

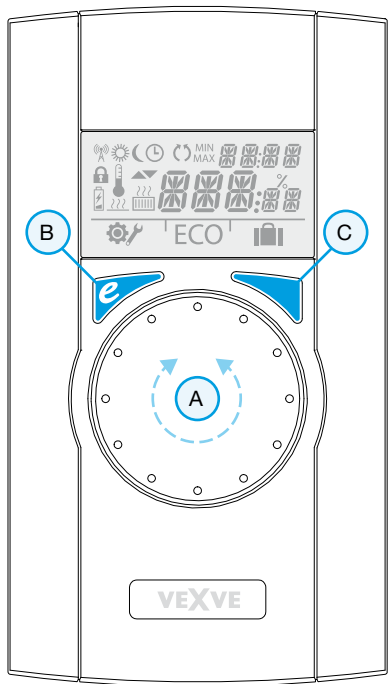


Vexve Controls - Setup and User Guide for Vexve AM20-W Heating Controller

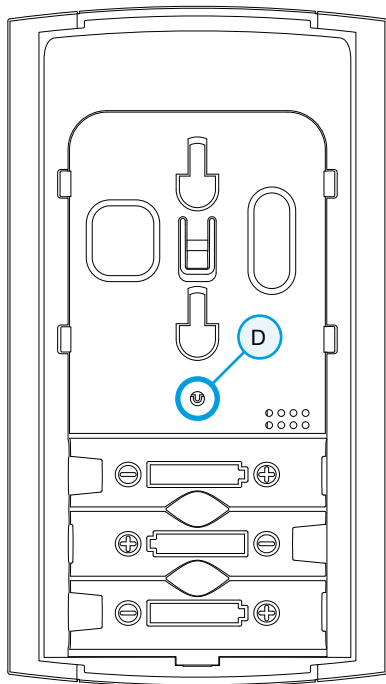
AM20 SW 1.16 » / RU SW 1.18 »

20.5

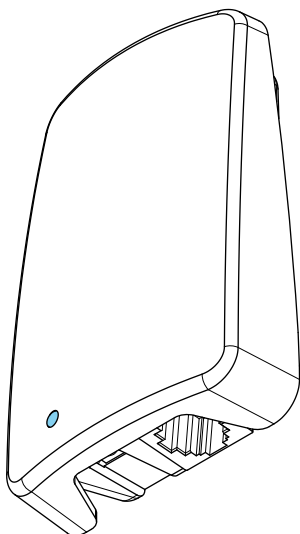
TECOT

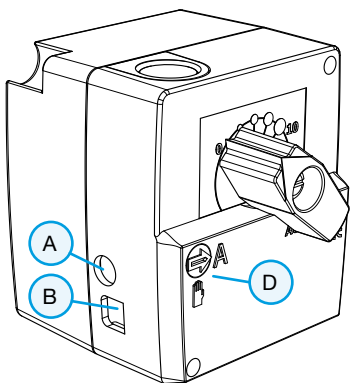


1

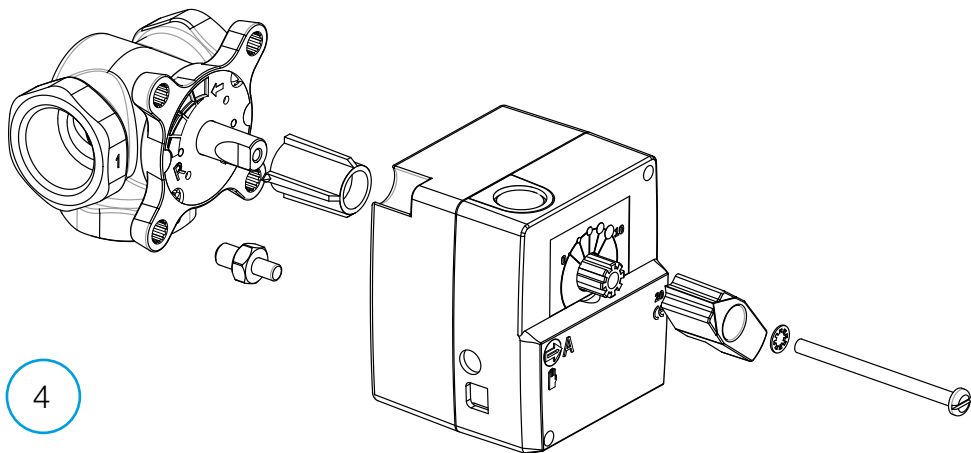
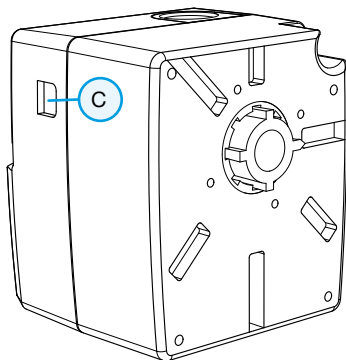


