THERMOMATIC EC HOME®

Installation and User Guide, version 1.0

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THERMOMATIC®

by Termoventiler AB

ECHOME_Manual_E.indd
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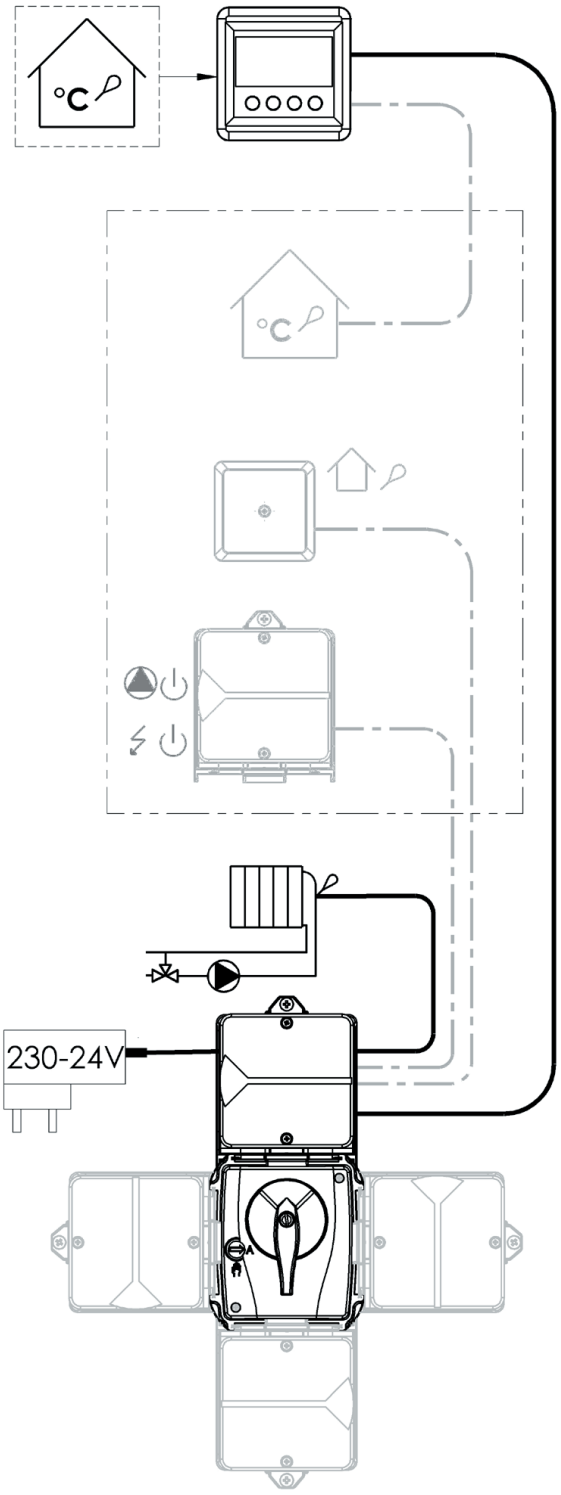
1. List of included components and extras



Control panel/room sensor (CP)

Extra: *Passive room sensor*

Extra: *Outdoor sensor*

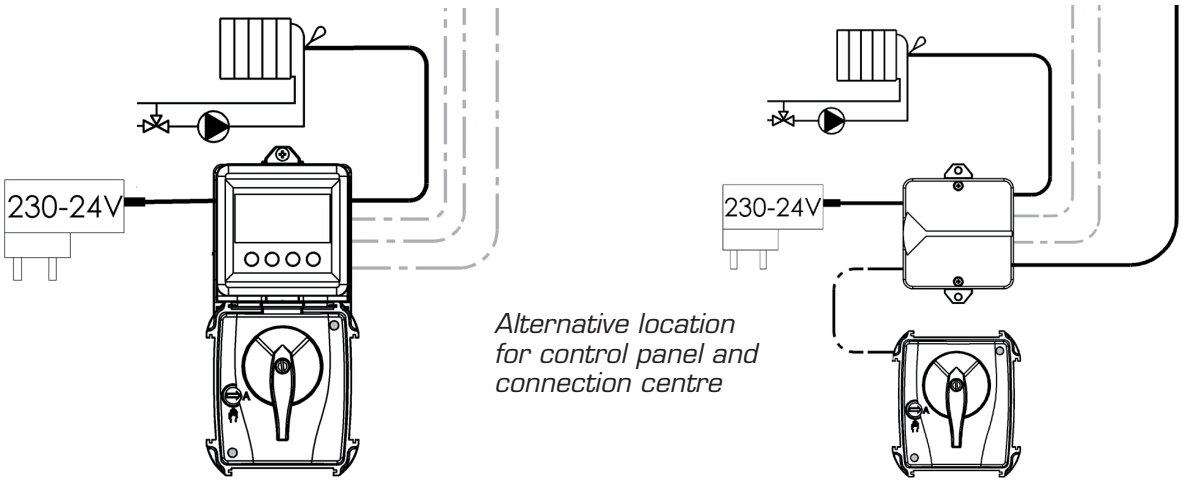
Extra: *Relay box for circulation pump and heating booster*

Flow sensor

Connection centre (CC)

Mixing valve motor
The frame permits installation from all 4 sides

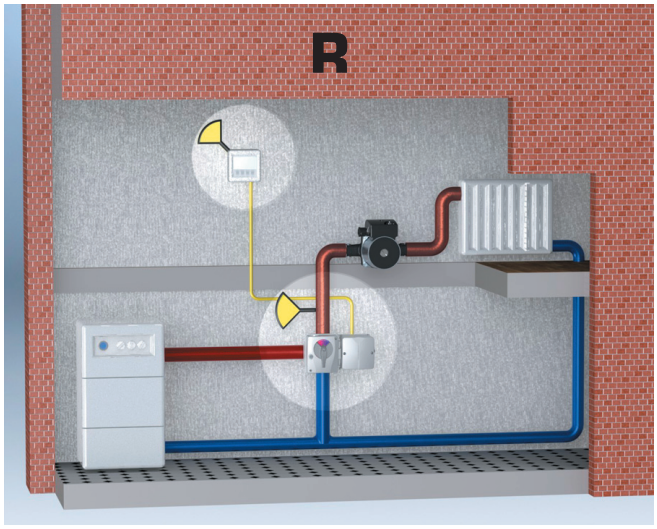
Dimensions:
Motor: B = 91 mm, L = 80 mm, H = 85 mm
CC: B = 78 mm, L = 78 mm, H = 50 mm
CP: B = 78 mm, L = 78 mm, H = 35 mm



Alternative location for control panel and connection centre

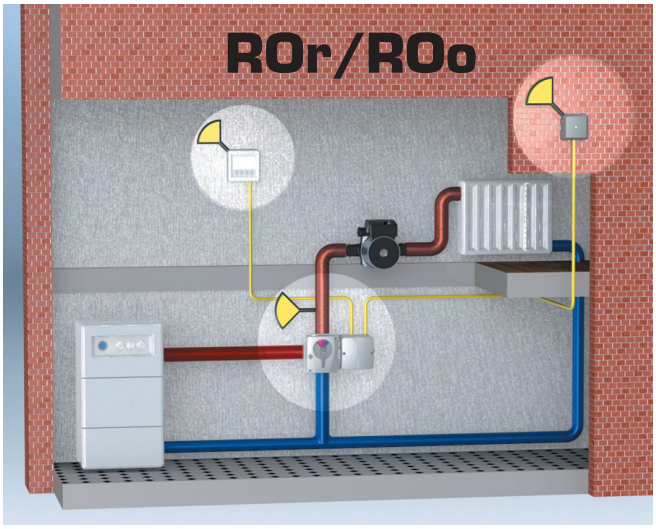
5 different control options

EC Home is easy to optimise to the needs of your building.



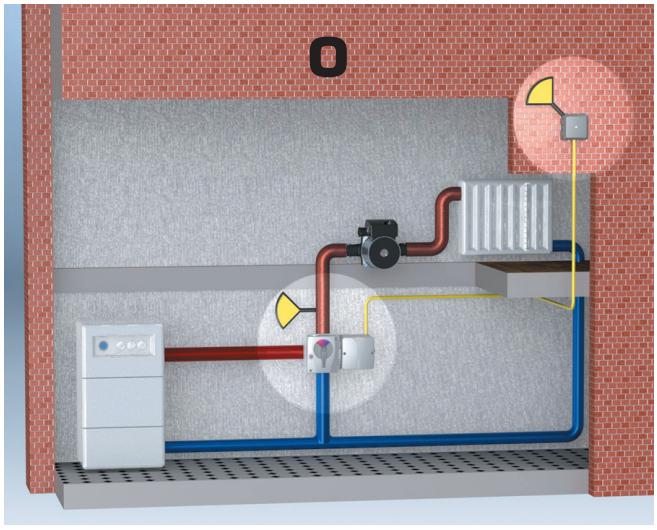
Room control
This gives the most efficient and easiest control function in a single family dwelling or premises with uniform heating needs. Easy installation/operation and optimum heating economy. Save up to 24%.

All of the settings for R are described on pages 8-14.



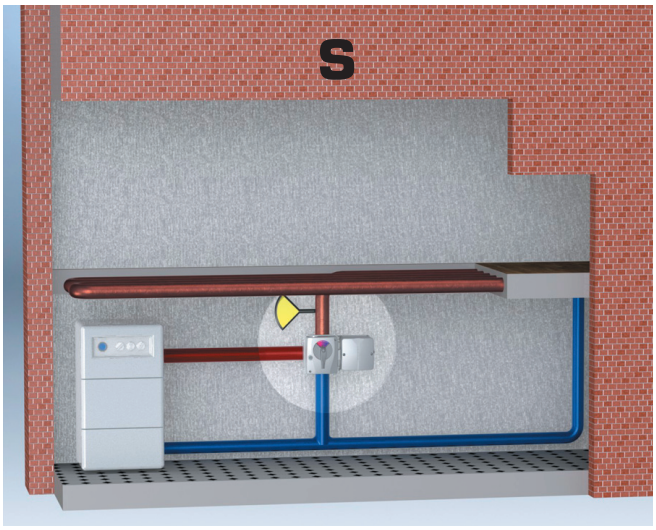
With Room and Outdoor sensor
(see also in menu 7.3)
ROr *in a family house or premises with uniform heating needs. Higher heating comfort is achieved with outdoor sensor-controlled maximum and minimum limits.*
ROo *for regulation in multi-occupancy buildings. The outdoor sensor normally controls the heating according to the set control curve. The room sensor prevents unnecessary overheating.*

All of the settings for ROr are described on pages 22-29.
All of the settings for ROo are described on pages 30-37.



Outdoor control
For control in multi-occupancy buildings.
The outdoor sensor control the heating according to the set control curve.

All of the settings for O are described on pages 38-44.



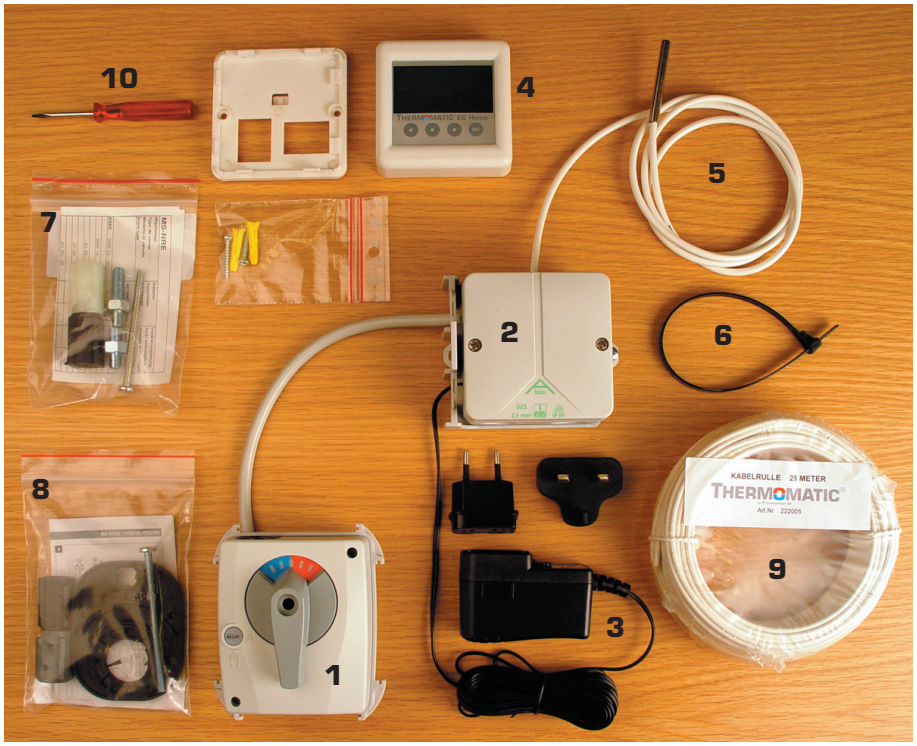
Supply flow control
To maintain the supply flow temperature constant.

All of the settings for S are described on pages 16-21.

2. Delivery scope and extras (Photo 1)

1. Mixing valve motor, 24 V DC, 0-10 V, 90°, 10 Nm (connected to CC when delivered)
2. Connection centre (CC, with bracket for fitting motor. The click lock is inside the CC on delivery (photo 3, overleaf)
3. Power supply 24 V DC (connected to the CC on delivery). With universal adapters.
4. Room sensor/control panel (CP) with installation kit for wall fitting.
5. Flow sensor (connected to CC on delivery)
6. Cable ties for flow sensor
7. Installation kit M6-NRE for “other” mixing valves
8. Installation kit M6-NRE6 for motors on mixing valve type Esbe VRG/VRB
9. 4 conductor cable, for room sensor/control panel
10. Screwdriver

1



Abbreviations found in the text

CC = Connection centre

CP = Control panel

R = Room sensor control

O = Outdoor sensor control

ROr = Room sensor control with Outdoor sensor curve as max limiter

ROo = Outdoor sensor control with Room sensor as max limiter

S – Supply pipe sensor

3. Start Guide

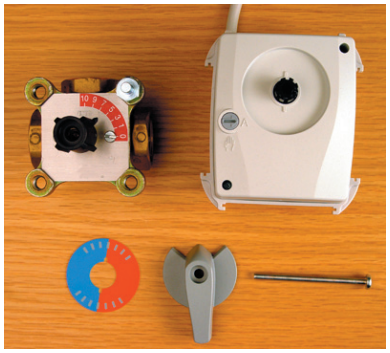
3.1 Installation of motor on mixing valve

Fit the motor to the mixing valve according to the instructions on the respective installation kit (example shown in photos 2 and 3). Check Delivery scope, paragraph 7 and 8, on previous page for information about what installation kit to use. The installation method depends on the mixing valve, please refer to the installation kit table. **NOTE! If the adaptor doesn't fit at all, wrong installation kit is used. If wrong adaptor is used, the motor will end up 45° wrong.**

Fit the plate (blue/red) for the mixing valve's position indicator on the motor and fix the handle according to picture 4. **NOTE!** The motor is always delivered in the centre position and the handle only fits in the position that the motor is in. Insert and tighten the screw in the centre of the motor.

Turn the motor to manual position (photos 4 and 4a) and check that the valve's working area agrees with the position of the handle. **NOTE!** The button must only be turned. If the button is depressed it may stick in the manual position.

2



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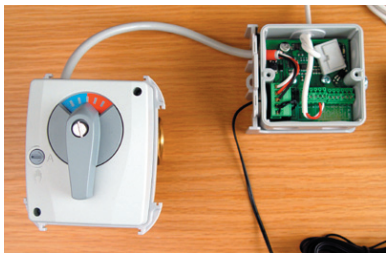

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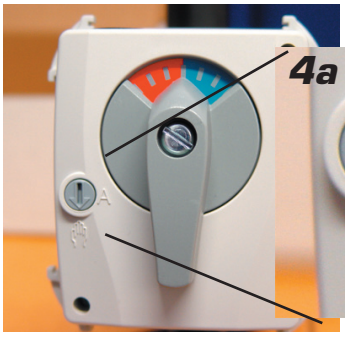


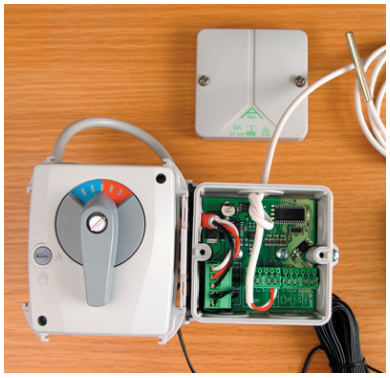
4a

3.2 Installation of the CC

Install the CC with the motor frame bracket as shown in photo 5.
NOTE! The bracket can be located on either side of the motor and is pressed into place from behind. The click lock is pressed into the slot until it says "Click" (photos 6 and 6a). You can use e.g. a small screwdriver to remove the click lock (photo 7).
NOTE! The click lock is delivered loose inside the CC.

The CC can also be fitted separately, e.g. on a wall. The box size is adapted for exterior fitting on a 70 mm electrical box (e.g. wall socket).

5



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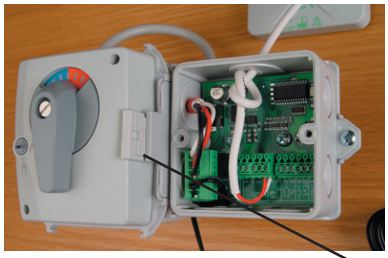
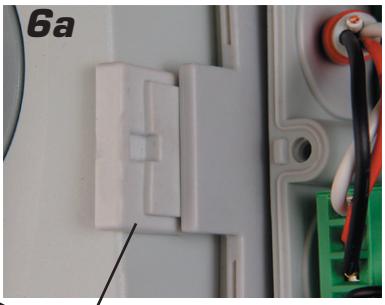


6a



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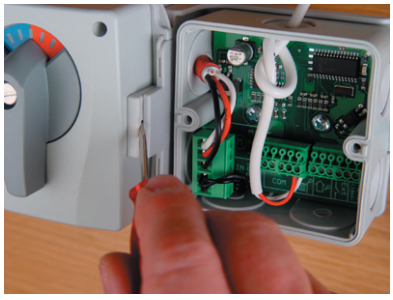


3.3 Fitting the flow sensor

Fit the sensor on supply pipe, as close to the mixing valve as possible.

Attach the sensor to the pipe using the enclosed cable tie. Good contact with the pipe is very important for sensor operation.

NOTE! Good insulation is important for correct operation.

3.4 Cabling

Installing the 4 conductor cable:

Lay all of the cable between the CC and the CP before connecting to the respective units.

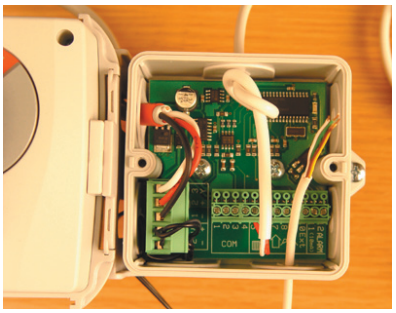
3.5 Connection of the CC

Push the cable in through the cable entry in the CC as shown in photo 8. We recommend that you knot the cable as a cable grip (photo 9).

The terminal block can be removed (photo 10) and is pushed into place on the stud after the cables are connected. Connect the multicable to the CC terminal block according to photo 1. **NOTE!** The colour combination on the CC terminal block must be repeated when connecting to the CP.

Photo 12 shows the terminal blocks.

8



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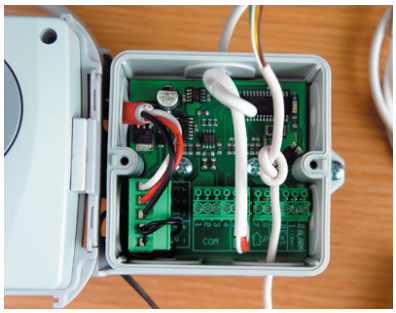

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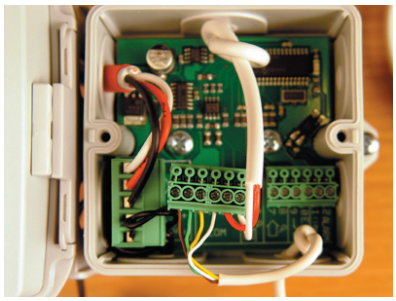

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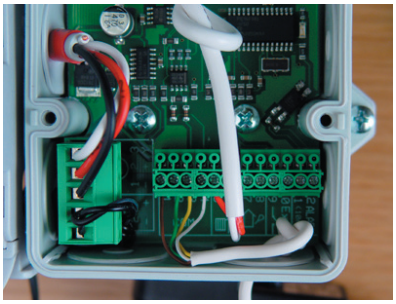

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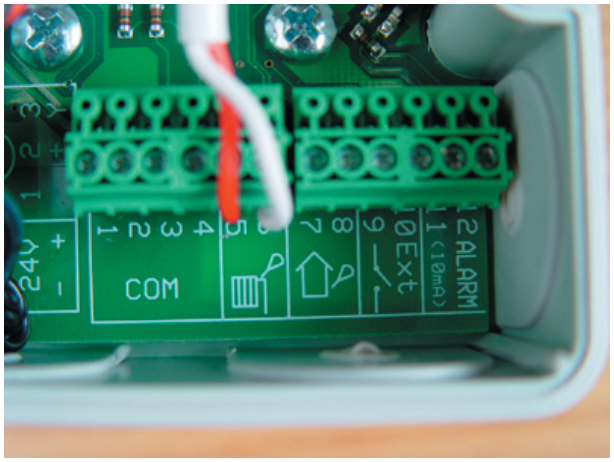
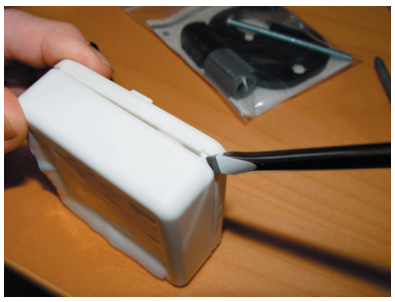


3.6 Connection of the Control Panel (CP)

The CP is delivered with the wall fitting/adapter loose. The CP can later be removed simply with a screwdriver as shown in photo 13.

