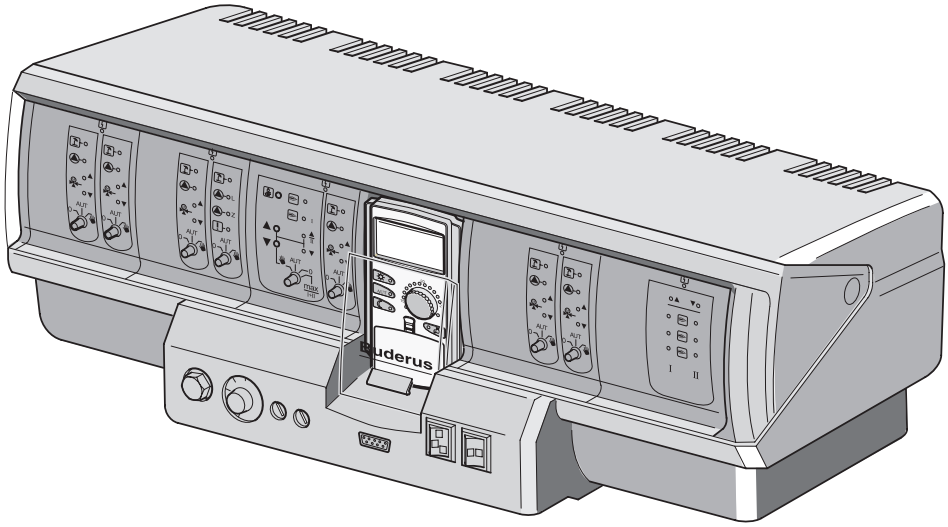
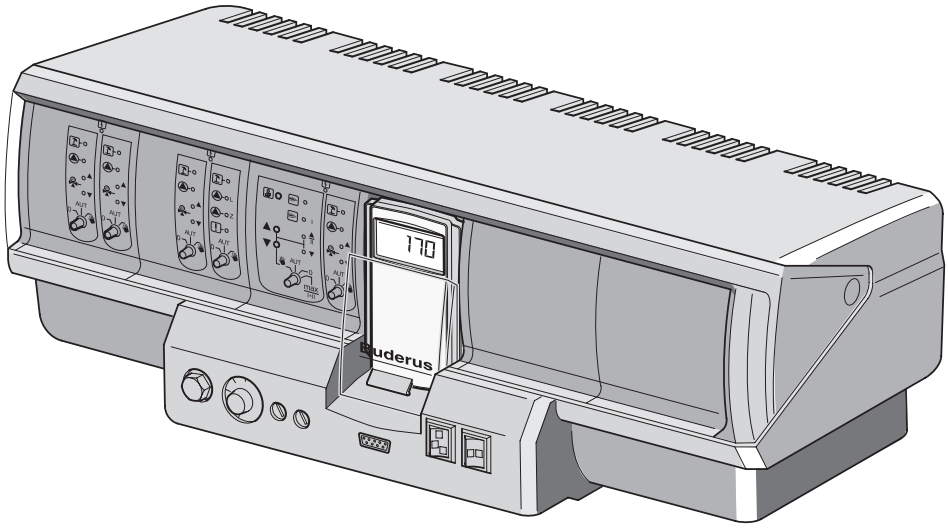
Operating instructions

Logamatic 4311/4312 Controls





Buderus

Foreword

These operating instructions contain important information for the safe and intended operation of your heating system with the Logamatic 4311 and 4312 controls.

Read these operating instructions thoroughly before start-up. All work which involves opening the controls must be carried out by a trained technician. There are no user-servicable parts inside these controls.

Shut off the main power to the heating system and controls before opening the cover.

Have malfunctions repaired immediately by a trained technician.

WARNING!

WARNING: Hot water can scald. A thermostatic or tempering valve is strongly recommended on the DHW for anti scald protection.

This product has been tested and is certified for both the U.S. and Canadian markets, to the applicable U.S. and Canadian standards.

It is the installer's responsibility to ensure that the heating system and all of its components meet all applicable local and national codes.

Contents

1 Introduction

The Logamatic 4311 and Logamatic 4312 controls has a modular design and can be equipped with up to four additional function modules to meet the type and size of the system.

The modular design with all modules installed can control up to eight heating zones including a mixing valve.

The modules include control for manual operation and operating displays.

The Logamatic 4311 and Logamatic 4312 controls are equipped with complete safety devices.

The basic configuration of the Logamatic 4311 includes:

- outdoor reset control of a boiler
- use of single-stage, two-stage or modulating burners
- boiler heating zone control
- MEC2 programming unit

The basic configuration of the Logamatic 4312 includes:

- outdoor reset control of a boiler
- use of single-stage, two-stage or modulating burners
- boiler circuit control
- boiler display for display of the boiler temperature

The MEC2 programming unit is the central control.

The operating concept is:
"press and turn"

Functions and operating values are shown in the display.

"The control speaks your language."

Press the buttons to call up functions on the display. If a button is pressed and held down, the value can be changed using the dial.

When the button is released the new value is implemented and saved.

If no input is made within five minutes, the unit automatically returns to the default display.

The Logamatic 4311 and Logamatic 4312 controls have the following functions depending on which function modules has been installed:

- 10-channel timeclock with weekly program
- automatic warm weather shutdown (WWSD)
- DHW heating 30 minutes before normal space heating operation
- DHW priority
- vacation program
- party/pause function
- freeze protection
- 8 Standard programs for selection. If none of the standard programs meets your needs, you can enter your own program.
- Pump purge for heating zone pump and tank loading pump for three minutes depending on operating conditions
- condensate protection
- emissions test
- automatic adaptation of heating curve
- intelligent change-over optimization at the beginning and end of setbacks
- selection between outdoor and room temperature reset

2 For your safety

2.1 Correct use

The Logamatic 4311 and Logamatic 4312 controls are suitable for commercial and residential applications.

2.2 Please observe these notes

- Only use the control for the purposes for which it is intended and only if it is in perfect working order.
- The technician must give detailed instructions to the owner and operator on the operation of the system.
- Please read these operating instructions carefully.
- Maintenance, repairs and fault diagnosis must be carried out by authorized technicians only.

WARNING!

DANGER TO LIFE

from electric shock.

- Never open the control.
- In case of system malfunction switch off the system emergency switch outside the boiler room, or disconnect the heating system from the main power using the heating system circuit-breaker.
- Have the fault repaired immediately by your qualified heating company.

WARNING!

RISK OF SCALDING

During thermal disinfection the entire DHW system is factory-set to be heated to 158 °F (70 °C) (start time: Tuesday night 1:00 a.m.).

- The default start time can be changed by a heating technician if required (e.g. if this interferes with your work shift).
- If the DHW circulation of your heating system is not equipped with an anti-scald mixing valve, do not turn on hot water during this time.
- Ask the technician for the specified DHW temperatures, because above about 122 °F (50 °C) there is a danger of scalding.

CAUTION!

SYSTEM DAMAGE

from freezing.
During cold spells the heating system may freeze if it is not operating, for example if it has been shut off or is locked due to a fault.

- Leave the heating system switched ON constantly.
- Notify the heating contractor in case of fault.

2.3 Cleaning the control

- Keep the appliance and controls clean to avoid system malfunction and overheating due to compromised air circulation.
- Clean the control with a damp cloth only.

2.4 Disposal

- Dispose of the packaging in an environmentally responsible manner.
- The lithium battery in the CM431 module must be replaced by a heating technician only. Do not discard with household garbage. Dispose of according to local and federal regulations.

3 Tips on energy-efficient heating

Buderus control technology guarantees optimum comfort with a number of technical options combined with minimum energy consumption and ease of use.

If you follow the instructions below, you will save energy and money and help the environment.

- The technician will provide full instructions on operating when setting up the system for the first time. If you have questions during this process, feel free to ask.
- Read the operating manual for your heating system in detail.
- Have your heating system set up for the conditions in your building.
- Have your heating system serviced regularly - at least annually.
- Ventilate for a short time and thoroughly in winter. This will prevent rooms from cooling down too much.
- Check the settings for the thermostatic valves (if applicable) in the individual rooms regularly.
- Do not set the room and DHW temperature higher than necessary.

Do the switching programs (day and night operation) of the room heating and DHW heating fit your schedule?

- Change the standard program as desired.
- Use the adjustment options for WWSD (warm weather shutdown) for the transitional period.
- Do not make frequent changes to the temperature settings for the living areas and DHW. Ask your heating contractor to adjust the program if the existing setting does not meet your needs.
- All temperature correction take some time to become effective. Wait for the following day before changing your settings if the previous changes did not have the desired effect.
- A comfortable room climate not only depends on the room temperature but also on the relative humidity. The drier a room, the cooler it feels. You can improve the relative humidity with houseplants.

4 Controls

The Logamatic 4312 control is operated similarly to the Logamatic 4311.
For this reason no specific references to Logamatic 4312 are made below.

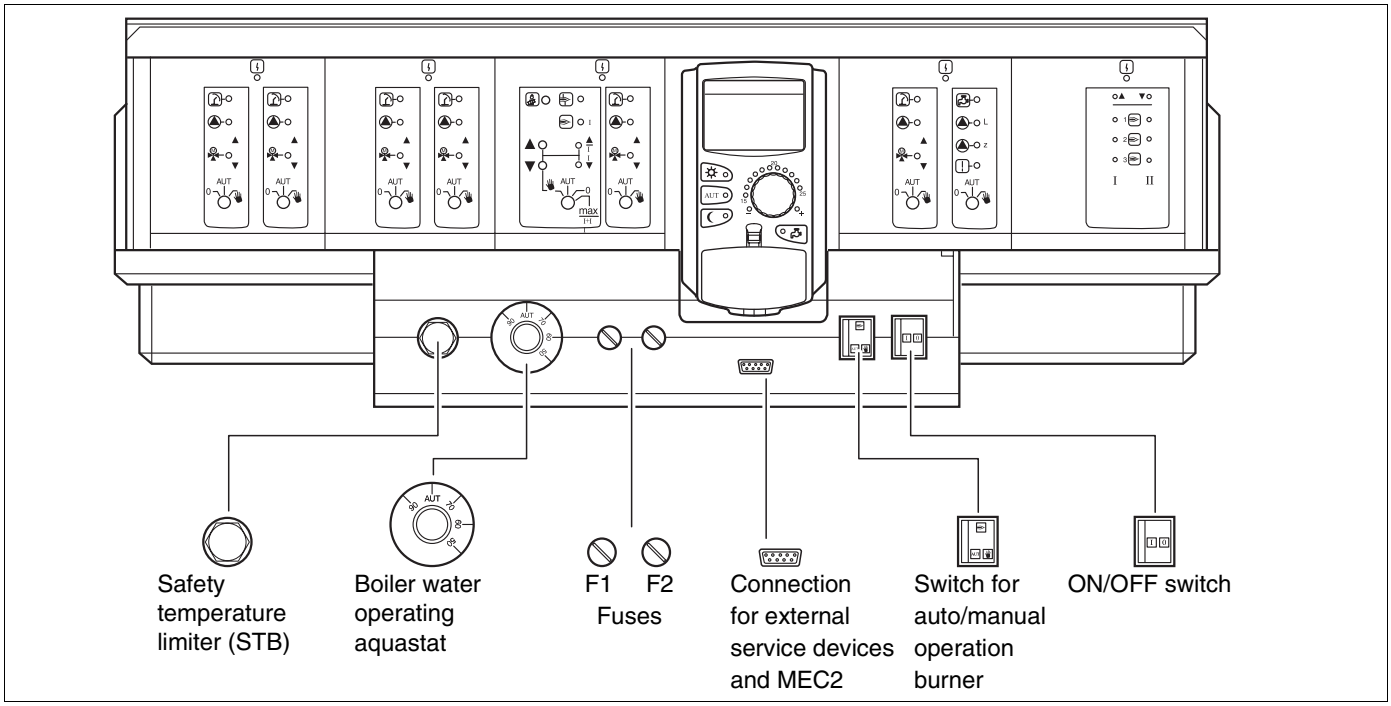


Fig. 1 Controls

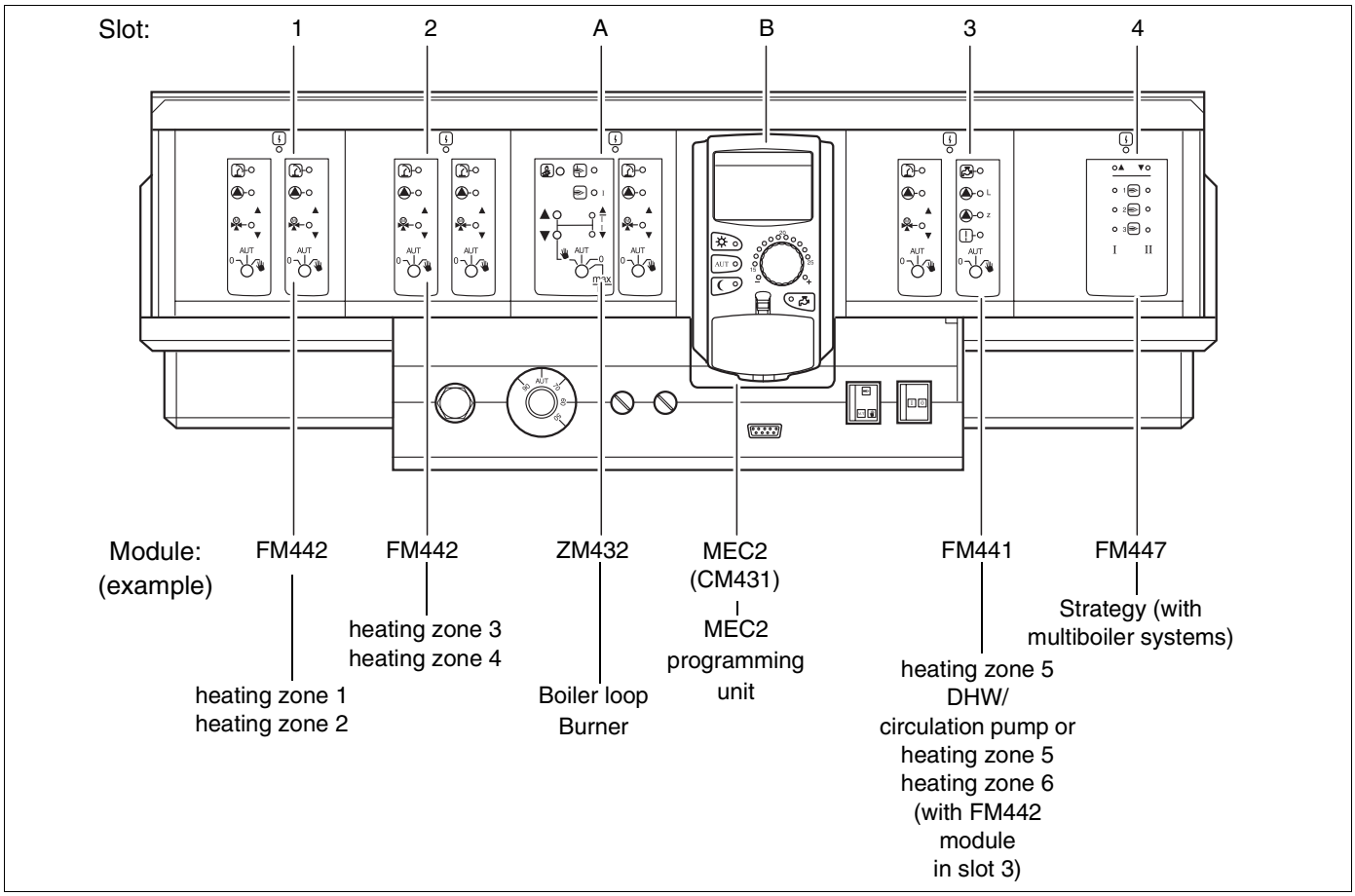


Fig. 2 Modules installed

5 Modules and their functions

All modules that are installed or can be installed on the Logamatic 4311 and 4312 controls are listed below.

The following pages have information on the modules that can be installed.