2





3



4

A quick setup guide can be found on page 18.

The Vexve AM20-W Heating Controller adjusts the water-circulating central heating according to the indoor temperature. The room unit and motor unit communicate via radio frequency, which makes the setup very easy.

The room unit has a built-in temperature sensor that measures the indoor temperature, and the supply water temperature sensor is separately installed onto the supply water pipe.

All of the settings can be accessed through the room unit. For ease of use, the menus are divided into the end user menu and the setup menu that is used when setting up the equipment.

Radiator and floor heating

Separate minimum and maximum values can be set for the supply water.

Separate daytime and night-time values, for example, can be set for the indoor temperature. It is possible to programme several different variations, which are discussed in detail under the section "Enter button" on p. 11.

Constant temperature control

It is possible to set a constant temperature for the supply water, which is discussed in detail under the section "Setup menu" on p. 9.

Contents of the delivery

Motor unit

Figure 3, page 3

- connector **B** for the supply water sensor
- connector **A** for the transformer
- connector **C** for the RF transmitter
- rotating switch **D** for manual/automatic control: if it is set in the automatic position, the manual handle cannot be used
- handle for operating the valve manually
- parts for Vexve AMV and Termomix type valves are provided in a separate bag:
 - an adapter between the valve and the motor unit; compatible with the Vexve AMV series as well as Termomix and equivalent valves
 - rotation-preventing/fastening screws for Termomix type valves
 - fastening screw between the motor and the valve stem
 - panel for indicating the valve position
- supply water sensor with fastening ties.

Transformer

- cable (2.5 m) included
- compatible with standard outlets and connects to the motor unit connector **A** (see below for when the power should be connected).

RF transmitter

Figure 2, page 2

- cable (2.0 m) with RJ connectors included
- connects to the motor unit connector **C**
- can be mounted on the wall with the provided screws
- it should be located as high as possible in order to ensure good communication
- there is a green/red LED on the transmitter that indicates radio traffic.

NOTE! The power cable MUST NOT run next to the RF transmitter or its cable!

Room unit

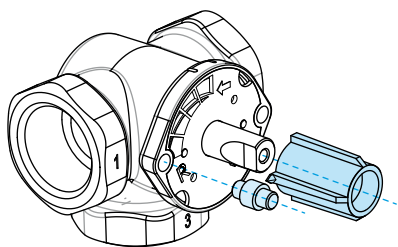
Figure 1, page 2

- the room unit runs on three (3) AA batteries, and it is delivered with the batteries installed
- backlit LCD and rotating knob **A** for selecting the desired temperature and navigating the menus
- on the left, ECO button **B** for easily decreasing the temperature during a workday or a holiday, for example
- on the right, Enter button **C** for setting different weekly programmes, monitoring the measured indoor and supply water temperatures, viewing the calculated supply water set point and valve position, and specifying the minimum and maximum supply water temperatures
- setup button **D** embedded into the back panel (can be pushed with the tip of a ballpoint pen): a single push opens the setup menu, where you can set the heating method and the direction of valve rotation, check the radio signal strength, and reset all the settings
- the battery cover also works as a wall-mounting bracket (mounting screws included).

Installation on Vexve AMV and Termomix valves

Vexve AMV series:

A pin is preinstalled at the left edge of the valve, and only the Termomix adapter from the installation kit is installed on the stem. The pin can be installed on the other side as required by the position of the motor.

