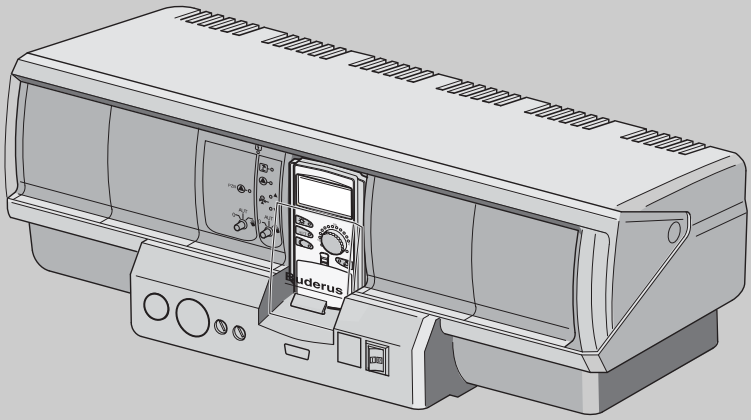
Installation and Service Instructions

Control Panel



Logamatic 4323

For heating contractors

Read carefully prior to commissioning and service work

6 720 618 588 - 11/2008 US/CA

Buderus

1 Safety

1.1 About this manual

This manual contains important information regarding the safe and appropriate commissioning and servicing of the Logamatic 4323 control panel.

This manual is intended for heating contractors who, due to their training and experience, are knowledgeable in handling heating systems and domestic hot water installations. Only carry out service measures yourself if you have this technical expertise.

Explain to the customer the function and operation of the appliance.

1.2 Intended use

The Logamatic 4323 control panel is designed exclusively to control heating systems in apartment buildings, residential complexes, and other types of buildings.

1.3 Standards, regulations and directives

USER NOTE

Observe all regulations and standards applicable to installation and operation of the system in your country.

USER NOTE

All electrical components must be approved in the USA and Canada!

This product has been tested and certified and meets applicable standards for the US and Canadian markets.

1.4 Key to symbols

Two levels of danger are identified and signified by the following terms:

WARNING!

RISK OF LIFE

Identifies possible dangers emanating from a product that might cause serious injury or death if appropriate care is not taken.

CAUTION!

RISK OF INJURY/ SYSTEM DAMAGE

Indicates a potentially dangerous situation that could cause minor or moderately serious injuries or damage to property.

USER NOTE

Tip for optimum use of equipment and adjustment as well as useful information.

1.5 Please observe these notes

- Only use the control panel for the purposes for which it is intended and only use if it is in perfect working order.
- Read the service manual carefully before starting work on the control panel.

WARNING!

RISK OF FATAL INJURY

due to electric shock!

- Make sure that all electrical work is carried out by a trained contractor.
- Before opening the control panel: Isolate all poles of the power supply and secure against accidental reconnection.

WARNING!

RISK OF SCALDING

from hot water.

Risk of scalding from domestic hot water temperatures over 122 °F (50 °C) and during thermal disinfection.

- Install a thermostatic tempering valve to control the DHW temperature.

CAUTION!

RISK OF INJURY/ SYSTEM DAMAGE

due to operator error!

Operator errors can cause injury and damage to property.

- Make sure that children never operate the appliance unsupervised or play with it.
- Make sure that only personnel trained to operate the appliance correctly have access to it.

CAUTION!

SYSTEM DAMAGE

from frost.

The heating system can freeze up in cold weather if it is switched off.

- Protect your heating system against frost damage by draining it and the DHW piping at the lowest possible point.

USER NOTE

Ensure that a circuit breaker is available to disconnect all poles from the mains power supply. If there is no circuit breaker, you will need to install one.

USER NOTE

Make sure that the heating system is protected with an adequately-rated circuit breaker.

USER NOTE

Only use original Buderus spare parts. Damage as a result of the use of spare parts not supplied by Buderus are excluded from the Buderus warranty.

USER NOTE

Ensure that radiant floor heating zones are equipped with a temperature operating limit.

1.6 Important instructions for commissioning

- Before switching the control panel on, check that its manual switches and those on the function modules are set to "AUT".
- The control panel operating instructions contain a setup report for the use by the system operator. Record the settings made during initial setup and the layout of the heating zones in the setup log.

1.7 Cleaning the control panel

- Clean the control panel with a damp cloth only.

1.8 Disposal

- Dispose of the control panel packaging in an environmentally-responsible manner.
- Electronic components do not belong in household waste. Dispose of a defunct control panel in an environmentally-responsible manner through an approved organization.
  When disposing of the control panel, remove the lithium battery from the CM431 module inside the control panel and dispose of it separately.

2 Product description and scope of delivery

2.1 Product description

The digital Logamatic 4323 control panel can be used as a stand-alone heating zone controller managing the heat generated by a manually or indirectly-fired buffer tank, or as a substation, for the demand-dependent control of a supply pump.

The heating zone control function is part of the standard equipment level (one heating zone with actuator).
It may be extended with four function modules to match the requirements of a specific heating system.
For function extension, a combination with other digital control panels (e.g. Logamatic 4322) in an ECOCAN-BUS connection is also feasible. In such cases, the Logamatic 4323 (as a stand-alone heating zone controller) acts as a master control panel that monitors the manually or indirectly-fired heating of a buffer tank and makes the stored heating energy available to connected consumers.
As the substation in an ECOCAN-BUS connection, the Logamatic 4323 control panel can communicate with a master boiler control panel that is part of a Logamatic 4000 control system.

2.2 Scope of delivery

- Digital Logamatic 4323 control panel with
  - CM431 controllermodule
  - ZM433 central module
  - MEC2 remote control or boiler display and safety components
- Outdoor temperature sensor FA
- Supply temperature sensor FZB

3 Setting parameters and display data

Some options are only displayed subject to the modules that have been installed and the adjustments made earlier.

