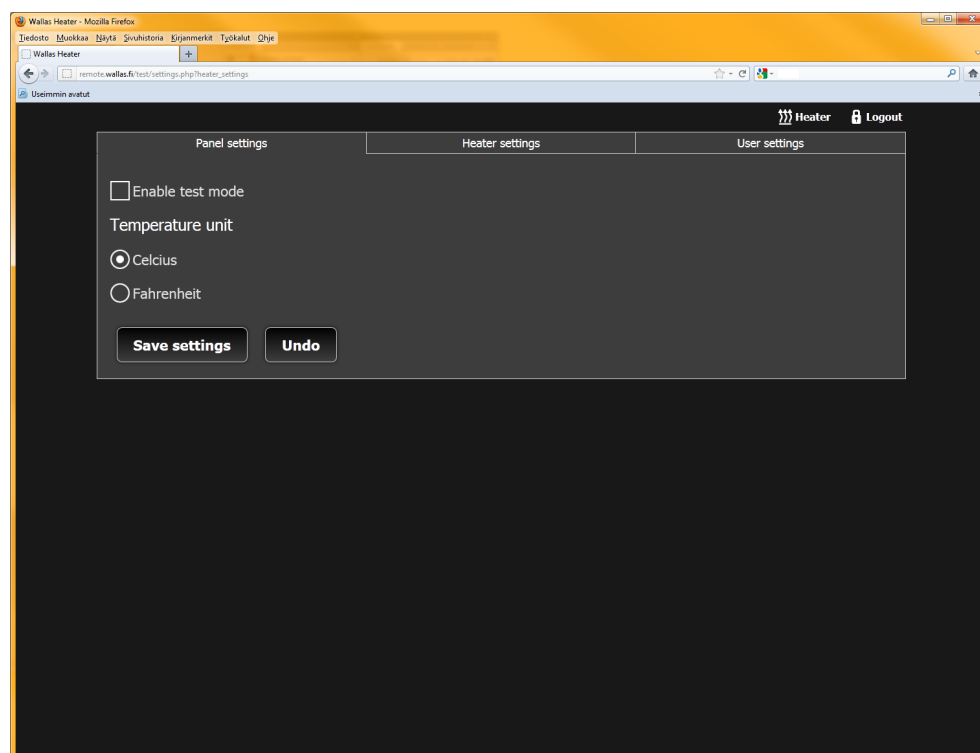
Panel settings

On the Panel settings tab you can practice/ display the functioning of the control panel in the test mode by checking the box [Enable test mode] and pressing [Save settings].

In the test mode commands are not sent to the actual device, but instead the functions of the unit are displayed in an accelerated cycle.

When the test mode is activated the control panel displays a warning “Test mode”.

The temperature unit displayed on the panel (Celsius /Fahrenheit) can be changed here. After having made the selection save the setting by pressing [Save settings].