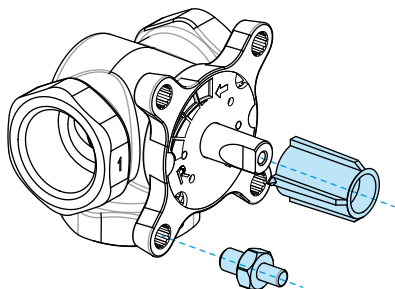
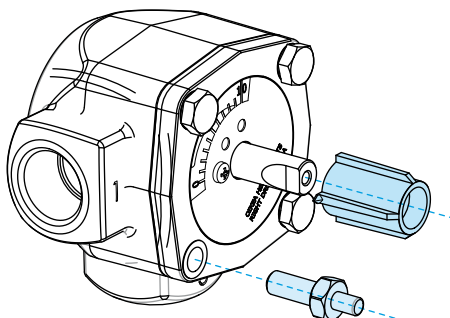


NOTE! There are installation kits available also for other manufacturers' valves!

E.g. Installation kit for the Esbe VRG valve (product number 1920117).

Termomix valves and AMV and ABV series valves with four-point fastening:

Install the correct rotation-preventing screw and adapter from the installation kit.



Installing the motor unit on the valve and making the connections:

Figures 3 and 4, page 3

1. Check the rotation direction of the valve. By default, the valve is right-handed = opens clockwise.
2. Position the valve to zero and remove the knob (for Termomix type valves, install the rotation-preventing screw at this point).
3. Install the adapter on the valve stem and make sure that it is fully in place. Install the motor unit on the valve. At this point, make sure that the motor is also positioned to zero = it has the same position as the valve. **MAKE SURE THAT SWITCH D IS SET TO MANUAL OPERATION (HAND SYMBOL) AND USE THE HANDLE TO CHECK THE OPERATION OF THE VALVE.**
4. Install the two-sided indicating panel in place so that the indicator of the handle points at the zero position when the valve is closed.
5. Tighten the screw to fasten the motor in place and rotate the handle to check that the valve can easily be turned 90 degrees. Leave the equipment at the zero position and set switch D to AUTOMATIC OPERATION (A).
6. Use the provided ties to fasten the supply water sensor to the supply water pipe and connect it to connector B of the motor unit. It is good to insulate the sensor in order to ensure proper operation.
7. Connect the RF transmitter (page 2, figure 2) cable between the transmitter and the motor unit connector C. Mount the transmitter on a wall as high as possible, or hang it from the ceiling if wall-mounting is not available (this improves the range of the transmitter).
8. Slide down the back/wall-mount plate of the room unit to remove it. Remove the plastic protecting the batteries. The room unit powers on, and "RU" appears on the display.
9. Connect the transformer to connector A and plug the transformer into a power outlet.
10. Check that the LED of the RF transmitter is blinking.

After these steps, continue with the section "Basic settings of the room unit during setup", p. 8.

NOTE!

First power on the room unit and only then the motor unit!

NOTE!

When the equipment powers on, it is available for pairing for five minutes!

Room unit controls

Figure 1, page 2

A - Rotating knob

- For changing the temperature and navigating the menu functions.

B - ECO button

- Single push on the default screen: ECO mode on/off (the factory setting is 8 hours/20.5°C).
- Single push in a menu: returns to the default screen.
- Push and hold (for more than 3 seconds) on the default screen: HOLIDAY mode on (the factory setting is 30 days/18.5°C).
- If a room unit is unpaired, a push of the ECO button displays its software version.





C - ENTER button

- Single push on the default screen: displays a quick menu that shows the measured indoor and supply water temperatures, calculated supply water set point, and valve position.
- Single push in a menu: confirms a selection.
- Push and hold (for more than 3 seconds) on the default screen: navigates to the user menu.

D - Setup button

- Single push: navigates to the setup menu.

Basic settings of the room unit during setup

	<p>AFTER INSTALLING THE BATTERIES "RU" appears on the room unit display</p>
	<p>Push Enter (C) to automatically make an RF connection (pairing) between the room unit and the RF transmitter.</p>
	<p>When pairing is complete, "PAIR OK" appears on the display. Push Enter (C) to open the setup menu (see the next page).</p>
	<p>If a connection cannot be made, "PAIR FAIL" will appear on the display.</p> <p>In this case, disconnect the transformer briefly from the motor unit and push Enter (C) twice to restart pairing.</p>

Setup menu

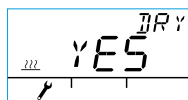
Rotate the knob (A) to navigate the functions and push the Enter button (C) to modify an option. Select the desired value by rotating the knob (A).