		Logamatic 4311	Logamatic 4312
Module	MEC2	O	X
	CM431 controller module	O	O
	ZM432 central module Burner + boiler loop functions	O	O
	FM 441 Function Module 1 heating zone + 1 DHW tank	X	X
	FM 442 Function Module 2 heating zones	X	X
	FM 443 Function Module Solar system	X	X
	FM 444 Function module Alternative heat generators	X	X
	FM 445 Function module LAP/LSP (charging system)	X	X
	FM447 Function Module Strategy	X	-
	FM448 Function Module Centralized alarm message	X	X
	ZM426 additional module Additional STB	X	X

Tab. 1 Modules and their functions

O = Basic equipment
X = Optional equipment
– = Combination/installation not available

NOTICE

The menus shown on the display of the MEC2 depend on which modules are installed and which settings have been made.

ZM432 burner and boiler zone module

The ZM432 module is part of the basic equipment of the Logamatic 4311 and Logamatic 4312 controls. The manual switch on the module is for service and maintenance functions only.

If the manual switches are not in automatic position, the MEC2 shows a message to this effect and the ϟ fault display lights.

Do not use the manual switches to shut off the installation for temporary absence. The control functions continue to operate in manual mode.

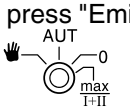
Burner function

"Emission test" button for emission test

Press "Emission test" for a few seconds.

The heater control will operate at an increased temperature for 30 minutes. During the emission test the ϟ for fault and for WWSD mode flash alternately.

To cancel the emission test press "Emission test" again.

Manual switch for burner 

The burner switch must always be in **AUT** position. The **0, manual** and **max I + II** positions are special settings reserved for use by technicians in case of faults.

The burner can be controlled directly with the manual switch. The control continues to operate. Do not use the manual switches to shut off the installation for temporary absence.

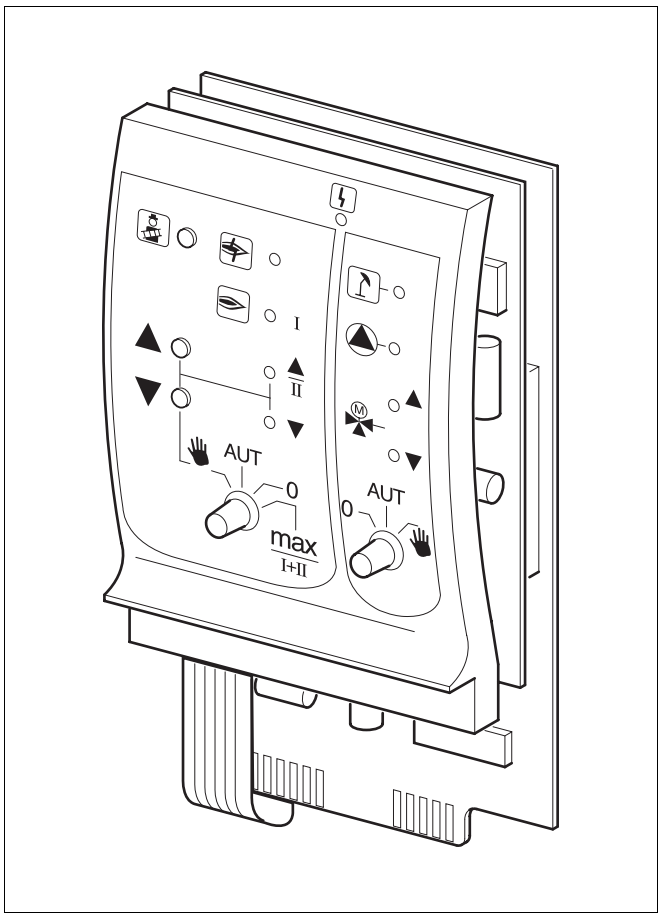


Fig. 3 ZM432

Display	ϟ	General fault e.g. building faults, sensor faults, external faults, wiring faults, internal module faults, manual operation The fault messages are shown as plain text in the MEC2.

Indicator lights for burner functions

Display		Burner fault
Display		Burner operating
Display		Modulation output is increased
Display		Modulation output is reduced

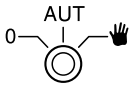
Indicator lights for boiler loop functions

Display		Boiler loop in WWSD mode
Display		Boiler pump operating
Display		Mixing valve opens towards boiler
Display		Mixing valve opens towards heating zones

✋:	In the case of single-stage and two-stage burner, only the first stage will be fired for basic load. With modulating burners the burner output can be increased infinitely with the ▲ button and infinitely lowered with the ▼ button.
AUT:	The burner is operating in automatic mode.
0:	The burner is switched off. Except if the burner emergency switch is set to ✋ position.
max I+II:	The burner is operated continuously at maximum output.

Boiler loop function

Manual switch for boiler loop



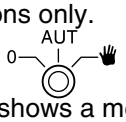
The manual switch must always be in **AUT** position. The **0** and **manual operation** positions are special settings that should only be used by technicians.

✋:	If a boiler pump is installed, it is switched on. The boiler loop actuator can be operated manually.
AUT:	The boiler loop is operating in automatic mode.
0:	If a boiler circulator is installed, it is switched off. The boiler loop actuator can be operated manually. Current functions are shown by indicator lights.

FM441 heating zone and DHW module

The FM441 function module controls a heating zone with a mixing valve and a DHW zone with a recirculation pump. One module per control can be installed in any slot.

The manual switches on the module are for service and maintenance functions only.

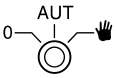
If the manual switch 

is not in automatic position, the MEC2 shows a message and the ϟ display indicates a fault.

Do not use the manual switches to shut off the installation for temporary absence.

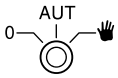
The control functions continue to operate in manual mode.

Heating zone function

Manual switch for heating zone 

✋:	The heating zone circulator is switched on. The boiler zone actuator can be operated manually.
AUT:	The heating zone is operating in automatic mode.
0:	Only the heating zone pump is switched off. The control functions continue to operate.

DHW function

Manual switch for DHW heating 

✋:	The heating zone circulator is switched on.
AUT:	The DHW circuit is operating in automatic mode.
0:	Only the tank loading pump is switched off. The control functions continue to operate.

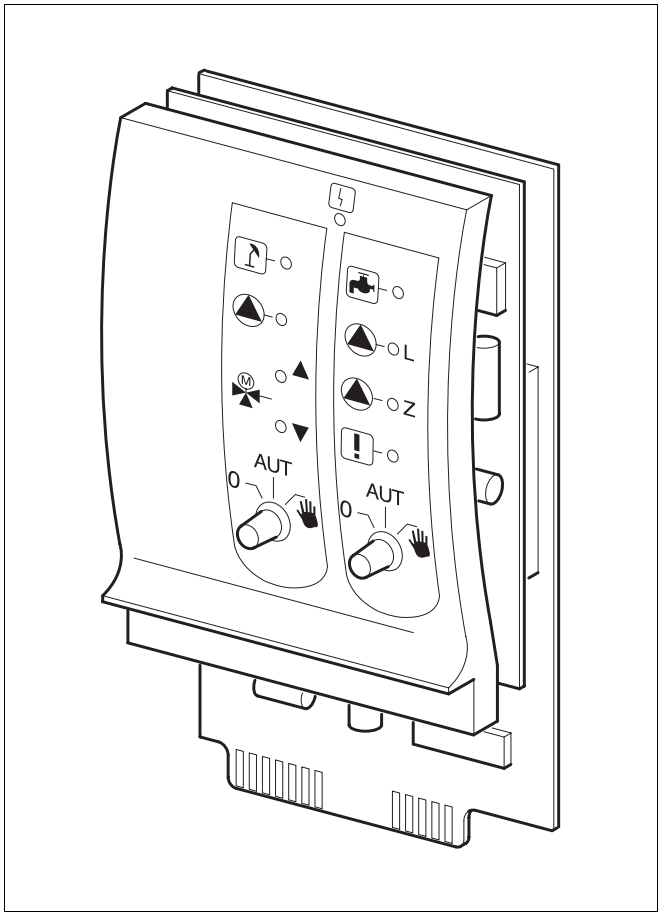


Fig. 4 FM441

Display ϟ General fault
e.g. building faults, sensor faults, external faults, wiring faults, internal module faults, manual operation
The fault messages are shown as plain text in the MEC2.

Indicator lights for heating zone functions

Display		Heating zone in WWSD mode
Display		Heating zone pump in operation
Display		Mixing valve opens
Display		Mixing valve closes

Indicator lights for DHW functions

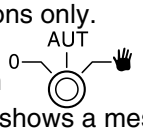
Display		DHW is cold
Display	L	DHW pump in operation
Display	!	Thermal disinfection in operation
Display	Z	Recirculation pump in operation

FM442 heating zone module

The FM442 module controls two independent heating zones with mixing valves.

Up to four modules per control can be installed.

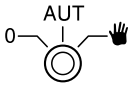
The manual switches on the module are for service and maintenance functions only.

If the manual switch 

is not in automatic position, the MEC2 shows a message and the [ϟ] display indicates a fault.

Do not use the manual switches to shut off the installation for temporary absence. The control functions continue to operate in manual mode.

Heating zone function 1 + 2

Manual switch for heating zone 

✋:	The heating zone pump is operating. The boiler loop actuator can be operated manually.
AUT:	The heating zone is operating in automatic mode.
0:	Only the heating zone pump is switched off. The control functions continue to operate.

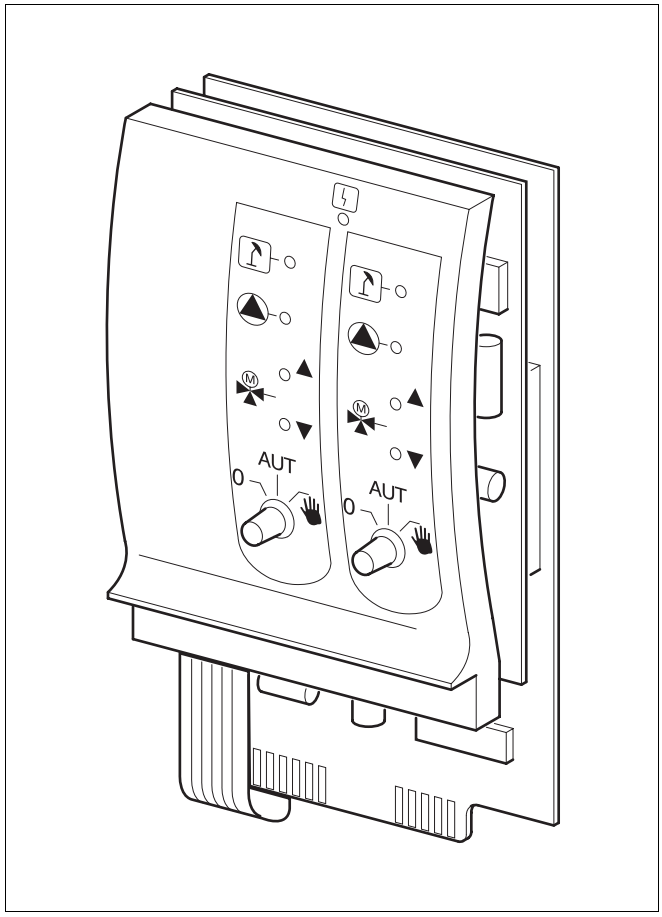


Fig. 5 FM442

Display	[ϟ]	General fault e.g. building faults, sensor faults, external faults, wiring faults, internal module faults, manual operation The fault messages are shown as plain text in the MEC2.

Indicator lights for heating zone functions

Display	[⌐]	Heating zone in WWSD mode
Display	▲	Heating zone pump in operation
Display	▲	Mixing valve opens
Display	▼	Mixing valve closes

FM447 strategy module

The strategy module controls a multiboiler system and runs special functions, such as group fault messages.

The strategy module has no ajustable controls.

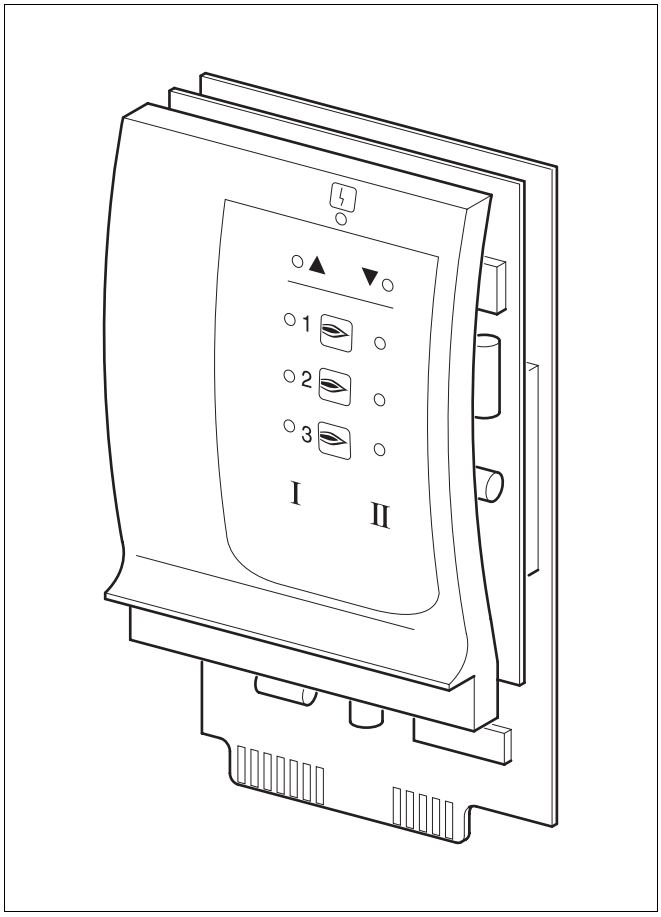


Fig. 6 FM447

Display ϟ General fault
e.g. building faults, sensor faults, external faults, wiring faults, internal module faults, manual operation
The fault messages are shown as plain text in the MEC2.

Indicator lights for burner functions

Display ▲ Activating another boiler stage.

Display ▼ Deactivating another boiler stage.

Display I 1. Stage or base load of boiler (burner)

Display II 2. Stage or modulation of boiler (burner)

Display for boiler 1 (burner 1)

Display for boiler 2 (burner 2)

Display for boiler 3 (burner 3)

6 MEC2

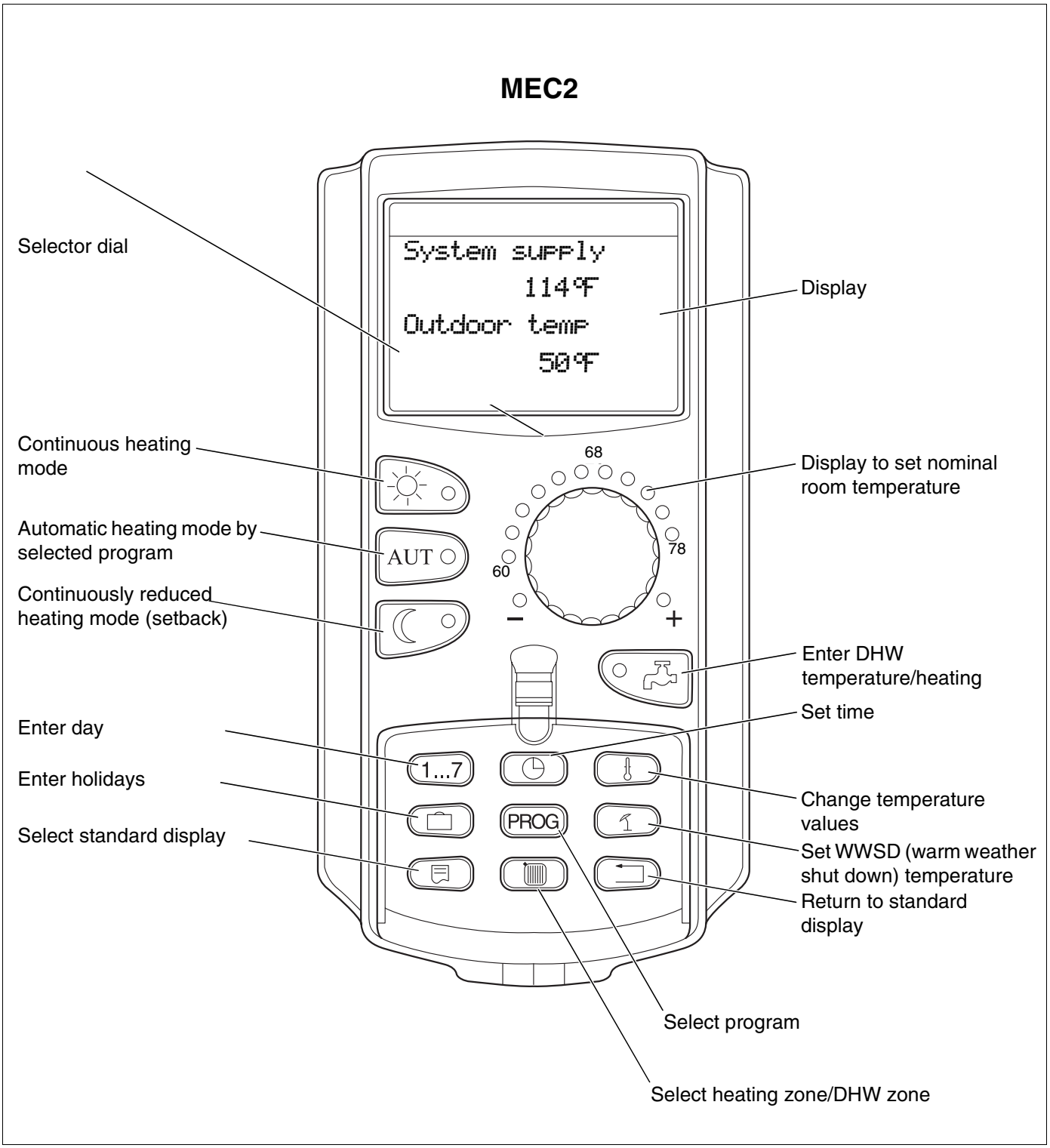


Fig. 7 MEC2

7 Short operating instructions

Initial start-up

- Verify that all switches on the control and the modules are set to **AUT**.
- Set ON/OFF switch to | (ON).