- **General Data**
  - Minimum outdoor temperature
  - Building type
  - Remote control
  - Manual switch fault message
  - Automatic service call
  - 0 – 10 V input
  - Temperature guide 0 V corresponds to …
  - Temperature guide 10 V corresponds to …
- **Module selection**
  - Slot A
  - Slot 1
  - Slot 2
  - Slot 3
  - Slot 4
- **Heating zone 0**
  - Heating system
  - Name of the heating zone
  - Base point temperature
  - Design temperature
  - Minimum supply temperature
  - Maximum supply temperature
  - Remote control
  - Maximum room flow
  - Setback type
  - Outdoor setback from
  - Vacation setback type
  - No setback below …
  - Supply setback
  - Room temperature offset
  - Automatic adaptation
  - Switch optimization
  - Shut-down optimization
  - Freezeprotect at
  - DHW priority
  - Actuator
  - Actuator run time
  - Boiler temperature rise
  - External day/night/aut
  - External pump fault message
  - Drying slab
  - Drying slab temperature rise
  - Drying slab warm-up time
  - Maximum drying slab temperature
  - Maximum drying slab time
  - Drying slab reduction temperature
  - Drying slab reduction time
- **Heating zone 1, 2, 3 etc. see heating zone 0**
- **DHW**
  - DHW yes/no
  - DHW range to
  - Switch optimization
  - Leftover heat utilization
  - Differential
  - Stop differential
  - Start differential
  - DHW yes/no
  - Boiler temperature increase
  - External fault message WF1/WF2
  - External contact WF1/WF3
  - Thermal disinfection
  - Temperature disinfection
  - Disinfection day of week
  - Time of disinfection
  - Daily heating
  - Recirculation (switch-on frequency per hour)
- **Sub station**
  - Minimum heat-up temp.
  - Maximum heat-up time
  - Boiler temperature increase
- **Special parameters**
- **Heating curves**
  - Heating zone 0
  - Heating zone 1
  - Heating zone 2
  - Heating zone 3
  - Heating zone 4
  - Heating zone 5
  - Heating zone 6
  - Heating zone 7
  - Heating zone 8
- **Relay test**
  - Heating zone 0
  - Heating zone 1
  - Heating zone 2
  - Heating zone 3
  - Heating zone 4
  - Heating zone 5
  - Heating zone 6
  - Heating zone 7
  - Heating zone 8
  - DHW
  - Sub station
- **LCD test**
- **Error**
- **Monitor**
  - Heating zone 0
  - Heating zone 1
  - Heating zone 2
  - Heating zone 3
  - Heating zone 4
  - Heating zone 5
  - Heating zone 6
  - Heating zone 7
  - Heating zone 8
  - DHW
  - Sub station
- **Version**
- **Control panel**
- **reset**
  - Settings for control panel
  - Fault log
  - Service call

Fig. 1 Setting parameters and display data

4 Controls and MEC2 remote control

4.1 Control panel controls

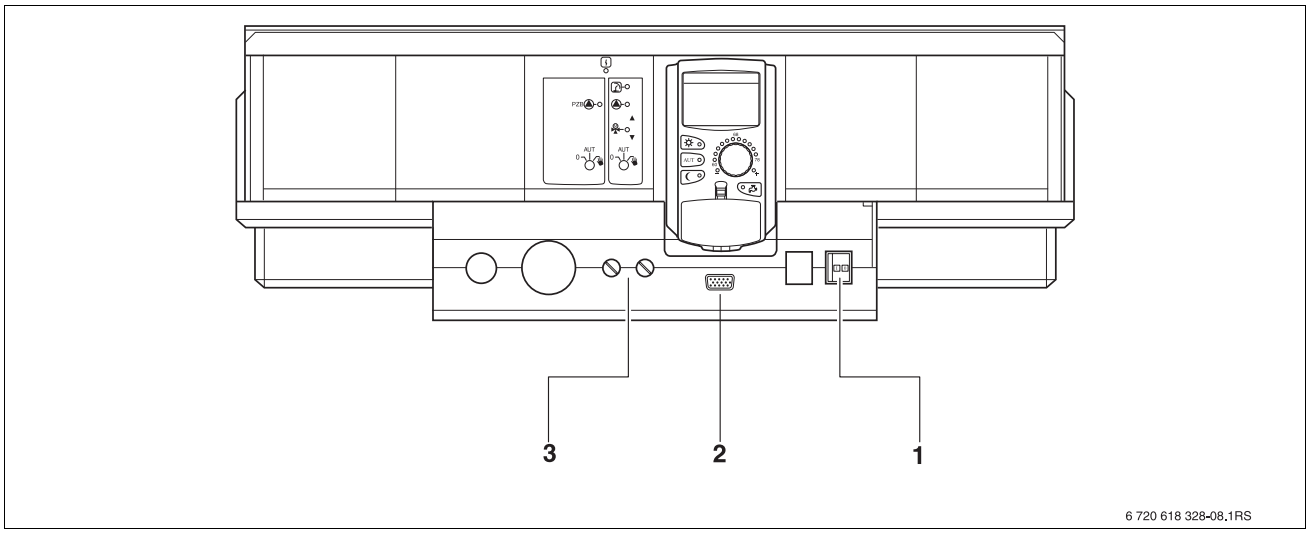


Fig. 2 Control panel interface (standard delivery)

1 On/Off switch

2 Connector for external service equipment

3 L1, L2 fuses

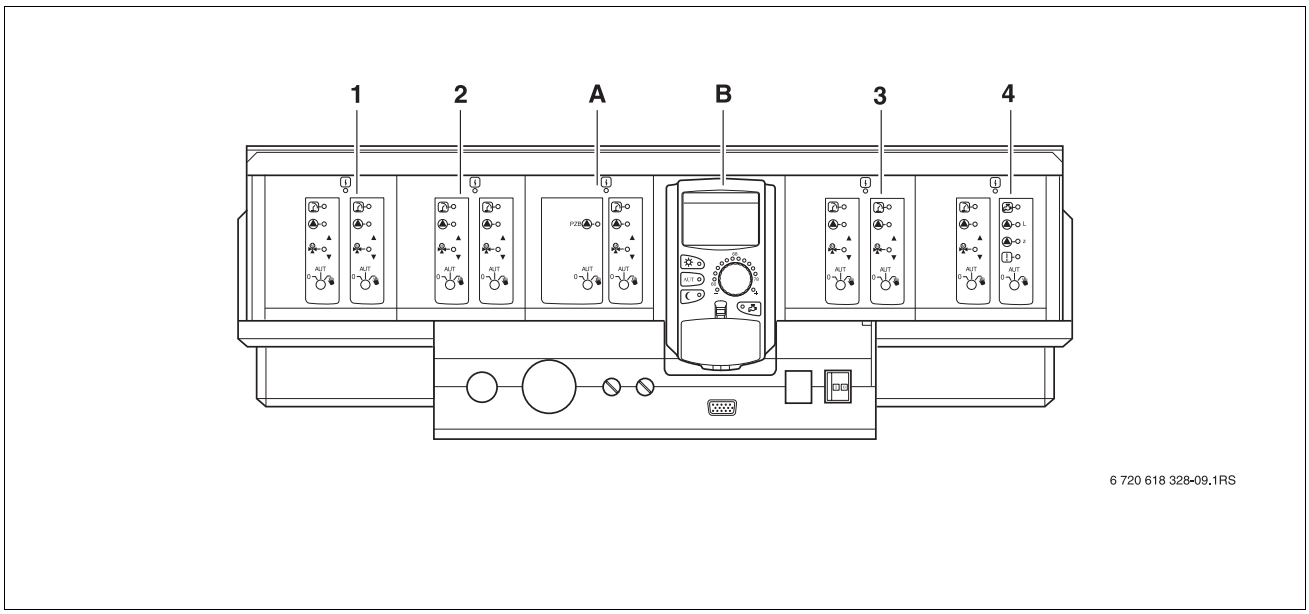


Fig. 3 Modules installed

1 Slot 1: e.g. FM442 – heating zone 1, heating zone 2

2 Slot 2: e.g. FM442 – heating zone 3, heating zone 4

A Slot A: ZM433 – supply for external heat sources, heating zone 0

B Slot B: MEC2 (CM431) – MEC2 remote control

3 Slot 3: e.g. FM442 – heating zone 5, heating zone 6

4 Slot 4: e.g. FM441 – heating zone 7, DHW/DHW recirculation pump or heating zone 7, heating zone 8 (with module FM442 in slot 4)