User settings

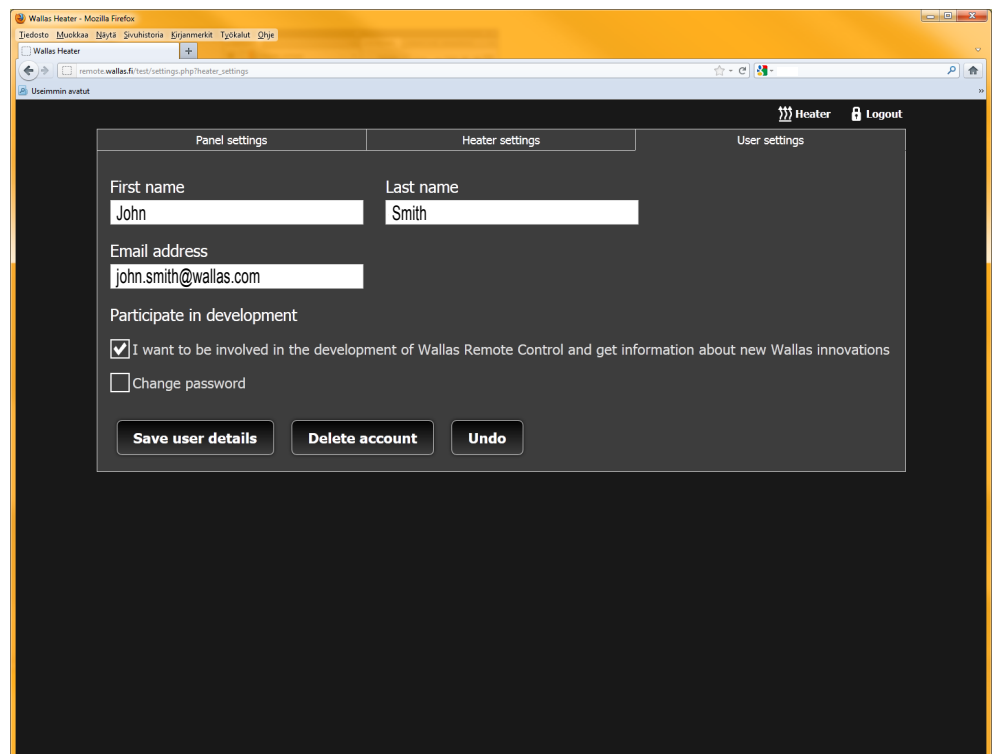
The User settings tab gives you access to modifying user data.

- Change the first name
- Change the surname
- Change the e-mail address (two units cannot be registered with one and the same e-mail address). To change the e-mail address it is first necessary to delete the account by pressing [Delete account]; after this you have to complete the entire registration process once again.
- Change the password
- Add and remove the Get information option
- Delete the account (two units cannot be registered with one and the same e-mail address).

After having made the changes save the setting by pressing [Save user details].



If you sell the boat/ unit, do not forget to deregister the unit [Delete account]. Show the new owner how to re-register as a user of the service.



Use

You can access the control panel via the link [Heater] in the top right corner.

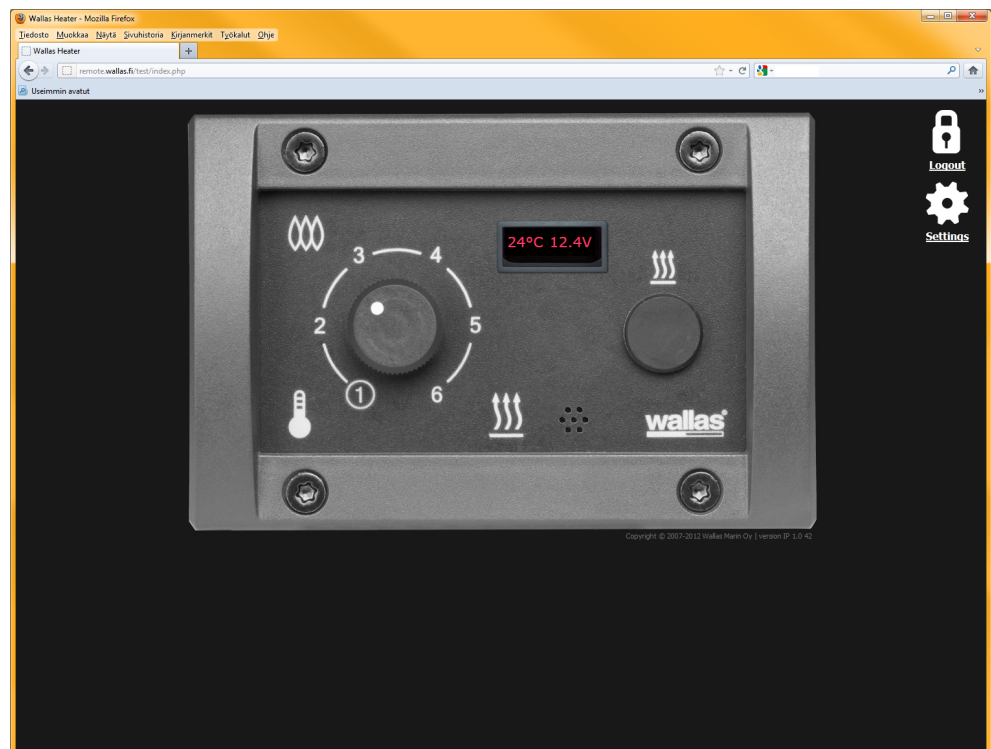
If you have not been adjusting the heater within one hour (1h) the browser logs the user out. When you log in again, the browser will read the current status of the heater.