The MEC2 is initializing. Data exchange between the control and the MEC2 takes place. A short time later the MEC2 display shows the default display.

Shut-down

- Set ON/OFF switch to **0** (OFF).
- In case of malfunction turn off the system emergency switch outside the boiler room, or disengage the heating system circuit-breaker.

Setting room temperature of all heating zones allocated to the MEC2

NOMENCLATURE

– Heating zones selected with the MEC2 are "MEC heating zones".

– Heating zones selected without the MEC2 are "heating zone and heating zone number" or "heating zone name and heating zone number".

Setting the day time room temperature

- With the cover closed press and release  .
- Rotate dial until the desired day room temperature is displayed.
- Press AUT.

Setting the night time room temperature

- With the cover closed press and release  .
- Rotate dial until the desired night room temperature is displayed.
- Press AUT.

Setting room temperature for heating zones without a separate remote control

Heating zones are not allocated to the MEC2.

Setting the day time room temperature

- Press and hold the  button.
- Rotate dial until the heating zone is displayed.
- Release  .
- Press and hold the  button.
- Rotate dial until the desired day room temperature is displayed.
- Release  .
- Press  .

Setting the night time room temperature

- Press and hold the  button.
- Rotate dial until the desired heating zone is displayed.
- Release  .
- Press and hold the  button.
- Rotate dial until the desired night room temperature is displayed.
- Release  .
- Press  .

Setting room temperature for heating zones fitted with different remote controls

- See separate operating instructions for remote controls.

Setting the DHW temperature

- Press and hold the  button.
- Rotate dial until the DHW temperature is displayed.
- Release  .

Adjusting warm weater shut down (WWSD) temperature

The desired heating zone must be selected before adjusting the WWSD temperature. Single heating zones or all heating zones allocated to the MEC2 can be selected.

- Press and hold the  button.
- Rotate dial until the desired heating zone is displayed.
- Release  .
- Press and hold the  button.
- Rotate dial until the outdoor temperature at which the heating should resume is displayed.
- Release  .

Changing operating status

The operating status of the heating zones allocated to the MEC2 is changed with the cover closed.

- Press and release  with the cover closed. The system heats continuously to the specified day room temperature.
- Press and release  with the cover closed. The systems runs continuously in reduced heating mode.
- Press and release  with the cover closed.The system operates in automatic mode as set in the preset switching program.

8 Setting the room temperature

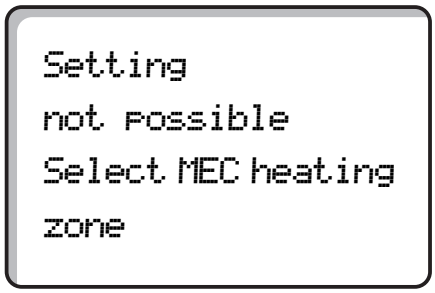
for all heating zones allocated to the MEC2

The installation company specifies during installation which heating zones must be regulated by the MEC2. These heating zones are "MEC heating zone". The room temperature for "MEC heating zone" is set with the dial.

NOTICE

The temperature change equally affects all heating zones that are allocated to the MEC2.

If one single heating zone has been selected and you want to set the room temperature with (🌡), the error message "Setting not possible select MEC heating zone" appears.



Factory setting:

Day room temperature:	70 °F (21 °C)
Night room temperature:	62 °F (17 °C)

Turn the dial with the cover closed to the desired room temperature without pressing another button.

The room temperature can be set in the range of 52 °F (11 °C) to 86 °F (30 °C) in steps of two degrees Fahrenheit. The nominal temperature is displayed by an LED on the dial. At temperatures below 60 °F (16 °C) or above 78 °F (26 °C) the - or + LED also lights up.

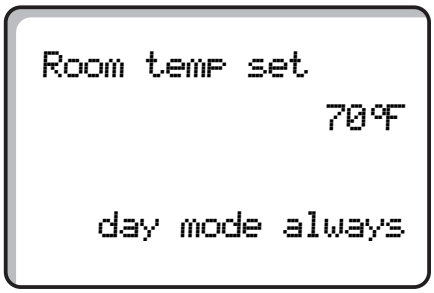
Setting the day time room temperature

If you wish to change the day time room temperature while the heating system is operating in night mode, switch to day mode first.

- Press and hold the button.
- Turn dial to the desired day room temperature.
- Release .

To operate the system in automatic mode:

- Press AUT.



Setting the night time room temperature

If you wish to change the night time room temperature while the heating system is operating in day mode, switch to night mode first.

The night temperature depends on the "setback mode" that was selected at service level.

In the "room setback" and "outdoor setback" setback modes, the systems heats to the set night room temperature only when the night room temperature falls below the limit.

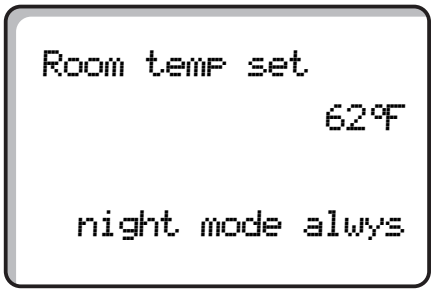
A night room temperature cannot be set in the "shut-down" setback mode.

The system heats to the set night room temperature in the setback mode.

- Press and hold the button.
- Turn dial to the desired night room temperature.
- Release .

To operate the system in automatic mode:

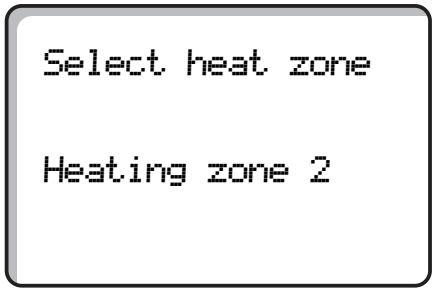
- Press AUT.



Setting room temperature for heating zones without a remote control

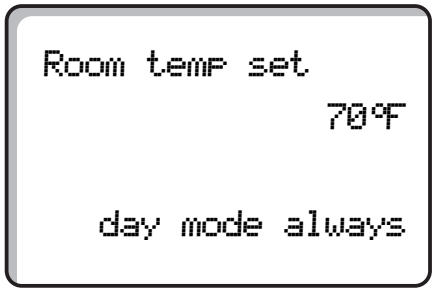
The room temperature is set as follows in all heating zones that were not allocated to a remote control during installation:

- Open the cover.
- Press and hold the button.
- Rotate dial until the desired heating zone is displayed.
- Release .



Setting the room temperature by day

- Press and hold the button.
- Rotate dial until the desired day room temperature is displayed.
- Release .



NOTICE

A room temperature cannot be set for heating zones regulated "constantly", such as ventilation systems and swimming pool heating.

Setting the night time room temperature

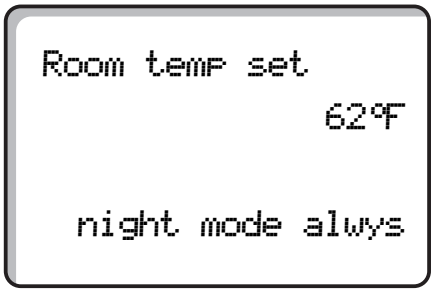
If you wish to change the night time room temperature while the heating system is operating in day mode, switch to night mode first. The night room temperature depends on the "setback type" that was set at the service level. In the "room setback" and "outdoor setback" mode the systems heats to the set night room temperature only when the night room temperature falls below the limit.

A night room temperature cannot be set in the "shut-down" setback mode.

The system heats continuously to the set night room temperature in the "reduced" setback mode.

The heating zone circulator remains off until the temperature falls below the value set for the night room temperature or the outdoor temperature.

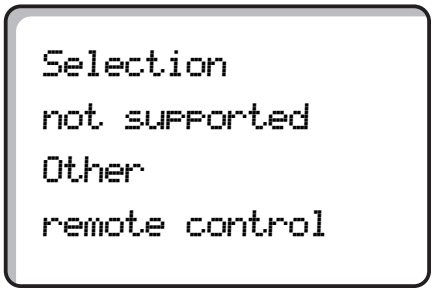
- Press and hold the ☾ button.
- Rotate dial until the desired night room temperature is displayed.
- Release ☾.



Setting room temperature for heating zone with other remote controls

The room temperature must be set with this remote control for all heating zones to which a remote control without display was allocated during installation.

If you attempt to set the room temperature with the button, the adjacent error message will appear.



9 DHW control

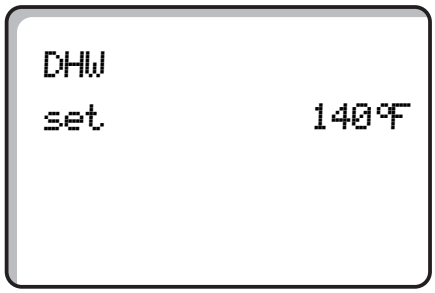
The FM441 heating zone and DHW module are needed to control DHW. The control is factory set to start DHW heating 30 minutes before the heating zone is scheduled to come on.

DHW control can be set by heating zone or using a separate time program (DHW program).

If all heating zones are in reset mode or vacation mode, DHW is not heated.

Setting DHW temperature

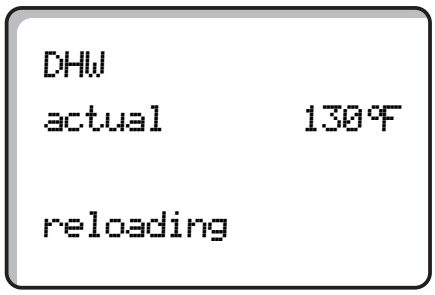
- Press and hold the button.
- Rotate dial until the desired DHW temperature is displayed.
- Release .
  The DHW temperature is saved.



Reloading DHW

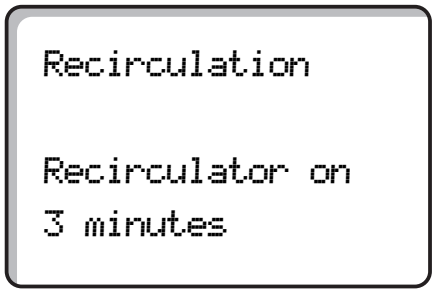
If the indicator light on the is on, the DHW temperature has fallen below the set value and can be corrected if desired.

- Press .
  The green LED on the button flashes until the DHW tank is reheated. During heating the recirculation pump runs continuously.

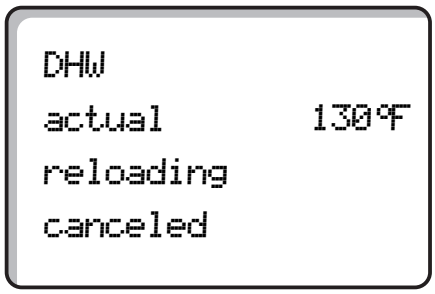


Start recirculation pump

If the DHW is still at the nominal temperature, pressing starts the recirculation pump.

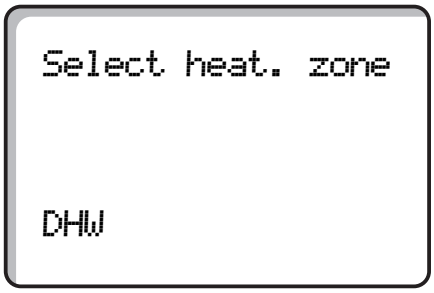


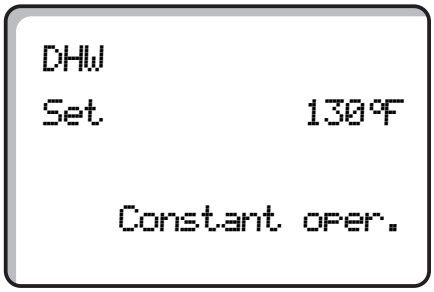
If you have started this function in error, press again to cancel reloading.



Setting continuous operation

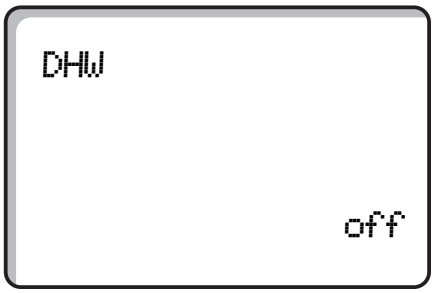
- Open cover, press and hold the button.
- Turn the dial until "DHW" appears.
- Release .
- Press .
  DHW heating now operates around the clock. After three seconds the standard display appears again.





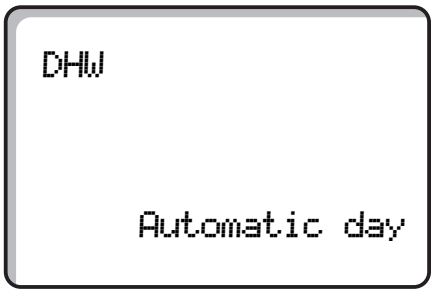
Disabling DHW heating

- Open cover, press and hold the button.
- Turn the dial until "DHW" appears.
- Release .
- Press .
  DHW heating is now disabled. After three seconds the standard display appears again.



Setting automatic mode

- Open cover, press and hold .
- Turn the dial until "DHW" appears.
- Release .
- Press AUT.
  DHW heating is in automatic mode. After three seconds the standard display appears again.



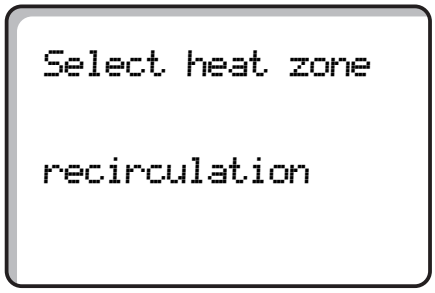
10 DHW recirculation pump control

The FM441 heating zone and DHW module must be installed to regulate a recirculation pump. The control is factory set to start the recirculation pump 30 minutes before the heating zone is switched on. The recirculation pump control can be set to operate during the heating zone day mode or with a separate time program. If all heating zones are in reset or vacation mode, the recirculation pump will not operate.