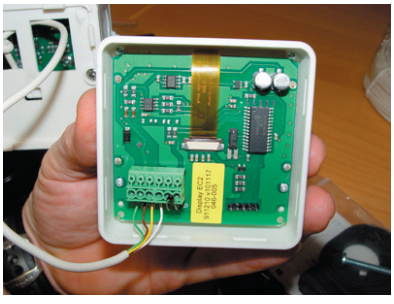
13



Connect the multicable to the CP terminal block according to photo 14. **NOTE!** Use the same colour combination as in the CC. Remember that the cable must also be pulled through the wall fitting.

The CP is then pushed in place on the bottom plate with the click lock. Insert the lower edge first, then press in the upper part as shown in photo 15.

14



15

3.7 Installation of the CP

The CP can be fitted to the CC or on the wall. For wall mounting, use the enclosed fittings (plug and screw).

In its standard design, the CP has an integrated temperature sensor that is used as the room sensor. The position of the CP is therefore decisive for correct operation when using the room sensor function.

The CP should be located centrally in the house, in a hall, stairway or similar space which is linked to as much of the rest of the house as possible. Avoid rooms with a lot of supplementary heat sources, such as a kitchen, south-facing living room or upstairs in a two storey house. Position the sensor away from direct sunlight.

Avoid placing on an external wall or near an external door.

Make sure the sensor is not positioned closer than 1 m from the nearest radiator and around 1.5 m from the floor.

NOTE! When using passive room sensor, only outdoor sensor or only supply sensor, the position of the CP is unimportant.

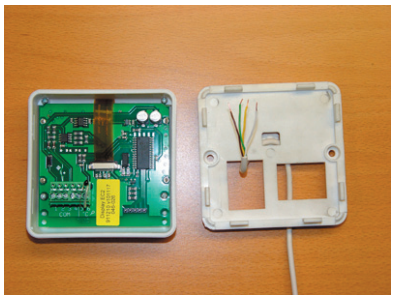
For fitting the CC, see photo 16. The cover screws are then used to fix the CP wall fitting directly to the CC. The multicable is always pulled through the wall fitting as shown in photo 17.

Photos 18 and 19 show fitting with the CP on the CC, and the CP alone for wall fitting.

18

16

17



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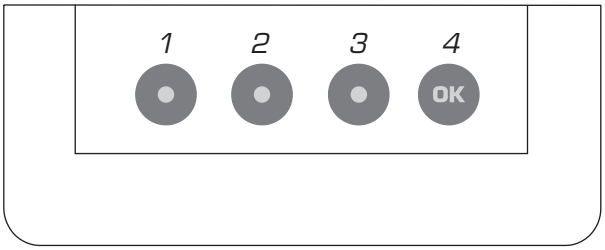
4. Controls

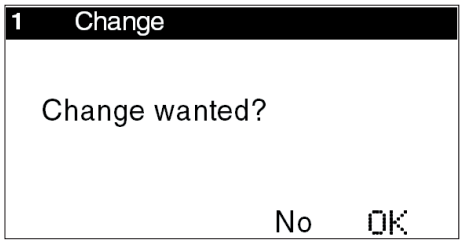
A.

Press any of the buttons to start the display. The second press on any button opens the first available menu.
The buttons' function is then displayed above the respective buttons.
Button 1 = Move down/right or reduce value
Button 2 = Move up/left or increase value
Button 3 = Return/escape
Button 4 = OK/activate menu



B.

NOTE! None of the values can be changed "by mistake". In all of the modes where it is possible to change a value, you will be prompted whether you are sure you want to make the change before the value is actually changed.



5. Factory settings on first start-up – R and S

All of the settings will be described in more detail in the following pages, menu by menu, but there are 5 (3 for S) settings that should be carried out when first starting the system.

Language is set in menu 8. Browse down until you get to the last menu, which is menu 8. Factory setting is Swedish.

The direction of the motor can be set to Clockwise or Anticlockwise opening. Factory setting is Clockwise.
The setting is carried out in menu 7.1.

Set points for the room sensor (not for S) can be selected from the range 5-30°C. Factory setting is 20°C. Set point selection is carried out in menu 1.

The maximum limit is set from 5-90°C. Factory setting is 60°C. The setting is carried out in menu 7.4.

The minimum limit (not for S) is from the range 5-90°C. The factory setting is 10°C. The setting is carried out in menu 7.4.

After the changes have been made, or if the factory settings are correct, EC Home is ready for use.

6. USER GUIDE - R

In this section, each menu is described in detail.

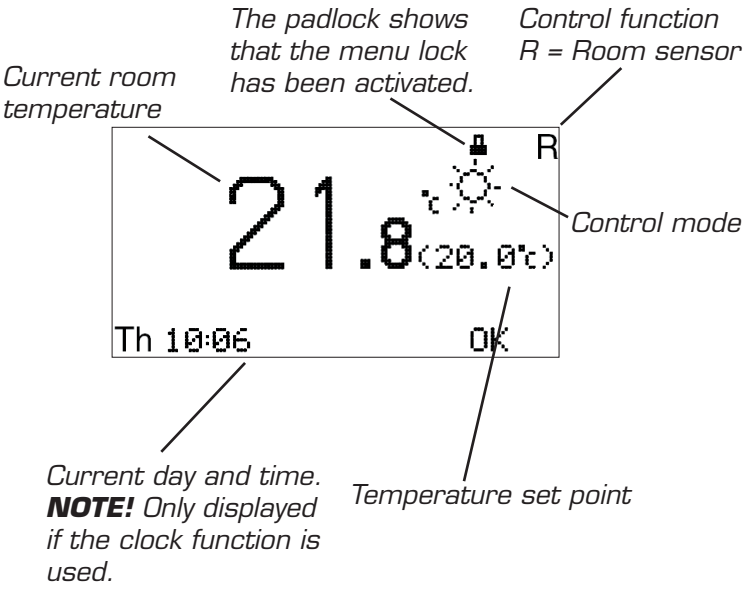
Menu 0 – Basic menu

The basic menu only shows basic information.

The actual room temperature, the room temperature set point, locking (if the Security code has been activated) and **time and day of the week** (if the clock function has been activated).

In menu 7.5.4 you can select that only the set point should be displayed.

It also shows which control mode is applying and which control function has been selected.

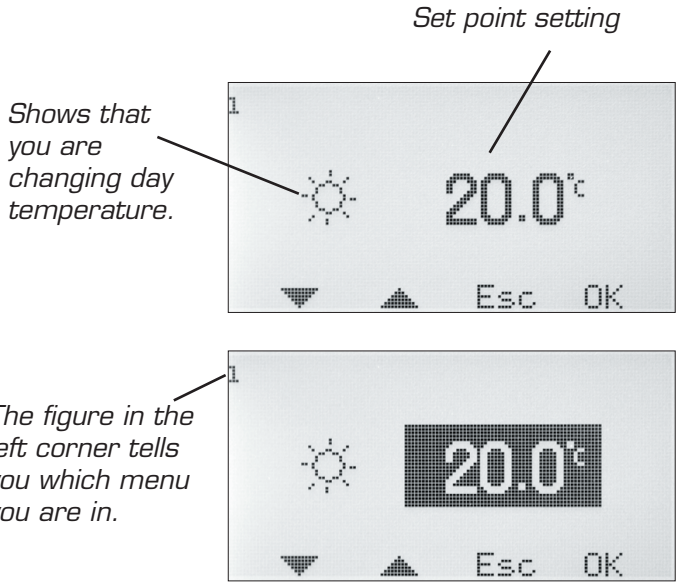


Menus 1 and 2 – Adjustment of set point for room sensor

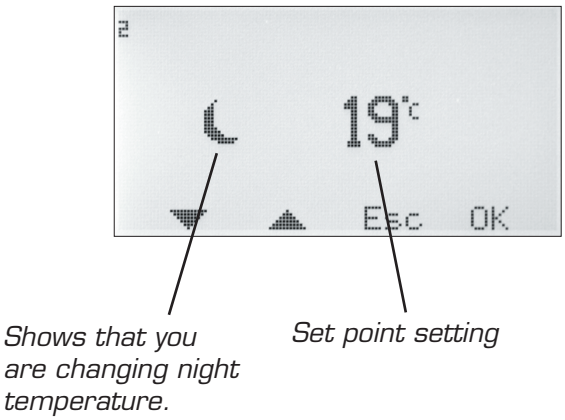
Depending on which control mode has been selected in menu 3, a sun or a moon is displayed before the set point.

The selectable value is from 5-30°C at 0.1°C intervals for day, and 1-30°C at 1°C intervals for night.

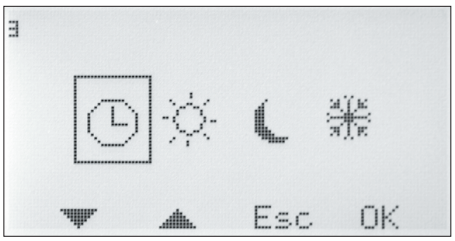
In order to access the night setting, the clock or night temperature must be activated in menu 3.



***HINT:** By activating locking of display and/or menu changes in menus 7.5.2 and 7.5.3, you can limit access by unauthorised persons to view/change settings.*



Menu 3 – Setting control mode

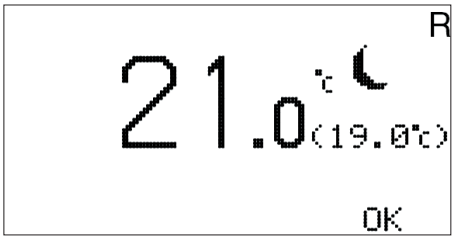


In this menu you can activate the clock function, constant day, constant night or if you want to shut down the control.

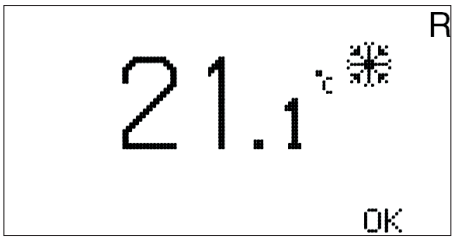
Depending on what is selected in menu 3, the basic menu, menu 0, will display different information.

Current day and time are displayed in menu 0 only when the clock function is activated.

Sun = Day temperature active. Menu 0 only displays the sun when the clock is active.



Moon = Night temperature active.



Snowflake = Shut down. The set point for the Supply flow temperature is set automatically at 10°C.

Menu 4 – Time settings for Night/Saving time

NOTE! Only displayed if the clock function is activated.

Night temperature times can be set for every day of the week.

Use the up and down arrows to go to the day you want to set. The arrow along the left edge shows which day has been selected. Press OK again to activate the selected day.

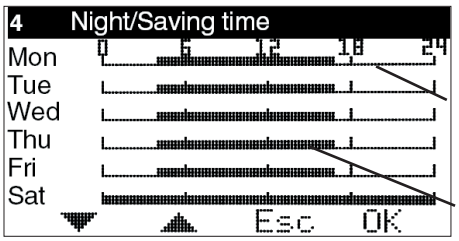
4.1.1 Time setting

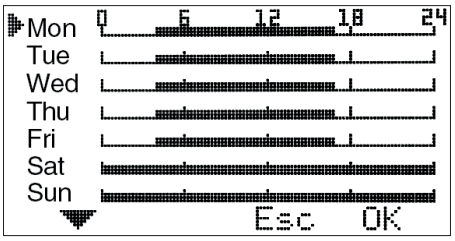
3 different times can be set for each day. The settable range is 00-24.

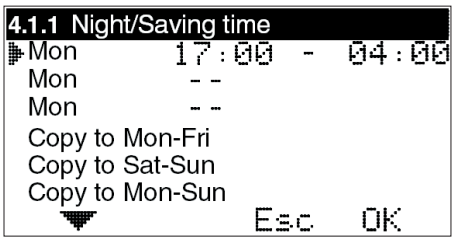
NOTE! Setting 17:00 – 04:00 means that a decrease takes place from 17:00 – 00:00 and 00:00 – 04:00 for the selected day, not the following day.

If you want the same decrease to apply to several days, you can use "Copy to…", to copy the decrease Monday to Friday, Saturday to Sunday, or the entire week.

Return to menu 4 to view the selected settings.



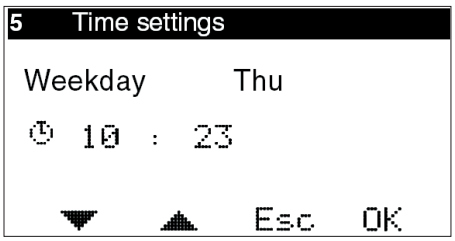


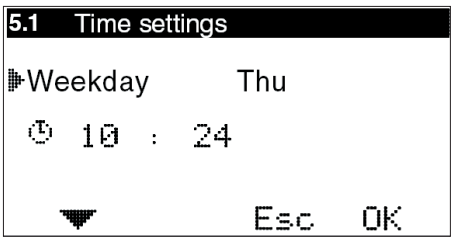


Menu 5 – Time settings

NOTE! Only displayed if the clock function is activated.

Setting of current weekday and time. Hours and minutes are set individually.





Menu 6 - List

Shows all relevant temperatures and settings as below.

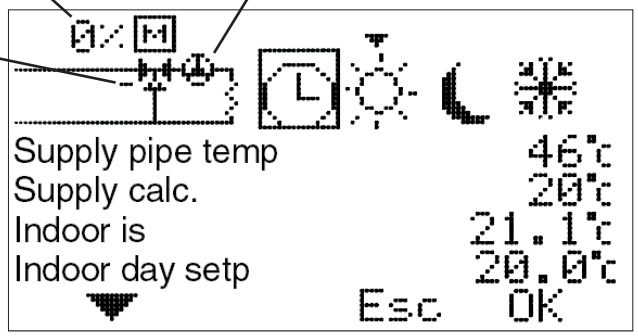
Values that are displayed change back and forth automatically.

Click OK to stop the changes and then the up and down arrows to browse them.

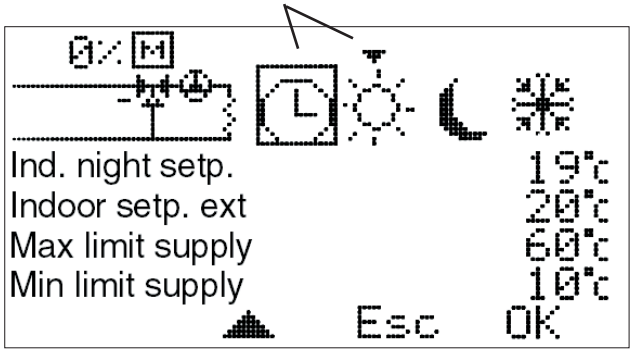
NOTE!
The set point for the room temperature day/night/ext is shown, even when the clock function or external setting are not used.

0% shows that the motor is completely closed. 100% means fully open. +/- indicates opening/closing

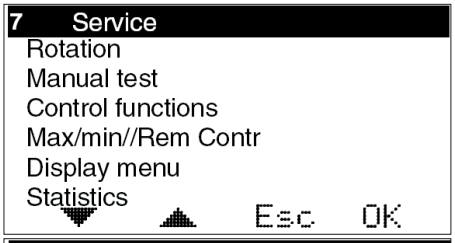
Shows that the circulation pump is active. If the pump stop function is not being used, the symbol turns constantly.



Control mode
Clock = day/night function activated
Arrow over the sun shows the day temperature is currently active.



Menu 7 - Service



The following options are available in this menu. The arrow along the left edge shows which menu has been selected.

7.1 Rotation – Setting for the direction of rotation – clockwise or anti-clockwise opening.

7.2 Manual test – Manual running of the mixing valve motor.

7.3 Control functions – Selection of control function; Room sensor (R), Room+Outdoor sensor with Room priority (ROr), Outdoor+Room sensor with Outdoor priority (ROo), Outdoor sensor (O), and only Supply flow sensor (S).

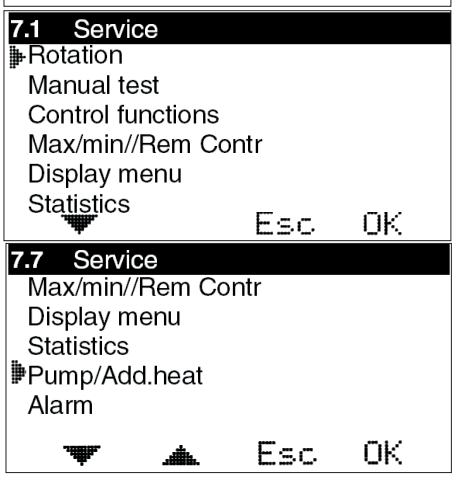
7.4 Max/Min//Rem Contr – Setting of max. and min. limits for supply temperature and desired room temperature under external control.

7.5 Display Menu - Setting the menus to be shown/changed.

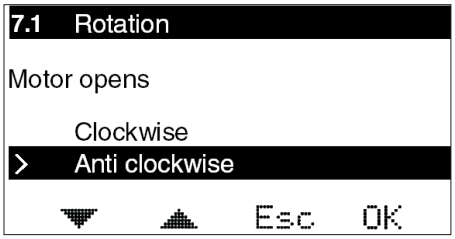
7.6 Statistics – Shows the history for temperatures for the various sensors.

7.7 Pump/Add.heat – Used in combination with the relay box to start/stop the circulation pump, heating booster etc.

7.8 Alarm – Used to send an alarm, e.g. an SMS if the GSM control is connected, if a specific sensor temperature is exceeded or not reached.



7.1 Rotation



To select clockwise or anticlockwise motor opening.

7.2 Manual test

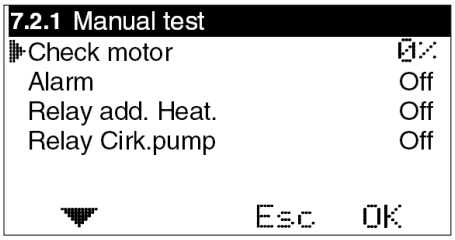
Used to test various connected functions manually.

Motor check – Press OK to open or close the motor using the up and down arrows. If the motor goes the wrong way, the direction of rotation must be changed in menu 7.1.

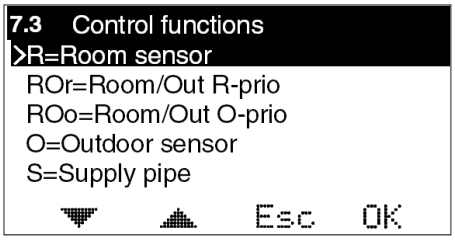
Alarm – Press OK to change on or off using the up and down arrows.
Used to send a signal if something is wrong. The setting is carried out in menu 7.8. In the case of an alarm, connection is made on terminal block 11-12, marked "Alarm" in the CC.

Relay add. Heat. – Press OK to change on or off using the up and down arrows. Used with the relay box to start/stop booster heating. Also see 7.7.1.

Relay Circ.pump – Press OK to change on or off using the up and down arrows. Used with the relay box to start/stop the circulation pump. Also see 7.7.1.



7.3 Control functions



Description of the various control functions can be found in "List", page 3.

R = Room sensor – Regulated by the room sensor and supply sensor.

ROr* = Room/Out R-prio – Regulated by room sensor, outdoor sensor and supply flow sensor. The setting of the room sensor has priority. The outdoor sensor's curve acts partly as max. limiter and partly as min. limiter (through the Curve Room red.). This is explained in more detail in the section "User guide ROr", menu 7.9.5 (the menu is only displayed when this control function is selected).

ROo* = Room/Out O-prio – Regulated by room sensor, outdoor sensor and supply sensor. The priority is set by the outdoor sensor's curve. The room sensor acts as the max. limiter if it should become too hot indoors.

O* = Outdoor sensor – Regulated by the outdoor sensor (according to the set curve) and the supply sensor.

S = Supply pipe sensor – Regulates according to the set temperature of the supply.

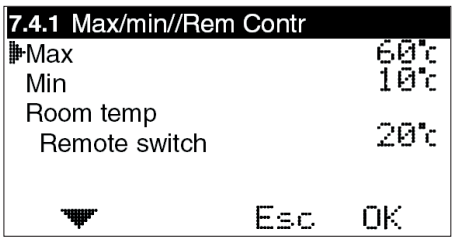
**Outdoor sensor is not included in the basic package.*

7.4 Max/Min//Rem Contr

Max = Maximum permitted supply flow temperature. Settable from 5-90°C.

Min = Minimum permitted supply temperature. Especially suitable for underfloor heating systems. Settable from 5-90°C.

Room temp Remote switch = Desired room temperature when the external contact has closed, e.g. via GSM-control. Settable 10-30°C. Remote switch is connected to terminals 9-10, marked "Ext" in the CC.