4.2 MEC2 remote control

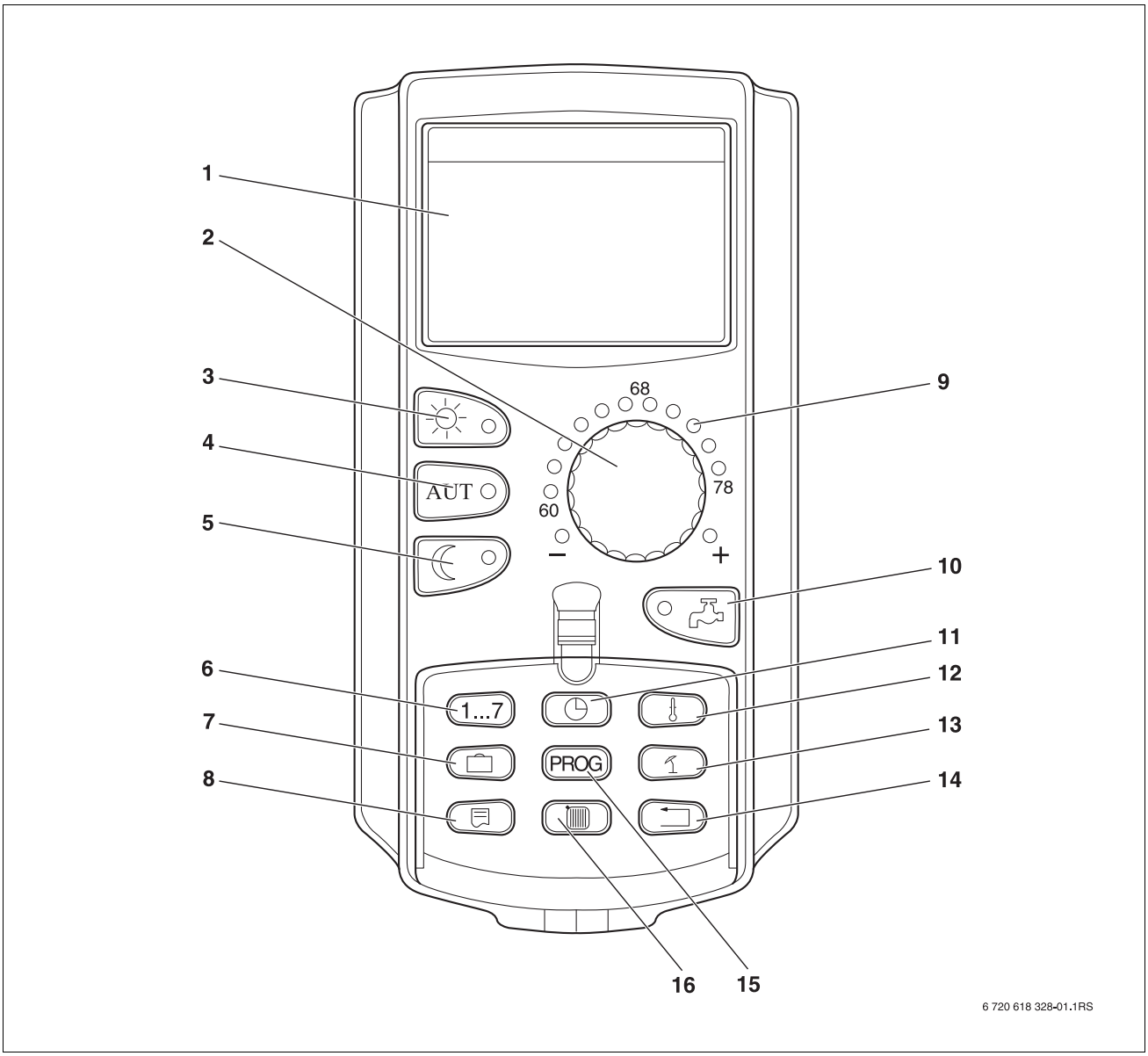


Fig. 4 MEC2 remote control

1 Display
2 Dial
3 Continuous heating mode (day)
4 Automatic heating mode by timer
5 Constant setback mode (night)
6 Set the day
7 Set vacation days
8 Select standard display
9 Display for set nominal room temperature
10 Input DHW temperature/heating
11 Set the time
12 Change temperature values
13 Set warm weather shutdown temperature
14 Back to standard display
15 Select a timer program
16 Select heating zones/DHW zone

5 Modules and their functions

All modules are shown here that are or can be installed in your Logamatic 4323 control panel.

		Logamatic 4323
Modules	MEC2 remote control	O
	CM431 controller module	O
	ZM433 central module Supply of external heat generator + heating zone	O
	FM441 function module 1 heating zone + 1 DHW zone	X[1)]
	FM442 function module 2 heating zones	X
	FM443 function module Solar circuit	X
	FM445 function module LAP/LSP (charging system)	X[1)]
	FM448 function module Centralized fault message	X[2)]
	FM456 function module KSE2 (cascade- 2 boilers)	X[3)]
	FM457 function module KSE4 (cascade- 4 boilers)	X[3)]
	FM458 function module Strategy module	X[2) 3)]

Tab. 1 Modules and their functions

1) Only one DHW module per control panel.

2) Module FM458 must not be installed together with module FM448 in one control panel.

3) Module FM458 must not be installed together with module FM456/FM457.

O = Basic equipment
X = Optional equipment

5.1 CM431 controller module

Setting the control panel address

Address settings (→ Fig. 5, [1]) for the Logamatic 4323 control panel are made on the CM431 module (behind the MEC2 remote control).

- Remove the MEC2 remote control.
- You can now set the control panel address with a screwdriver (→ Fig. 5).