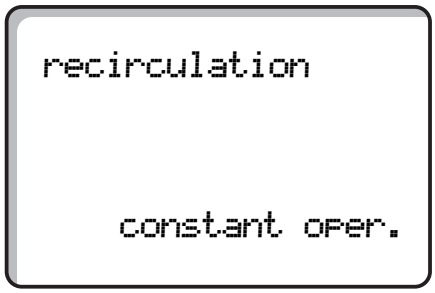
Setting continuous operation

- Open cover, press and hold the button.
- Turn the dial until "recirculation" appears.
- Release .
- Press

The recirculation pump will now run continuously.

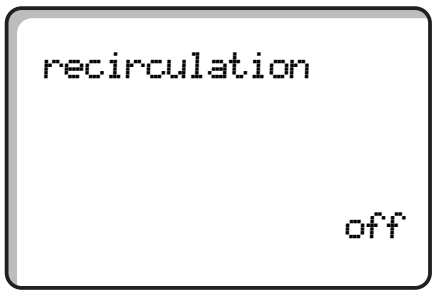


The factory setting is on twice an hour for three minutes. The intervals per hour can be changed by the heating contractor at the service level.
After three seconds the standard display appears again.

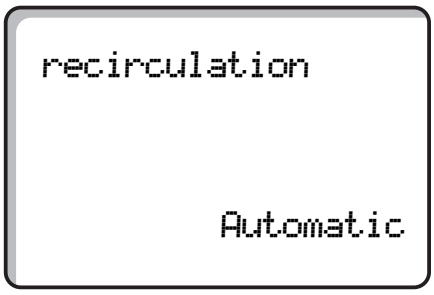


Disabling recirculation pump

- Open cover, press and hold the button.
- Turn the dial until "recirculation" appears.
- Release .
- Press .
  The circulation pump is now disabled.
  After three seconds the standard display appears again.



Setting automatic mode



- Open cover, press and hold the button.
- Turn the dial until "recirculation" appears.
- Release .
- Press AUT.
  The recirculation pump is now in automatic mode.
  After three seconds the standard display appears again.

In automatic mode the recirculation pump operates in interval mode.

The factory setting is on twice an hour for three minutes.

The interval per hour can be changed by the heating contractor at the service level.

Thermal disinfection

During thermal disinfection the DHW is heated to the temperature required to kill Legionella bacteria once or several times a week.

The tank loading pump and the recirculation pump run continuously during thermal disinfection.

The disinfection procedure is started at the times set by the factory default.

If desired, the heating contractor can change the interval.

The operation of the thermal disinfection process is shown by the LED display ! on the FM441 and FM445 modules.

WARNING!

RISK OF SCALDING

from hot water in the DHW zone of the heating system if no thermostatically controlled mixing valve is installed.

- Do not use the DHW during or shortly after disinfection unless an anti-scald valve is installed.

11 Calling up status displays

Displaying operating values

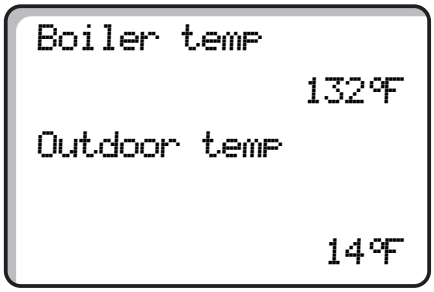
This function shows an overview of the system status. The operating values refer to the previously selected heating zone. When the MEC2 is connected to the control, by default the boiler temperature and outdoor temperature are shown in the display.

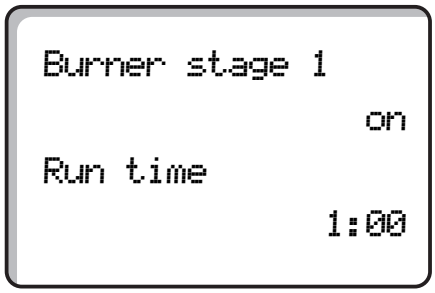
- With the cover open, turn the dial clockwise without pressing another button.

– Burner status 1st stage and operating hours

Continue turning the dial to view the values of the following operating displays in succession:

– Burner status 2nd stage and operating hours (this display is only shown with a two-stage burner).
– Current daily heat generation, yesterday and the day before yesterday
– Current weekly heat generation, last week and two weeks ago
– Current annual heat generation, last year and two years ago
– Measured and maximum exhaust temperature
– Measured room temperature of heating zone (not available if the MEC2 is plugged into the control).
– Set room temperature of heating zone
– Operating status of heating zone
– Measured return temperature of heating zone
– Measured DHW temperature
– Set DHW temperature
– DHW mode
– Operating status of recirculation pump and tank loading pump





NOTICE

The heat generation values are for comparison only and must not be used for billing. The operating values of the heating zones are only shown if the heating zones have been previously selected. The consumption values are only shown if this function has been previously selected.

12 Selecting the standard program

The controls is factory-equipped with eight programs with typical switching times for each application (see overview of standard programs page 30). The "Family" program is set as default.

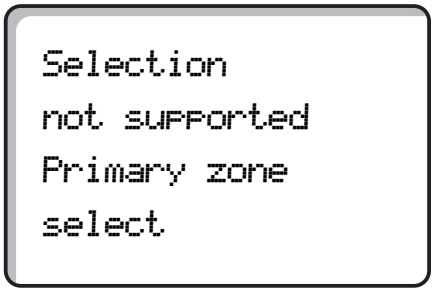
For every heating zone a different program can be used. The set points of a standard program can be adjusted or added to in order to create a custom program.

By selecting "New", all previously entered set points will be deleted, and a customized program created. If no set point or program is entered, the heating system will run continuously in day mode.

For every heating zone a separate customized program can be created. The customized program is saved and displayed as "Custom" and the "heating zone number".

NOTICE

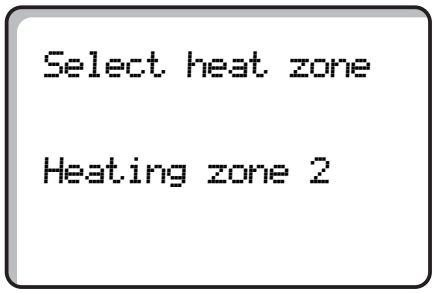
The function is not available for the "MEC-heating zone" selection. A single heating zone must be selected with "heating zone and heating zone number" or "heating zone name and heating zone number".



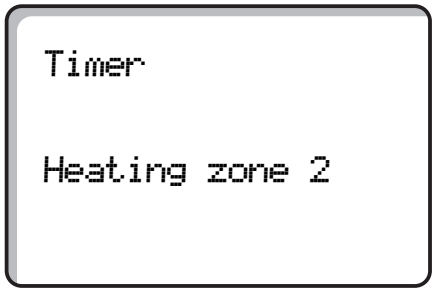
Selection of a standard program

Example: Heating zone 2 to operate per the "Evening" standard program.

- Open the cover.
- Press and hold unless "Heating zone 2" is displayed.
- Turn the dial until "Heating zone 2" appears.
- Release .

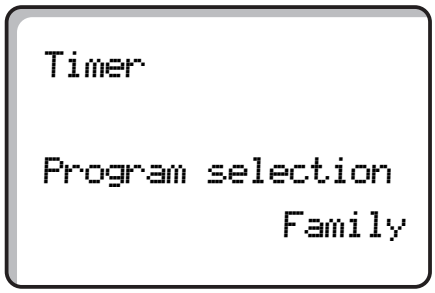


- Press and hold the PROG button. The display shows "Heating zone 2" briefly.

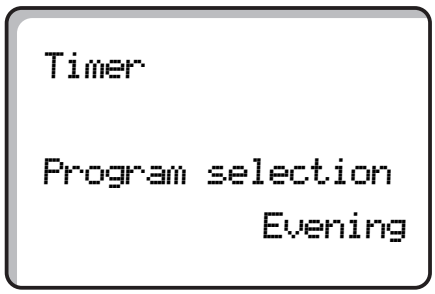


A screen will appear with the program selection and the last selected program.

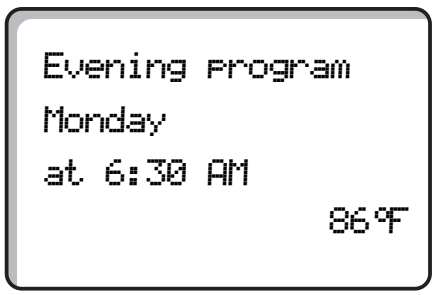
Example "Family": The program name flashes.



- Turn the dial until the desired standard program is displayed. Example: "Evening"



- Release PROG.
  The display shows the program name and the first switching point.



The set points of the program can be displayed in succession by turning the dial.

Changing set points: see "Changing standard program".

Back to standard display

- Press .

The heater is now running with the desired "Evening" program for heating zone 2.

Proceed as shown in the example to select a standard program for other heating zones.

Standard program overview

If the "Family" standard program does not meet your requirements, there are seven other standard programs available for selection.

		Day mode		Day mode		Day mode	
Program name	**Day**	**ON**	**OFF**	**ON**	**OFF**	**ON**	**OFF**
Family	Mo – Thu	5:30 a.m.	10:00 p.m.				
	Fr	5:30 a.m.	11:00 p.m.				
	Sa	6:30 a.m.	11:30 p.m.				
	Su	7:00 a.m.	10:00 p.m.				
Morning Early shift	Mo – Thu	4:30 a.m.	10:00 p.m.				
	Fr	4:30 a.m.	11:00 p.m.				
	Sa	6:30 a.m.	11:30 p.m.				
	Su	7:00 a.m.	10:00 p.m.				
Evening Late shift	Mo – Fr	6:30 a.m.	11:00 p.m.				
	Sa	6:30 a.m.	11:30 p.m.				
	Su	7:00 a.m.	11:00 p.m.				
a.m. Part-time work in the morning	Mo – Thu	5:30 a.m.	8:30 a.m.	12:00 p.m.	10:00 p.m.		
	Fr	5:30 a.m.	8:30 a.m.	12:00 p.m.	11:00 p.m.		
	Sa	6:30 a.m.	11:30 p.m.				
	Su	7:00 a.m.	10:00 p.m.				
Afternoon Part-time work in the afternoon	Mo – Thu	6:00 a.m.	11:30 a.m.	4:00 p.m.	10:00 p.m.		
	Fr	6:00 a.m.	11:30 a.m.	3:00 p.m.	11:00 p.m.		
	Sa	6:30 a.m.	11:30 p.m.				
	Su	7:00 a.m.	10:00 p.m.				
Midday Midday at home	Mo – Thu	6:00 a.m.	8:00 a.m.	11:30 a.m.	1:00 p.m.	5:00 p.m.	10:00 p.m.
	Fr	6:00 a.m.	8:00 a.m.	11:30 a.m.	11:00 p.m.		
	Sa	6:00 a.m.	11:00 p.m.				
	Su	7:00 a.m.	10:00 p.m.				
Single	Mo – Thu	6:00 a.m.	8:00 a.m.	4:00 p.m.	10:00 p.m.		
	Fr	6:00 a.m.	8:00 a.m.	3:00 p.m.	11:00 p.m.		
	Sa	7:00 a.m.	11:30 p.m.				
	Su	8:00 a.m.	10:00 p.m.				
Seniors	Mo – Su	5:30 a.m.	10:00 p.m.				
New							

Tab. 2 Standard programs

The display shows the highlighted program as shown in the table during the selection.

13 Changing the program

This feature allows changing the heating phases of a program, moving the existing set points, or adding new set points.

When the settings of the standard program are changed, the modified program will be saved in the MEC2 under the name "CUSTOM" and the number of the heating zone.

When a program has been selected for a heating zone, turn the dial

– to display the set points,

– change the set points in 10-minute steps with (◷),

– select the specified nominal room temperature for day or night mode with (🌡).

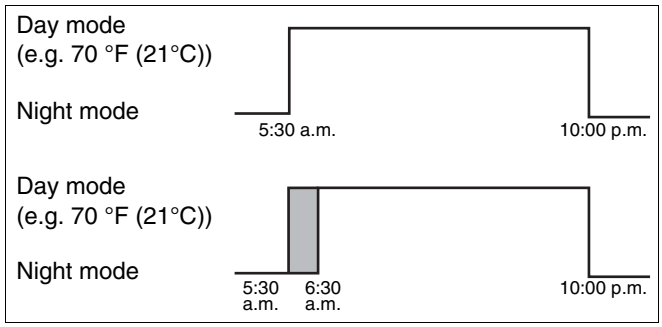
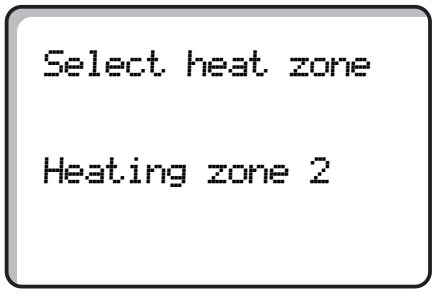


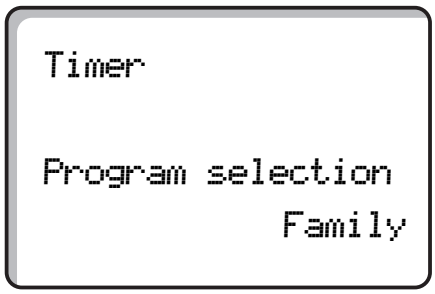
Fig. 8 Changing program

Moving a set point

Example: The start of heating zone 2 is to be moved from 5:30 a.m. to 6:30 a.m. on Tuesday in the "Family" standard program.

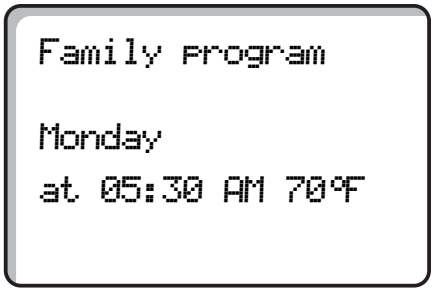
- Open the cover.
- Press and hold the (▥) button.
- Turn dial until the desired heating zone is displayed.
- Release (▥).
- Press and hold the (PROG) button.
  The display briefly shows the heating zone and then the last specified program for the heating zone. The program name flashes.



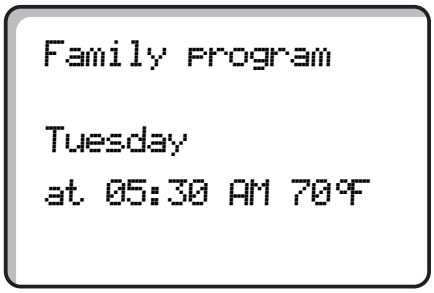


- Release (PROG).

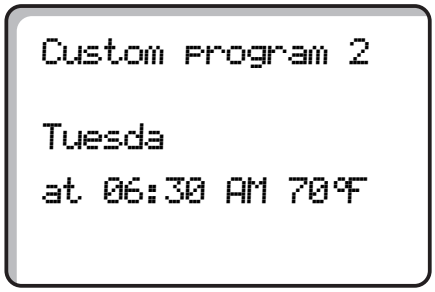
The display shows the first set point of the selected program.



- Turn the dial to the set point that you want to change.



- Press and hold the (◷) button.
  The time of the set point flashes.
- Turn the dial to 6:30 a.m. on Tuesday.
- Release (◷).



If you want to cancel the change, press (◷) again, hold it down and turn the dial back to the original set point.

To return to default screen

- Press (↩).

Inserting set points

Heating phases can be interrupted by inserting set points.

Example: The "Family" standard program is continuous on Friday from 5:30 a.m. to 11:00 p.m. To cancel heating from 10:00 a.m. to 1:00 p.m., two new set points must be inserted.