Values that can be changed will blink on the display, and the changes are confirmed by pushing the Enter button (C).

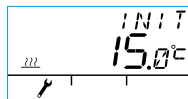


1. MODE

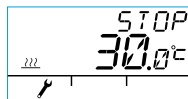
LO = FLOOR HEATING



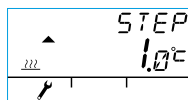
- With the DRY option you can activate the drying of a concrete floor (according to standard EN 1264-4).



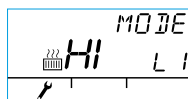
- With the INIT option you can set the starting temperature.



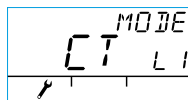
- With the STOP option you can set the stopping temperature.



- With the STEP option you can specify the daily temperature change
For example: INIT = 15°C, STOP = 30°C and STEP = 1°C » Heating is started at 15 degrees, and the temperature is increased one degree each day until it reaches 30°C. After this, the temperature is decreased one degree per day until it reaches 15°C

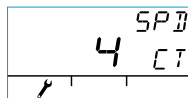


HI = RADIATOR HEATING

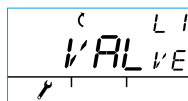


CT = CONSTANT TEMPERATURE CONTROL

With the SPD option you can choose the control speed from the range of 1-9 (1=slow, 9=fast). The factory setting is 4.

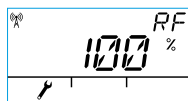


Setup menu



2. VALVE

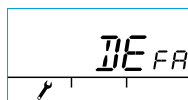
With the VALVE option you specify whether the valve opens in the clockwise or the counter-clockwise direction. The default direction is clockwise (NOTE! the arrow on the display).



3. RF

RF indicates the calculated average radio signal strength. The number changes slowly, AND IF IT IS GROWING, EVERYTHING IS OK!

Recommendation: Wait for the RF reading to be at least over 50%!



4. DEFA

DEFA = resets the default settings!

NOTE! The DEFA option also resets the radio connection.

- If you select "YES", "RU" appears on the display.
- **Before pairing can be started (by pushing the Enter button (C)) the transformer has to be briefly disconnected from the motor unit.**
- If pairing is started before disconnecting the transformer, "FAIL" appears on the display. In this case, disconnect the transformer from the motor unit for three seconds. When the equipment powers on, it is available for pairing for five minutes.

5.

Push the ECO button (B) to leave the menu. You can return to the setup menu by pushing the setup button (D) on the back of the room unit.

6.

Position the room unit where appropriate by using the provided screws. If the location of the unit has not been confirmed, it can be placed in an upright position on a table, for example, as long as air can circulate freely around it.

7.

For floor and radiator heating, select the desired indoor temperature. For constant temperature control, select the supply water temperature. To adjust the temperature in either case, rotate the knob (A) and confirm your choice with Enter (C) or wait for the set temperature to stop blinking on the display. Let the device adjust to the settings for a few minutes.

Using the room unit

You can adjust the temperature by rotating the knob (A) on the default screen: for floor and radiator heating (LO and HI) you adjust the indoor temperature (5-35°C), and for constant temperature control (CT) you adjust the supply water temperature (0-90°C). The set temperature will blink five times on the display, and then it will become effective. You can also confirm the setting by pushing Enter (C).

ECO button (B)

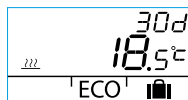
The ECO button can be used for switching on the ECO and HOLIDAY modes.

ECO mode is designed for adjusting the temperature temporarily, for example for decreasing the temperature during a workday. Of course, the function can also be used for increasing the temperature temporarily.

HOLIDAY mode is designed for longer-term temperature adjustment, for example for the duration of a holiday or indefinitely.



