OUMAN EH-800 INSTALLATION INSTRUCTIONS
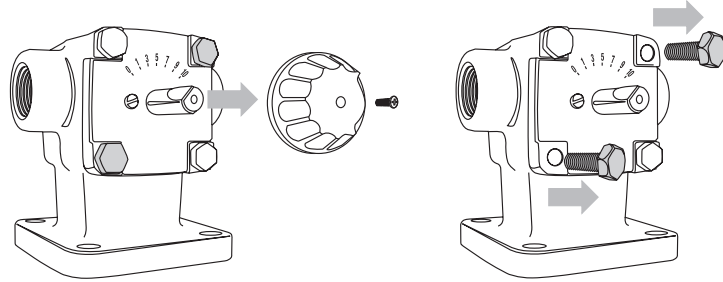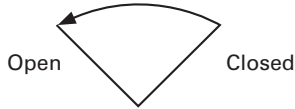
1

Valve opens clockwise

Closed   Open
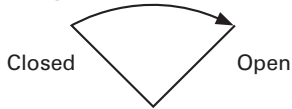
Valve opens counterclockwise:

Open   Closed

Use the manual control knob to turn the valve all the way to the left, so the valve is either completely open or closed. If the valve is completely open, the valve direction in the controller's menu must be changed to open in the counterclockwise direction. (see section 14). Remove the manual control knob and detach the two cover screws from the valves. Note! Esbe VRG and Belimo R4…D(K) valves have their own mounting kits as optional equipment.
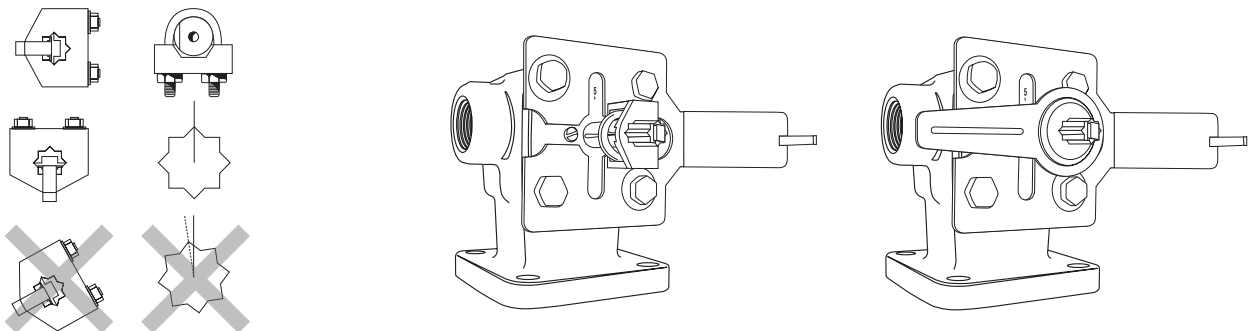
2

installation bracket
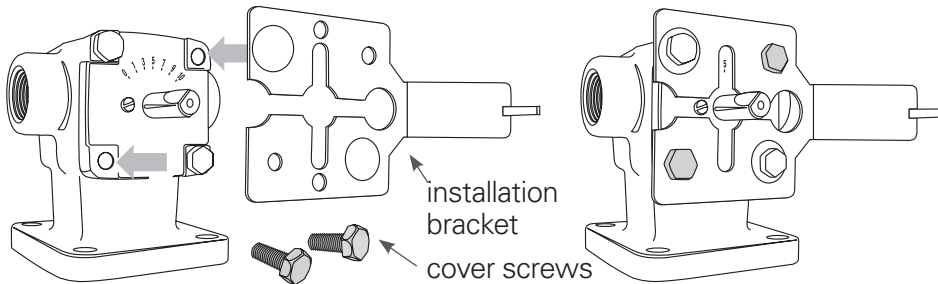
cover screws

Note!
Use the EH-80 installation bracket when changing EH-80 to the newer EH-800.
The adapter (section 3) must be changed.