The control panel functions the same way as the control panel on the equipment itself. You can start or stop the heater, and adjust the set temperature of the thermostat.

The control panel displays the temperature of the room being heated and the voltage supplied to the heater (updating every 20 second).

The display also shows statistics affecting the functioning of the equipment:

- when you connect to the equipment – Connecting
- when you adjust the thermostat set temperature – Set XX °C
- during the starting process – Starting
- during the stopping process – Stopping
- during the cooling process – Cooling
- if the remote control **4430** is not connected to the Wallas server – 4430 Disconnected
- if there are problems with connecting to the Wallas heater – Heater disconnected
- if there are problems with connecting to the browser – Network missing
- if the voltage is low – Low battery
- when the unit is in the locked state – Locked
- if the flame has gone out – Missing flame
- in the case a problem occurs – Fault



Starting and stopping the heater

During the heater starting or stopping process a dialog box appears where you can confirm the selection [YES] [NO]. Furthermore, it also contains a notice, warning that in the case there is a closable exhaust lead-through it is open before the heater is started.

Adjusting heater temperature

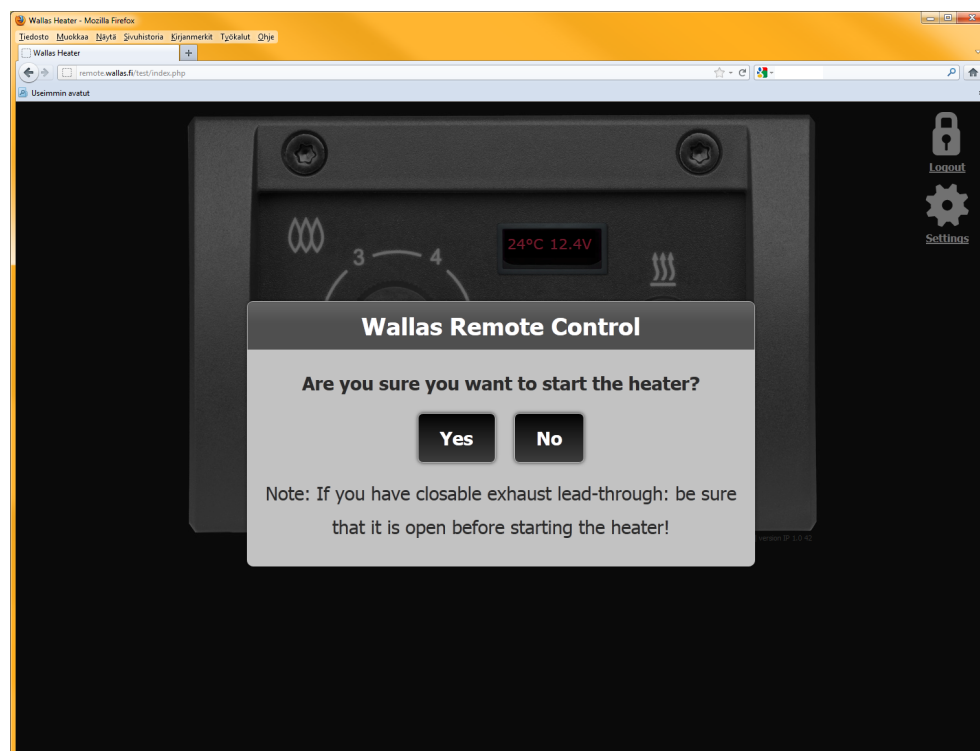
There are two different options for adjusting the heater temperature, depending on the operating system of your touch-screen phone.