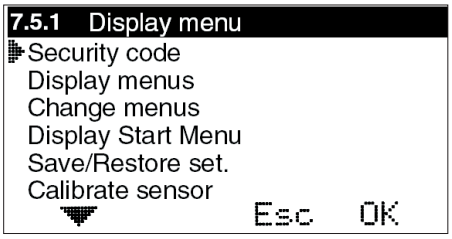


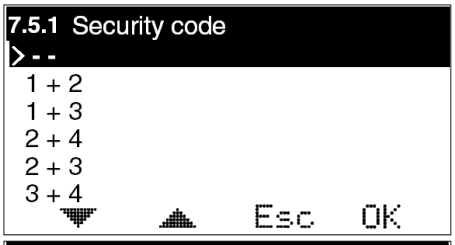
7.5 Display Menu

7.5.1 Security code

This is where you can specify if you want to be able to lock EC Home's buttons and menus. This occurs when 20 seconds have passed and no buttons have been pressed. The code that has been chosen is used to unlock them. When the Security code is used, the selected buttons must be pressed and held for 5 seconds to enable unlocking.

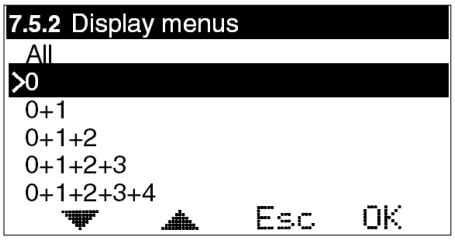
Menus 7.5.2 and 7.5.3 are displayed only when the Security code has been selected. When the menus are locked, a padlock is shown in menu 0.





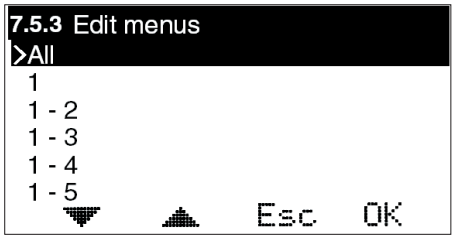
7.5.2 Display menus

This is where you can select which menus are shown when the Security code is activated.



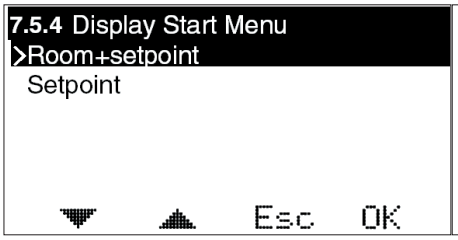
7.5.3 Edit menus

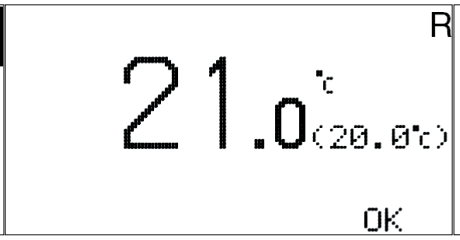
This is where you can select which menus can be edited when the Security code is activated.



7.5.4 Display Start Menu

This is where you can select whether Menu 0, which shows the temperature, shows the current temperature + the set point or just the set point.



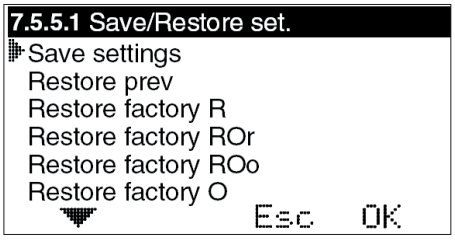


7.5.5 Save/Restore set.

Here, you can select "Save settings" to save the settings you have made.

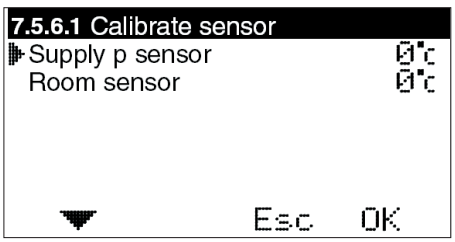
In this way, you can use "Restore prev" to go back to the correct settings if you, or anyone else, has changed the settings by mistake.

"Restore factory R/ROr/ROo/O/S" can be used to return all of the basic settings to the factory settings.

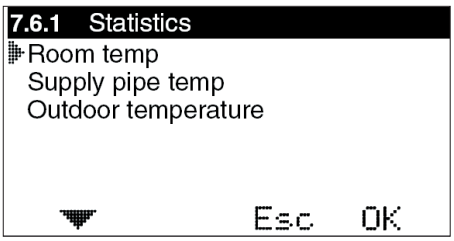


7.5.6 Calibrate sensor

This is where you can select to adjust the value of the supply flow sensor or room sensor if you do not think that the value shown on EC Home is correct. Settable from +5 to -5°C.



7.6 Statistics

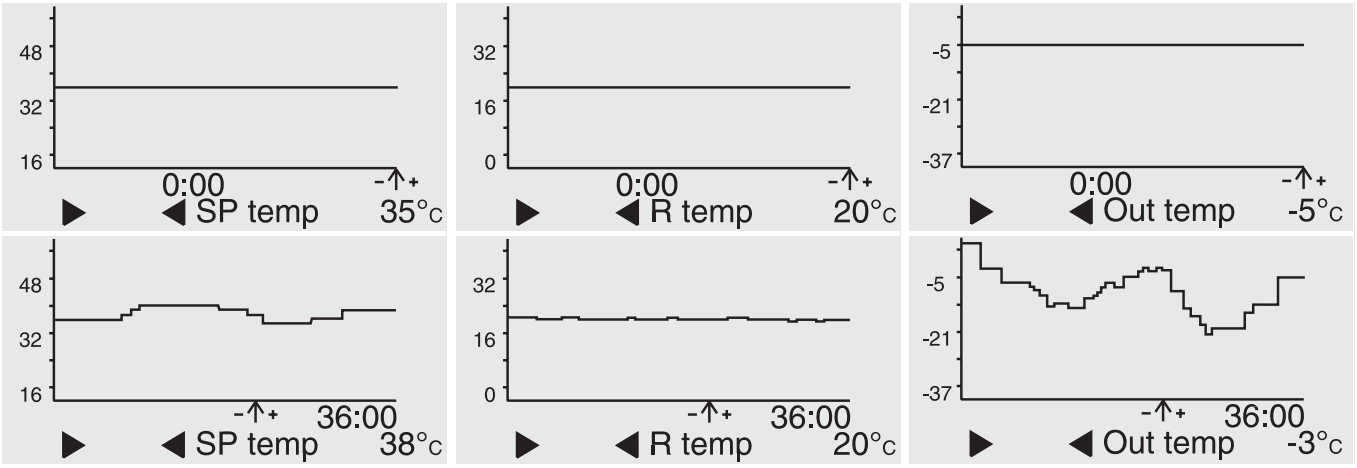


This is where you see what the Supply pipe temperature, Room temperature and Outdoor temperature (if outdoor sensor is being used) have been over the last few hours.

The supply sensor shows the last 200 minutes, minute by minute. The values for the other sensors change much more slowly, and here you can see the last 200 hours, hour by hour.

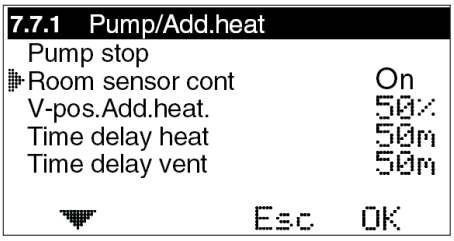
Use the up and down arrows to mark the sensor you want to view the statistics for, and press OK to view a temperature graph. You then use the left or right arrows to move the cursor at the bottom right of the graph to read the value for a specific minute or hour. **HINT:** By pressing on the right arrow straight away you can jump to the oldest value.

Click Esc to return to the Statistics menu.



7.7 Pump/Add.heat

This is where you set whether you will use the function for start/stop of the circulation pump to the heating system, booster heating etc. ***NOTE!*** *An extra box is required.*



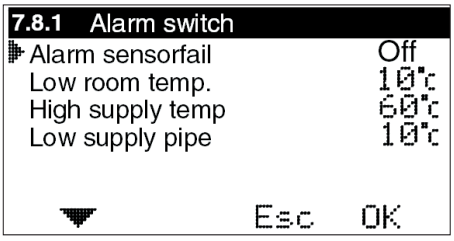
Pump stop Room sensor cont On/Off – If this function is activated the pump will stop when the control motor has been fully closed for 60 minutes. Thereafter, the pump is run for 5 minutes at noon every day
NOTE! The time is retrieved from the set time. If not time is set, noon is regarded as being 12 hours after system start-up. When the room sensor wants heating, the pump restarts immediately.

V-pos.Add.heat – If you want booster heating to start when the valve is in a specific position, you can set that here. 0 means that the motor is completely closed, 100 that the motor is completely open.

Time delay heat – How long it must take after the above valve position is achieved before the booster heating starts.

Time delay vent – How long it must take from the booster heating starts until the motor opens more.

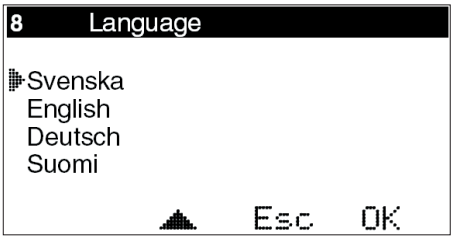
7.8 Alarm switch



Is used to send an alarm, e.g. SMS, if a specific temperature is exceeded/not reached by a sensor. ***NOTE!*** *Requires special equipment.*
In the case of an alarm, connection is made on terminal block 11-12, marked "Alarm" in the CC. Settable values are 0-90°C.

Alarms can be transmitted for: Sensor fault, Low room temperature, High supply temperature or Low supply temperature.

Menu 8 - Language



Available languages are: Swedish, English, German and Finnish and Slovenian.

7. Trouble shooting

In the case of a fault on a sensor or its cable, or an incorrect connection, EC Home will show an error message on the display.

If there is a sensor fault, menu 6 will be automatically displayed and the value for the faulty sensor will flash. A value is shown, and this value may indicate the cause of the fault.

For room sensor, 0° will be displayed for an open circuit, 99.9° for a short circuit.

For supply sensor, 0° will be displayed for an open circuit, 99° for a short circuit.

For outdoor sensor, -40° will be displayed for an open circuit, 65° for a short circuit.

EC Home will perform the following, depending on the fault:

Fault on supply sensor – Open the mixing valve to 25%

Fault on room sensor during R regulation – Send a maximum of 30°C on the supply line

Fault on outdoor sensor during O regulation - Regulated according to the curve's value at outdoor temperature 0°C (applies whatever the break point)

Fault on outdoor sensor during ROr regulation – Regulates according to the set room temperature

Fault on room sensor during ROr regulation – Regulates according to the set curve

Fault on outdoor sensor during ROo regulation – Regulates to maintain room temperature at 20°C

Fault on room sensor during ROo regulation – Regulates according to the set curve

Fault on room sensor during R regulation – Send a maximum of 30°C on the supply line

Fault on connection or cable between CC and CP:

In the case of a fault on the cables connected to terminals 1 or 2, the CP does not receive power.

In the case of a fault on the cables connected to terminals 3 or 4, an error message – "COMFAULT CC/CP" – will be displayed.

Whichever fault is present, the motor sets to 25% open.

8. USER GUIDE S

In this section, each menu is described in detail.

Menu 0 – Basic menu

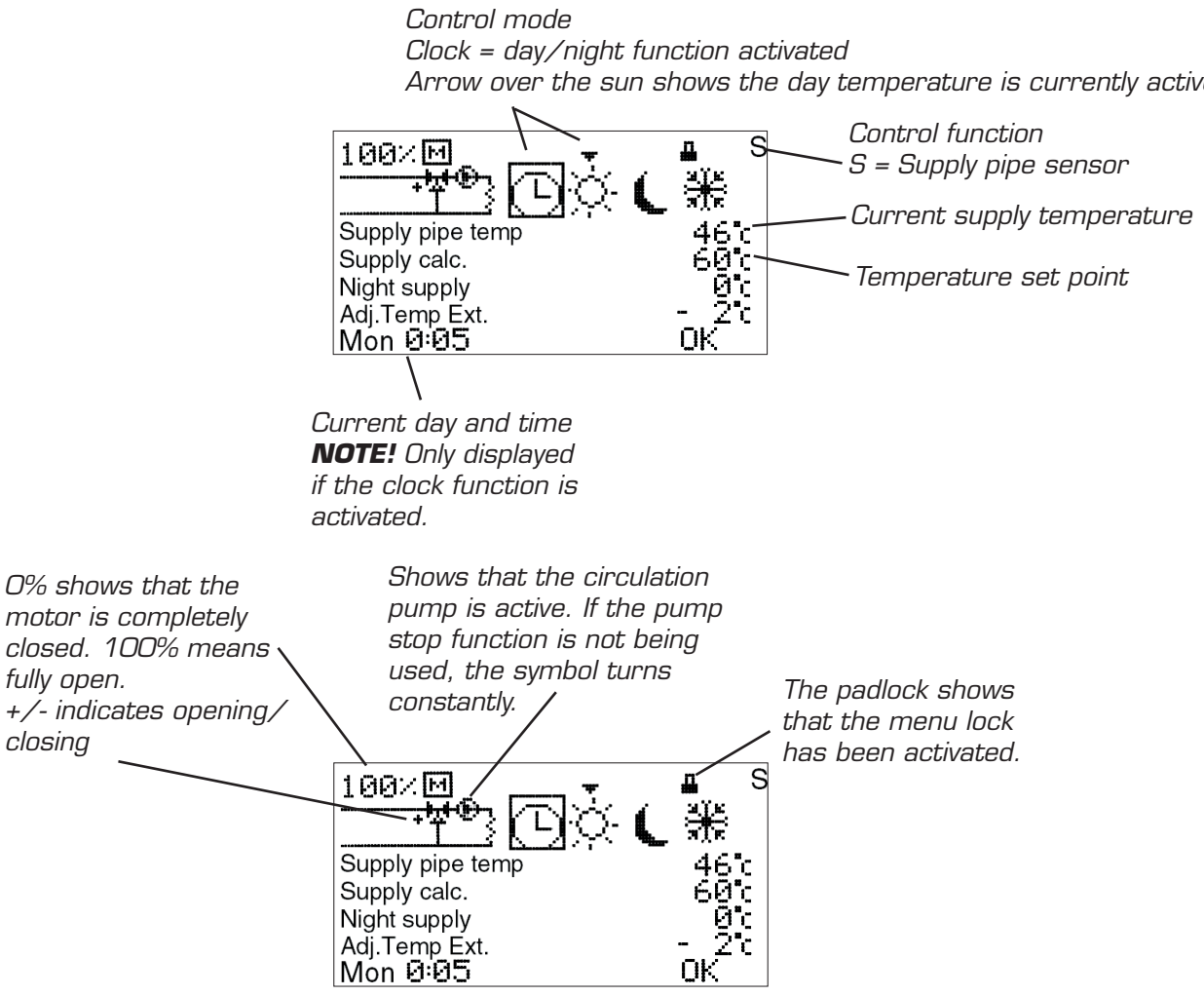
The Basic menu shows information about:

Current supply flow temperature, set supply flow temperature, set night reduction, set external reduction, lock (if the Security code has been activated) **and time and weekday** (if the clock function has been activated).

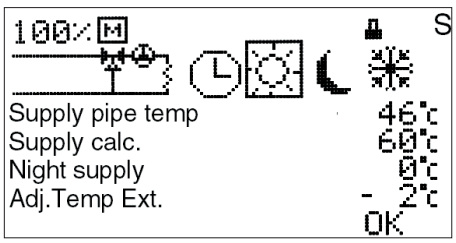
It also shows which control mode is applying and which control function has been selected.

NOTE!
The set value for Night reduction and External reduction are displayed, even if the clock function or external change are not used.

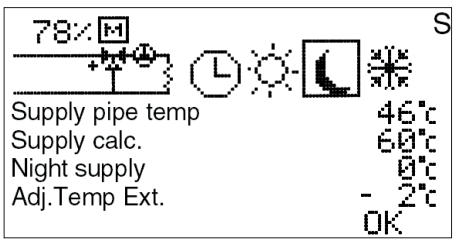
***HINT:** By activating locking of display and/or menu changes in menus 7.5.2 and 7.5.3, you can limit access by unauthorised persons to view/change settings.*



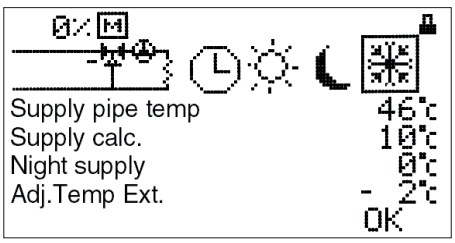
Control mode
Sun = Day temperature



Control mode
Moon = Night temperature



Control mode
Snowflake = Shut down



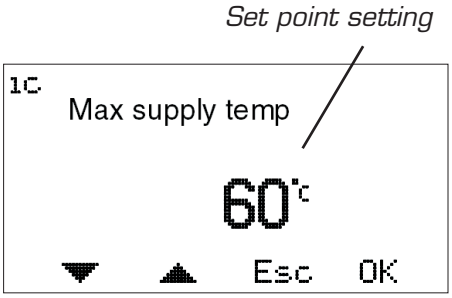
Menus 1 and 2 – Adjustment of set point and night reduction of supply temperature

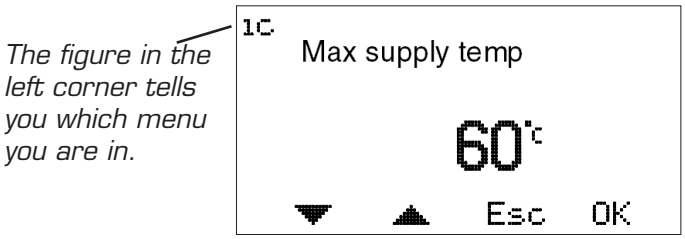
You set the set point for the supply temperature in menu 1c.

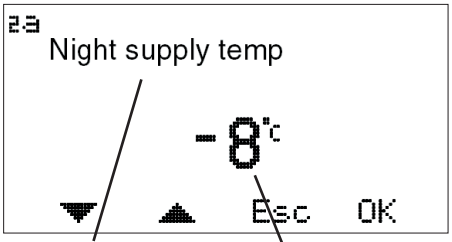
Settable values are 0 - 90°C.

Night reduction takes place in menu 2a. In order to set the night reduction the night alternative or clock must be activated in menu 3.

Settable values are 0 to -40°C.







Menu 3 – Setting control mode

In this menu you can activate the clock function, constant day, constant night or if you want to shut down the control.

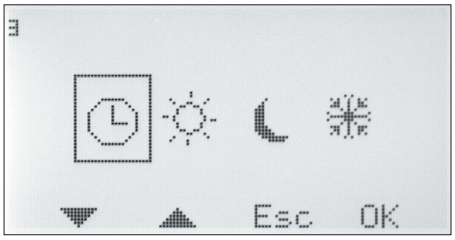
Depending on what is selected in menu 3, the basic menu, menu 0, will display different information.

Current day and time are only displayed when the clock function is activated.

Sun = Day temperature active

Moon = Night temperature active.

Snowflake = Shut down. The set point for the Supply flow temperature is set automatically at 10°C.

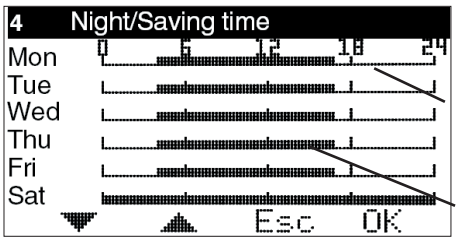


Menu 4 – Time settings for Night/Saving time

NOTE! Only displayed if the clock function is activated.

Night temperature times can be set for every day of the week.

Use the up and down arrows to go to the day you want to set. The arrow along the left edge shows which day has been selected. Press OK again to activate the selected day.



Night temperature active

Day temperature active

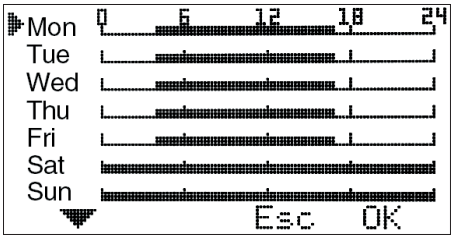
4.1.1 Time setting

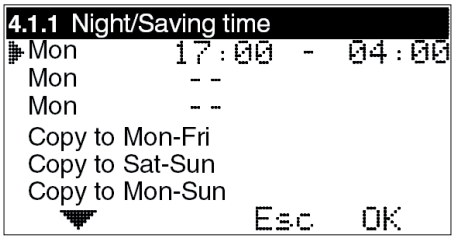
3 different times can be set for each day. The settable range is 00-24.

NOTE! Setting 17:00 – 04:00 means that a decrease takes place from 17:00 – 00:00 and 00:00 – 04:00 for the selected day, not the following day.

If you want the same decrease to apply to several days, you can use "Copy to…", to copy the decrease Monday to Friday, Saturday to Sunday, or the entire week.

Return to menu 4 to view the selected settings.