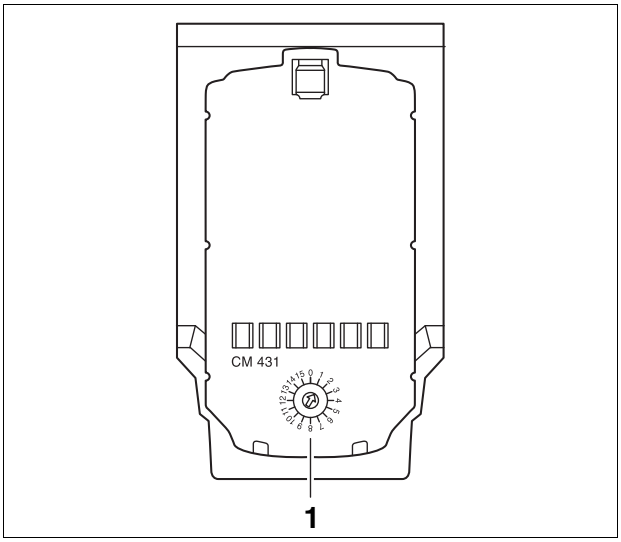


Fig. 5 Setting addresses

Address	Description
0	Stand-alone control panel: Set the address to 0 if the control panel operates as stand-alone equipment (factory setting).
1 – 15	Each connected device must be given a different address if several devices are networked. A fault message is displayed by the MEC2 remote control if the same address is allocated more than once.
1	Master (lead control panel): Address 1 is a special setting, since the device with this address acts as the master device. The master controls the boiler. Always connect the outdoor temperature sensor to the master. You may set up the Logamatic 4323 control panel as the master if it controls an external heat source. When connected to other Logamatic control panels, set the Logamatic 4323 control panel as the master (address = 1) that has the FM456, FM457 or FM458 cascade module installed. The master monitors the ECOCAN-BUS, which links the control panels together. The master recognizes if an address has been allocated more than once. A fault message is then displayed by the MEC2. All networked control panels transfer their set values to the master, which uses them to formulate the overall set value. **There may be only one master on any network.**
2 – max. 15	Slave (subordinate control panel): All devices with these addresses are described as slaves. No slave may ever have address 1. Each address must only be allocated once. When used as a substation, the Logamatic 4323 control panel will always be a slave and therefore have an address set higher than 1.

Tab. 2 Control panel addresses

USER NOTE

The outdoor temperature sensor (FA) and the system supply sensor (FK) in conjunction with the Logamatic 4323 control panel must always be connected to the l.h. FM456, FM457 or FM458 cascade module (if installed). If there is no cascade module installed, plug both sensors into the ZM433 central module (system supply sensor at the FZB).

5.2 NM482 power module

Terminator when networking several control panels

RISK OF FATAL INJURY

due to electric shock!

WARNING!

- Make sure that all electrical work is carried out by a trained contractor.
- Before opening the control panel: isolate all poles of the power supply and secure against accidental reconnection.

To ensure fault-free data transmission between several control panels, install a terminator for the two control panels which are furthest apart.

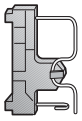
The terminator is installed on the component side of the NM482 power supply module, and is switched on by the hook switch (→ Fig. 6, [2]).

The factory settings are:

hook switch S1 open = terminator not applied.

Hook switches

The module is configured with the hook switches.



open
(factory setting)

closed

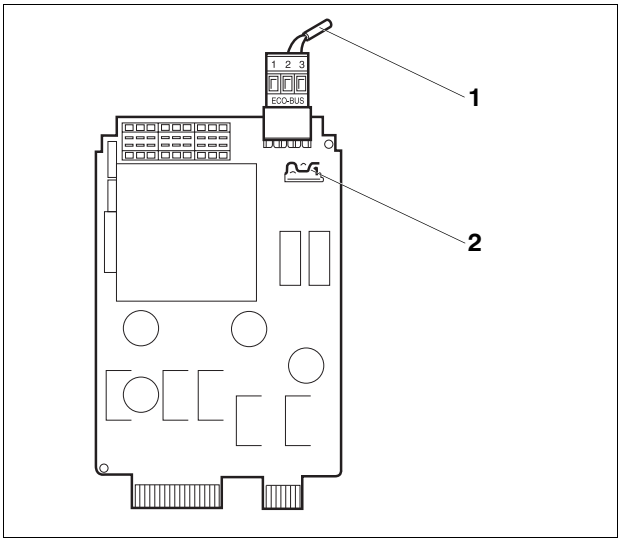
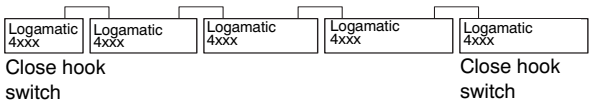


Fig. 6 NM482 power module

1 ECOCAN-BUS

2 Hook switch S1 (for terminator) factory settings: open

Example of the terminator hook-up when several Buderus control panels are connected.



5.3 ZM433 central module

The ZM433 module controls to transfer heat, in case of demand, from the external heat sources to the heating system. This module also controls one heating zone with mixing valve.

The manual switches on the module only have service and maintenance functions and only affect 120 V outputs.

If the manual switches are not set to automatic, a corresponding message appears on the MEC2 remote control, and the fault indicator lights up.

USER NOTE

Never use the manual switches to shut down the heating system during temporary absence.

Use the vacation function for this purpose (→ operating instructions of the Logamatic 4323 control panel).

The control functions remain operational in manual mode.

USER NOTE

For information regarding the sensor connection, see Chapter 5.1.

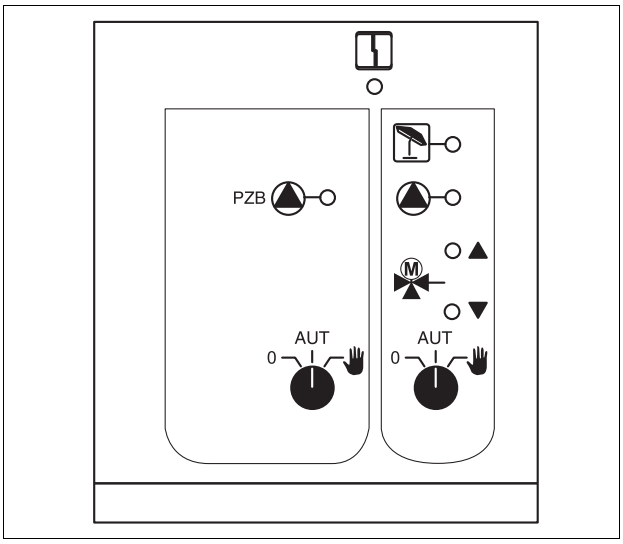


Fig. 7 ZM433

Display		General fault, e.g. on-site faults, sensor faults, external faults, wiring faults, internal module faults, manual mode. Fault messages appear as plain text on the MEC2 remote control.
LEDs for the functions:		
Display		"Mixing valve opening" (hotter)
Display		"Mixing valve closing" (colder)
Display		Heating zone WWSD enabled
Display		Supply or heating pump operational

Supply function

Manual switch supply pump 

(→ Fig. 8, [1])

USER NOTE

In normal mode, the manual switch should be set to "AUT".

The **0** and ✋ (manual mode) positions are special settings that should only be made by heating contractors.

✋ : The supply pump is switched on.
AUT: The supply pump operates automatically.
0: The supply pump is switched off. The control functions continue to operate.