Adjustment option 1:

To adjust the temperature, move the cursor of the mouse or, if you have a touch-screen, your finger to the control panel adjustment button. By turning the button the desired temperature is displayed on the screen; to confirm the temperature move the cursor or the finger away from the button. The set temperature is flashing on the screen. The set temperature is shown by the position of the button; the actual measured temperature is displayed on the text display.

Adjustment option 2:

To adjust the temperature touch/ tap with your finger or the mouse cursor on the position of the power controller where you wish the controller to move. The controller will leap to the selected position and the temperature being set is flashing on the screen. The set temperature is shown by the position of the button, the actual measured temperature is displayed on the text display.



Remote control by text messages

The **4430** unit can be controlled remotely by sending text messages to the unit. This can be done by a normal GSM phone.

The unit has a number of commands for guiding the process. Each command is different and contains a letter, which assigns a property to the text message. In addition to letters, numbers 1 and 0 are used as abbreviations for the ON/OFF function. The setting can vary, but they are explained in this section.

Note that one text message can contain a combination of several commands.

General preconditions for sending a text message:

- Use the GSM phone and write your text message.
- Start the text message with the default code 1234, and then write the command.
- Send the message to the telephone number assigned to the SIM card of the **4430** unit.

Controls

S Status message.
W Wallas heater control.

NOTE:

Spaces are permitted between commands, but PROHIBITED in the middle of a command.

"1234 W1 S4" is CORRECT, "1234 W 1 S 4" is INCORRECT.

Control commands

"W" – Wallas heater control

Text message commands

S4 Status command
W0 Turn the Wallas heater off (stop)
W1 Turn the Wallas heater on (start)
W2xx Set the Wallas heater temperature.

Note:

The W2 command must be sent AFTER the W0 or W1 command.

W2 can be programmed within the range of +5 – +35°C. Note that the character + does not have to be used for controlling a Wallas.

Example:

"1234 W230" means that the temperature of Wallas is 30°C.

It takes 15 seconds from the moment of entering the command to update the S4 data. Therefore it is recommended that the ON/OFF OFF/TEMPERATURE commands are sent separately with an interval of at least 15 seconds.

Other commands

“S” status

This command provides an overview of the status of the **4430** unit. The **4430** unit sends the status data as a text message to the GSM phone of the person sending the enquiry.

An example of the data received in response to the “1234 S4” command:

Response text message:

Wallas: Heater is off.	The heater has been stopped
Local control.	The heater has been adjusted with the equipment control switch.
Set temp:16C	The user-set temperature is 16°C
Read temp:25C	The measured temperature of the room is 25°C
Volt:12.0V	The voltage is 12.0 V
GSM12A+ V3.4	Remote starter's software version

Connections for a Wallas heater

TXU	Data to Wallas	10 pin connector
RXI	Data from Wallas	10 pin connector
GND	Wallas Data grounding	10 pin connector
T1	Temperature signal input	10 pin connector
T2	Temperature signal 2 input	10 pin connector
GND	Normal grounding	10 pin connector
I1	Input 1	10 pin connector
I2	Input 2	10 pin connector
S	Signal	10 pin connector
GND	Grounding	10 pin connector
+12V	Output 7 – 15 VDC	6 pin connector
GND	Grounding	6 pin connector
R1	Relay 1	6 pin connector
R1	Relay 1	6 pin connector
R2	Relay 2	6 pin connector
R2	Relay 2	6 pin connector

4430 takes power from the Wallas heater's control panel

Frequently Asked Questions

No signal LED:

- Check whether the power source is connected correctly
- Check the accumulator charge
- Check the GSM signal
- Check the aerial connection

The green LED flashes with short intervals:

- Check whether the SIM card is in place
- Check if the PIN code has been disabled
- Check whether the SIM card is valid

The LED colour is red:

- Wait for 2 – 3 seconds for the unit to automatically restart.
- If it stays on, try to restart the **4430** unit by disconnecting the power source for 10 seconds.
- Please contact the equipment dealer.