Fasten the installation bracket to the valve using the cover screws as shown in the diagram. The installation bracket has several holes. Use the ones that match the valve type.

3

Fasten the adapter to the axle of the valve using the tightening band so that the star-shaped piece is straight and the adapter's teeth are not in the same place as the tapered side of the axle. Place the manual control lever on the axle of the adapter with the concave side toward the controller and pointing to the left (9 o'clock position).

4
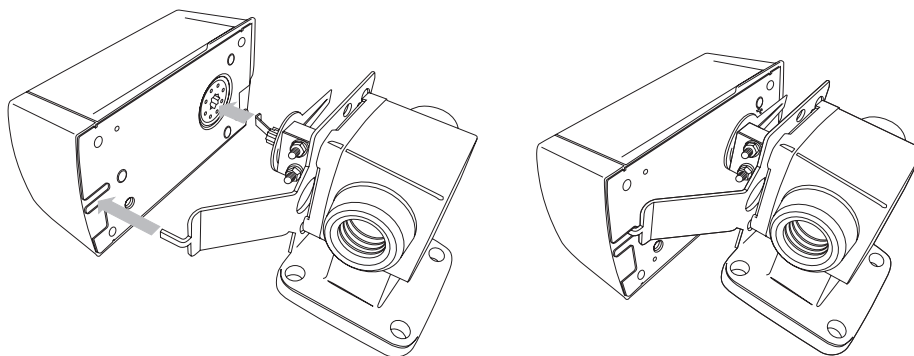
The amount of space the EH-800 controller takes up

46

125

70

85

46
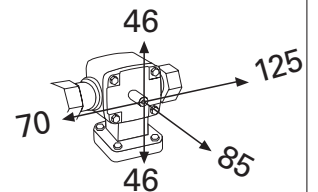
Fasten the controller so that the spring on the end of the adapter goes into the star-shaped hole on the bottom of the controller and then line the axle of the adapter up to the pin of the installation bracket. Press the controller into place. If you cannot install the controller "right side up" because of a lack of space, you can install it upside down and turn the controller's display from the controller's device settings.

User the manual control lever to check that the valve turns freely over the full range of movement (90°). You must press the manual control knob while you are turning the manual control lever.

ESC

5
H1 Supply water sensor   is already attached to the controller.
**H2 Supply water sensor**   connect the external unit to the controller using the RJ45-2

Fasten the surface sensor to the surface of the pipe entering the network about 0.5...1.5 m from the valve either on the top or side of the pipe. The surface of the pipe should be clean, rust free and smooth; the pipe can be painted.
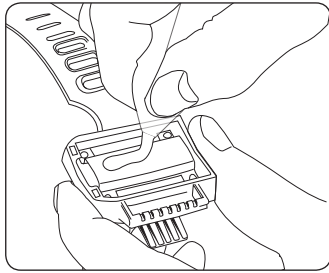
Cut the corner of the bag open and squeeze the grease on the bottom surface of the sensor (cooper plate) .
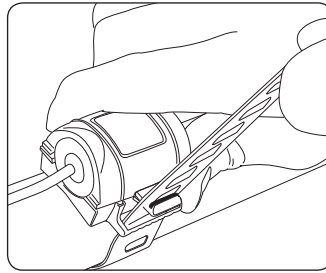
Wrap the fastening strap around the pipe. Make sure that that the surface sensor is not loose.
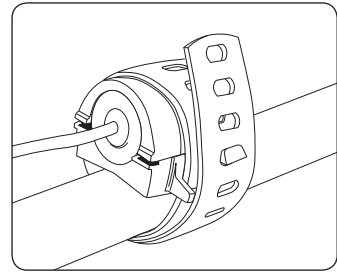
Wrap the strap around the pipe again if it is long enough. Cut the strap to the proper length along the groove between the holes.

6
Detach the protective cover of the controller's connection space (slides off at a right angle to the controller) and connect the outdoor sensor to the controller.