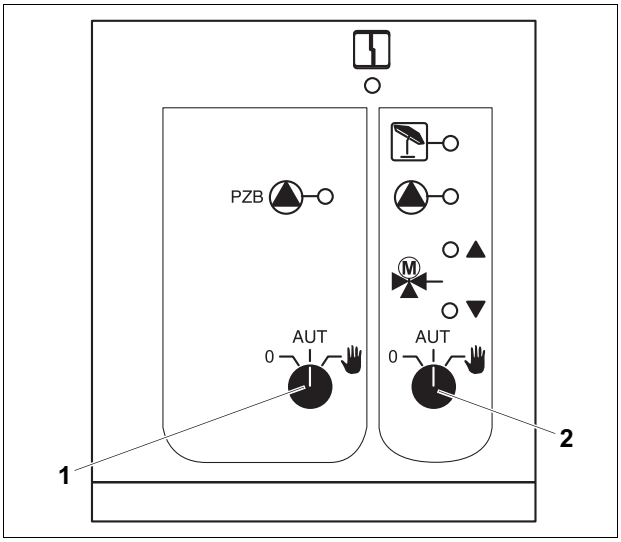


Fig. 8 ZM433

1 Manual supply pump

2 Manual switch – heating zone 0

Heating zone function

Manual heating zone switch for heating zone 0 

(→ Fig. 8, [2])

USER NOTE

In normal mode, the manual switch should be set to "AUT".

The **0** and ✋ (manual operation) positions are special settings that should only be made by heating contractors.

✋ : The heating pump is switched on.
The mixing valve is switched to zero volt and can be manually operated.
AUT: The heating zone is operating in automatic mode.
0: The heating pump is switched off.
The mixing valve is switched to zero volt. The control functions continue to operate.

Current functions are indicated by LEDs.

U terminals 1 – 4

External set values can be received or issued via the U terminals of the ZM433 central module.

USER NOTE

To avoid generating undefined input values, never apply voltages greater than 10 V to the 0 – 10 V input.

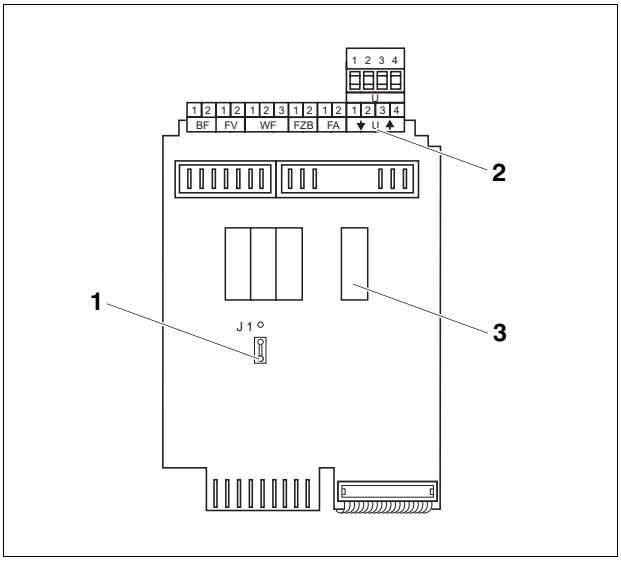


Fig. 9 ZM433 (view from the back)

1 Jumper plug J 1 (factory setting 0 – 10 V)

2 U-terminals

3 Relay

U terminals 1 (-) and 2 (+), 0 – 10 V input

Via terminals U 1 and U 2 on the ZM433 central module, a 0 – 10 V signal can be externally applied to provide a set value.

This set value represents a further external heat demand. Higher set values, e.g. from heating zones, continue to be taken into consideration.

USER NOTE

You can adapt the curve if necessary (→ Chapter 9.7).

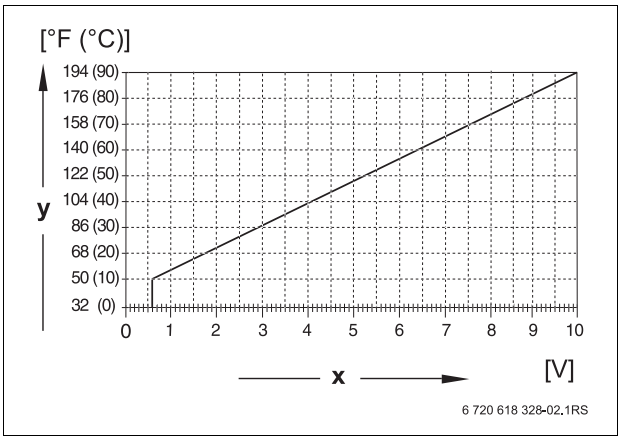


Fig. 10 U-terminals 1 and 2

x 0 – 10 V input in V (factory setting)

y Supply reference temperature in °F (°C)

U terminals 3 (-) and 4 (+), 0 – 10 V output

Via terminals U 3 and U 4 on the ZM433 central module, a 0 – 10 V signal can be supplied externally to provide a set value.
This would be the maximum system supply temperature for all connected heating zones.

Jumper plug J 1

The set point can also be output as a 0 – 20 mA signal. The jumper J 1 should then be repositioned from  to  .

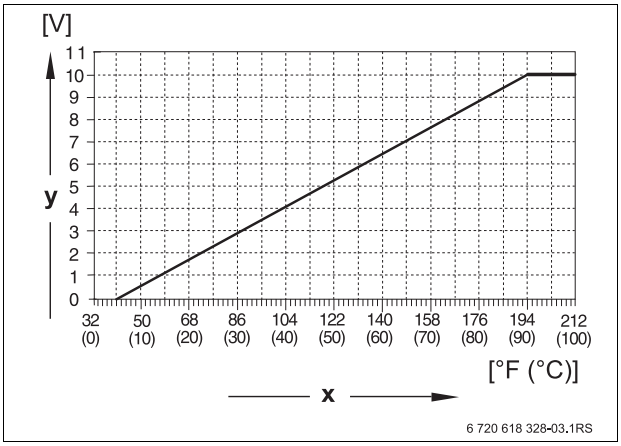


Fig. 11 U-terminals 3 and 4

x Set supply temperature in °F (°C) (factory setting)

y 0 – 10 V input in V

5.4 FM441 function module (accessory)

The FM441 module controls one heating zone and one DHW heating consumer.

The manual switches on the module only have service and maintenance functions and only affect 120 V outputs.

Only install this module in the control panel once.

If the manual switches are not set to automatic, a corresponding message appears on the MEC2 remote control and the fault indicator ϟ lights up.

USER NOTE

Never use the manual switches to shut down the heating system during temporary absence.

Use the vacation function for this purpose (→ operating instructions of the Logamatic 4323 control panel).

The control functions remain operational in manual mode.

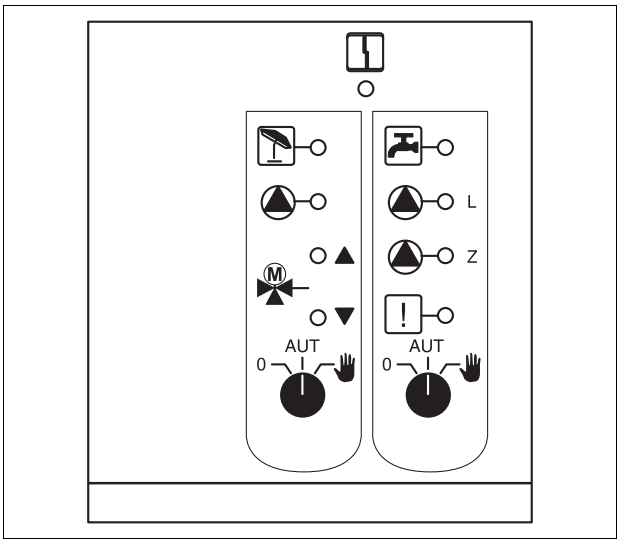


Fig. 12 FM441

Display	ϟ	General fault, e.g. on-site faults, sensor faults, external faults, wiring faults, internal module faults, manual mode. Fault messages appear as plain text on the MEC2 remote control.