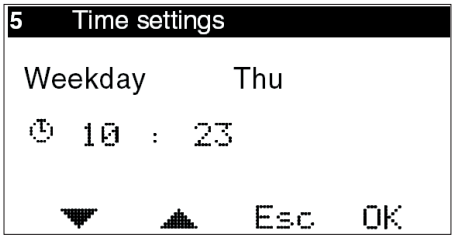


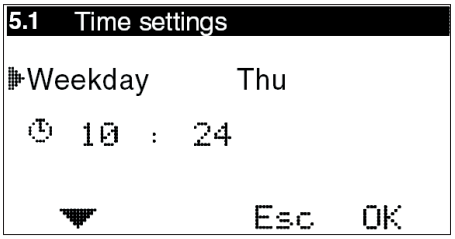


Menu 5 – Time settings

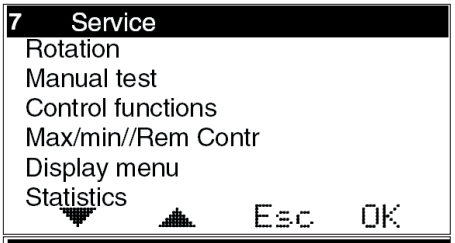
NOTE! Only displayed if the clock function is activated.

Setting of current weekday and time. Hours and minutes are set individually.





Menu 7 - Service



The following options are available in this menu. The arrow along the left edge shows which menu has been selected.

7.1 Rotation – Setting for the direction of rotation – clockwise or anti-clockwise opening.

7.2 Manual test – Manual running of the mixing valve motor

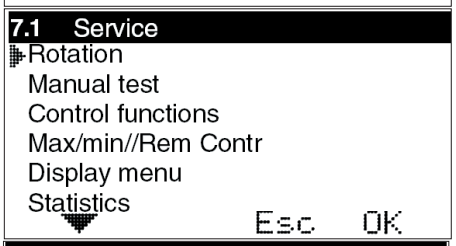
7.3 Control functions – Selection of control function; Room sensor (R), Room+Outdoor sensor with Room priority (ROr), Outdoor+Room sensor with Outdoor priority (ROo), Outdoor sensor (O), and only Supply flow sensor (S).

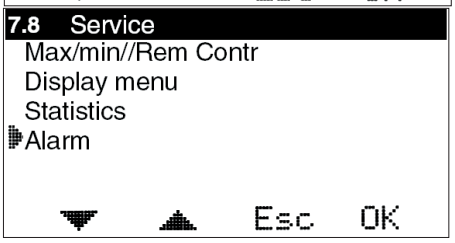
7.4 Max/min//Rem Contr – Setting the desired supply temperature and reduction of supply temperature by external control

7.5 Display Menu - Setting the menus to be shown/changed.

7.6 Statistics – Shows the history for temperatures for the various sensors.

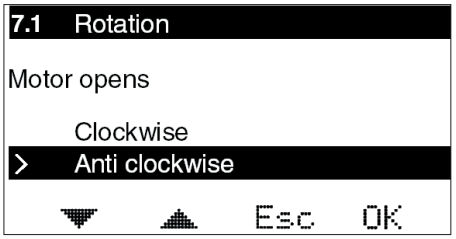
7.8 Alarm – Used to send an alarm, e.g. an SMS if the GSM control is connected, if a specific sensor temperature is exceeded or not reached.





7.1 Rotation

To select clockwise or anticlockwise motor opening.



7.2 Manual test

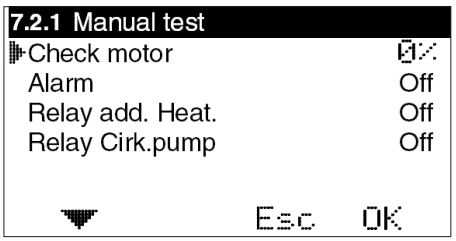
Used to test various functions manually.

Motor check – Press OK to open or close the motor using the up and down arrows. If the motor goes the wrong way, the direction of rotation must be changed in menu 7.1.

Alarm – Press OK to change on or off using the up and down arrows. Used to send a signal if something is wrong. The setting is carried out in menu 7.8.
In the case of an alarm, connection is made on terminal block 11-12, marked "Alarm" in the CC.

Relay add. Heat. – Press OK to change on or off using the up and down arrows. Used with the relay box to start/stop booster heating. Also see 7.7.1.

Relay Circ.pump – Press OK to change on or off using the up and down arrows. Used with the relay box to start/stop the circulation pump. Also see 7.7.1.



7.3 Control functions

Description of the various control functions can be found in "List", page 3.

R = Room sensor – Regulated by the room sensor and supply sensor.

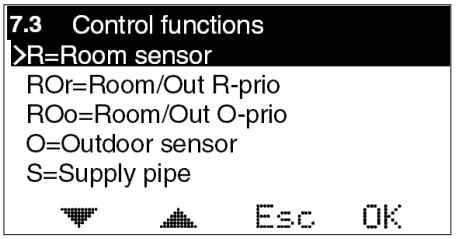
ROr* = Room/Out R-prio – Regulated by room sensor, outdoor sensor and supply flow sensor. The setting of the room sensor has priority. The outdoor sensor's curve acts partly as max. limiter and partly as min. limiter (through the Curve Room red.). This is explained in more detail in the section "User guide ROr", menu 7.9.5 (the menu is only displayed when this control function is selected).

ROo* = Room/Out O-prio – Regulated by room sensor, outdoor sensor and supply sensor. The priority is set by the outdoor sensor's curve. The room sensor acts as the max. limiter if it should become too hot indoors.

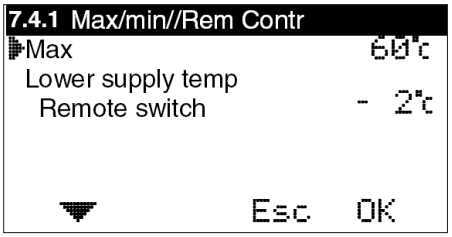
O* = Outdoor sensor – Regulated by the outdoor sensor (according to the set curve) and the supply sensor.

S = Supply pipe sensor – Regulates according to the set temperature of the supply.

**Outdoor sensor is not included in the basic package.*



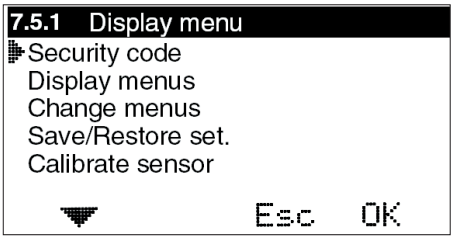
7.4 Max/min//Rem Contr



Max = Desired supply temperature. Settable from 0-90°C.

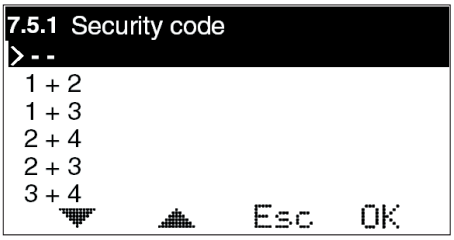
Lower supply temp Remote switch =
The number of degrees that the supply temperature should be reduced when the external contact is closed, e.g. via GSM control.
Settable values are 0 to -40°C.
External control is connected to terminals 9-10, marked "Ext" in the CC.

7.5 Display Menu



7.5.1 Security code

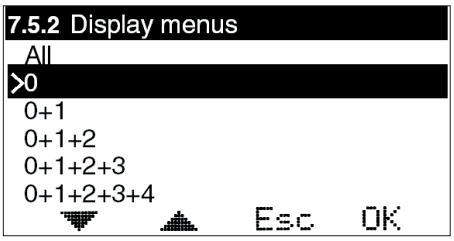
This is where you can specify if you want to be able to lock EC Home's buttons and menus. This occurs when 20 seconds have passed and no buttons have been pressed. The code that has been chosen is used to unlock them. When the Security code is used, the selected buttons must be pressed and held for 5 seconds to enable unlocking.



Menus 7.5.2 and 7.5.3 are displayed only when the Security code has been selected. When the menus are locked, a padlock is shown in menu 0.

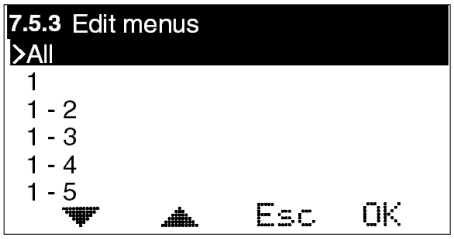
7.5.2 Display menus

This is where you can select which menus are shown when the Security code is activated.

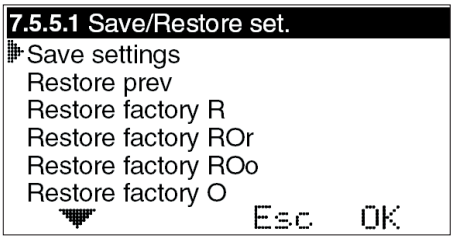


7.5.3 Edit menus

This is where you can select which menus can be edited when the Security code is activated.



7.5.5 Save/Restore set.

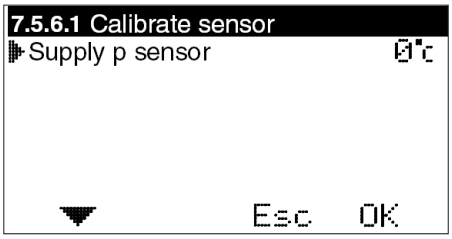


Here, you can select "Save settings" to save the settings you have made.

In this way, you can use "Restore prev" to go back to the correct settings if you, or anyone else, has changed the settings by mistake.

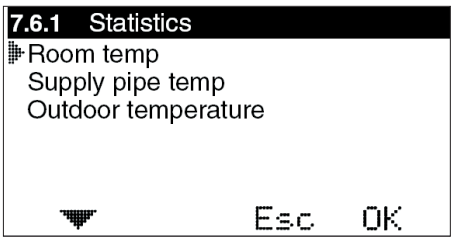
"Restore factory R/ROr/ROo/O/S" can be used to return all of the basic settings to the factory settings.

7.5.6 Calibrate sensor



This is where you can select to adjust the value of the supply flow sensor if you do not think that the value shown on EC Home is correct. Settable from +5 to -5°C.

7.6 Statistics

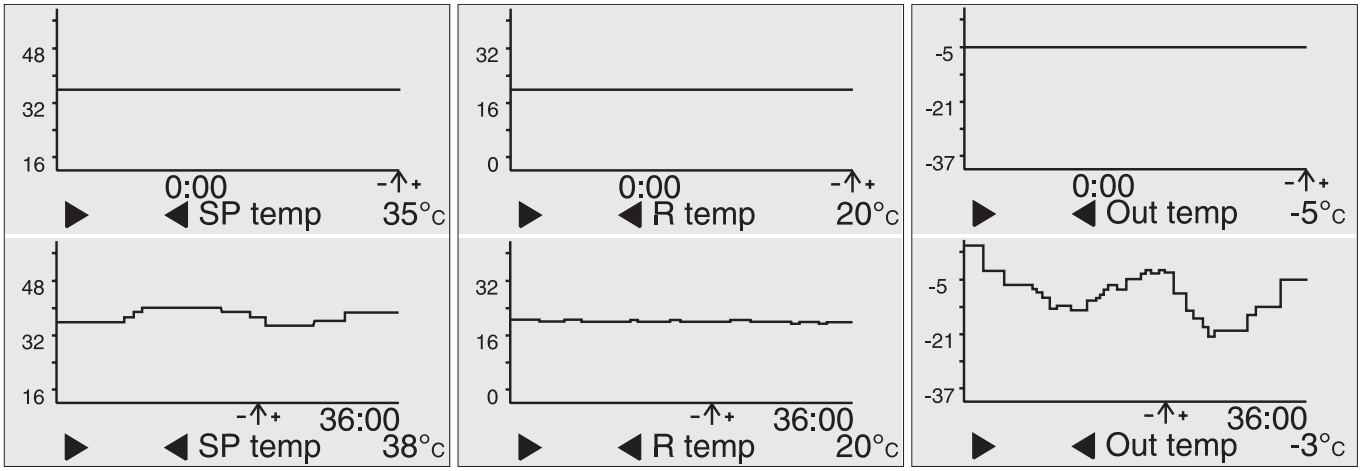


This is where you see what the Supply pipe temperature, Room temperature and Outdoor temperature (if outdoor sensor is being used) have been over the last few hours.

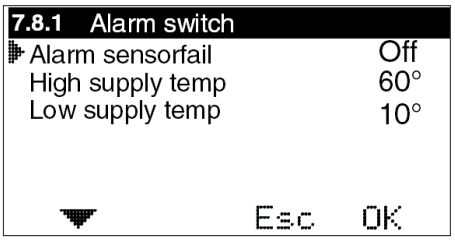
The supply sensor shows the last 200 minutes, minute by minute. The values for the other sensors change much more slowly, and here you can see the last 200 hours, hour by hour.

Use the up and down arrows to mark the sensor you want to view the statistics for, and press OK to view a temperature graph. You then use the left or right arrows to move the cursor at the bottom right of the graph to read the value for a specific minute or hour. **HINT**: By pressing on the right arrow straight away you can jump to the oldest value.

Click Esc to return to the Statistics menu.



7.8 Alarm switch



Is used to send an alarm, e.g. SMS, if a specific temperature is exceeded/not reached by a sensor. ***NOTE!*** *Requires special equipment.*
In the case of an alarm, connection is made on terminal block 11-12, marked "Alarm" in the CC.

Settable values are 0-90°C.

Alarms can be transmitted for: Sensor faults, High supply temperature or Low supply temperature.

Menu 8 - Language

Available languages are:

Swedish, English, German and Finnish and Slovenian.

9. USER GUIDE ROr

In this section, each menu is described in detail.

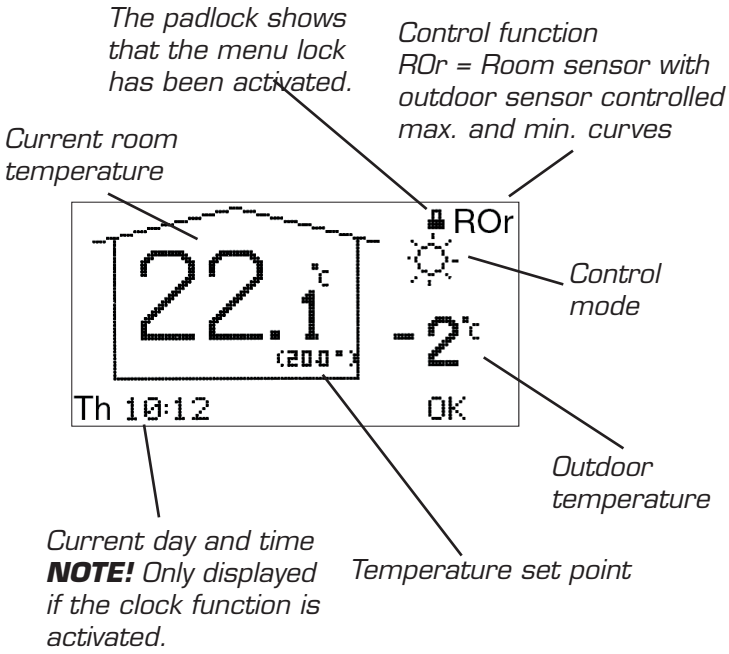
Menu 0 – Basic menu

The basic menu only shows basic information.

The current room temperature, set point for room temperature, outdoor temperature, locking (if the Security code has been activated) **and time and weekday** (if the clock function has been activated).

In menu 7.5.4 you can select that only the set point should be displayed.

It also shows which control mode is applying and which control function has been selected.



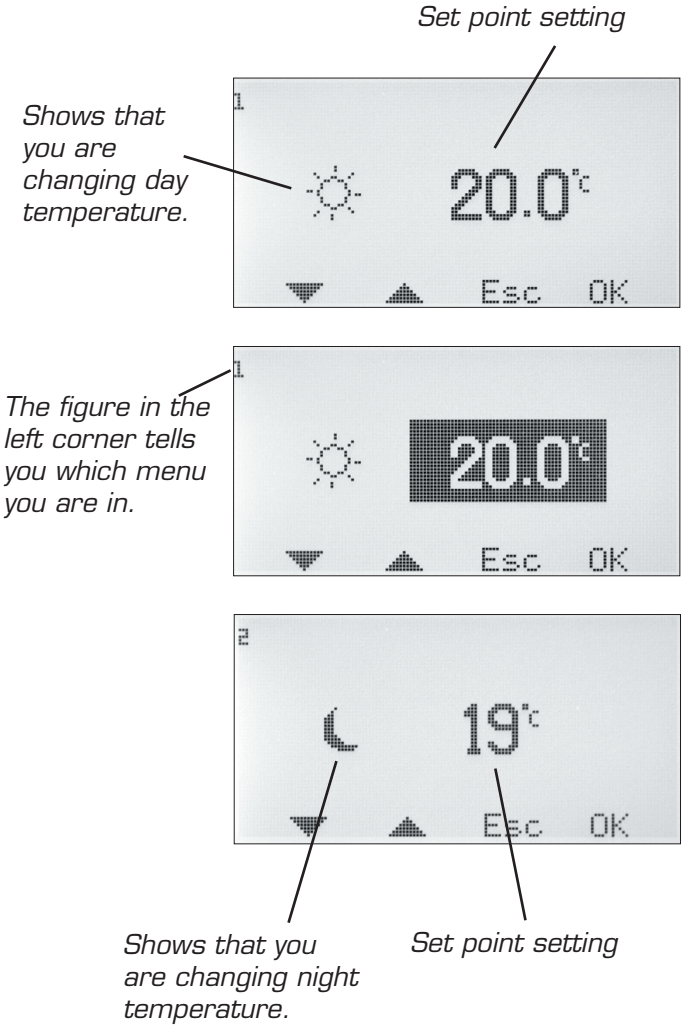
Menus 1 and 2 – Adjustment of set point for room sensor

Depending on which control mode has been selected in menu 3, a sun or a moon is displayed before the set point.

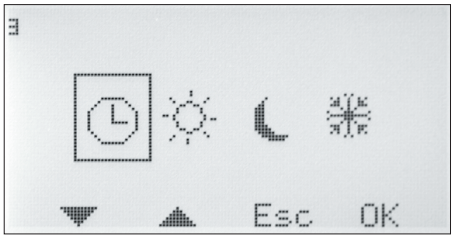
The selectable value is from 5-30°C at 0.1°C intervals for day, and 1-30°C at 1°C intervals for night.

In order to access the night setting, the clock or night temperature must be activated in menu 3.

***HINT:** By activating locking of display and/or menu changes in menus 7.5.2 and 7.5.3, you can limit access by unauthorised persons to view/change settings.*



Menu 3 – Setting control mode

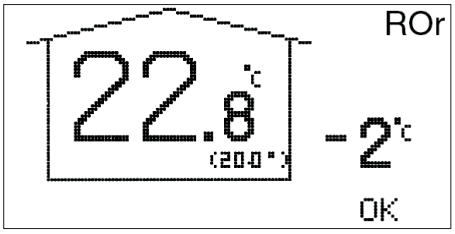


In this menu you can activate the clock function, constant day, constant night or if you want to shut down the control.

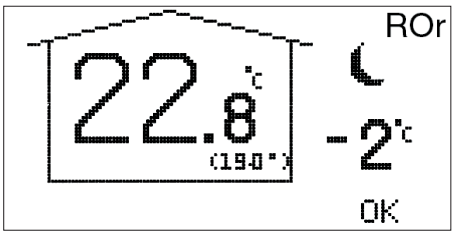
Depending on what is selected in menu 3, the basic menu, menu 0, will display different information.

Current day and time are only displayed when the clock function is activated.

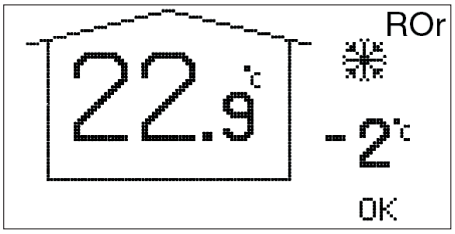
Sun = Day temperature active. Menu 0 only displays the sun when the clock is active.



Moon = Night temperature active.



Snowflake = Shut down. The set point for the Supply flow temperature is set automatically at 10°C.

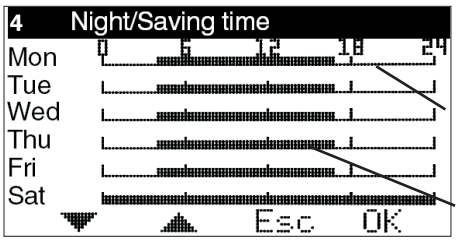


Menu 4 – Time settings for Night/Saving time

NOTE! Only displayed if the clock function is activated.

Night temperature times can be set for every day of the week.

Use the up and down arrows to go to the day you want to set. The arrow along the left edge shows which day has been selected. Press OK again to activate the selected day.



Night temperature active

Day temperature active

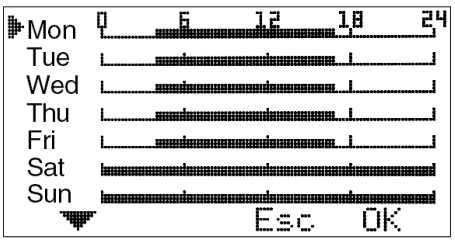
4.1.1 Time setting

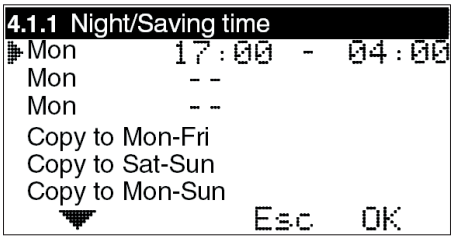
3 different times can be set for each day. The settable range is 00-24.