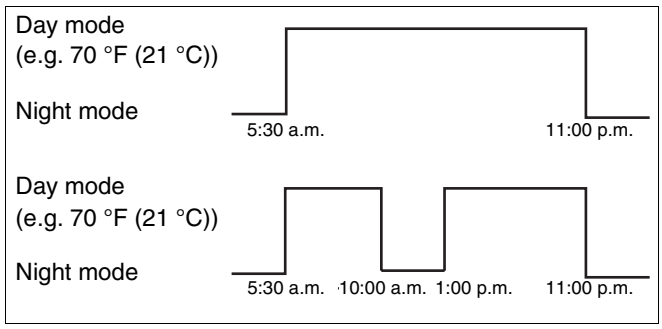
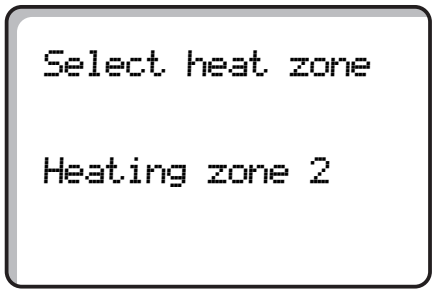


Fig. 9 Inserting set points

Selecting heating zone

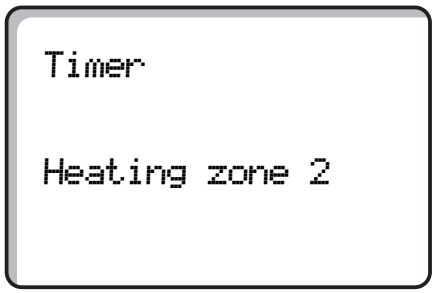
- Open the cover.
- Press and hold the button.
- Turn the dial until "Heating zone 2" appears.
- Release .

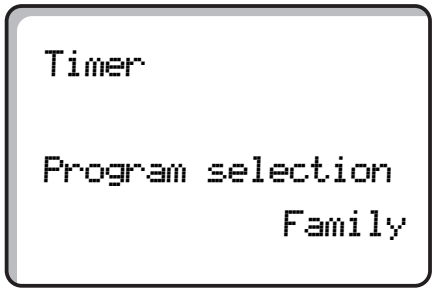


Select program

- Press and hold the PROG button.

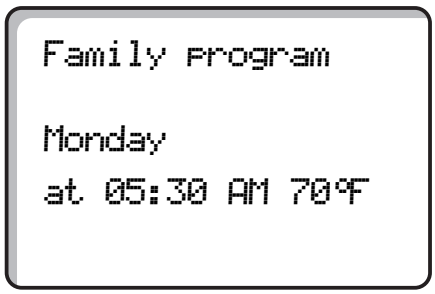
The display briefly shows the heating zone and the current program for that zone. The program name flashes.





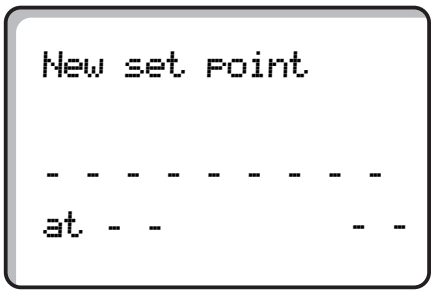
- Release PROG.

The display shows the first set point of the selected program.



Entering the first set point

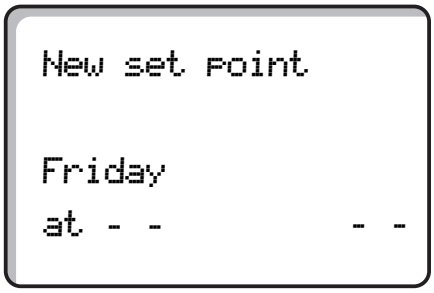
- Turn the dial counterclockwise until the blank input screen with "New set point" is displayed.



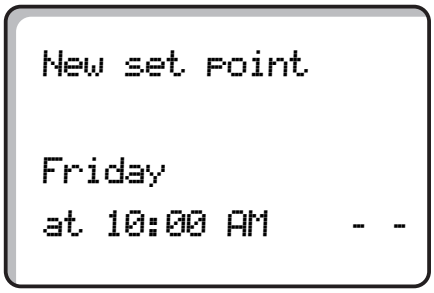
- Press and hold the (1...7) button.
- Turn the dial to the desired day.

The days can be selected one-by-one or in blocks.

Monday – Thursday
Monday – Friday
Saturday – Sunday
Monday – Sunday



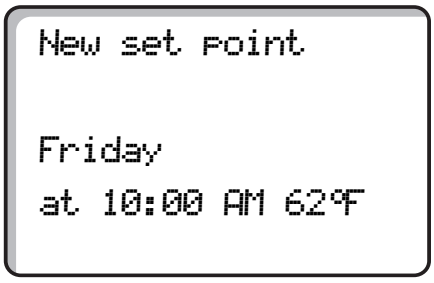
- Release (1...7).
- Press and hold the (clock) button.
- Turn dial until the desired time is displayed.
- Release (clock).



- Press and hold the (thermometer) button.
- Turn the dial counterclockwise until the nominal room temperature for setback is displayed, e.g. 62 °F (17 °C).

Temperature values cannot be entered here. Only the preset day and night temperatures are selected and saved.

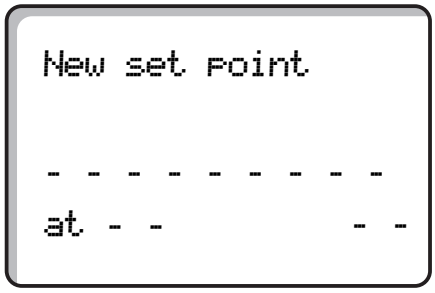
- Release (thermometer).



The set point is imported only after all three inputs have been made and the blank screen for the next new set point appears.

Proceed in the same way to input the second set point.

The modified program is saved as "Custom 2" and heating zone number "2".



Return to standard display

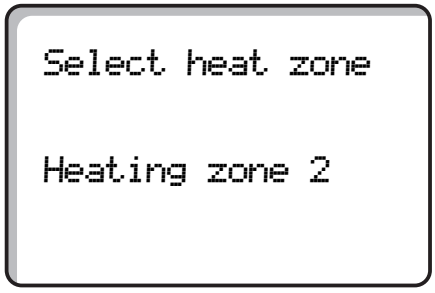
- Press (↩).

Deleting set point

Example: You want to delete the 10:00 p.m. set point in the "Family" program for heating zone 2.

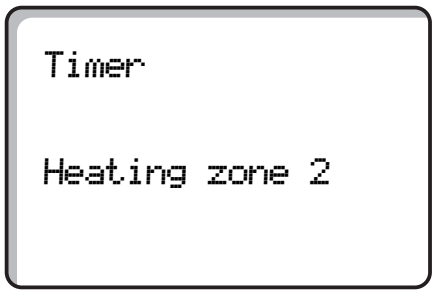
Selecting heating zone

- Open the cover.
- Press and hold the (▥) button.
- Turn the dial until "Heating zone 2" appears.
- Release (▥).

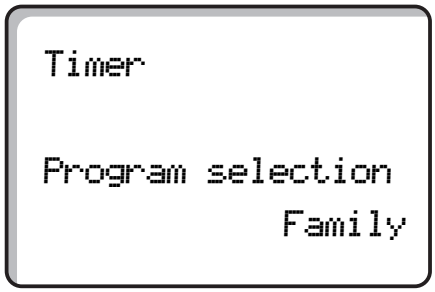


Select program

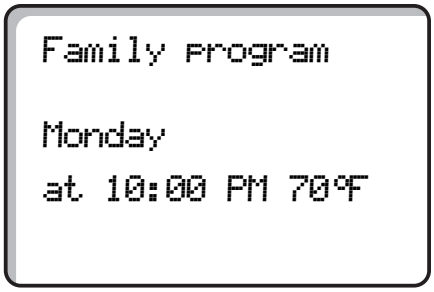
- Press and hold the (PROG) button.
  The display briefly shows the heating zone and then the last specified program for the heating zone. The program name flashes.



- Turn the dial until the "Family" program is displayed.
- Release (PROG).



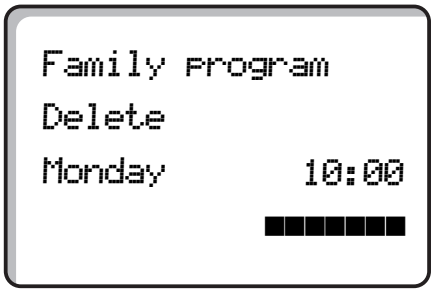
The display shows the first set point of the selected program.



Select and delete set point

- Turn the dial to the set point that you want to delete.
- Press (🗎) and (🗀) simultaneously and hold. Eight blocks are shown on the bottom line that can be deleted every second from left to right. When all blocks have disappeared the set point is deleted.

If the buttons are released the delete process is canceled.



Deleting a heating phase

A heating phase normally comprises two set points. A set point can only be moved to the next set point. As soon as two set points of a heating phase are set for the same time, the heating phase is deleted.

Example:

The "Midday" standard program has been selected and the heating phase of Monday from 11:30 a.m. – 1:00 p.m. is to be deleted, with the result of no heating from 8:00 a.m. – 5:00 p.m.

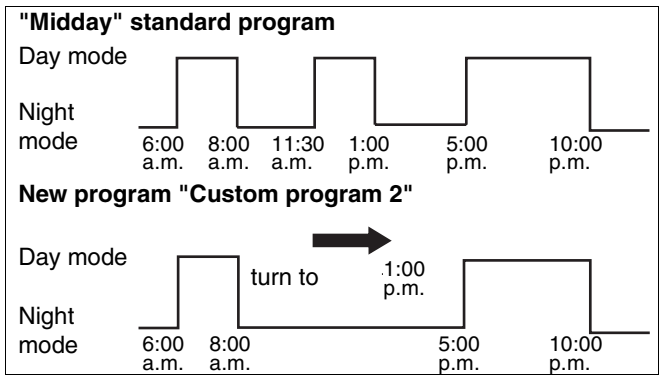
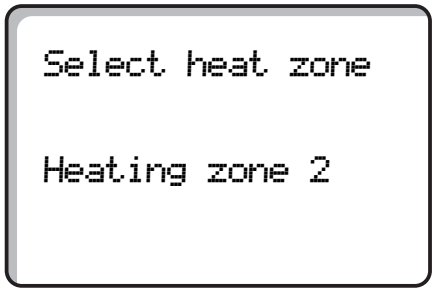


Fig. 10 Deleting a heating phase

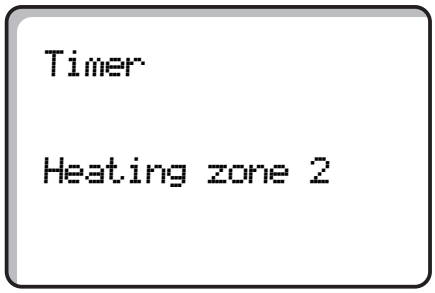
Selecting heating zone

- Open the cover.
- Press and hold the button.
- Turn the dial until "Heating zone 2" appears.
- Release .

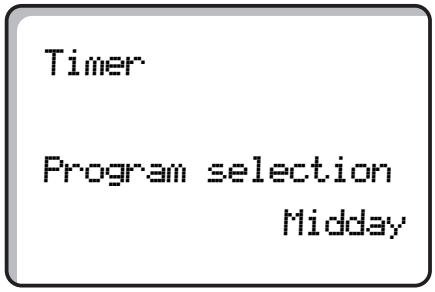


Select program

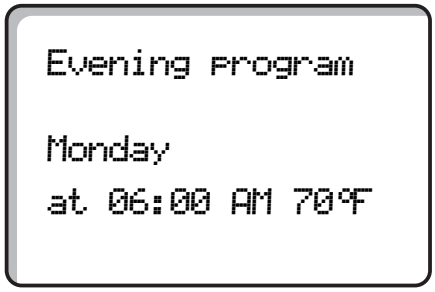
- Press and hold the PROG button.
  The display briefly shows the heating zone and then the last specified program for the heating zone. The program name flashes.



- Turn dial until the "Midday" program selection appears.

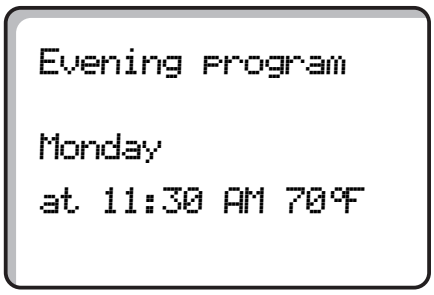


- Release PROG.
  The display shows the first set point of the selected program.

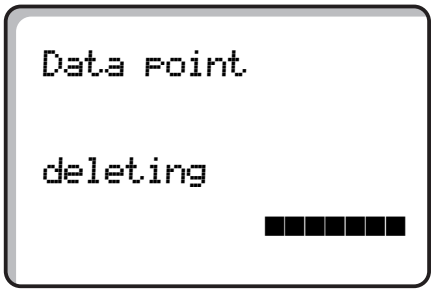


Select and delete heating phase

- Turn dial until the heating phase set point that you want to delete is displayed.



- Press and hold the (◷) button.
- Turn the dial to the next set point of this heating phase. In the example: 1:00 p.m.
  At 1:00 p.m. the display switches to "Heating period is deleted". The blocks in the bottom line are deleted from left to right.



NOTICE

The delete process can be cancelled before all blocks are deleted by releasing (◷) or turning the dial back. The set points are retained in this case.

When all blocks have disappeared, the heating phase with the two set points of 11:30 a.m. and 1:00 p.m. is deleted. The new program with a continuous heating phase is saved as "Custom program 2".

Back to standard display

- Press (↩).

Linking heating phases

To link two heating phases set the switch-off time of the first switching period to the start-up point of the next switching period.

Example:

Starting from the "Midday" standard program for heating zone 2 you wish to link the heating phase on Monday at 11:30 a.m. – 1:00 p.m. to the heating phase at 5:00 p.m. – 10:00 p.m.. This means that heating will be continuous between 11:30 a.m. – 10:00 p.m..

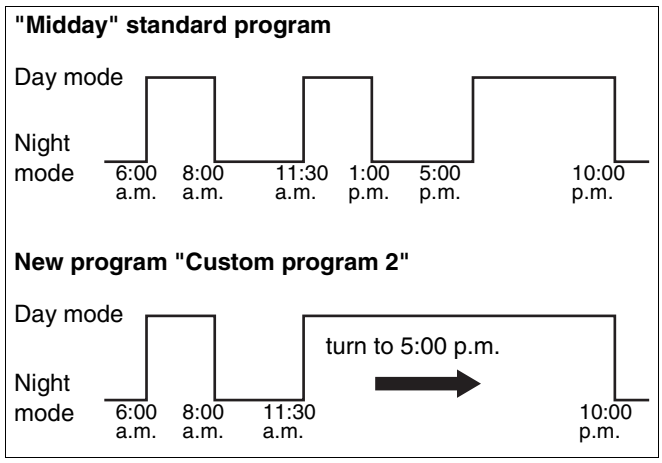
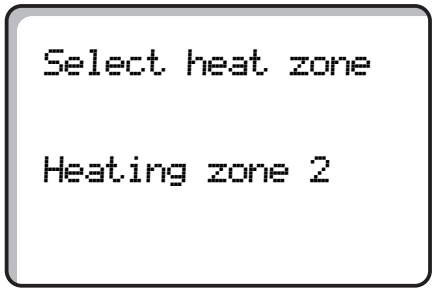


Fig. 11 Linking heating phases

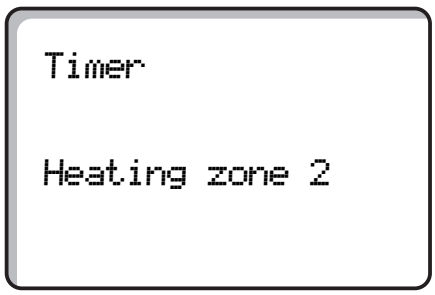
Selecting heating zone

- Open the cover.
- Press and hold the button.
- Turn the dial until "Heating zone 2" appears.
- Release .

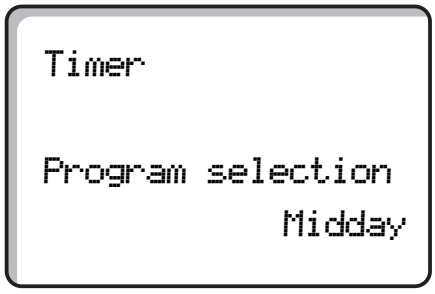


Select program

- Press and hold the PROG button.
  The display briefly shows the heating zone and then the last specified program for the heating zone. The program name flashes.