LEDs for the functions:

Display	▲	"Mixing valve opening" (hotter)
Display	▼	"Mixing valve closing" (colder)
Display		Heating zone WWSD enabled
Display		DHW in night mode below the set temperature.
Display		Heating pump in operation
Display	- L	Tank primary pump in operation
Display	- Z	Recirculation pump in operation
Display	!	Thermal disinfection active

Heating zone and DHW function

Manual heating zone switch (→ Fig. 13, [1]) and DHW (→ Fig. 13, [2]).

for heating zone:

for DHW supply:

USER NOTE

In normal mode, the manual switch should be set to "AUT".

The positions **0** and ✋ (manual mode) are special settings reserved for heating contractors only.

✋ : The heating pump or tank primary pump is switched on.
The mixing valve is switched to zero volt and can be manually operated.
The DHW recirculation pump is switched off.

AUT: The heating zone or DHW circuit operates in automatic mode.

0: The heating pump or tank primary pump as well as the DHW recirculation pump are switched off.
The mixing valve is switched to zero volt. The control functions continue to operate.

Current functions are indicated by LEDs.

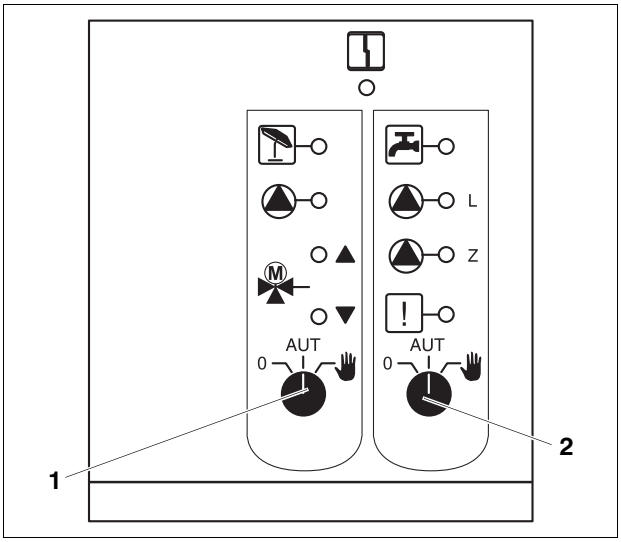


Fig. 13 FM441

1 Manual heating zone switch

2 DHW manual switch

5.5 FM442 function module (accessory)

The FM442 module controls two independent heating zones with mixer. Several of these modules can be used in one control panel.

The manual switches on the module only have service and maintenance functions and only affect 120 V outputs.

If the manual switches are not set to automatic, a corresponding message appears on the MEC2 remote control, and the fault indicator lights up.

USER NOTE

Never use the manual switches to shut down the heating system during temporary absence.

Use the vacation function for this purpose (→ operating instructions of the Logamatic 4323 control panel).

The control functions remain operational in manual mode.

Heating zone function

Manual switch – heating zone

e.g. for heating zone 1 and 2 

USER NOTE

In normal mode, the manual switch should be set to "AUT".

The **0** and (manual operation) positions are special settings that should only be made by heating contractors.

- The heating pump is switched on. The mixing valve is switched to zero volt and can be manually operated.
- AUT: The heating zone is operating in automatic mode.
- 0: The heating pump is switched off. The mixing valve is switched to zero volt. The control functions continue to operate.

Current functions are indicated by LEDs.

Function modules FM443, FM445, FM448, FM456/457 and FM458

For more information see the documentation for the module in question.

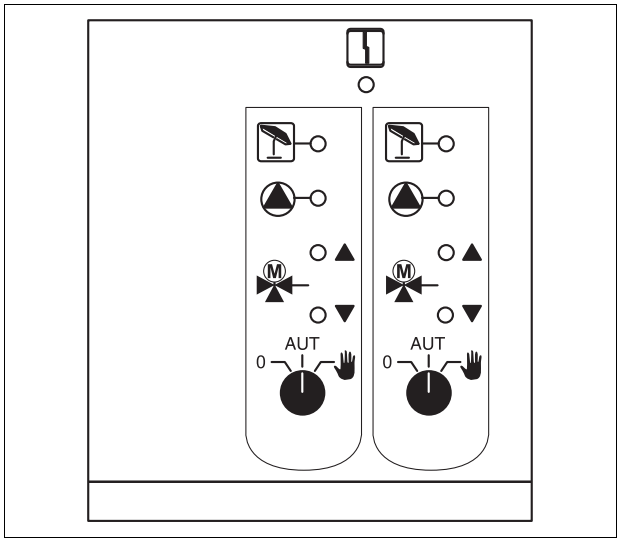


Fig. 14 FM442

Display		General fault, e.g. on-site faults, sensor faults, external faults, wiring faults, internal module faults, manual mode. Fault messages appear as plain text on the MEC2 remote control.

LEDs for the functions:

Display		"Mixing valve opening" (hotter)
Display		"Mixing valve closing" (colder)
Display		Heating zone WWSD enabled
Display		Heating pump in operation

6 Commissioning the MEC2 remote control

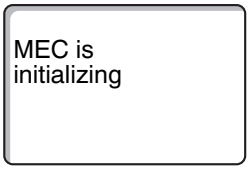
You can use the MEC2 remote control for all Logamatic 4000 control panels.

The MEC2 remote control can:

– be installed directly in the control panel or

– be used as a remote control unit in a wall retainer or

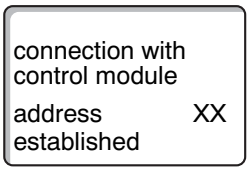
– connected to an adapter with a separate power source.



The MEC2 starts initialization after a power supply has been connected.

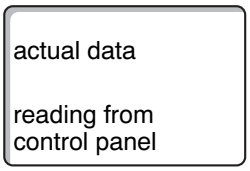
The display shows "MEC is initializing".

The control panel address is then displayed briefly.



If the MEC2 is installed in the control panel or wall retainer, it automatically detects the control panel to which it is connected (automatic detection). It is not necessary to select the control panel.

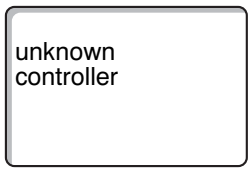
Different displays are shown depending on the application.



Ex works MEC2 installed in a control panel

If a brand new MEC2 has been installed in the control panel and the connections with the control panel have been established, data is immediately downloaded from the control panel.

The display shows "actual data reading from control panel".



MEC2 installed in another control panel

If the MEC2 contains a software version that is not able to recognize this type of controller, the display shows "unknown controller".