NOTE! Setting 17:00 – 04:00 means that a decrease takes place from 17:00 – 00:00 and 00:00 – 04:00 for the selected day, not the following day.

If you want the same decrease to apply to several days, you can use "Copy to…", to copy the decrease Monday to Friday, Saturday to Sunday, or the entire week.

Return to menu 4 to view the selected settings.

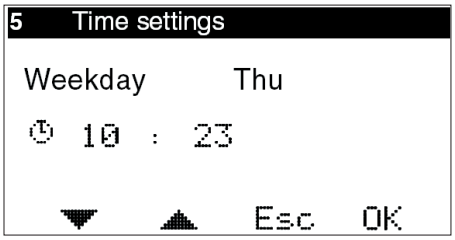




Menu 5 – Time settings

NOTE! Only displayed if the clock function is activated.

Setting of current weekday and time. Hours and minutes are set individually.



Menu 6 - List

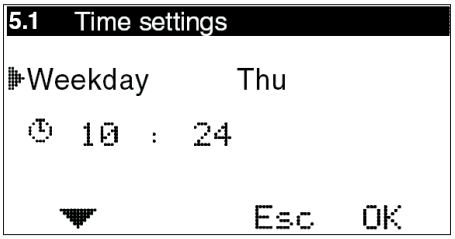
Shows all relevant temperatures and settings as below.

Values that are displayed change back and forth automatically.

Click OK to stop the changes and then the up and down arrows to browse them.

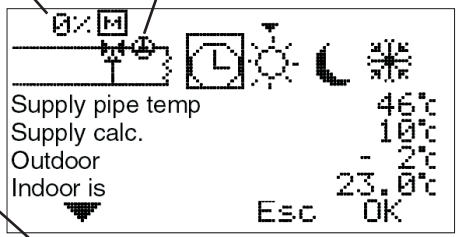
NOTE!

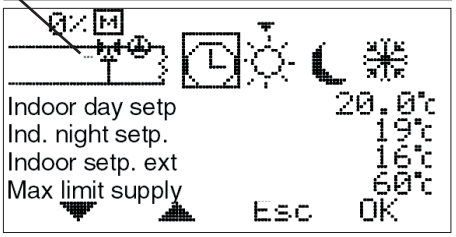
The set point for the room temperature day/night/ext is shown, even when the clock function or external setting are not used.



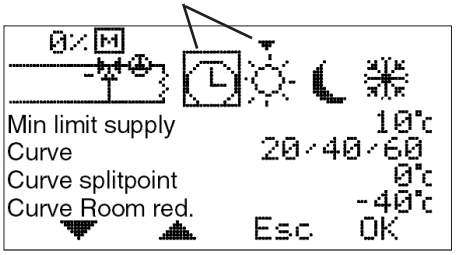
0% shows that the motor is completely closed. 100% means fully open.
+/- indicates opening/ closing

Shows that the circulation pump is active. If the pump stop function is not being used, the symbol turns constantly.

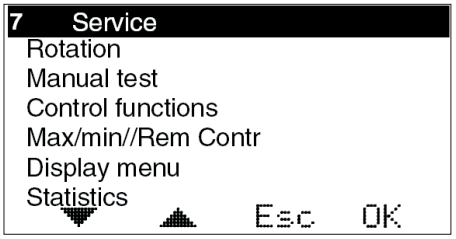




Control mode
Clock = day/night function activated
Arrow over the sun shows the day temperature is currently active.



Menu 7 - Service



The following options are available in this menu. The arrow along the left edge shows which menu has been selected.

7.1 Rotation – Setting for the direction of rotation – clockwise or anti-clockwise opening.

7.2 Manual test – Manual running of the mixing valve motor

7.3 Control functions – Selection of control function; Room sensor (R), Room+Outdoor sensor with Room priority (ROr), Outdoor+Room sensor with Outdoor priority (ROo), Outdoor sensor (O), and only Supply flow sensor (S).

7.4 Max/Min//Rem Contr – Setting of max. and min. limits for supply temperature and desired room temperature under external control.

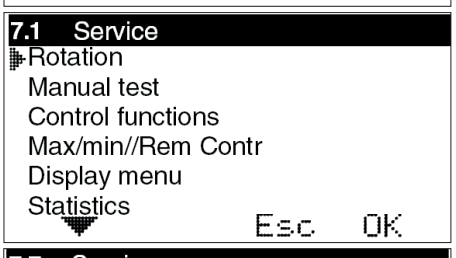
7.5 Display Menu - Setting the menus to be shown/changed.

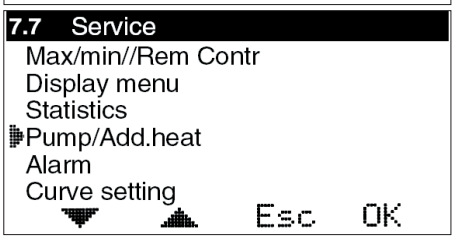
7.6 Statistics – Shows the history for temperatures for the various sensors.

7.7 Pump/Add.heat – Used in combination with the relay box to start/stop the circulation pump, heating booster etc.

7.8 Alarm – Used to send an alarm, e.g. an SMS if the GSM control is connected, if a specific sensor temperature is exceeded or not reached.

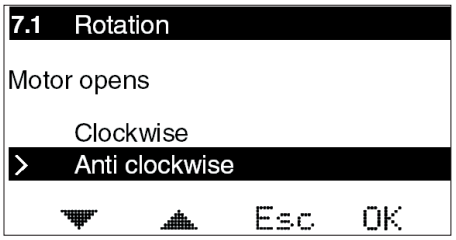
7.9 Curve setting – Setting the outdoor sensor's curve for max. and min. limitation of supply temperature





7.1 Rotation

To select clockwise or anticlockwise motor opening.



7.2 Manual test

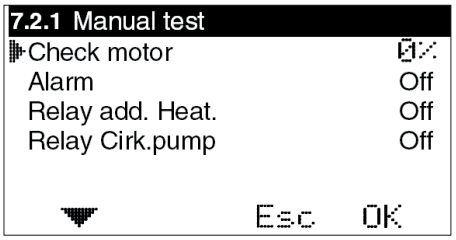
Used to test various connected functions manually.

Motor check – Press OK to open or close the motor using the up and down arrows. If the motor goes the wrong way, the direction of rotation must be changed in menu 7.1.

Alarm – Press OK to change on or off using the up and down arrows.
Used to send a signal if something is wrong. The setting is carried out in menu 7.8. In the case of an alarm, connection is made on terminal block 11-12, marked "Alarm" in the CC.

Relay add. Heat. – Press OK to change on or off using the up and down arrows. Used with the relay box to start/stop booster heating. Also see 7.7.1.

Relay Circ.pump – Press OK to change on or off using the up and down arrows. Used with the relay box to start/stop the circulation pump. Also see 7.7.1.



7.3 Control functions

Description of the various control functions can be found in "List", page 3.

R = Room sensor – Regulated by the room sensor and supply sensor.

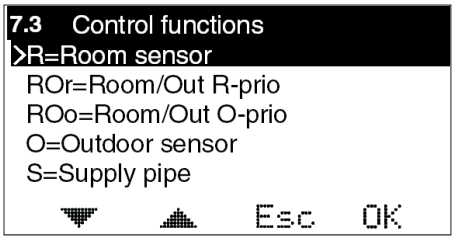
ROr* = Room/Out R-prio – Regulated by room sensor, outdoor sensor and supply flow sensor. The setting of the room sensor has priority. The outdoor sensor's curve acts partly as max. limiter and partly as min. limiter (through the Curve Room red.). This is explained in more detail in the section "User guide ROr", menu 7.9.5 (the menu is only displayed when this control function is selected).

ROo* = Room/Out O-prio – Regulated by room sensor, outdoor sensor and supply sensor. The priority is set by the outdoor sensor's curve. The room sensor acts as the max. limiter if it should become too hot indoors.

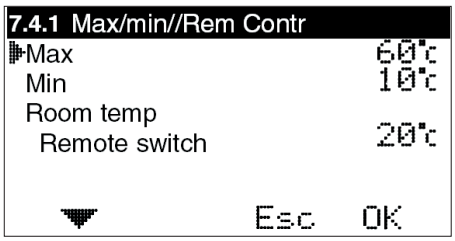
O* = Outdoor sensor – Regulated by the outdoor sensor (according to the set curve) and the supply sensor.

S = Supply pipe sensor – Regulates according to the set temperature of the supply.

**Outdoor sensor is not included in the basic package.*



7.4 Max/Min//Rem Contr

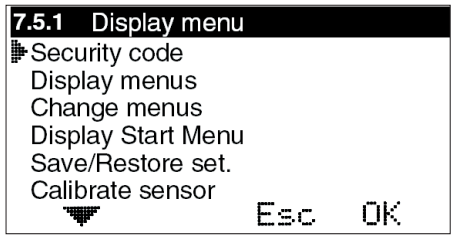


Max = Maximum permitted supply flow temperature. Settable from 5-90°C.

Min = Minimum permitted supply temperature. Especially suitable for underfloor heating systems. Settable from 5-90°C.

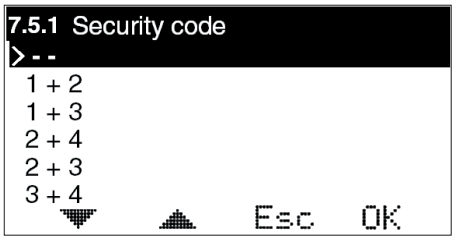
Room temp Remote switch = Desired room temperature when the external contract has closed, e.g. via GSM-control. Settable 10-30°C. External control is connected to terminals 9-10, marked "Ext" in the CC.

7.5 Display Menu



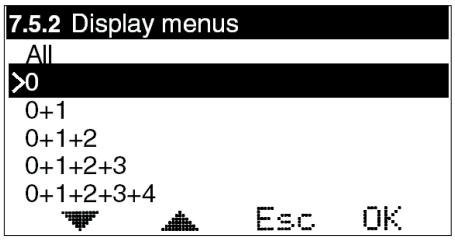
7.5.1 Security code

This is where you can specify if you want to be able to lock EC Home's buttons and menus. This occurs when 20 seconds have passed and no buttons have been pressed. The code that has been chosen is used to unlock them. When the Security code is used, the selected buttons must be pressed and held for 5 seconds to enable unlocking.



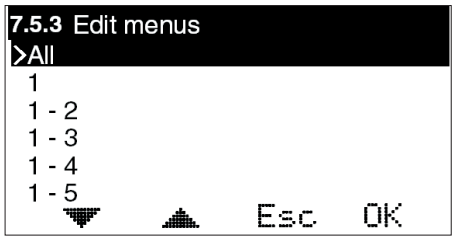
Menus 7.5.2 and 7.5.3 are displayed only when the Security code has been selected. When the menus are locked, a padlock is shown in menu 0.

7.5.2 Display menus



This is where you can select which menus are shown when the Security code is activated.

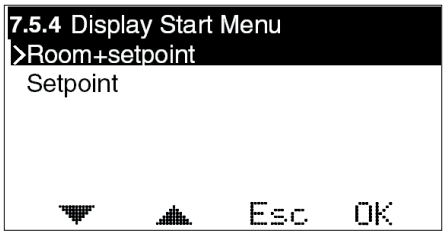
7.5.3 Edit menus

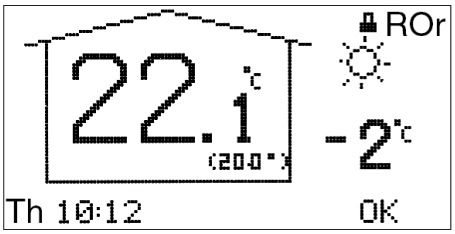


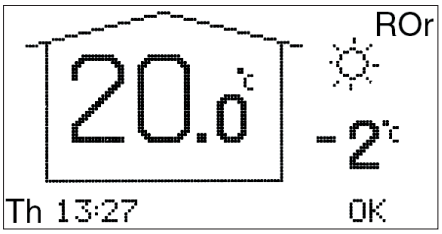
This is where you can select which menus can be edited when the Security code is activated.

7.5.4 Display Start Menu

This is where you can select whether Menu 0, which shows the temperature, shows the current temperature + the set point or just the set point.





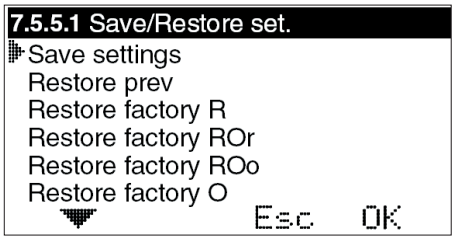


7.5.5 Save/Restore set.

Here, you can select "Save settings" to save the settings you have made.

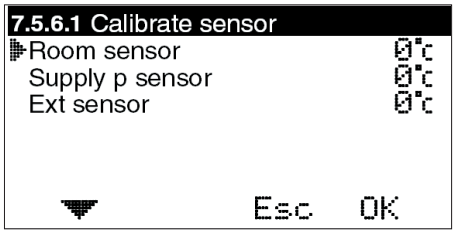
In this way, you can use "Restore prev" to go back to the correct settings if you, or anyone else, has changed the settings by mistake.

"Restore factory R/ROr/ROo/O/S" can be used to return all of the basic settings to the factory settings.

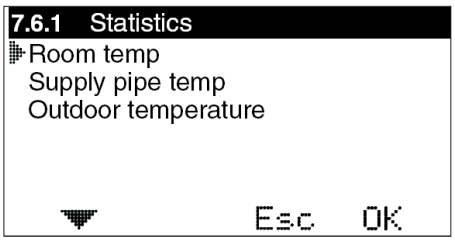


7.5.6 Calibrate sensor

This is where you can select to adjust the value of the supply flow sensor, room sensor or outdoor sensor if you do not think that the value shown on EC Home is correct. Settable from +5 to -5°C.



7.6 Statistics

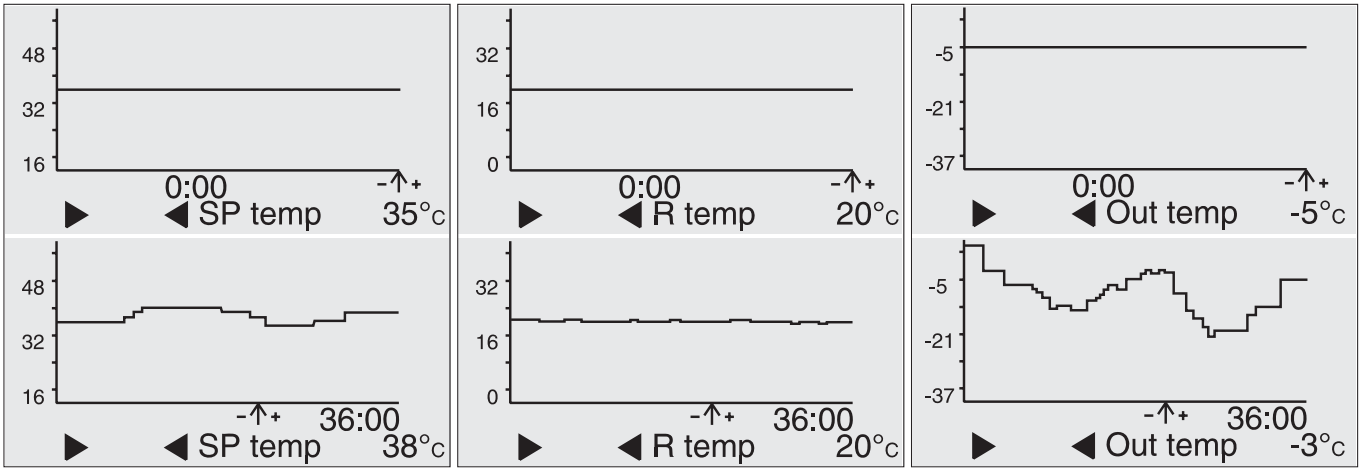


This is where you see what the Supply pipe temperature, Room temperature and Outdoor temperature have been over the last few hours.

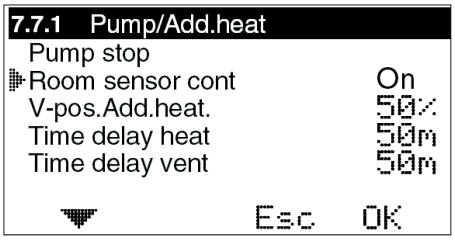
The supply sensor shows the last 200 minutes, minute by minute. The values for the other sensors change much more slowly, and here you can see the last 200 hours, hour by hour.

Use the up and down arrows to mark the sensor you want to view the statistics for, and press OK to view a temperature graph. You then use the left or right arrows to move the cursor at the bottom right of the graph to read the value for a spe**c**ific minute or hour. **HINT:** By pressing on the right arrow straight away you can jump to the oldest value.

Click Esc to return to the Statistics menu.



7.7 Pump/Add.heat



This is where you set whether you will use the function for start/stop of the circulation pump to the heating system, booster heating etc. ***NOTE!*** *An extra box is required.*

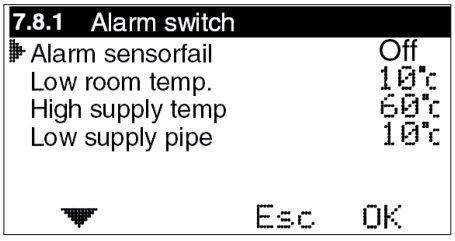
Pump stop Room sensor cont On/Off – If this function is activated the pump will stop when the control motor has been fully closed for 60 minutes. Thereafter, the pump is run for 5 minutes at noon every day
NOTE! The time is retrieved from the set time. If not time is set, noon is regarded as being 12 hours after system start-up. When the room sensor wants heating, the pump restarts immediately.

V-pos.Add.heat – If you want booster heating to start when the valve is in a specific position, you can set that here. 0 means that the motor is completely closed, 100 that the motor is completely open.

Time delay heat – How long it must take after the above valve position is achieved before the booster heating starts.

Time delay vent – How long it must take from the booster heating starts until the motor opens more.

7.8 Alarm switch



Is used to send an alarm, e.g. SMS, if a specific temperature is exceeded/not reached by a sensor. ***NOTE!*** *Requires special equipment.*
In the case of an alarm, connection is made on terminal block 11-12, marked "Alarm" in the CC. Settable values are 0-90°C.

Alarms can be transmitted for: Sensor fault, Low room temperature, High supply temperature or Low supply temperature.

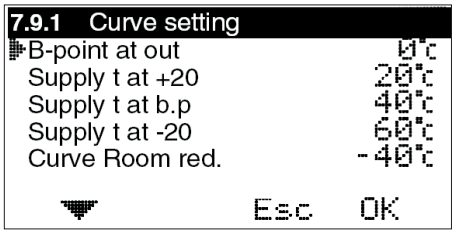
Menu 8 - Language

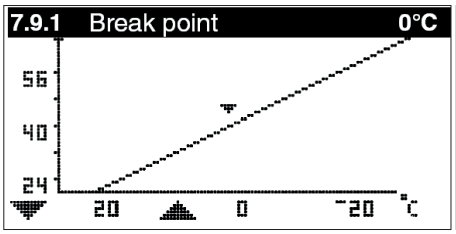
Available languages are: Swedish, English, German and Finnish and Slovenian.

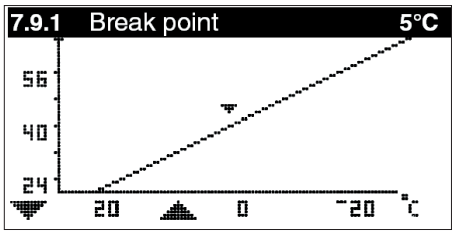
7.9 Curve setting

When control is run in ROr mode, this setting is used for the supply temperature and also for the minimum limit if Curve Room reduction is used.

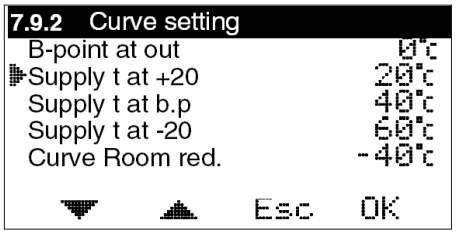
7.9.1 B-point at out – This setting allows you to break the curve at a selected outdoor temperature.

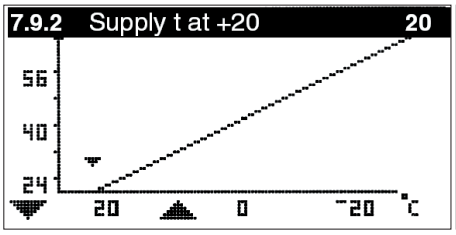


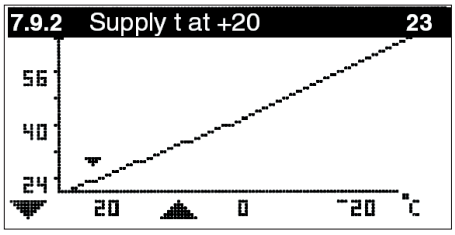




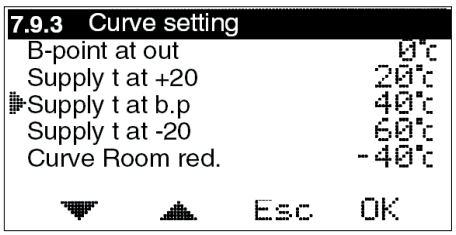
7.9.2/7.9.4 Supply t at +20 / -20 – What the supply temperature shall be at +20 and -20°C outdoors, respectively.