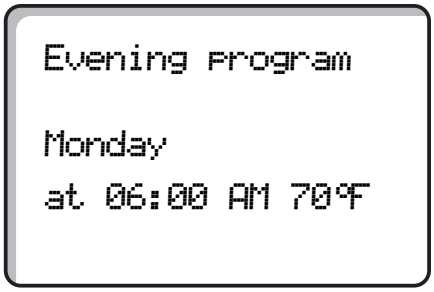


- Turn dial until the "Midday" program selection appears.



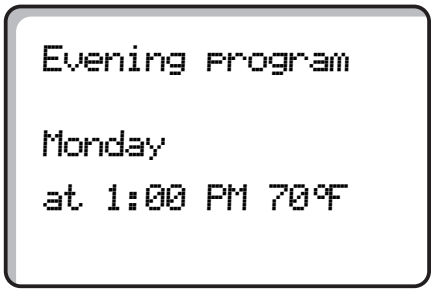
- Release (PROG).

The display shows the first set point of the selected program.

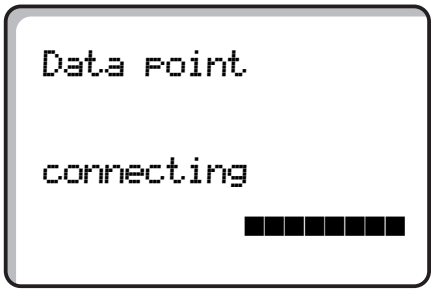


Linking heating phase

- Turn dial until the heating phase's first set point to be linked with another is displayed. In the example 1:00 p.m.



- Press and hold the (◷) button.
  The time starts flashing.
- Turn the dial to the next set point. In the example 5:00 p.m.
  As soon as the cursor has reached 5:00 p.m., the display changes to "Heating period is linked". The bottom line shows blocks that disappear in succession.



NOTICE

The delete process can be cancelled before all blocks are deleted by releasing (◷) or turning the dial back.

As soon as all blocks have disappeared, the two set points 1:00 p.m. and 5:00 p.m. are linked and the new program with the continuous heating phase is saved as "Custom program 2".

Back to standard display

- Press (↩).

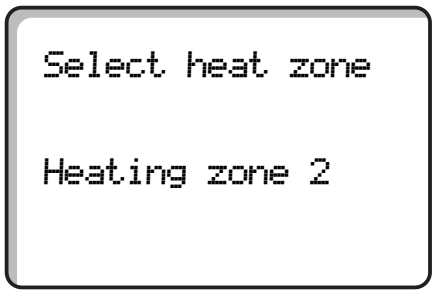
14 Creating new heating program

Prepare a table of the start and end times and temperatures of the new heating program.

Up to 42 set points per week can be set.

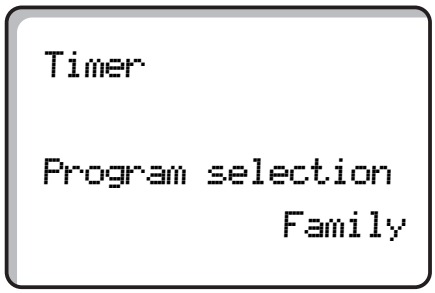
Selecting heating zone

- Open the cover.
- Press and hold the button.
- Turn the dial until "Heating zone 2" appears.
- Release .

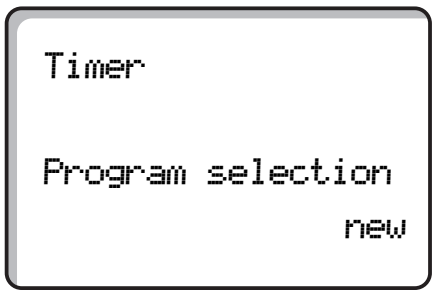


Select program

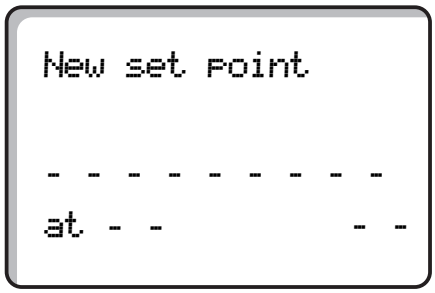
- Press and hold the PROG button.
  The display briefly shows the heating zone and then the last specified program for the heating zone. The program name flashes.



- Turn the dial to "new" program selection.



- Release PROG.
  The screen for input of the first new set point appears on the display.

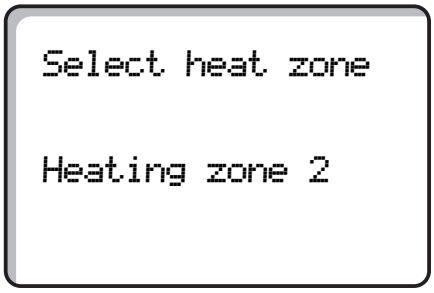


To input the new set point proceed as described in "Entering the first set point" on page 34.

Back to "Family" standard program

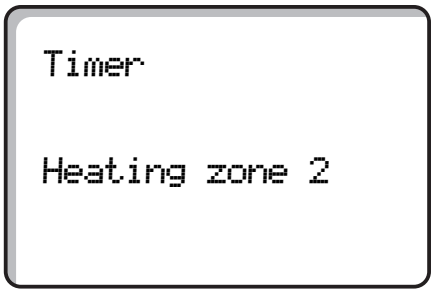
Selecting heating zone

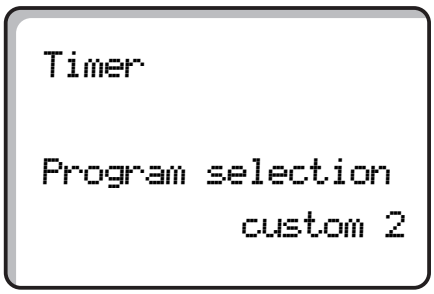
- Open the cover.
- Press and hold the (⏻) button.
- Turn the dial until "Heating zone 2" appears.
- Release (⏻).



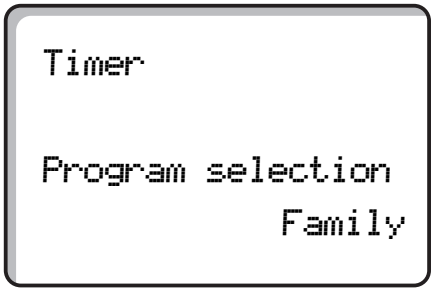
Select program

- Press and hold the (PROG) button.
  The display briefly shows the heating zone and then the last specified program for the heating zone. The program name flashes.





- Turn the dial to "Family".
- Release (PROG).



The "Family" standard program for heating zone 2 is activated again.

Back to standard display

- Press (↩).

NOTICE

The new program remains saved as "Custom program 2" and can be recalled at any time.

15 Entering new DHW program

In the "Program selection" menu you can select whether DHW generation is automatically coupled with space heating, or if a user entered program should be used. The factory setting is "Program selection by heating zone". The default program has DHW generation start automatically 30 minutes before the earliest call for space heating.

If a different program is desired, a new custom DHW program can be entered.

Example:

DHW is to be heated from 6:30 a.m. to 9:00 a.m.

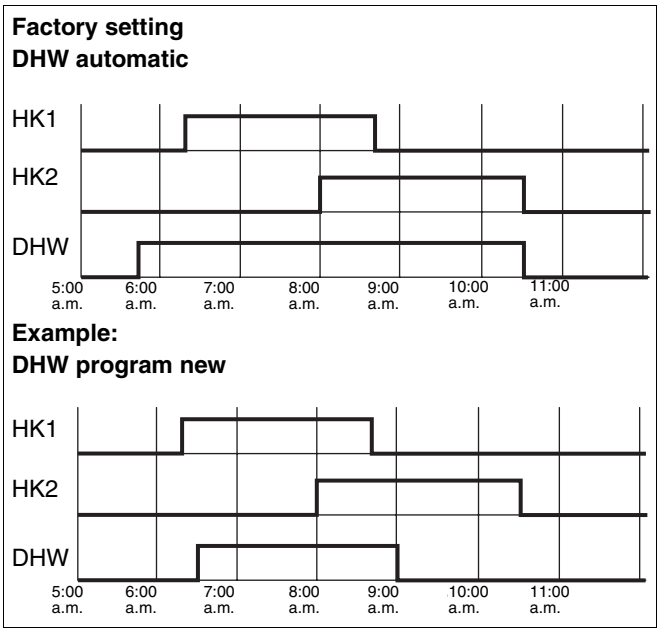
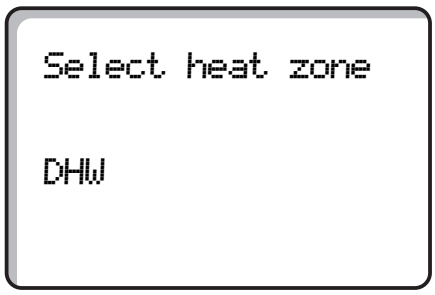


Fig. 12 Input new DHW program

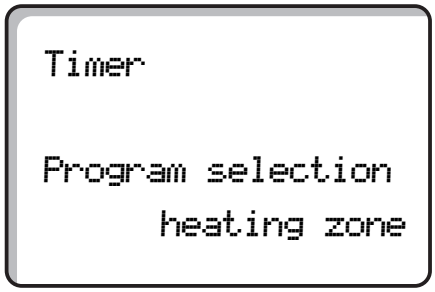
Selecting heating zone

- Open the cover.
- Press and hold the (⏲) button.
- Turn the dial until the "DHW" heating zone appears.
- Release (⏲).

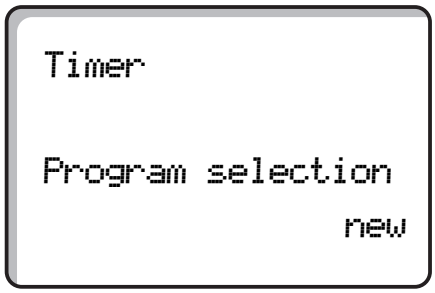


Calling program

- Press and hold the (PROG) button.
- The "Program selection" menu item appears with the specified DHW program "by heating zone".



- Turn the dial to "new".
- Release (PROG).



To input a new set point proceed as described in "Entering the first set point" on page 34.

16 Entering new DHW recirculation pump program

In the "Program selection" menu item you can set whether the recirculation pump will operate automatically depending on the heating zone or to follow a new user-selected program. The default setting is "Program selection by heating zone". In the factory program the recirculation pump starts automatically 30 minutes before the earliest set point of all heating zone and stops when the last heating zone is switched off.

In order for the recirculation pump to follow a different routine than what is set by the automatic program, a new custom recirculation pump program must be entered.

Example:

On all working days the recirculation pump is to operate from 6:30 a.m. to 9:00 a.m.

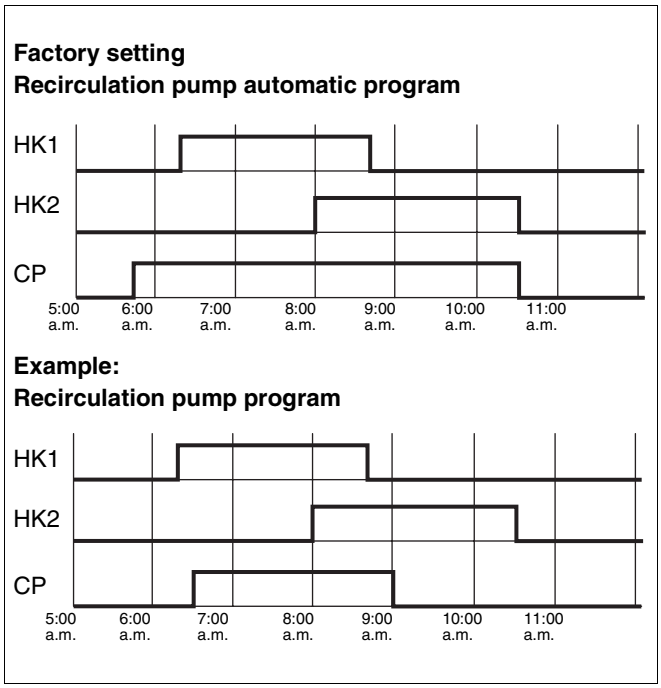
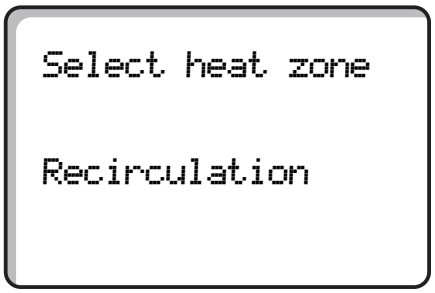


Fig. 13 Input new circulation pump program

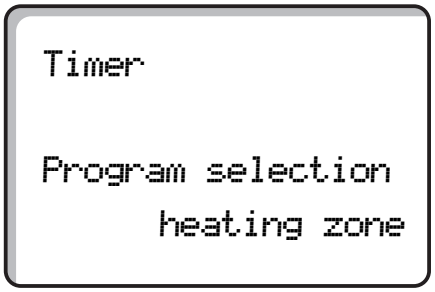
Selecting heating zone

- Open the cover.
- Press and hold the (⏻) button.
- Turn the dial until the "DHW recirculation" heating zone appears.
- Release (⏻).

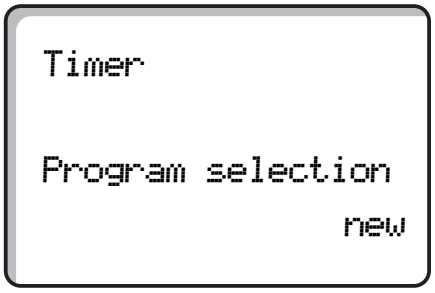


Calling program

- Press and hold the (PROG) button.
- The "Program selection" menu item appears with the specified recirculation pump program "by heating zones".



- Turn the dial to "new".
- Release (PROG).



To input the new set point proceed as described in "Entering the first set point" on page 34.

17 Party/pause function

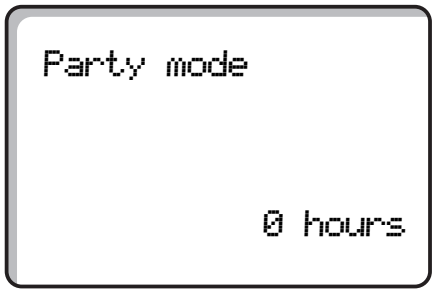
Party function

This function is only available for heating zones where the MEC2 has been assigned as the remote control (MEC heating zones). All other heating zones will continue to operate normally. The party function allows extending the day time heating period after hours.

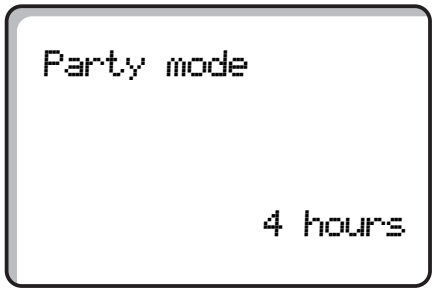
Example:

You are having a party and want to extend heating at day time room temperature for the next four hours.

- Press and hold  while opening the MEC2 cover at the same time.



- Rotate dial until the desired number of hours is displayed.
- Release  .



The party function is started immediately. After the set number of hours the system returns to automatic heating mode.

- If you wish to cancel the party function, return to the party function and turn the dial to "0 hours".

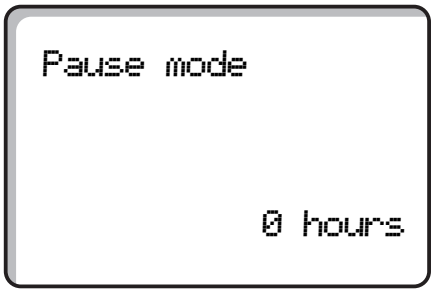
Pause function

This function is only available for heating zone where the MEC2 has been assigned as the remote control (MEC heating zone). All other heating zone will continue to operate normally. The pause function allows the user to setback to night time temperatures during the day.