Resetting the factory settings (Reset)

It is possible to restore the factory settings.

Proceed as follows:

- Disconnect the power source.
- Press the button "RELAY1" and keep it down.
- Connect the unit to the power source and keep the button down for at least 10 seconds.
- Release the button.
- The factory settings have now been restored.

In order to control the unit remotely via web browsers you will have to restart the unit for a GPRS link (after resetting).

Proceed as follows:

- Log in using your passwords at remote.wallas.fi
- Choose the tab "Heater settings"
- Press the button [Update heater settings]
- Validation of the unit takes a couple of minutes; after the validation you will receive a confirmation to your e-mail and a green ✓ symbol is displayed on the screen.
- The unit is now ready for use.

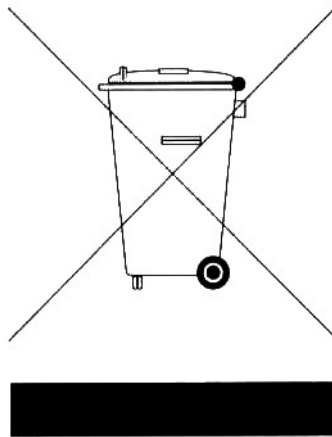
Maintenance

The unit does not require special maintenance measures. The following will support trouble-free functioning of the unit.

- Do not expose the unit to water or humidity.
- Clean the unit by wiping carefully with a dry cloth.
- Do not open the unit or try to fix it when any malfunction occurs. All repairs must be repaired by an authorised service provider. Additional information is available from the equipment dealer.

Waste Electrical and Electronic Equipment

Waste Electrical and Electronic Equipment (WEEE) Symbol



The waste electrical and electronic equipment (WEEE) symbol

The **4430** unit is covered by WEEE. The EU Waste Electrical and Electronic Equipment Directive (the WEEE directive) regulates matters concerning electrical and electronic equipment waste. It lays down the objectives for collection, recycling and recovery of various electronic equipment.

Therefore, all users of **4430** units, from public institutions to private households, have to return the **4430** unit to a designated waste electrical and electronic equipment collection point. Additional information is available from the equipment dealer.

Wallas-Marin Oy provides this publication “as is”, without any guarantees, whether explicit or implied, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. Wallas-Marin Oy retains the right to amend this publication, and modify its content from time to time, without any obligation of Wallas-Marin Oy or its local representative to give notice of such amendment or modification. Some jurisdictions do not allow the disclaimer of implied or incidental warranties in certain fields of business, so the disclaimer of implied warranties above may not apply to you.

Limited Warranty

Wallas-Mari Oy warrants that the **4430** unit substantially complies with the published specifications and documentation, provided that it is used for its intended purpose. Wallas-Marin Oy replaces or repairs any faulty systems within twenty four (24) months following the date of purchase, if the fault is caused by a manufacturing defect. The warranty only applies to the **4430** unit, not any incidental expenses or expenses borne for removal or installation of the repaired unit. Under no circumstances shall Wallas-Marin Oy, or its local representative be liable for any direct, indirect, accidental or incidental losses stemming from the use of or inability to use the **4430** unit, even if a notice had been given of such possible loss. Wallas-Marin Oy, or its local representatives are not responsible for any expenses, lost profit, lost data or claims of third parties, which are caused by the use of or inability to use the **4430** unit.

Wallas-Marin Oy, or its local representatives will not commit to any other warranties concerning a **4430** unit, other than the warranties set forth herein. Some jurisdictions do not allow the disclaimer of implied or incidental warranties in certain fields of business, so the disclaimer of implied warranties above may not apply to you.

The warranty shall not be effective in the following cases:

- Damages caused by an accident, unauthorised use or lack of maintenance.
- Damages caused by overvoltage resulting by lightning.
- Damages caused by water or fire.
- Repairs performed by an unauthorised person.
- The serial number is removed or altered.
- Incorrect installation.
- External sources generating an electromagnetic field, which interfere with the functioning of the 4430 unit.

For more details about the warranty please contact the equipment dealer.