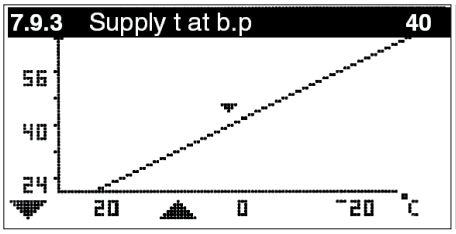


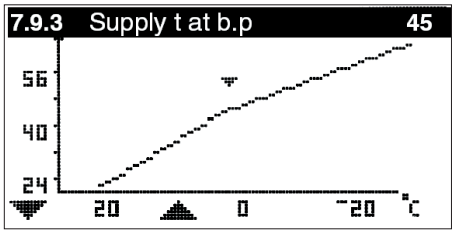




7.9.3 Supply t at b.p – What the supply temperature must be at the set break point.

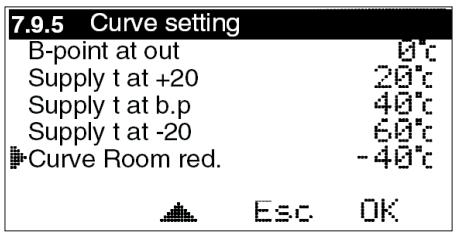




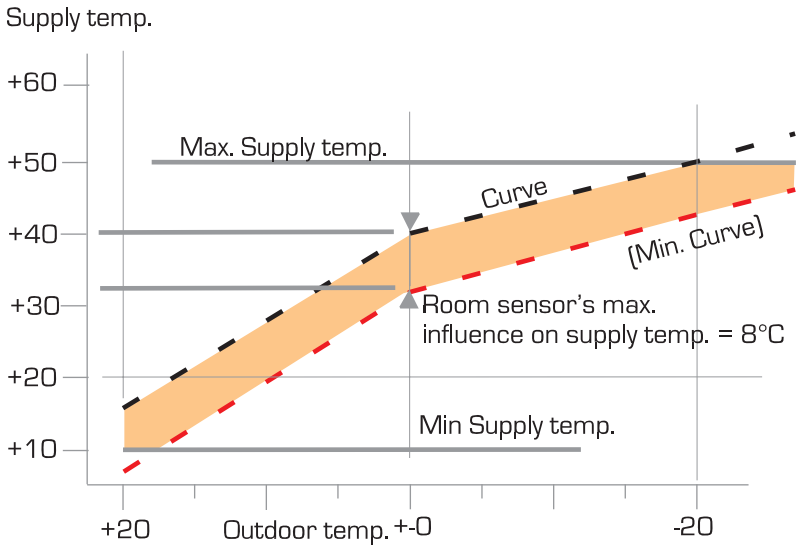


7.9.5 Curve Room red. – Limit the maximum number of degrees the supply temperature can be reduced below the set curve.

For examples and hints about settings, se next page.

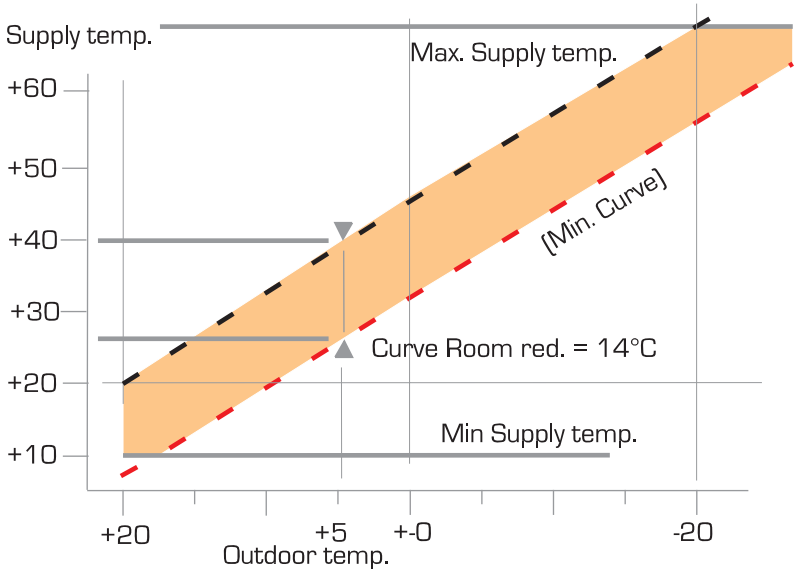


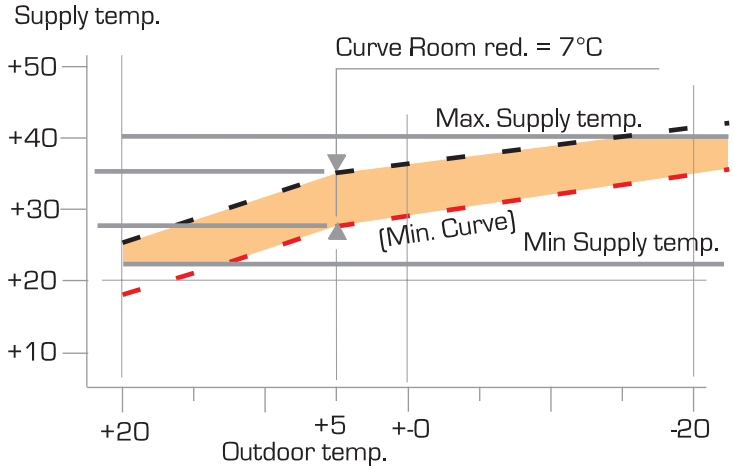
Settings in control option ROr



Examples of settings for "low temp." radiator circuits:
Curve: Supply 16 at outdoor +20
Supply 40 at break point outdoor +-0
Supply 50 at outdoor -20

Max. / Min. limit: +50 / +10
Curve Room red. / Min. curve : 8





Curve setting
Limits maximum supply temperature according to outdoor temperature.

Advantages:
1. Limits power when the heat source can deliver unlimited power in relation to the heating needs, e.g. with stored wood burning.
2. Settable break point on the curve means that it can be adapted for windy and bitterly cold weather.
3. Creates preconditions for R reduction of the curve.

Curve Room red. (Min. curve)
Limits room sensors' possibility of reducing supply temperature when it is too hot in the house.

Benefits of the Curve Room red.
1. At low outdoor temperature you prevent cold shock on windows because the radiators are too cold.
2. Out of the way rooms do not get "too cold" even if the room sensor is, at the time, "too hot".

Max.
In order to avoid unnecessarily high supply temperatures. Protect floors in underfloor heating systems from overheating.

Min.
Floors do not get "icy cold".
"Frost protection" in the case of long-term reduction.

Example of setting for "High temp" radiator circuits:
Curve: Supply 20 at outdoor +20
Supply 40 at break point outdoor +5
Supply 70 at outdoor -20

Max. / Min. limit: +70 / +10
Curve Room red.: 14

Example of setting for underfloor heating circuit:
Curve: Supply 25 at outdoor +20
Supply 35 at break point outdoor +5
Supply 42 at outdoor -20

Max. / Min. limit: +40 / +22
Curve Room red.: 7

10. USER GUIDE ROo

In this section, each menu is described in detail.

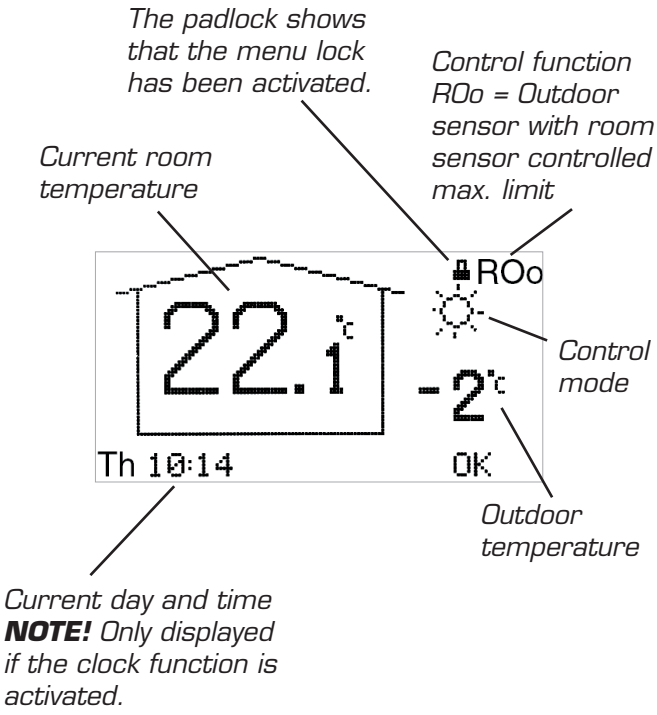
Menu 0 – Basic menu

The basic menu only shows basic information.

The current room temperature, set max. room temperature, outdoor temperature, locking (if the Security code has been activated) **and time and weekday** (if the clock function has been activated).

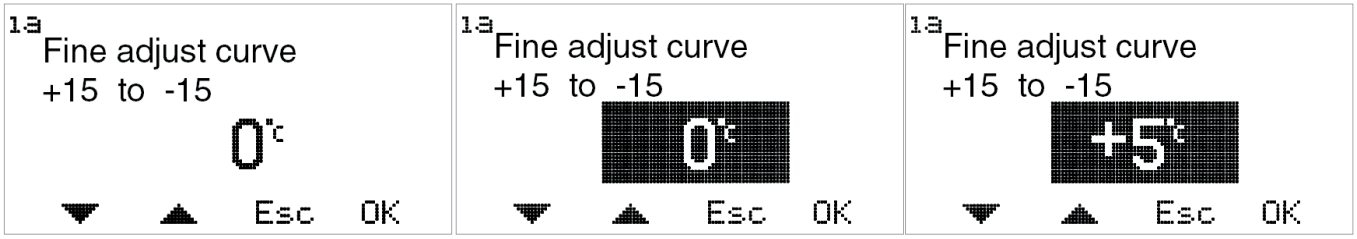
It also shows which control mode is applying and which control function has been selected.

***HINT:** By activating locking of display and/or menu changes in menus 7.5.2 and 7.5.3, you can limit access by unauthorised persons to view/change settings.*

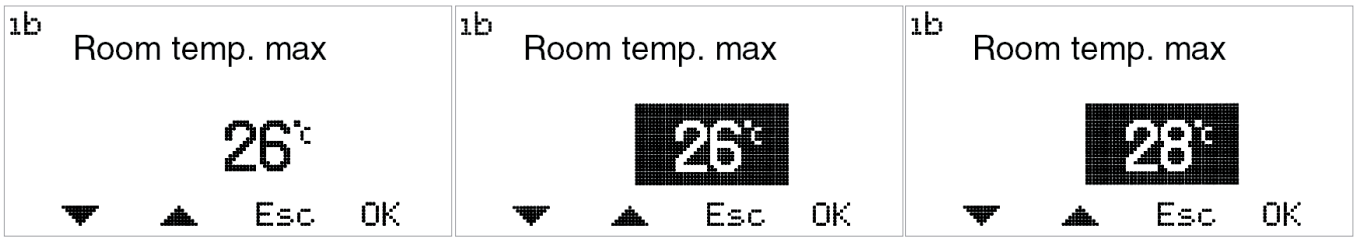


Menus 1 and 2 – Fine adjustment of curves, setting of max. value for room temperature and night reduction of supply temperature

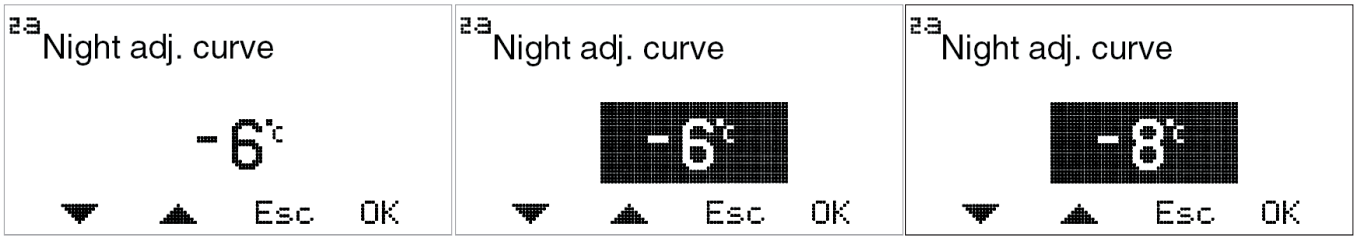
Fine adjustment of the curve means that you raise or lower the number of degrees set on the temperature curve.



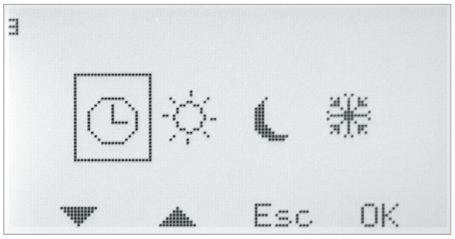
Room temp. max is the maximum permitted room temperature. If the room temperature exceeds the set value, EC Home closes the mixing valve, even if the curve is higher. Settable values are 10-30°C.



Night reduction of the curve means that you reduce the number of degrees set on the entire curve when night reduction is activated. Settable values are 0 to -40°C.
In order to access the night setting, the clock or night temperature must be activated in menu 3.



Menu 3 – Setting control mode



In this menu you can activate the clock function, constant day, constant night or if you want to shut down the control.

Depending on what is selected in menu 3, the basic menu, menu 0, will display different information.

Current day and time are only displayed when the clock function is activated.

Sun = Day temperature active. Menu 0 only displays the sun when the clock is active.

Moon = Night temperature active.

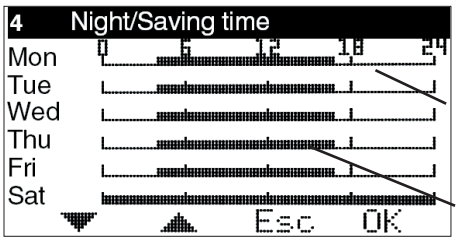
Snowflake = Shut down. The set point for the Supply flow temperature is set automatically at 10°C.

Menu 4 – Time settings for Night/Saving time

NOTE! Only displayed if the clock function is activated.

Night temperature times can be set for every day of the week.

Use the up and down arrows to go to the day you want to set. The arrow along the left edge shows which day has been selected. Press OK again to activate the selected day.



Night temperature active

Day temperature active

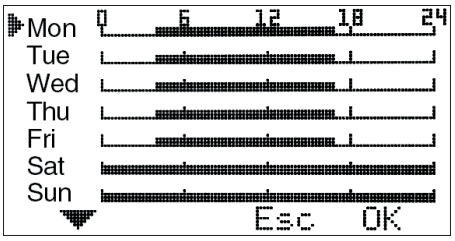
4.1.1 Time setting

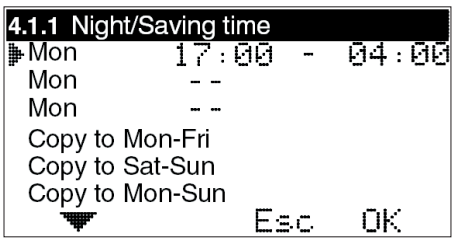
3 different times can be set for each day. The settable range is 00-24.

NOTE! Setting 17:00 – 04:00 means that a decrease takes place from 17:00 – 00:00 and 00:00 – 04:00 for the selected day, not the following day.

If you want the same decrease to apply to several days, you can use "Copy to…", to copy the decrease Monday to Friday, Saturday to Sunday, or the entire week.

Return to menu 4 to view the selected settings.

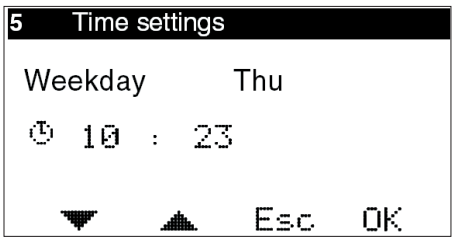


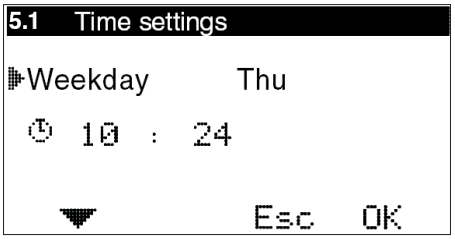


Menu 5 – Time settings

NOTE! Only displayed if the clock function is activated.

Setting of current weekday and time. Hours and minutes are set individually.





Menu 6 - List

Displays current temperatures and functions as follows.

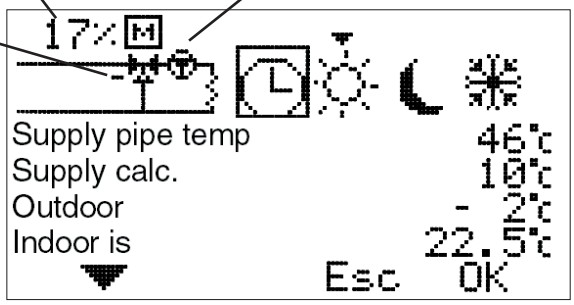
Values that are displayed change back and forth automatically.

Click OK to stop the changes and then the up and down arrows to browse them.

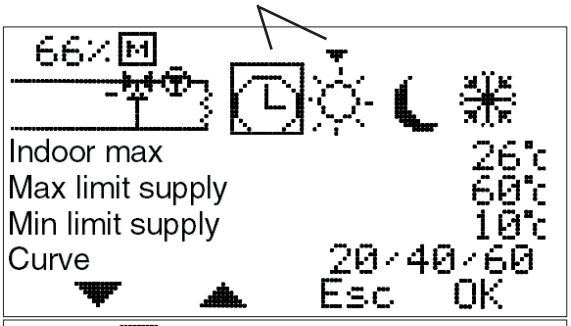
NOTE!
The set value for Night reduction curve, External reduction of the curve are displayed, even if the clock function or external change are not used.

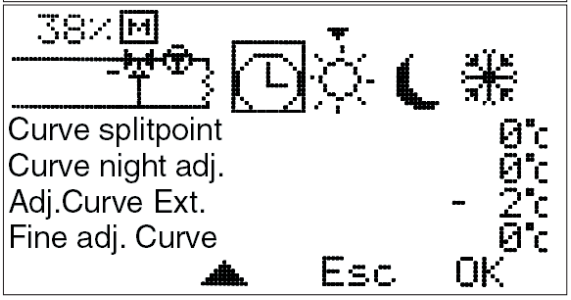
0% shows that the motor is completely closed. 100% means fully open.
+/- indicates opening/ closing

Shows that the circulation pump is active. If the pump stop function is not being used, the symbol turns constantly.

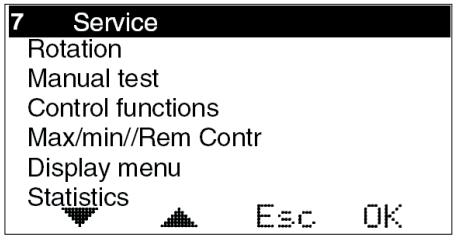


Control mode
Clock = day/night function activated
Arrow over the sun shows the day temperature is currently active.





Menu 7 - Service



The following options are available in this menu. The arrow along the left edge shows which menu has been selected.

7.1 Rotation – Setting for the direction of rotation – clockwise or anti-clockwise opening.

7.2 Manual test – Manual running of the mixing valve motor

7.3 Control functions – Selection of control function; Room sensor (R), Room+Outdoor sensor with Room priority (ROr), Outdoor+Room sensor with Outdoor priority (ROo), Outdoor sensor (O), and only Supply flow sensor (S).

7.4 Max/Min//Rem Contr – Setting of max. and min. limits for supply temperature and reduction of supply temperature under external control.

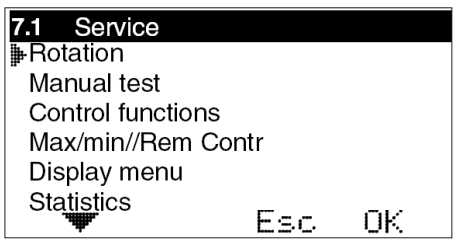
7.5 Display Menu - Setting the menus to be shown/changed.

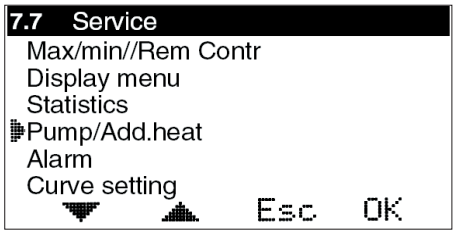
7.6 Statistics – Shows the history for temperatures for the various sensors.

7.7 Pump/Add.heat – Used in combination with the relay box to start/stop the circulation pump, heating booster etc.

7.8 Alarm – Used to send an alarm, e.g. an SMS if the GSM control is connected, if a specific sensor temperature is exceeded or not reached.

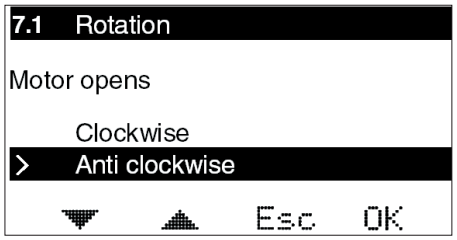
7.9 Curve setting – Setting the outdoor sensor's curve for supply temperature





7.1 Rotation

To select clockwise or anticlockwise motor opening.