ECO mode can be switched on by a single push of the ECO button (B) (the default setting is 8 h/20.5 degrees). When ECO mode is switched on, its duration is displayed in the upper right-hand corner for 20 seconds.



HOLIDAY mode can be switched on by pushing and holding the ECO button (B) for more than three seconds (the default setting is 30 days/18.5 degrees). When HOLIDAY mode is switched on, its duration is displayed in the upper right-hand corner for 20 seconds.

Enter button (C)

A single push displays a quick menu that shows the measured indoor and supply water temperatures, calculated supply water set point, and valve position. The menu can be navigated with the rotating knob (A) or one step at a time with the Enter button.

Pushing and holding the Enter button (C) for more than three seconds opens the user menu. The menu can be navigated with the rotating knob (A), and the Enter button (C) activates the current selection. After this, the value to be adjusted will blink on the display. A blinking value can be changed with the rotating knob (A), and the selection is confirmed with Enter (C) (see Figure 1 on page 2).



Minimum supply water temperature

radiator heating: min. 5-35°C/factory setting: min. 5°C

floor heating: min. 5-35°C/factory setting: min. 20°C

NOTE! In ECO and HOLIDAY modes, the minimum supply water temperature is 5°C so that the temperature can be reduced as desired.

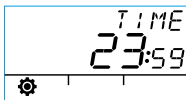


Maximum supply water temperature

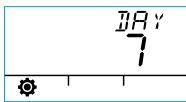
radiator heating: max. 40-95°C/factory setting: max. 60°C

floor heating: max. 20-50°C/factory setting: max. 35°C

Using the room unit



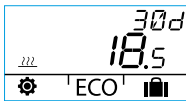
time hh:mm



number of weekday 1-7
1 = Monday, 5 = Friday, 7 = Sunday



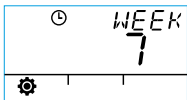
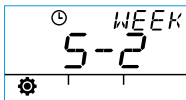
ECO mode temperature xx.y degrees and duration x hours
Factory setting is 20.5°C/8 h



HOLIDAY mode temperature xx.y degrees and duration xx days
day range 1-30-infinite (- -) (on indefinitely)
Factory setting is 18.5°C/30 d



WEEK programme on/off

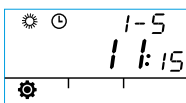


5-2: workdays/week-end

7-0: same programme every day

7: different programme every day

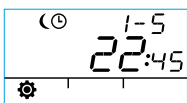
Weekday programming 1-5



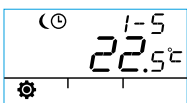
daytime starts



daytime temperature



night-time starts



night-time temperature

Weekend programming 6-7/Full week programming 7-0 and 7

· Weekend programming follows the same steps as weekday programming 1-5.

Using the room unit



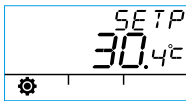
Backlight on (default)/off
(Turning the backlight off saves the batteries.)



The room temperature measured by the room unit in Celsius



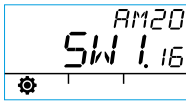
The temperature measured by the supply water sensor in Celsius



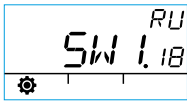
The calculated supply water set point



Valve position (0% - valve is closed, 100% - valve is fully open)



Motor unit software version















Room unit software version




Push the ECO button (B) to leave the menu.

If the device is not used for one minute, it will automatically return to the default screen.

Symbols on the room unit display

Top row symbols		room unit is transmitting or receiving data
		daytime programme
		night-time programme
		weekly programming
		rotation direction of the valve (opens clockwise or counter-clockwise)
	MIN MAX	displayed in connection with the supply water temperature limits
		<p>Additional annotations such as “OK”. These are used to display function durations.</p> <p>CT - constant temperature control</p>

Middle row symbols		1/3 of the battery capacity left. When this symbol is displayed, you should install new alkaline AA batteries in the room unit.	
		the temperature measured by the indoor sensor or the supply water sensor in Celsius	
		floor heating	The heat symbol of three wavy lines is displayed when heating is required. In the summer, the lines disappear when the controller has closed the valve.
		radiator heating	
		NOTE! The letters “CT” at the top of the display indicate constant temperature control.	
		Additional annotations for displaying the desired temperature at 0.5 degree intervals.	
	%	radio signal strength	