GSM modem and EXU-800 external unit connection (see separate instructions)
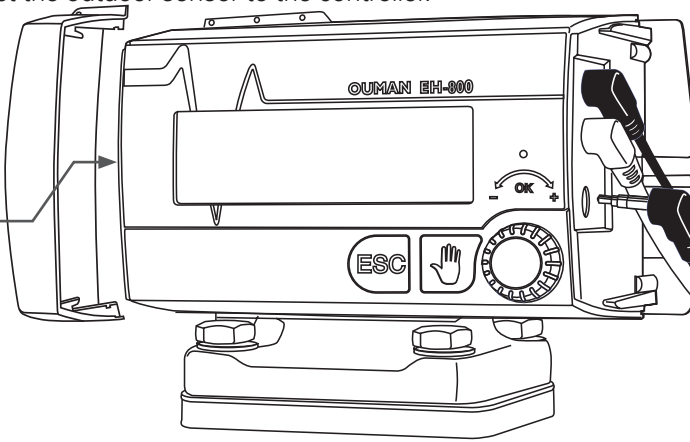
24 V AC/DC

Power source

Outdoor sensor

Additional connections using the cord and connecting box (measurements 3 and 4)

Position the outdoor sensor (TMO) in a shady place on the northern side of the building at a height of about 2.5 meters. Do not install the sensor directly above a window, door, vent or sensor cable protection tube coming from indoors, or next to an exhaust duct or any other source of heat. If necessary, the cable can be either shortened or lengthened using a screw connector. (No special requirements for cable type).

7
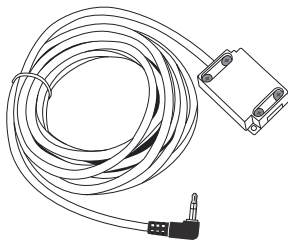
Connect the cord and connecting box if you take something that is not included in the basic package into use (e.g., room sensor or something else mentioned below). The cord and connecting box can be used to connect 2 different things (measurements 3 and 4).
Open the connecting box and make the necessary connections (see the list below) Select the use for measurements 3 and 4. (section 11) during controller initialization (heating controller use).

Connecting box

Wh
Bl — Meas. 3
Re — Meas. 4
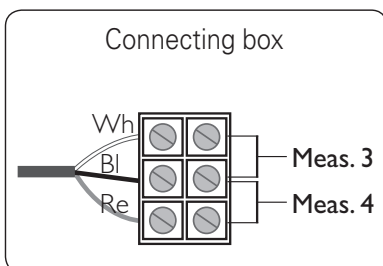
🔧 Measurement 3
- Not in use
- TMR Room measurement
- TMR / SP Room measurement
- Return water
- Temperatur of accumulator
- Temperature of boiler
- Measurement 3 (labelled)

🔧 Measurement 4
- Not in use
- TMR / SP Room temp.potentiometer
- Home/Away -switch
- Return water
- TMR / P Room compensation
- Temperatur of accumulator
- Temperature of boiler
- Measurement 4 (labelled)
- Pressure alarm
- Burner alarm
- Pump alarm
- Boiler alarm
- Alarm (labelled)

8 **24 V AC/DC** Plug one end of the cord into the wall and the other end into the controller. We recommend putting the cord in a protective sleeve. Put the connection space's protective cover back into place.

CONTROLLER SETTINGS

9

EH-800 setup	
Kieli/Språk/Language	Suomi >
Time and date setting	>
Measur. channels settings	>
Heating mode	Radiator heating, normal >

Changing the language:

Press the control knob (=OK), turn the control knob to change the language and press OK.

Kieli/Språk/Language
◉ Suomi
○ Svenska
○ English

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10 **Turn the control knob to go to time and date settings and press OK.**

EH-800 setup	
Language/Kieli/Språk	
Time and date setting	
Measur. channels settings	
Heating mode	Radiator heating

🕒 Time
Give the hours;
19:44
hh:mm

🕒 Date
Give the day:
Tu 29.10.2009

Press OK. Select either a time or date and press OK.