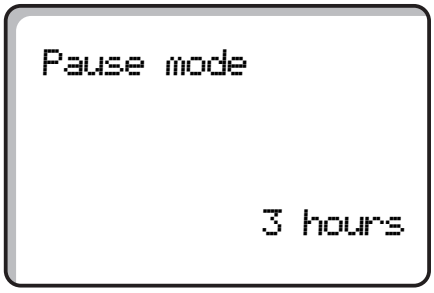
Example:

You are leaving the house for three hours and want to turn the heat down during your absence.

- Press and hold ☾ while opening the MEC2 cover at the same time.



- Rotate dial until the desired number of hours is displayed.
- Release ☾.



The pause function is started immediately. After the set **number of** hours the system returns to automatic heating mode.

- If you wish to cancel the pause function, return to the pause function and turn the dial to "0 hours".

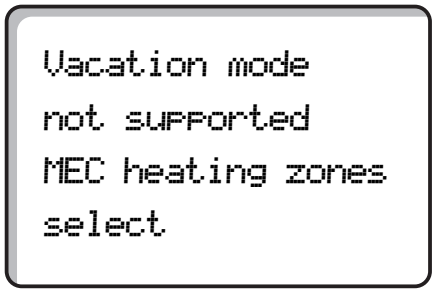
18 Vacation program

The vacation program allows running the heating system at a reduced room temperature during extended absences.

The heating zones to be set back must be selected before calling the vacation program. One single heating zone or all heating zones allocated to the MEC2 can be selected. All heating zones for which a vacation program has not been set, will continue to operate normally.

NOTICE

See "MEC heating zones" Chapter 8, page 19.



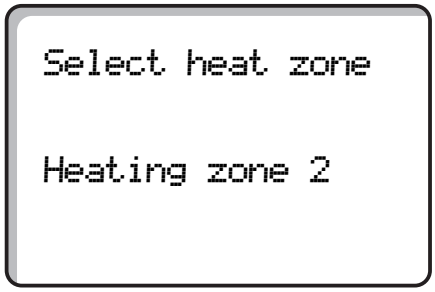
Selecting vacation program

Example:

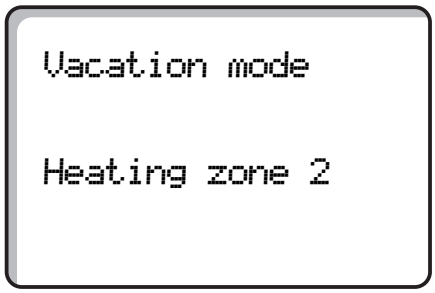
You will be away on vacation for the next five days and want to reduce the heat during this period, for example, run heating zone 2 at a reduced room temperature of 54 °F (12 °C).

NOTE: Because the vacation program is activated immediately after input, it is best to enter the vacation program on the day of departure.

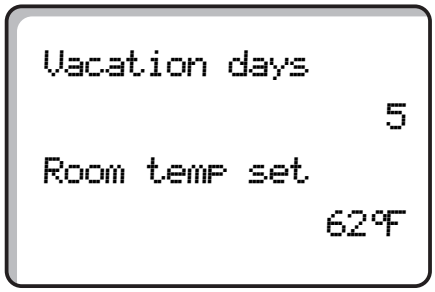
- Open the cover.
- Press and hold the button.
- Turn dial until the heating zone for which you want to set the vacation program appears on the display. Example: Heating zone 2
- Release .



- Press and hold the button.



- Turn dial to the number of vacation days.
- Release .



- Press and hold the button.
  The temperature value flashes.
- Turn dial to the desired room temperature for the duration of the vacation. In the example 54 °F (12 °C).
- Release .

The vacation program is activated immediately.

After the set number of vacation days the vacation program ends automatically and the system returns to automatic mode.

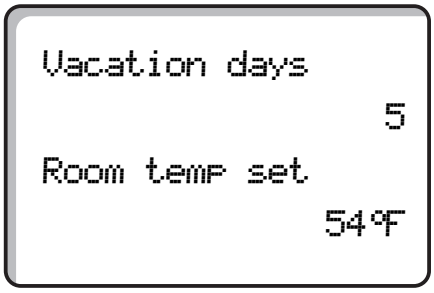
If DHW is heated depending on the heating zones (time clock: "Program selection by heating zone") and all heating zone are in vacation mode, DHW and the recirculation will be turned off. It is not possible to enter a separate DHW vacation program.

If DHW is heated by separate custom program (time clock: "Program selection Custom DHW"), a separate DHW vacation program can be entered. The recirculation pump is automatically turned off during the DHW vacation program.

The vacation program can be canceled at any time by calling it up again and setting the number of vacation days to 0.

NOTICE

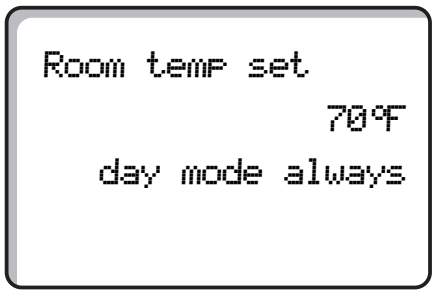
The "Room set" display only appears if the "Room setback" vacation setback mode or "setback" has been enabled by the installer.



Temporarily interrupting vacation program

The vacation program can be interrupted at any time with the ☼ or ☾ button and heating restored to the set day or night temperatures.

- Press ☼. Continuous day mode.
- Press ☾. Continuous night mode.



Continuing vacation program

- Press AUT.

The system continues to operate in vacation mode.

19 Setting WWSD (warm weather shut down) temperature

Besides the outdoor temperature, the Logamatic 4311/4312 control also takes the thermal mass and insulation of the building into account (referred to below as the "adjusted temperature") and accordingly enable and disable WWSD mode with a time delay.

WWSD mode activated

If the adjusted temperature exceeds the default threshold of 62 °F (17 °C), the heat is turned off with a delay that depends on the thermal mass and insulation of the building. WWSD mode is identified in the display with the icon. DHW heating remains in operation. If you want to switch to WWSD mode temporarily, press  .

Press AUT and the system switches back to automatic WWSD mode.

WWSD mode deactivated

If the "adjusted temperature" falls below the default threshold of 62 °F (17 °C), the heating system and DHW heating will operate normally.

Setting automatic WWSD change over

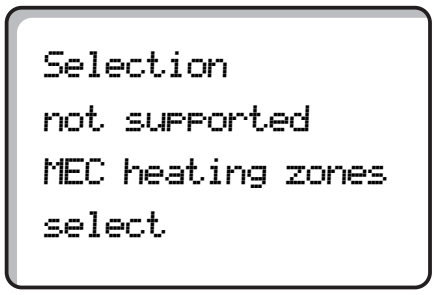
The desired heating zone must be selected before setting the WWSD. One single heating zone or all heating zones allocated to the MEC2 can be selected.

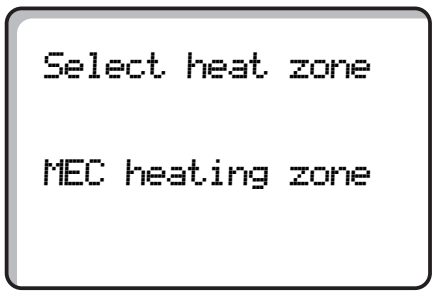
NOTICE

See "MEC heating zones" Chapter 8, page 19.

Selecting heating zone

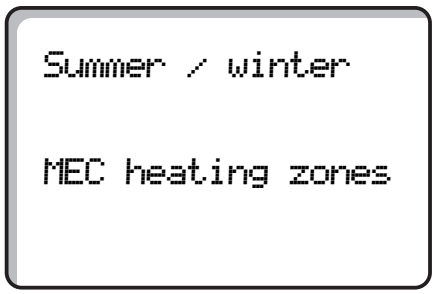
- Press and hold the button.
- Rotate dial until the desired heating zone is displayed. Example: MEC heating zones
- Release .





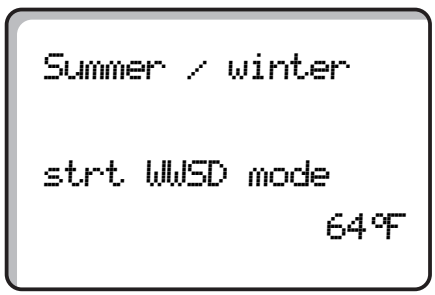
Setting WWSD temperature

- Press and hold the button.
  The heating zone is displayed briefly on the display.



Then the screen with current WWSD temperature appears. The temperature value flashes.

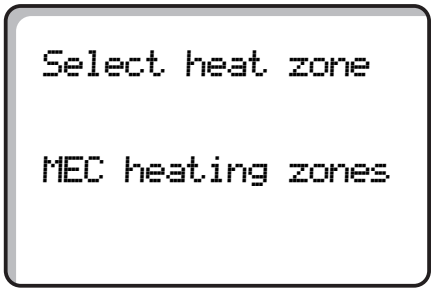
- Turn the dial to the desired temperature below which you want to heat. In the example 64 °F (18 °C).
- Release .

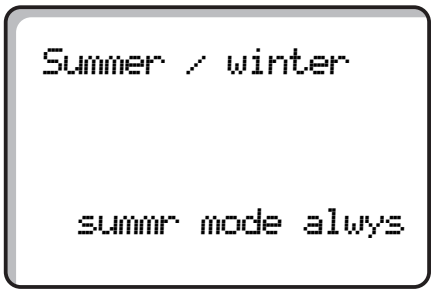


WWSD continuously enabled

Selecting heating zone

- Press and hold the ( ) button.
- Rotate dial until the desired heating zone is displayed.
- Release ( ).
- Press and hold the ( ) button.
  The heating zone is displayed briefly on the display. Then the screen with current set WWSD temperature appears and flashes.
- Turn dial to a temperature below 50 °F (10 °C).
- Release ( ).
  The heating system operates continuously in WWSD mode.



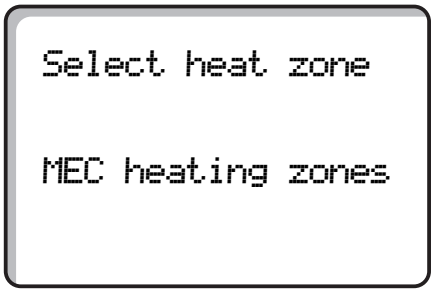


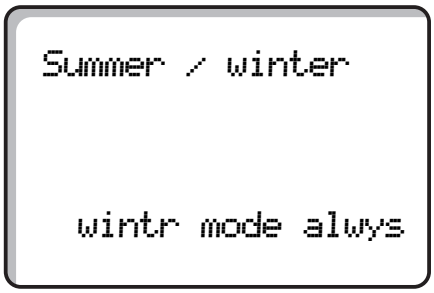
WWSD continuously disabled

Selecting heating zone

- Press and hold the ( ) button.
- Rotate dial until the desired heating zone is displayed.
- Release ( ).
- Press and hold the ( ) button.
  The heating zone is briefly displayed on the display. Then the current switching temperature appears and flashes.
- Turn dial to a switching temperature above 86 °F (30 °C).
- Release ( ).

Your heating system will now operate with WWSD permanently disabled.





20 Changing default display

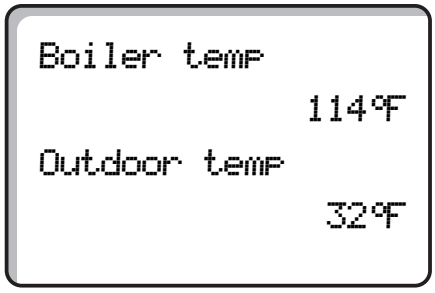
The default display shows the boiler temperature when the MEC2 is plugged into the control.

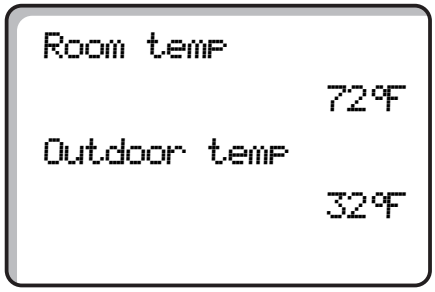
If the MEC2 remote control is in the wall bracket, the actual room temperature is displayed.

The bottom line shows the outdoor temperature.

The following displays can be selected instead of the outdoor temperature:

– Boiler temperature (MEC2 in wall bracket)
– Exhaust temperature
– DHW temperature
– Outdoor temperature
– Time
– Date

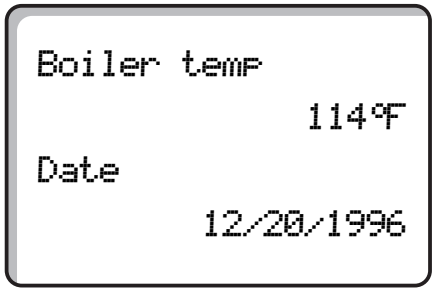




Example:

Displaying the date on the bottom line.

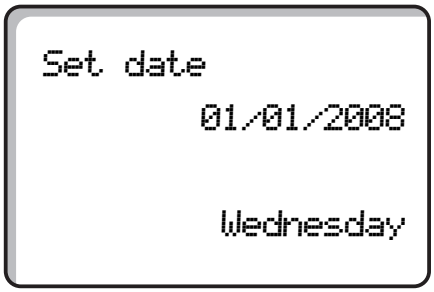
- Press and hold the button.
  The header of the display value flashes.
- Rotate dial until "Date" appears in the display.
- Release the button.
  The change is accepted.

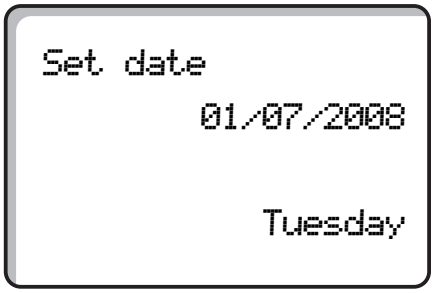


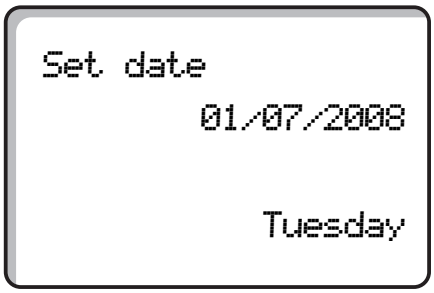
21 Setting date and time

21.1 Setting date

- Press and hold the (1...7) button. The month flashes in the date display.
- Set the month by turning the dial.
- Press the (1...7) button, then press again and hold. The day flashes in the date display.
- Set the day with the dial. The week day is automatically set.
- Press the (1...7) button, then press again and hold. The year number flashes.
- Set the year with the dial. Press (⮌) to cancel the date input at any time. The date changed to this point is saved.

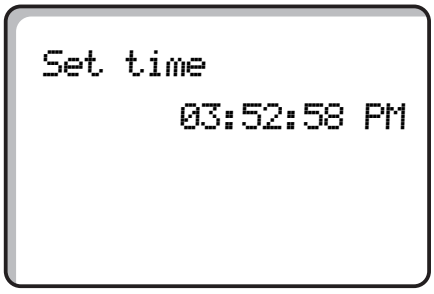






Setting the time

- Press and hold the (🕒) button. The hours and minutes flash.
- The time is changed minute by minute by rotating the dial.
- Release (🕒). The time is saved.



22 Emissions test

NOTICE

Note **the local regulations** for limiting the emissions of the heating system.

- Have an emissions test done annually.

RISK OF SCALDING

WARNING!

The DHW may be heated to over 140 °F (60 °C) during the emissions test. Take precautions to prevent people from getting scalded at the DHW faucets.

- Use only mixed DHW during or after an emissions test.
  Note that water from manually operated faucets may be excessively hot.
- Never use hot water faucet by itself.

"Emission test" button on ZM432 module.

The control must be switched on.

Press the "emissions test" button for a few seconds to start the emissions test.

The emissions test runs for 30 minutes and is shown in the display. During the emission test the ϟ for fault and ⚐ for WWSD mode displays flash alternately. At the end of the test the control automatically switches to the prior mode.

The emissions test is canceled by pressing "emissions test" again.