- Remove the MEC2 from the control panel and replace it with an MEC2 with the correct software version.

MEC2 with set parameters installed in control panel

MEC is
initializing

After the MEC2 has been installed in the control panel, the two adjacent displays will initially be shown again.

connection with
control module
address XX
established

a) Alternative controller model

other
controller model
night button
receive

Initially, only data from the control panel can be downloaded, if the type of control panel varies from that entered in the MEC2 remote control. The display will then show the adjacent message.

Press "Night mode".

data
reading from
control panel

The display will then show the adjacent message.

b) Alternative controller of the same model

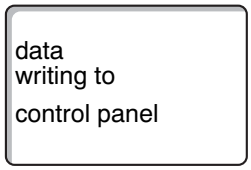
Caution
other
controller

If the MEC2 is connected to a different control panel of the same type, the display will show the adjacent message for approx. 3 seconds.

automatic button
send
night button
receive

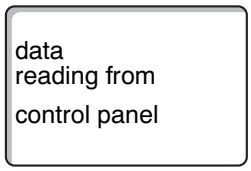
If the MEC2 remote control is separated from the control panel and data is modified, the display shows "automatic button send, night button receive", when the unit is reinstalled into a control panel of the same type. The control panel scans whether the new data should be accepted or whether the old data from the control panel should be used again.

Press "AUT" = "data writing to control panel".



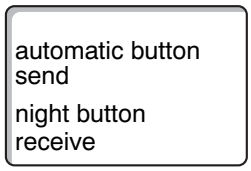
The display will then show the adjacent message.

Press "Night mode" = "data reading from control panel".



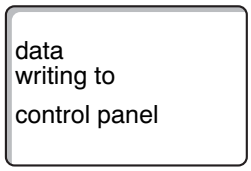
The display will then show the adjacent message.

c) Identical control panel



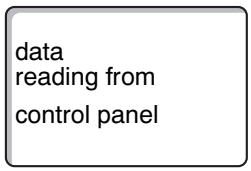
If the MEC2 remote control is separated from the control panel and data is also modified, the display shows "automatic button send, night button receive", when the unit is reinstalled into the same control panel. The control panel scans whether the new data should be accepted or whether the old data from the control panel should be used again.

Press "AUT" = "data writing to control panel".



The display will then show the adjacent message.

Press "Night mode" = "data reading from control panel".



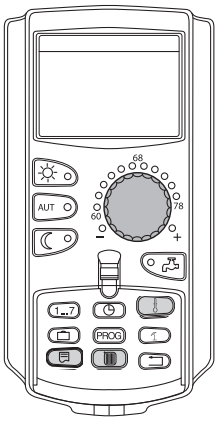
The display will then show the adjacent message.

7 Calling up the service level

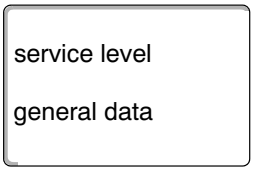
Access to the service level is password protected. The service level is intended for contractors only.

Unauthorized access to the service level invalidates your warranty!

The controls marked in gray are used for this function.



Press "Display" + "Heating zone" + "Temp" simultaneously and then release.



The service level is now enabled.

Control system "Press and turn"

The service level is divided into several main menu levels. If the last line is left blank (without value entry), there are further submenus connected with the main menu selected.

Calling up main menus

You can scroll through the main menu level by turning the dial. The main menus are structured as a loop and start again after the last main menu.

– general data
– module selection
– ...
– ...
– general data

Calling up submenus

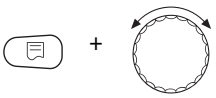
Select the main menu (see above) whose submenu you want to call up.

Press "Display".

You can access all submenus of the main menu selected by turning the dial.

Example main menu: general data

- min outdoor temp
- building type
- ...
- min outdoor temp



Press and hold down "Display". You can modify the adjustable parameters of the submenu selected by turning the dial. For example, you might select functions or temperatures.

Release "Display" to save your input.

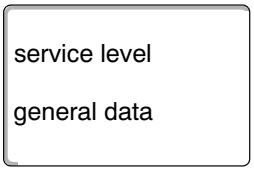
Press "Back" to return to the next level up.

8 Calling up and modifying settings

USER NOTE

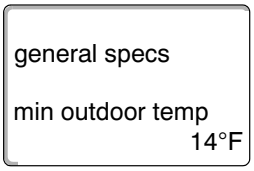
The menus displayed on the MEC2 remote control of the control panel depend on which modules are installed and on their settings. These service instructions only describe the menus of the ZM433 central module (standard equipment) and those of the most commonly used function modules FM441 and FM442 (accessories). All other menus are explained in the separate technical documentation of each respective module.

Call up the service level.

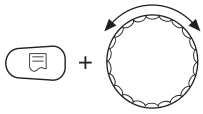


"general data" appears as the first main menu.

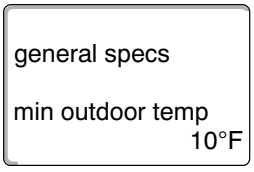
Press "Display" to call up a submenu (here: "min outdoor temp").



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "10°F" (-12°C)).



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up. Press "Back" several times to return to the standard display.

The control panel automatically reverts to the standard display if no button is pressed for some time or if the flap is shut.

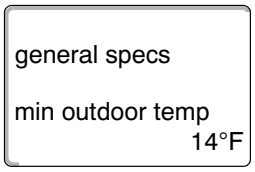
9 General data

USER NOTE

In main menu "general data" you can adjust values for the submenus listed relating to the heating system and the characteristics of the house in question. The following pages explain how to adjust values relating to the submenus.

Call up the service level. "general data" appears as the first main menu.

Press "Display" to call up a submenu (here: "min outdoor temp").



The display shows the selected submenu.

You can scroll through the following submenus by turning the dial:

- min outdoor temp
- building type
- remote control
- fault manual switch
- automatic service call
- 0-10V input

9.1 Minimum outdoor temperature

The minimum outdoor temperature is a statistically-calculated average value of the coldest outdoor temperatures over the past few years. It influences the gradient of the heating curve (colder: shallower heating curve; hotter: steeper heating curve).