ESC to exit from time and date settings

Set the hours and press OK to confirm. Set the minutes and press OK to confirm.

First set the day, then the month and then the year. Press OK. (the name of the weekday is automatically updated).

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11 **Taking additional connections (measurements 3 and 4) into use using the cord and connecting box**

If you do not take additional connections into use (see section 7), go to section 12.

EH-800 setup	
Language/Kieli/Språk	English >
Time and date setting	>
Measur. channels settings	>
Heating mode	Radiator heating, normal >

🛠 Measurements	
Measurement 3	Not in use >
Measurement 4	Not in use >

Press OK. Select the measurement use (see alternatives, section 7).

🛠 Measurements	
Measurement 3	TMR Room measurement >
Measurement 4	Not in use >

Measurement 3 (4) or alarm can be freely labelled. The uses for measurements 3 and 4 appear on the display. Press ESC to exit.

Labelling: Use the control knob to select a letter. Press OK to confirm. Press OK for a number of seconds to confirm the name. Press ESC to delete the letter. Press ESC for a number of seconds to delete the name. If you take a measurement into alarm use, you can select whether the controller sounds an alarm when the switch opens or when it closes. The default is that the controller gives an alarm when the switch opens. (see user manual p.24).

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12 **Heating mode selection**

Using EH-800 as a heating controller	
Measur. channels settings	>
Heating mode	Radiator heating, normal >
Direction on valve	Open clockwise >
Start-up with new settings	>

🛠 Heating mode
Floor heating, damp rooms
Floor heating, normal
Radiator heating, normal
Radiator heating, steep curve
Contant temperature controller
Concrete floor drying

The controller has factory settings for normal radiator heating. Floor heating, normal: normal floor heating Floor heating, damp rooms: select this when the controller only heats tiled floors (when you want a comfortably warm floor and/or a dry floor in the summer). Radiator heating, steep curve: select this when your house has poor insulation or the radiators do not give off enough heat. The constant temperature controller and concrete floor drying are special applications of the controller. (additional information about heating modes in the user manual on p. 27). After initialization, the heating mode selection can be found from the controller at **"Device settings -> H1 Process settings".**

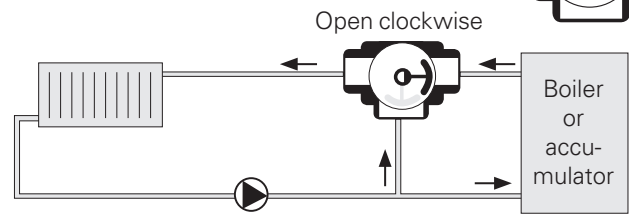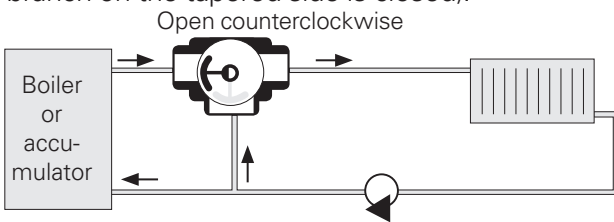**13** **Setting the valve direction for the controller**

Using EH-800 as a heating controller	
Measur. channels settings	>
Heating mode	Radiator heating, normal >
Direction on valve	Open clockwise >
Start-up with new settings	>

🛠 Direction of valve
◉ Open clockwise
○ Open counterclockwise

As a default the valve opens when it is turned clockwise. If the controller is installed for a valve that opens when it turns counterclockwise, the valve direction in the controller's menu must be changed to open in the counterclockwise direction. (see section 1).

Additional information on page 27 of the user manual. Changing the direction of the valve, see "Device settings".

Valve direction: The range of movement of boiler valves is mechanically limited to 90°. Therefore, it is easy to find the limits by turning the valve to the extreme limits using the manual control knob or axle. Sometimes it may be difficult to determine the opening direction of a 3-way valve installed in the network, e.g., if the manual control knob is missing or the scale plate of the valve is installed incorrectly. To make it easier to determine the direction, a few hints are given below for the most common mixing valves on the market.