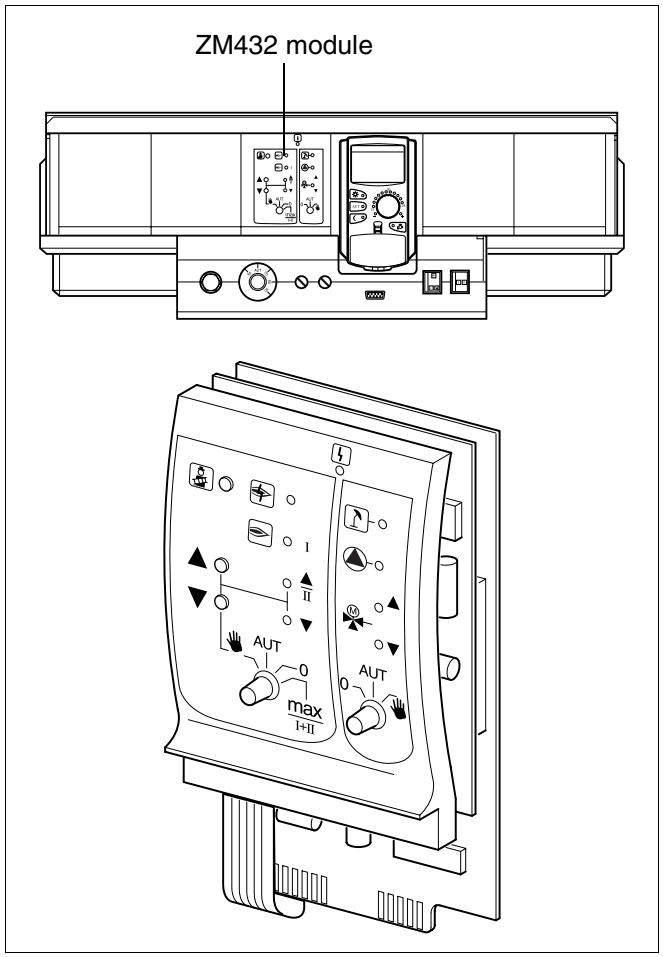
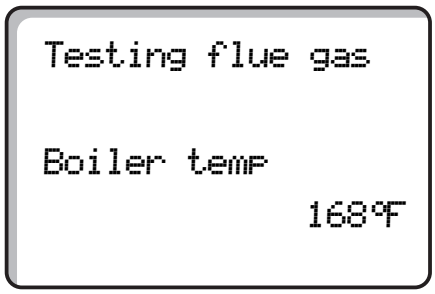


Fig. 14 ZM432



23 Setting room temperature sensor

If the room temperature shown on the display differs from the actual room temperature measured by a third party thermometer, the value can be calibrated with "MEC Calibration".

The calibration affects the heating curve.

The factory setting is 32 °F (0 °C)

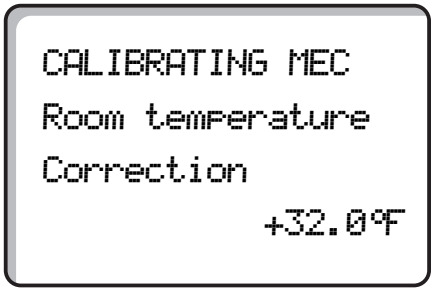
The setting range is +9 °F (-13 °C) to -9 °F (-23 °C).

e.g. Displayed room temperature: 72 °F (22 °C)
Measured room temperature: 76 °F (24 °C)

Equalizing temperature values

- Open the cover.
- Press and release (i) and (thermometer) at the same time.

The display shows "MEC Calibration".

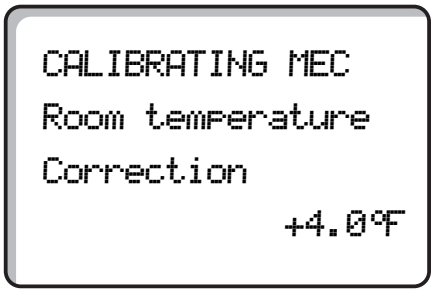


- Press and hold the (thermometer) button.

The value to be changed flashes.

- Turn dial to, for example, +4 °F (-16 °C).
- Release (thermometer).

The display shows the corrected room temperature of, for example, +76 °F (+24 °C).



24 Operating instructions for multiboiler systems

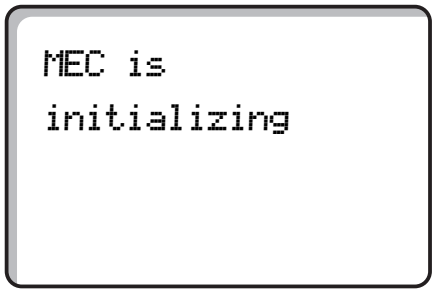
Multiboiler systems or systems with multiple zones can be controlled by multiple controllers.

The basic device is always a Logamatic 4311 control and additional controls are Logamatic 4311 or 4312. Both controls are operated basically the same way.

The MEC2 can only manage the data of one control at a time, i.e. the controls must be operated in succession.

In order to turn from one controls to the next, the MEC2 must be removed from the previous control and inserted into the next.

The following messages appear on the display.

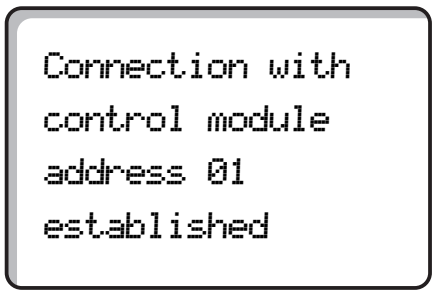


Retrieve data

- Press ☾ if you wish to retrieve the heating system data from the control.

Send data

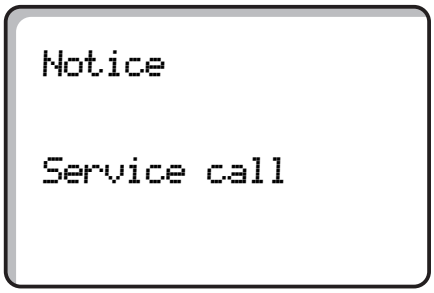
- Press AUT if you wish to send the modified data from the MEC2 to the heating system.



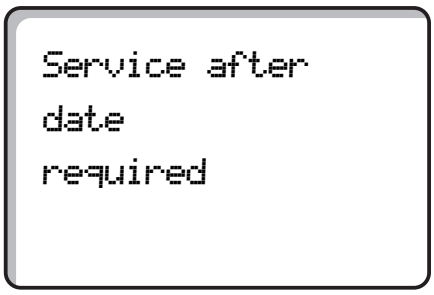
It is also possible to equip every control in a multiboiler system with its own MEC2. This eliminates moving the MEC2 and sending and retrieving data. Every control is operated separately with its own MEC2 as described in the operating instructions.

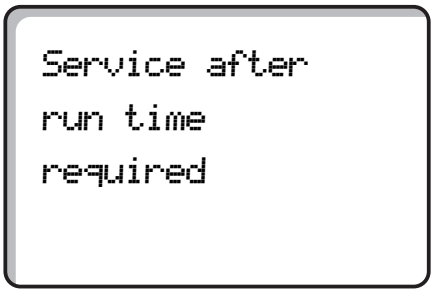
25 Automatic service message

If your installer (in consultation with you) has activated the "automatic service message", the "service message reminder" message appears on the display at a specified time (date or operating hours).



- Open the cover.
- Rotate dial.
  "Service after date" or "Service after operating hours" is shown.
- Inform the service contactor to have the inspection and service done.





NOTICE

The automatic service message remains pending until the service contactor has reset the message.

26 Faults and remedies

Faults and fault displays

Have all faults repaired immediately by a factory authorized service contractor.

Inform the service contactor of the fault. Set the switches on the control and on the modules as specified by the "emergency operation" section. Faults in the system are shown on the display.

The following faults can be displayed:

- Burner fault in boiler 1 – 3
- Boiler temperature sensor
- Outdoor temperature sensor
- Heating zone supply sensor
  Heating zone 1 – 8 (if installed)
- DHW temperature sensor
- Boiler is cold
- DHW is cold
- DHW warning
- No remote control communication with
  Heating zone 1 – 8 (if installed)
- Thermal disinfection
- Additional temp. sensor
- Heating zone 1 – 8 (if installed) pump fault
- DHW pump fault
- DHW inert anode fault
- Safety fault
- Bus system no connection
- Multiple address set
- System return sensor
- System return sensor
- Boiler (1 – 3) no connection
- External boiler fault
- Emission sensor fault
- Emission temperature exceeded
- Address conflict slot 1 – 4 (if installed)
- Incorrect module slot 1 – 4 (if installed)
- Unknown module slot 1 – 4 (if installed)
- Function module has no connection
- No master control present
- Solar tank X in manual mode
- Heating zone X in manual mode
- DHW in manual mode
- Boiler zone in manual mode
- Burner in manual mode

Troubleshooting

Fault	Effect	Remedy
Burner fault	Heating remains cold.	Service burner as described in the boiler or burner documentation.
Boiler remains cold	Heating remains cold in some cases but not always.	Check that the temperature control is set to **AUT**. Check that fuel is still available. If not successful: set burner emergency start up control to manual mode. Set burner manual start up the ZM432 module to **max/I + II**, set boiler water temperature with temperature control. Notify heating contractor.
DHW temperature does not increase	DHW remains cold in some cases but not always.	Check that the temperature control is set to **AUT**. If not successful: Set DHW and heating zone manual start up the FM441 module to manual mode. Notify heating contractor.
Safety chain has tripped	Heating remains cold.	Check that the boiler is completely full of water. Check that the boiler has a water pressure of at least 1 bar. If this is the case: Unlock the safety temperature switch by unscrewing the cap nut and pressing the reset button under it. If not successful: Notify heating contractor.
Remote control Fault	The control operates with the last values set at the remote control.	Notify heating contractor.
Boiler sensor fault; Outdoor sensor fault; Return sensor Fault	The heater heats at higher temperatures if necessary and thus ensures a comfortable temperature.	Call a heating contractor! Inform the heating contractor which temperature sensor is defective.
DHW sensor Fault	If the DHW sensor is faulty, water is not heated for safety reasons.	Notify heating contractor.
Heating zone X in manual mode; DHW in manual mode; Boiler zone in manual mode; Burner in manual mode	Pumps, actuators etc. are manually switched depending in the switch positions. The control functions continue operating during manual mode but do not affect the system.	The switches are set to manual mode (for servicing or to correct errors). After correction of the fault set manual switches back to **AUT**.

Tab. 3 Fault table

27 Emergency operation

Faults in the control

Never open the control. There are no end user serviceable parts inside.

Heating mode with manual switch

Manual switches for emergency operation are installed in the control and the modules. The required circulator is started in position [✋]. The mixing valve remains turned off and must be adjusted by hand.

Before making any settings for manual mode check the settings on the various modules for any incorrect settings.

If there is a fault in the controller, you can continue to operate your heating system manually on a temporary basis.

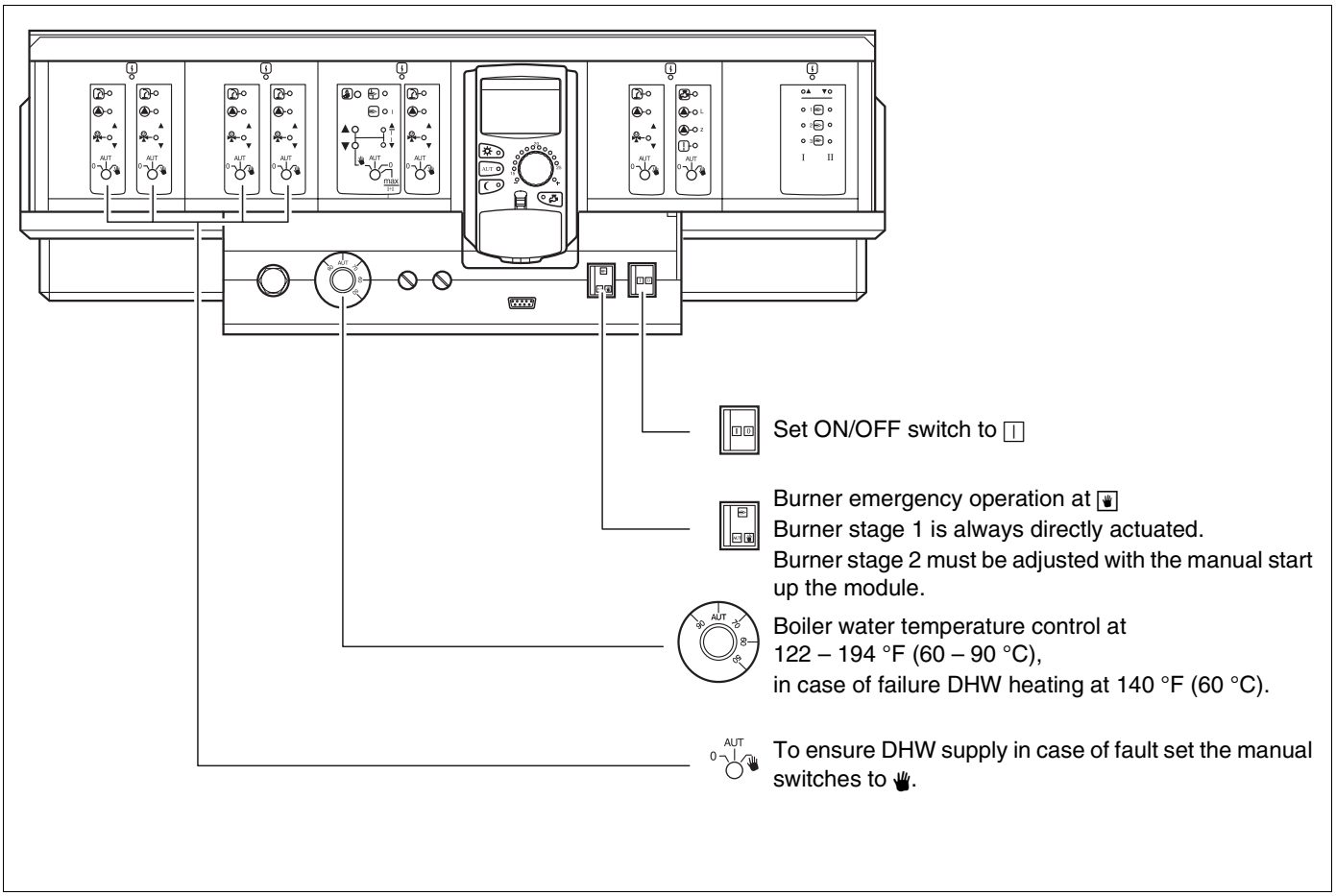


Fig. 15 Heating mode with manual switch

Fault	Settings for emergency operation				
	ON/OFF start up Logamatic 4311	Switch Manual mode Boiler zone ZM432 module	Switch DHW manual mode FM441 module	Boiler water temperature on Logamatic 4311	Manual mode switch heating zone FM441/FM442 module
Room heating failure Heating zones failure	⎕	AUT	AUT	140 – 194 °F (60 – 90 °C)	✋
DHW failure heating zones operating normally	⎕	AUT	✋	140 °F (60 °C)	AUT
Boiler operation failure	⎕	✋	AUT	194 °F (90 °C)	AUT

Tab. 4 Settings for emergency operation

Disconnect heating zone mixing valve manually and set to "Open" or "Closed" (lock to prevent accidental activation) to reach the desired room temperature. The heating zone mixing valve must not be completely closed, otherwise the DHW piping and the heating system may freeze.

In case of fault inform the service contractor immediately. A Buderus trained contractor guarantees competent service. It is helpful for the contractor if you can provide detailed information about the fault.

28 Setup log

Operating values

Operating values	Input range	Factory setting	Setting
Factory programs	Family Morning Evening a.m. Afternoon Midday Single Seniors New	Family	
DHW	86 – 140 °F	140 °F	
Setting summer/winter time change	50 – 86 °F	62 °F	
Day room temperature	52 – 86 °F	70 °F	
Night room temperature	50 – 84 °F	62 °F	

Tab. 5 Operating values

29 Keyword index

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