7.2 Manual test

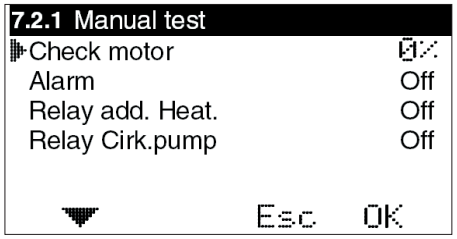
Used to test various connected functions manually.

Motor check – Press OK to open or close the motor using the up and down arrows. If the motor goes the wrong way, the direction of rotation must be changed in menu 7.1.

Alarm – Press OK to change on or off using the up and down arrows.
Used to send a signal if something is wrong. The setting is carried out in menu 7.8.
In the case of an alarm, connection is made on terminal block 11-12, marked "Alarm" in the CC.

Relay add. Heat. – Press OK to change on or off using the up and down arrows.
Used with the relay box to start/stop booster heating. Also see 7.7.1.

Relay Circ.pump – Press OK to change on or off using the up and down arrows.
Used with the relay box to start/stop the circulation pump. Also see 7.7.1.



7.3 Control functions

Description of the various control functions can be found in "List", page 3.

R = Room sensor – Regulated by the room sensor and supply sensor.

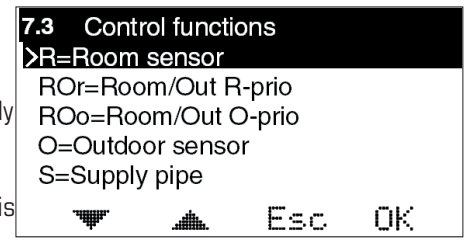
ROr* = Room/Out R-prio – Regulated by room sensor, outdoor sensor and supply flow sensor. The setting of the room sensor has priority. The outdoor sensor's curve acts partly as max. limiter and partly as min. limiter (through the Curve Room red.). This is explained in more detail in the section "User guide ROr", menu 7.9.5 (the menu is only displayed when this control function is selected).

ROo* = Room/Out O-prio – Regulated by room sensor, outdoor sensor and supply sensor. The priority is set by the outdoor sensor's curve. The room sensor acts as the max. limiter if it should become too hot indoors.

O* = Outdoor sensor – Regulated by the outdoor sensor (according to the set curve) and the supply sensor.

S = Supply pipe sensor – Regulates according to the set temperature of the supply.

**Outdoor sensor is not included in the basic package.*

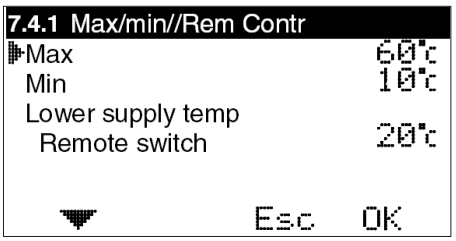


7.4 Max/min//Rem Contr

Max = Maximum permitted supply flow temperature. Settable from 5-90°C.

Min = Minimum permitted supply temperature. Especially suitable for underfloor heating systems. Settable from 5-90°C.

Lower supply temp Remote switch = The number of degrees that the supply temperature should be reduced when the external contact is closed, e.g. via GSM control.
External control is connected to terminals 9-10, marked "Ext" in the CC.

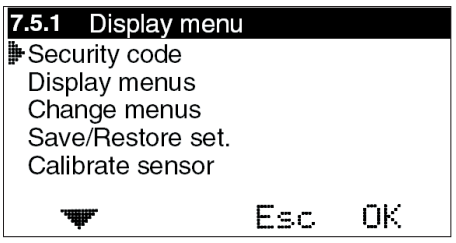


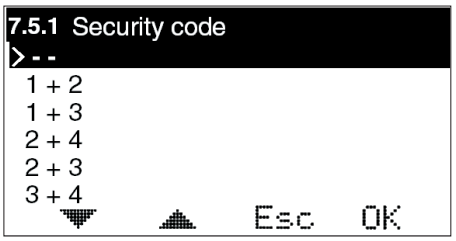
7.5 Display Menu

7.5.1 Security code

This is where you can specify if you want to be able to lock EC Home's buttons and menus. This occurs when 20 seconds have passed and no buttons have been pressed. The code that has been chosen is used to unlock them. When the Security code is used, the selected buttons must be pressed and held for 5 seconds to enable unlocking.

Menus 7.5.2 and 7.5.3 are displayed only when the Security code has been selected. When the menus are locked, a padlock is shown in menu 0.



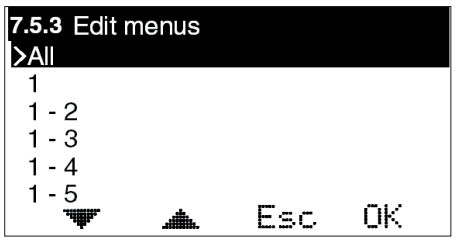


7.5.2 Display menus

This is where you can select which menus are shown when the Security code is activated.

7.5.3 Edit menus

This is where you can select which menus can be edited when the Security code is activated.

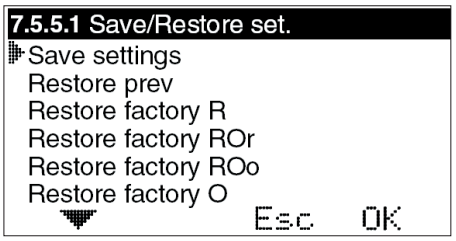


7.5.5 Save/Restore set.

Here, you can select "Save settings" to save the settings you have made.

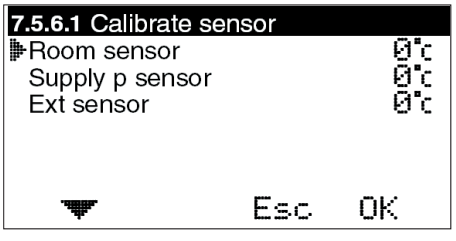
In this way, you can use "Restore prev" to go back to the correct settings if you, or anyone else, has changed the settings by mistake.

"Restore factory R/ROr/ROo/O/S" can be used to return all of the basic settings to the factory settings.

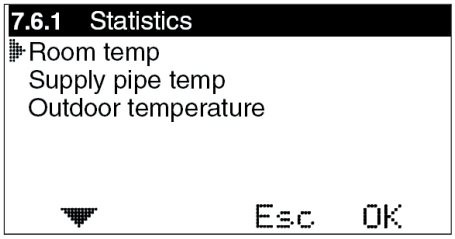


7.5.6 Calibrate sensor

This is where you can select to adjust the value of the supply flow sensor or room sensor if you do not think that the value shown on EC Home is correct.
Settable from +5 to -5°C.



7.6 Statistics

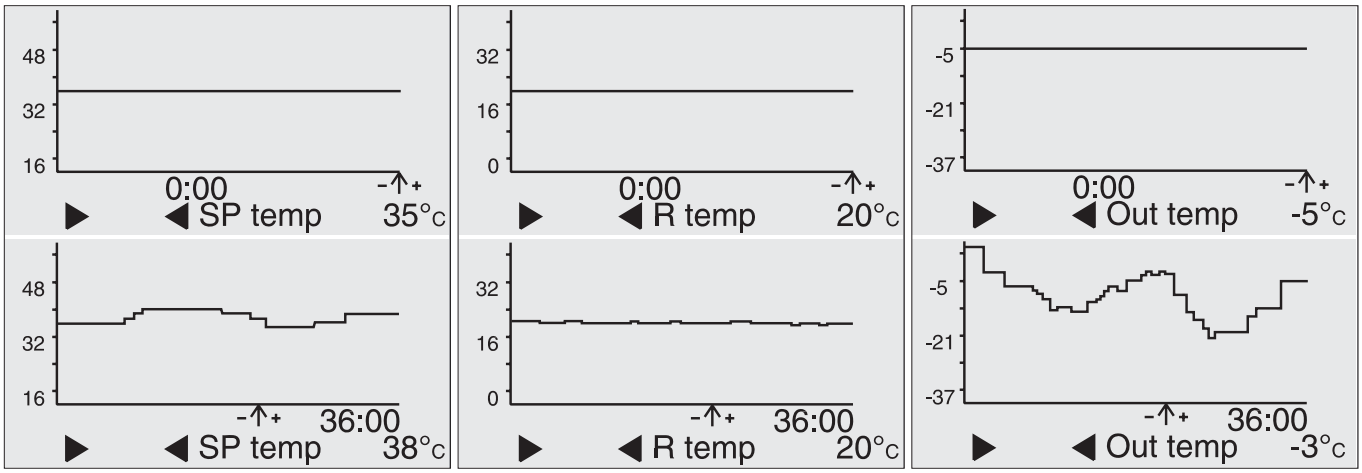


This is where you see what the Supply pipe temperature, Room temperature and Outdoor temperature have been over the last few hours.

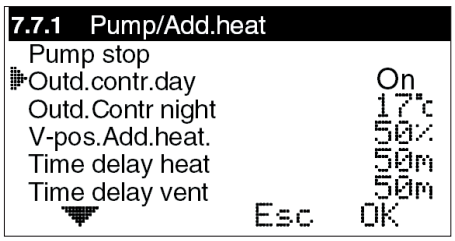
The supply sensor shows the last 200 minutes, minute by minute. The values for the other sensors change much more slowly, and here you can see the last 200 hours, hour by hour.

Use the up and down arrows to mark the sensor you want to view the statistics for, and press OK to view a temperature graph. You then use the left or right arrows to move the cursor at the bottom right of the graph to read the value for a spe**c**ific minute or hour. **HINT:** By pressing on the right arrow straight away you can jump to the oldest value.

Click Esc to return to the Statistics menu.



7.7 Pump/Add.heat



This is where you set whether you will use the function for start/stop of the circulation pump to the heating system, booster heating etc. ***NOTE!*** *An extra box is required.*

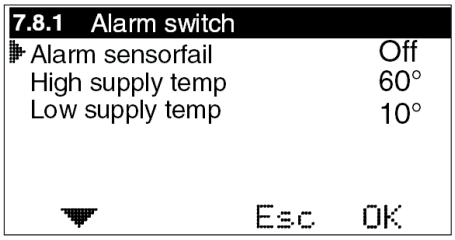
Pump stop Outdoor controlled day/night – Used to stop the pump when a specific outdoor temperature is exceeded. This temperature can distinguish between day and night. Settable values are Off (function disabled) and 5-20°C. The pump is run for 5 minutes at noon every day. **NOTE!** The time is retrieved from the set time. If not time is set, noon is regarded as being 12 hours after system start-up.

V-pos.Add.heat – If you want booster heating to start when the valve is in a specific position, you can set that here. 0 means that the motor is completely closed, 100 that the motor is completely open.

Time delay heat – How long it must take after the above valve position is achieved before the booster heating starts.

Time delay vent – How long it must take from the booster heating starts until the motor opens more.

7.8 Alarm switch



Is used to send an alarm, e.g. SMS, if a specific temperature is exceeded/not reached by a sensor. ***NOTE!*** *Requires special equipment.*
In the case of an alarm, connection is made on terminal block 11-12, marked "Alarm" in the CC. Settable values are 0-90°C.

Alarms can be transmitted for: Sensor faults, High supply temperature or Low supply temperature.

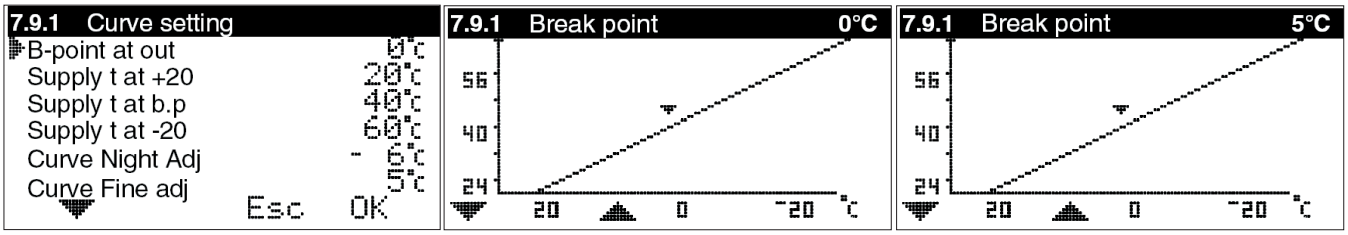
Menu 8 - Language

Available languages are: Swedish, English, German, Finnish and Slovenian.

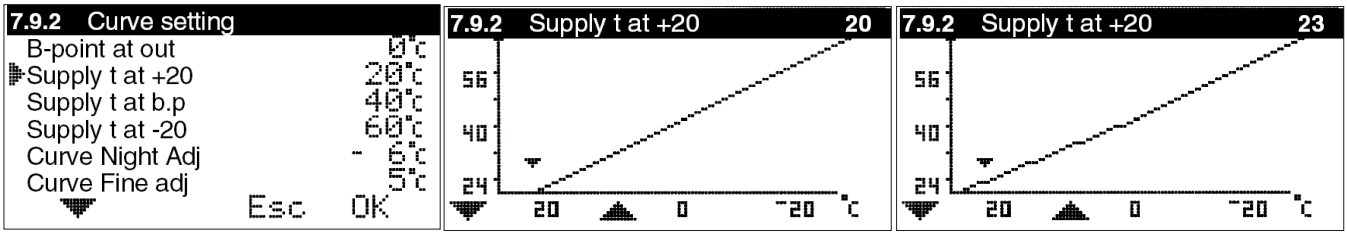
7.9 Curve setting

The supply temperature can be set for 2 fixed end positions and a settable intermediate point, the so-called break point.

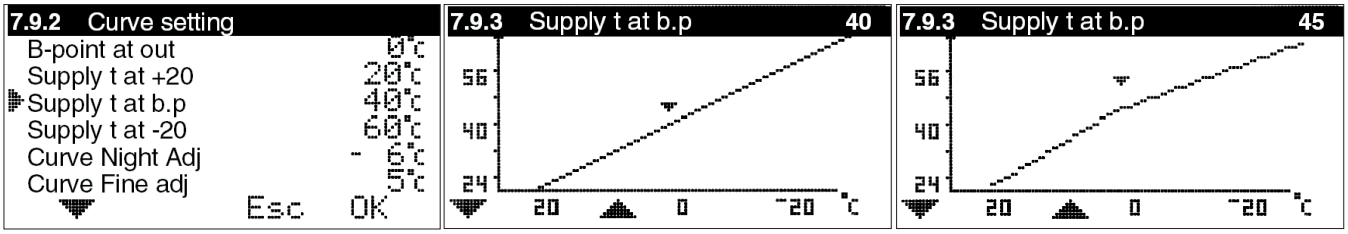
7.9.1 B-point at out – This setting allows you to break the curve at a selected outdoor temperature.



7.9.2/7.9.4 Supply t at +20 / -20 – What the supply temperature shall be at +20 and -20°C outdoors, respectively.



7.9.3 Supply t at b.p – What the supply temperature must be at the set break point.



7.9.5 Curve Night Adj – Means that the entire curve is displaced in parallel by the degrees below when the night reduction is activated.

7.9.6 Curve fine adj – Fine adjustment of the curve means that you increase or decrease the number of degrees set on the curve. Settable from +15 to -15°C.

11. USER GUIDE O

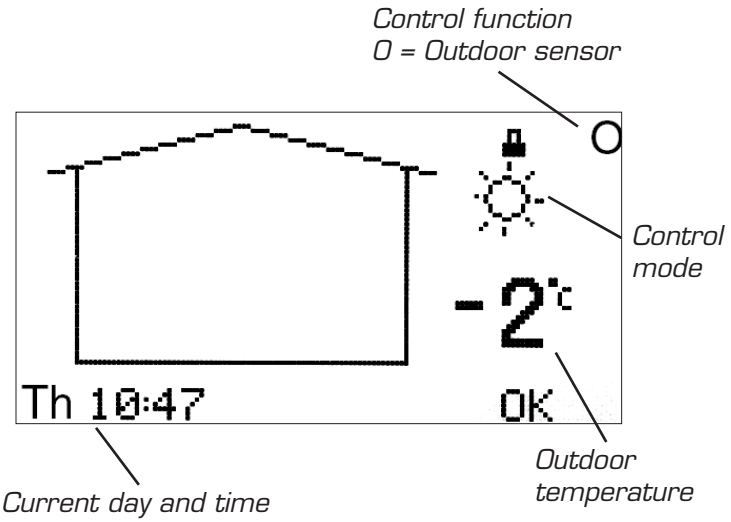
In this section, each menu is described in detail.

Menu 0 – Basic menu

The basic menu only shows basic information.

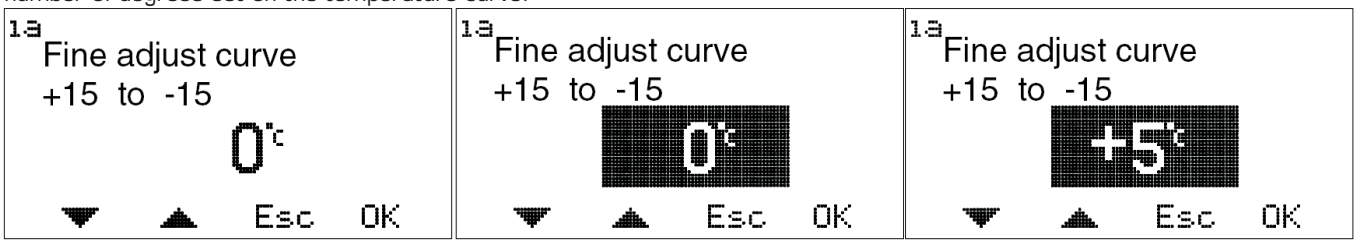
Current outdoor temperature, locking (if the Security code has been activated) **and time and day of the week** (if the clock function has been activated).

It also shows which control mode is applying and which control function has been selected.



Menu 1 – Fine adjustment of the curve

Fine adjustment of the curve means that you raise or lower the number of degrees set on the temperature curve.

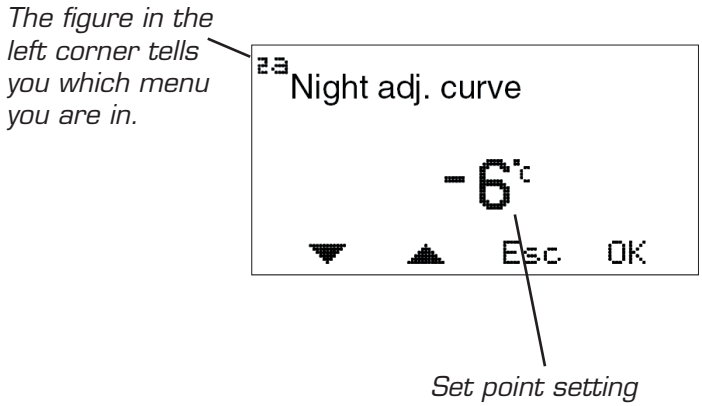


Menu 2 – Adjustment of night reduction of the supply temperature

Settable values are 0 to -40°C.

In order to access the night setting, the clock or night temperature must be activated in menu 3.

***HINT:** By activating locking of display and/or menu changes in menus 7.5.2 and 7.5.3, you can limit access by unauthorised persons to view/change settings.*



Menu 3 – Setting control mode

In this menu you can activate the clock function, constant day, constant night or if you want to shut down the control.

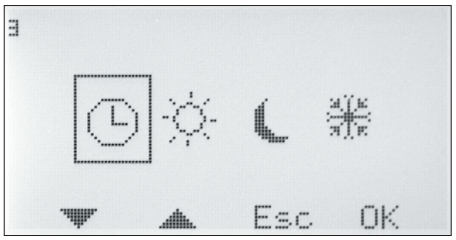
Depending on what is selected in menu 3, menus 0 and 6 will display different information.

Current day and time are only displayed when the clock function is activated.

Sun = Day temperature active

Moon = Night temperature active.

Snowflake = Shut down. The set point for the Supply flow temperature is set automatically at 10°C.

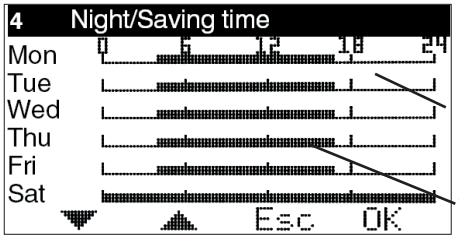


Menu 4 – Time settings for Night/Saving time

NOTE! Only displayed if the clock function is activated.

Night temperature times can be set for every day of the week.

Use the up and down arrows to go to the day you want to set. The arrow along the left edge shows which day has been selected. Press OK again to activate the selected day.



Night temperature active

Day temperature active

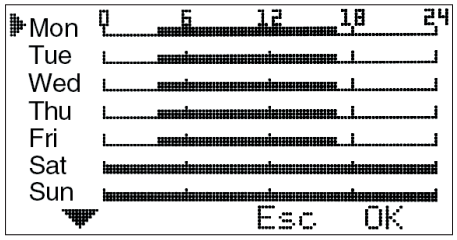
4.1.1 Time setting

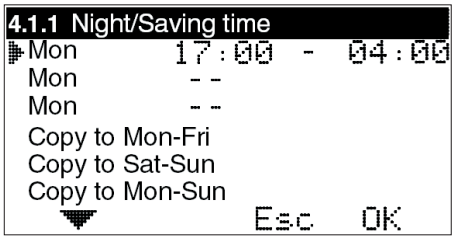
3 different times can be set for each day. The settable range is 00-24.

NOTE! Setting 17:00 – 04:00 means that a decrease takes place from 17:00 – 00:00 and 00:00 – 04:00 for the selected day, not the following day.