ESBE (3MG): The slide of the valve can be turned 360°. Turn the valve all the way to the left (9 o'clock). The tapered side of the valve axle always faces toward the slide. (the branch on the tapered side is closed).

Open counterclockwise

Open clockwise

Boiler or accu-mulator

Boiler or accu-mulator

TERMOMIX: The slide of the valve is always on the opposite side of the taper at the end of the axle.

If you can't get the valve turned so that the slide moves between the hot water branch and circulating water branch, the position of the valve cover must be changed. We recommend having a plumber change the direction because of the risk of water damage and burns.

The branch is completely open when it is in the same direction as the tapered side.

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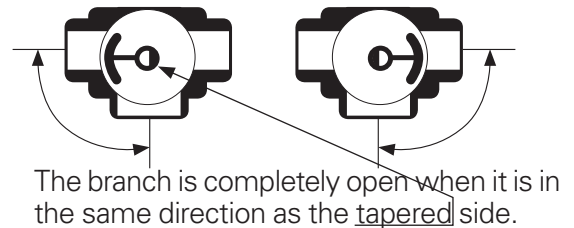
14 Start-up with new settings

Using EH-800 as a heating controller	
Measur. channels settings	>
Heating mode	Radiator heating, normal >
Direction on valve	Open clockwise >
Start-up with new settings	>

Press OK. The controller will take into use the new settings which are determined by the heating mode. The new settings can be found in the controller under "Device settings".

The controller has now been taken into use as a one circuit heating controller.

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15 Taking the second control circuit into use

Device settings > H2 Process settings	
H2 Process settings	In use >
Heating mode	Radiator heating, normal >
Actuator selection	0-10V >
Actuator driving time	150 s >
Heating curve type	3-point heating curve >
Name of regul. circuit	Radiator circuit >

The EXU-800 external unit must be in use to take the second control circuit into use. Connect the supply water sensor (strip connector 11 and ground) and the actuator (strip connector 8 (24VDC OUT), 9 (Y) and ground) of the second control circuit to the external unit. Connect EXU-800 to the controller using the RJ45-2 connection. Take the H2 control circuit into use through point H2 process settings in the controller's device settings (see user manual p. 32).

In floor heating solutions

In floor heating solutions it is important to make sure that exessively hot water which could damage structures or surfaces doesn´t ever get into the network. A mechanical thermostat should be installed on a supply water pipe which stops the circulation pump in case of overheating. Ouman Oy has in it`s product range a surface mounted thermostat C01A.

AC 250V 15 (2,5) A

0

| 2 | 1 | 3 |

Pump control 230 VAC

Pump control
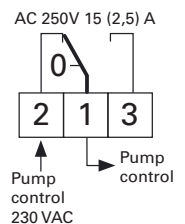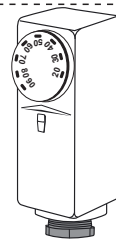
HINTS FOR FIRST-TIME USE

If room temperature measurement is not in use: At first the radiator thermostats should be turned fully open. Set the fine adjustment so that the first time there is below freezing temperatures outdoors, the room temperature stays about 1 °C higher than what you want it to be. After that turn down the radiator thermostats just enough to obtain the desired room temperature. This prevents the room temperature from dropping on windy days, because the radiator thermostats will be able to increase the heating level.

Room temperature measurement in use: Room control can, if necessary, raise or lower the temperature level of the whole house and so the small temperature increase in the network mentioned before is not needed. Also you get more even temperature control in houses with floor heating when room temperature measurement is taken into use.

Warranty: Ouman Oy has given EH-800 a three year warranty for the device. The warranty covers repair of the device at Ouman Oy:s factory and includes necessary spare parts. The warranty is not in effect if the device has been installed incorrectly or mechanically damaged. The warranty does not cover indirect or consequential loss or damages. It does not cover the cost connected with finding a fault, detaching the device, or sending or installing the device.