Bottom row symbols		user menu
		setup menu
	ECO	ECO mode
		HOLIDAY mode

Fault codes and the responses to them

ERR^{T1} | Supply water sensor failure

- Push Enter (C) briefly to open the quick menu and check temperature T1.
- If the value is +99.9 degrees, there is no communication between the supply water sensor and the motor unit.
 - cable failure or connector disconnected » inspect
 - if there is no mechanical failure » replace the supply water sensor
- If the supply water temperature is below zero (-01.4 C) = short-circuit in the sensor circuit.
 - cable short-circuit » inspect the cable
 - if there is no mechanical failure » the supply water sensor needs to be replaced

ERR^{RF} | RF transmitter failure

- Take the room unit to the motor unit.
- Check that the RF transmitter is connected and that the cable is not damaged.
- Disconnect the power from the motor unit and then briefly remove one battery from the room unit.
- If the function is restored to normal when power is reconnected, return the room unit to its place after pushing the setup button (D) and selecting "RF".
- Let the unit calculate the average radio communication value for a while. If the value is below 30%, check if you can improve signal strength by relocating the room unit nearby.
- The location of the RF transmitter can also affect the range of radio communication significantly » always locate the RF transmitter as high as possible and away from power cables.

ERR^{5^{VS}}

Internal electronics fault or stuck valve

- Set switch D of the motor unit to manual operation (hand symbol) and check the operation of the valve. The fault is not mechanical if the valve can easily be turned 90 degrees. After this, check if the device works normally. Remember to return switch D into the "A" position.
- If the problem persists, contact a Vexve Controls retailer.

ERR^{LOW}

Low Energy warning

The valve has been fully open for more than 15 minutes, but the supply water temperature is still 5°C below the desired temperature.

This may be caused by a burner fault, or if the water heater cannot provide hot enough water for the heating network, for example.

ERR^{HIGH}

High Energy warning

The valve has been closed for more than 15 minutes, but the supply water temperature is still above the set maximum temperature and +5°C above the indoor temperature.

The valve cannot be closed mechanically or, when using constant temperature control, the water heater is full and even return water exceeds the set limit.



Battery power is low (1/3 left)

- Install new alkaline AA batteries in the room unit.
- The room unit has a memory that stores the system settings while the batteries are being replaced.
- At this time, the backlight is off and the display is clear when the device is not in use.

Quick setup guide

1. Set the valve and actuator to the zero position and check the direction of the valve rotation (the default setting is right-handed, which opens clockwise).
2. Install the adapter on the valve stem and, if necessary, put the pin in place. Fasten the actuator in place by using the provided long screw. Set switch D of the motor unit to manual operation (hand symbol) and check that the combination works properly and easily. Set the motor unit switch to automatic operation (A).
3. Connect the supply water sensor to the supply water pipe and the motor unit. Connect the RF transmitter to the motor unit and position the transmitter as high as possible.
4. Remove the plastic protecting the room unit batteries and check that "RU" appears on the display.
5. Power on the motor unit.
6. Push the right-hand button on the room unit. The text "PAIR" appears on the display.
7. After a while, "PAIR ok" appears on the display. This means that the room unit is successfully connected to the RF transmitter. If this does not happen, see page 8.
8. Push the right-hand button to select the heating method: HI - radiator heating/LO - floor heating/CT - constant temperature control. Use the right-hand button to modify options and confirm changes. Use the rotating knob to choose functions and navigate the menu.
9. Under "Valve", choose the direction of the valve rotation. The default setting is right-handed.
10. "RF" displays the calculated average radio signal strength. Use this information if you suspect that there is a problem with indoor data communications.
11. Under "DEFA", you can reset the device using factory settings. The device has to be paired after a reset » continue from step 5.
12. Leave the setup menu by pushing the ECO button on the left-hand side.
13. If you pushed the ECO button at an earlier stage, use a ballpoint pen to push the button on the back panel to return to the setup menu.
14. Place the room unit indoors in a central location where there is no draught, set the desired temperature, have a cup of coffee, and relax...
15. For the user menu options, please refer to "Enter button (C)" on page 11.

Notes



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