If you want the same decrease to apply to several days, you can use "Copy to…", to copy the decrease Monday to Friday, Saturday to Sunday, or the entire week.

Return to menu 4 to view the selected settings.

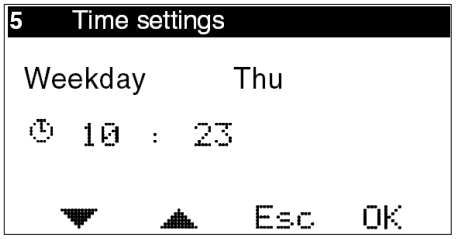


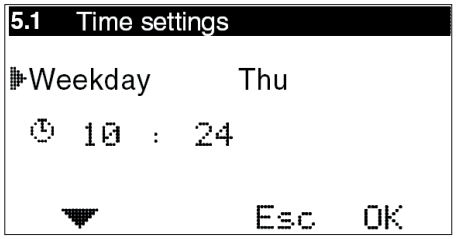


Menu 5 – Time settings

NOTE! Only displayed if the clock function is activated.

Setting of current weekday and time. Hours and minutes are set individually.





Menu 6 - List

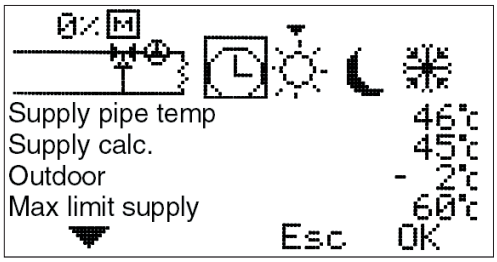
Displays current temperatures and functions as follows

Values that are displayed change back and forth automatically. Click OK to stop the changes and then the up and down arrows to browse them.

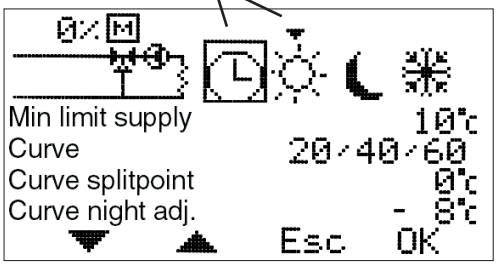
The current supply temperature, calculated supply temperature, outdoor temperature, max. limit, min. limit, curve setting, curve break point, set night reduction for the curve, set external reduction of the curve, and fine adjustment of the curve.

It also shows which control mode is applying and which control function has been selected.

NOTE!
The set value for Night reduction of the curve and External reduction of the curve are displayed, even if the clock function or external change are not used.

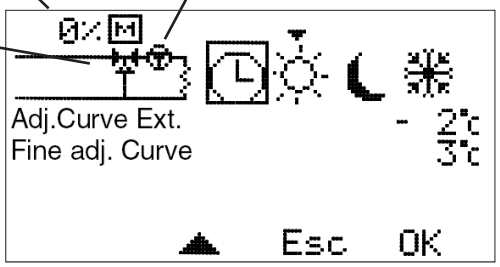


Control mode
Clock = day/night function activated
Arrow over the sun shows the day temperature is currently active.

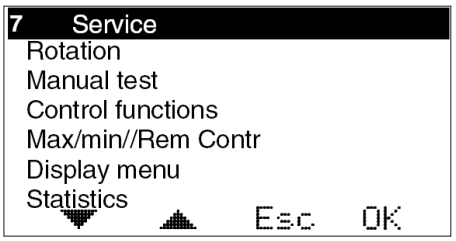


0% shows that the motor is completely closed. 100% means fully open.
+/- indicates opening/ closing

Shows that the circulation pump is active. If the pump stop function is not being used, the symbol turns constantly.



Menu 7 - Service



The following options are available in this menu. The arrow along the left edge shows which menu has been selected.

7.1 Rotation – Setting for the direction of rotation – clockwise or anti-clockwise opening.

7.2 Manual test – Manual running of the mixing valve motor

7.3 Control functions – Selection of control function; Room sensor (R), Room+Outdoor sensor with Room priority (ROr), Outdoor+Room sensor with Outdoor priority (ROo), Outdoor sensor (O), and only Supply flow sensor (S).

7.4 Max/Min//Rem Contr – Setting of max. and min. limits for supply temperature and reduction of supply temperature under external control.

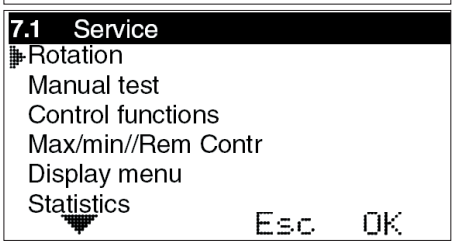
7.5 Display Menu - Setting the menus to be shown/changed.

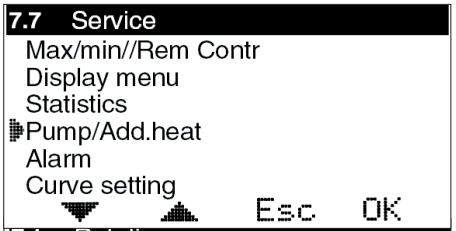
7.6 Statistics – Shows the history for temperatures for the various sensors.

7.7 Pump/Add.heat – Used in combination with the relay box to start/stop the circulation pump, heating booster etc.

7.8 Alarm – Used to send an alarm, e.g. an SMS if the GSM control is connected, if a specific sensor temperature is exceeded or not reached.

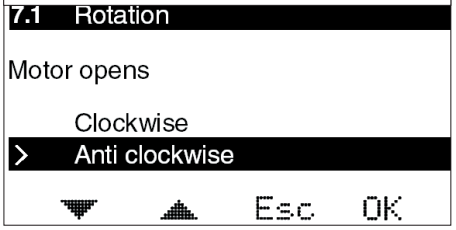
7.9 Curve setting – Setting the outdoor sensor's curve for supply temperature





7.1 Rotation

To select clockwise or anticlockwise motor opening.



7.2 Manual test

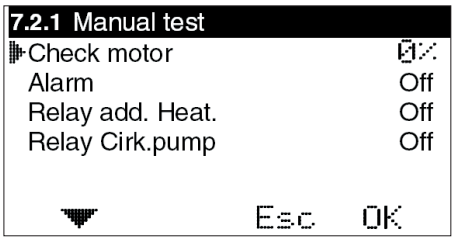
Used to test various connected functions manually.

Motor check – Press OK to open or close the motor using the up and down arrows. If the motor goes the wrong way, the direction of rotation must be changed in menu 7.1.

Alarm – Press OK to change on or off using the up and down arrows.
Used to send a signal if something is wrong. The setting is carried out in menu 7.8. In the case of an alarm, connection is made on terminal block 11-12, marked "Alarm" in the CC.

Relay add. Heat. – Press OK to change on or off using the up and down arrows. Used with the relay box to start/stop booster heating. Also see 7.7.1.

Relay Circ.pump – Press OK to change on or off using the up and down arrows. Used with the relay box to start/stop the circulation pump. Also see 7.7.1.



7.3 Control functions

Description of the various control functions can be found in "List", page 3.

R = Room sensor – Regulated by the room sensor and supply sensor.

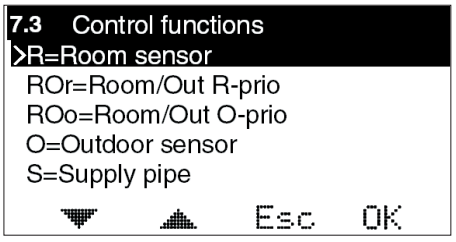
ROr* = Room/Out R-prio – Regulated by room sensor, outdoor sensor and supply flow sensor. The setting of the room sensor has priority. The outdoor sensor's curve acts partly as max. limiter and partly as min. limiter (through the Curve Room red.). This is explained in more detail in the section "User guide ROr", menu 7.9.5 (the menu is only displayed when this control function is selected).

ROo* = Room/Out O-prio – Regulated by room sensor, outdoor sensor and supply sensor. The priority is set by the outdoor sensor's curve. The room sensor acts as the max. limiter if it should become too hot indoors.

O* = Outdoor sensor – Regulated by the outdoor sensor (according to the set curve) and the supply sensor.

S = Supply pipe sensor – Regulates according to the set temperature of the supply.

**Outdoor sensor is not included in the basic package.*

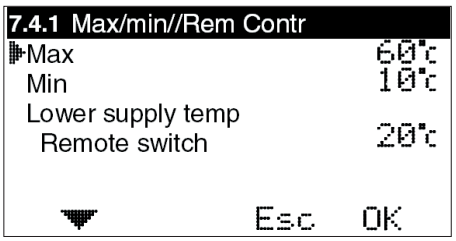


7.4 Max/Min//Rem Contr

Max = Maximum permitted supply flow temperature. Settable from 5-90°C.

Min = Minimum permitted supply temperature. Especially suitable for underfloor heating systems. Settable from 5-90°C.

Lower supply temp Remote switch =
The number of degrees that the supply temperature should be reduced when the external contact is closed, e.g. via GSM control. External control is connected to terminals 9-10, marked "Ext" in the CC.

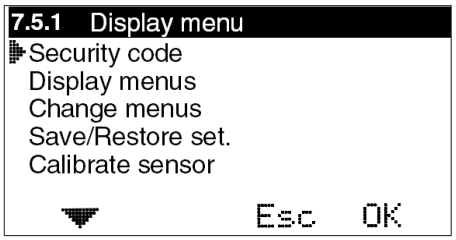


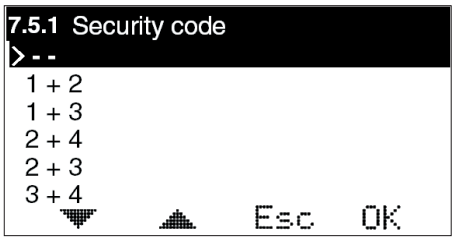
7.5 Display Menu

7.5.1 Security code

This is where you can specify if you want to be able to lock EC Home's buttons and menus. This occurs when 20 seconds have passed and no buttons have been pressed. The code that has been chosen is used to unlock them. When the Security code is used, the selected buttons must be pressed and held for 5 seconds to enable unlocking.

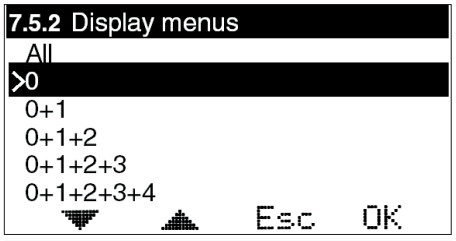
Menus 7.5.2 and 7.5.3 are displayed only when the Security code has been selected. When the menus are locked, a padlock is shown in menu 0.





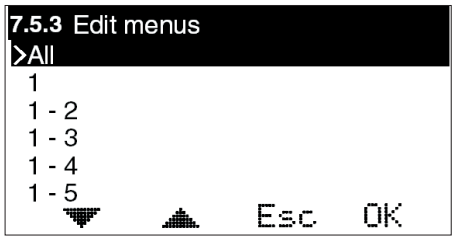
7.5.2 Display menus

This is where you can select which menus are shown when the Security code is activated.



7.5.3 Edit menus

This is where you can select which menus can be edited when the Security code is activated.

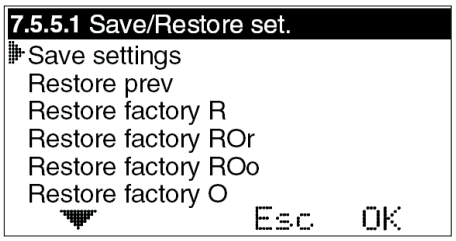


7.5.5 Save/Restore set.

Here, you can select "Save settings" to save the settings you have made.

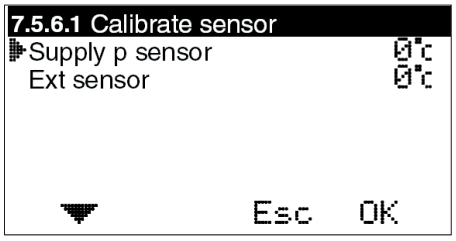
In this way, you can use "Restore prev" to go back to the correct settings if you, or anyone else, has changed the settings by mistake.

"Restore factory R/ROr/ROo/O/S" can be used to return all of the basic settings to the factory settings.

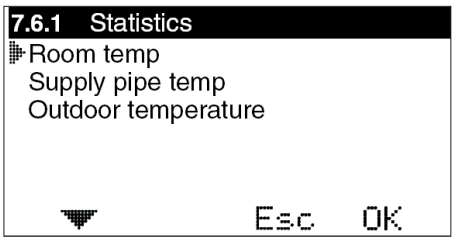


7.5.6 Calibrate sensor

This is where you can select to adjust the value of the supply flow sensor or outdoor sensor if you do not think that the value shown on EC Home is correct. Settable from +5 to -5°C.



7.6 Statistics

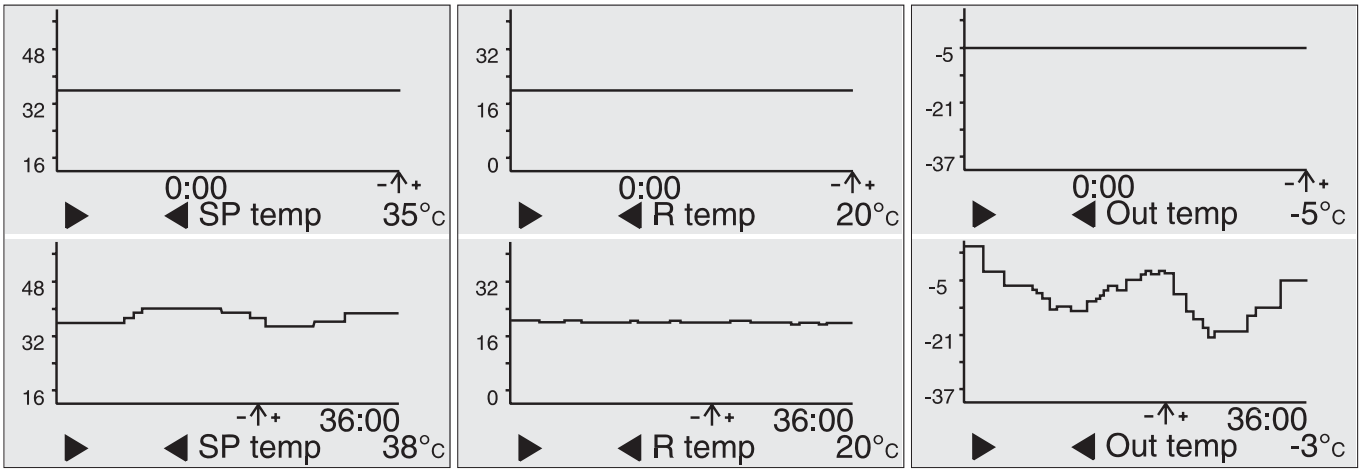


This is where you see what the Supply pipe temperature, Room temperature and Outdoor temperature (if outdoor sensor is being used) have been over the last few hours.

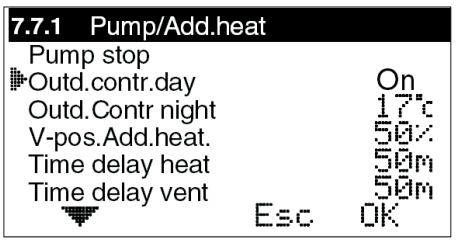
The supply sensor shows the last 200 minutes, minute by minute. The values for the other sensors change much more slowly, and here you can see the last 200 hours, hour by hour.

Use the up and down arrows to mark the sensor you want to view the statistics for, and press OK to view a temperature graph. You then use the left or right arrows to move the cursor at the bottom right of the graph to read the value for a specific minute or hour. **HINT:** By pressing on the right arrow straight away you can jump to the oldest value.

Click Esc to return to the Statistics menu.



7.7 Pump/Add.heat



This is where you set whether you will use the function for start/stop of the circulation pump to the heating system, booster heating etc. ***NOTE!*** *An extra box is required.*

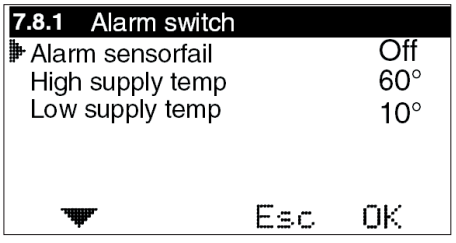
Pump stop Outdoor controlled day/night –
Used to stop the pump when a specific outdoor temperature is exceeded. This temperature can distinguish between day and night. Settable values are Off (function disabled) and 5-20°C. The pump is turned for 5 minutes at noon every day.
NOTE! The time is retrieved from the set time. If not time is set, noon is regarded as being 12 hours after system start-up.

V-pos.Add.heat – If you want booster heating to start when the valve is in a specific position, you can set that here. 0 means that the motor is completely closed, 100 that the motor is completely open.

Time delay heat – How long it must take after the above valve position is achieved before the booster heating starts.

Time delay vent – How long it must take from the booster heating starts until the motor opens more.

7.8 Alarm switch



Is used to send an alarm, e.g. SMS, if a specific temperature is exceeded/not reached by a sensor. ***NOTE!*** *Requires special equipment.*
In the case of an alarm, connection is made on terminal block 11-12, marked "Alarm" in the CC. Settable values are 0-90°C.

Alarms can be transmitted for: Sensor faults, High supply temperature or Low supply temperature.

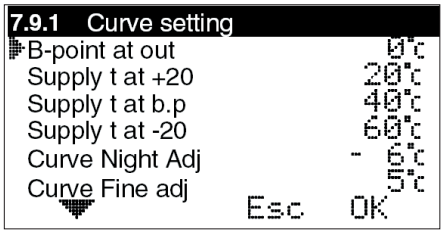
Menu 8 - Language

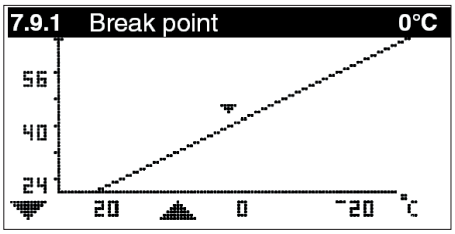
Available languages are: Swedish, English, German, Finnish and Slovenian.

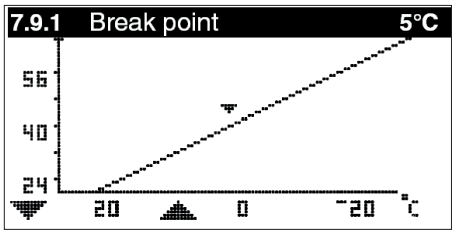
7.9 Curve setting

The supply temperature can be set for 2 fixed end positions and a settable intermediate point, the so-called break point.

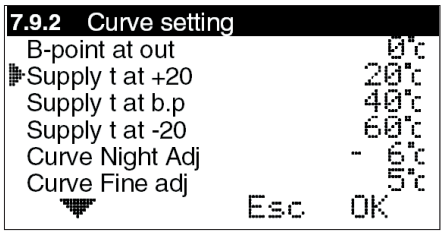
7.9.1 B-point at out – This setting allows you to break the curve at a selected outdoor temperature.

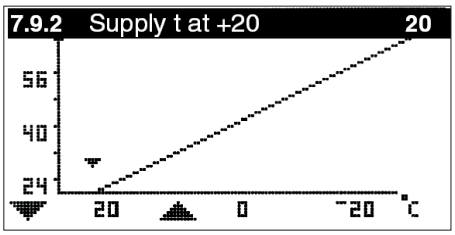


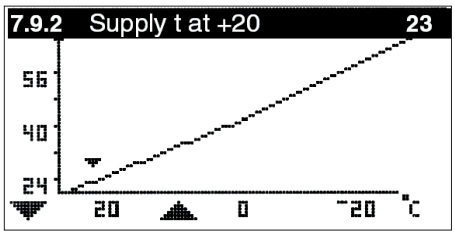




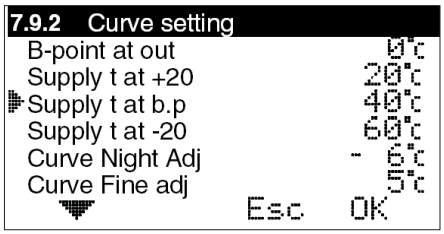
7.9.2/7.9.4 Supply t at +20 / -20 – What the supply temperature shall be at +20 and -20°C outdoors, respectively.

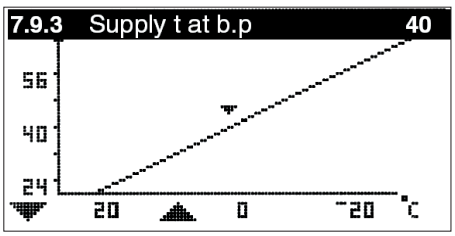


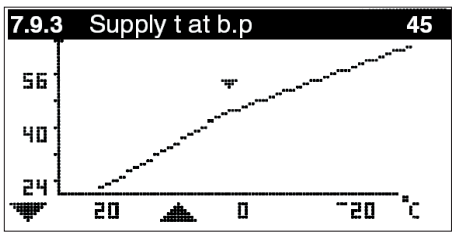




7.9.3 Supply t at b.p – What the supply temperature must be at the set break point.







7.9.5 Curve Night Adj – Means that the entire curve is displaced in parallel by the degrees below when the night reduction is activated.

7.9.6 Curve fine adj – Fine adjustment of the curve means that you increase or decrease the number of degrees set on the curve. Settable from +15 to -15°C.