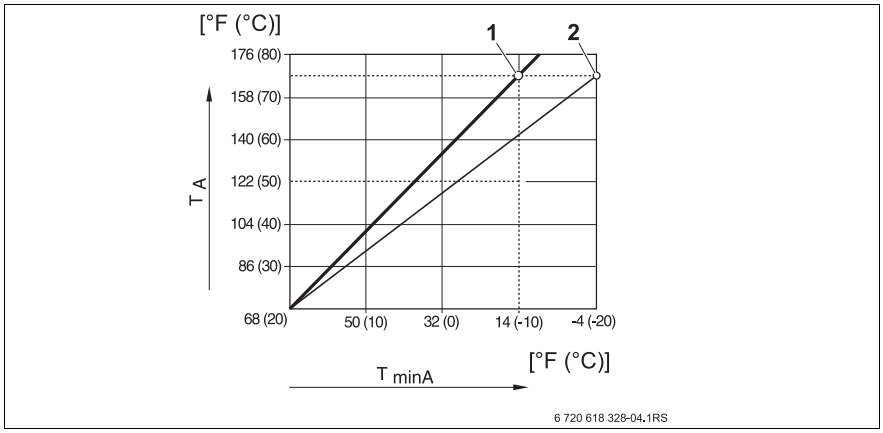


Fig. 15 Heating curve adjustment: Adjustment of gradient via design temperature and minimum outdoor temperature

T_{minA} Minimum outdoor temperature

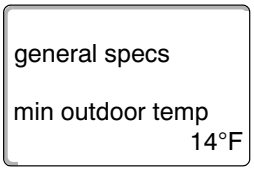
T_A Design temperature (supply temperature that should be achieved at min. outdoor temperature)

1 Setting: design temperature 167 °F (75 °C), minimum outdoor temperature 14 °F (-10 °C) (base curve)

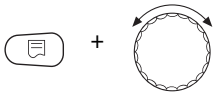
2 Adjustment: Design temperature 167 °F (75 °C), minimum outdoor temperature -4 °F (-20 °C)

Call up the service level. "general data" appears as the first main menu.

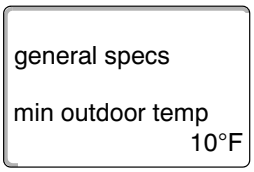
Press "Display" to call up a submenu (here: "min outdoor temp").



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "10°F" (-12°C)).



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
min outdoor temp	-22 °F – 32 °F (-30 °C – 0 °C)	14 °F (-10 °C)

9.2 Building type

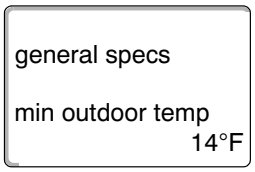
Input the insulation capacity of the building in building type. Different types of construction have different heat storage capacities. This function sets the heating system to the specified construction type.

The heat storage capacity is divided into three classes:

light	=	low heat storage capacity, e.g. prefabricated building, wood-frame construction,
medium	=	average heat storage capacity, e.g. hollow concrete block construction,
massive	=	high heat storage capacity, e.g. brick building.

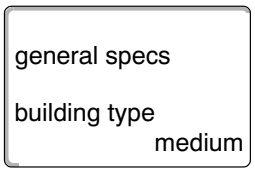
Call up the service level. "general data" appears as the first main menu.

Press "Display" to call up a submenu (here: "min outdoor temp").

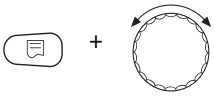


The display shows the selected submenu.

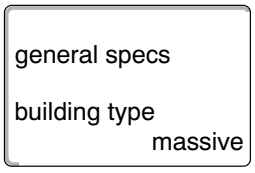
Turn the dial until submenu "building type" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "massive").



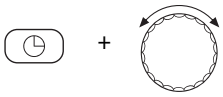
The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
building type	medium massive light	medium

9.3 Summer/winter time changeover



- To adjust for daylight savings time, open the flap of the MEC2 for the keypad of the second control level.

Hold down "Time" and select the desired time with the dial.

In spring, set the time one hour ahead (dial clockwise); in fall, set the time one hour back (dial counterclockwise).

9.4 Remote control

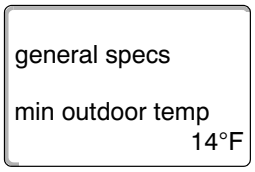
The remote control offers the option of external data input or modification via service tools (optional).

yes = remote control not available

no = remote control is not available, but system data can be downloaded and monitored.

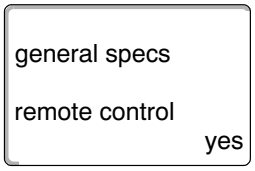
Call up the service level. "general data" appears as the first main menu.

Press "Display" to call up a submenu (here: "min outdoor temp").

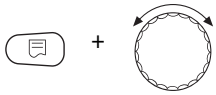


The display shows the selected submenu.

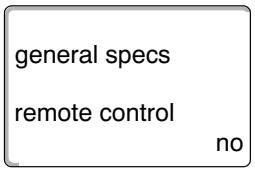
Turn the dial until submenu "remote control" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "no").



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

USER NOTE

This parameter cannot be adjusted via the telecontrol system; it is only intended to be used in situ.

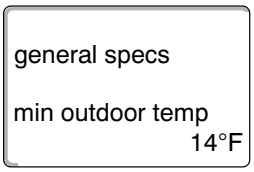
	Input range	Factory setting
remote control	yes no	yes

9.5 Manual switch fault message

A fault message can be displayed on the MEC2 if a manual switch on a function module is set to ✋.

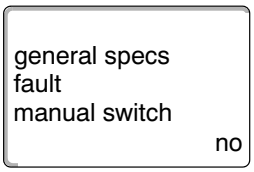
Call up the service level. "general data" appears as the first main menu.

Press "Display" to call up a submenu (here: "min outdoor temp").

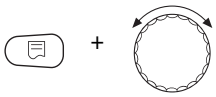


The display shows the selected submenu.

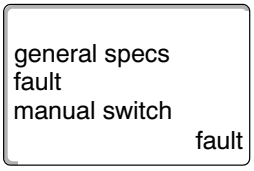
Turn the dial until submenu "fault manual switch" appears.



The display shows the selected submenu.



Hold down "Display" and select the desired value with the dial (here: "fault").



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

USER NOTE

With "no" only a warning message is shown with the cover closed.

With "fault" message an entry in the error log is also made. This allows automatic forwarding over the Logamatic remote control system.

In the case of "collective fault", a collective fault message will also be issued via a zero volt contact, e.g. via the FM448 function module.

	Input range	Factory setting
fault manual switch	no fault collective fault	no

9.6 Automatic service call

You can generate an automatic service call at the operator level on the MEC2 remote control display.

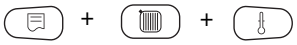
You can set the following:

– service call after date. Enter the date of the next scheduled service (01/01/2000 – 12/31/2088).

– Maintenance according to "hours run" (only for control panels with direct boiler control).

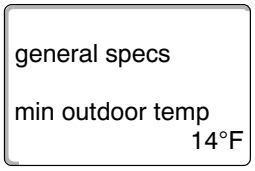
USER NOTE

The service call after "hours run" time is not possible with this control panel.



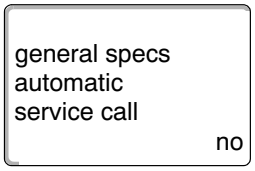
Call up the service level. "general data" appears as the first main menu.

Press "Display" to call up a submenu (here: "min outdoor temp").

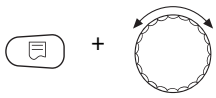


The display shows the selected submenu.

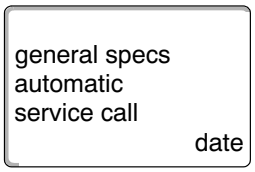
Turn the dial until the "automatic service call" submenu appears.



The display shows the selected submenu.



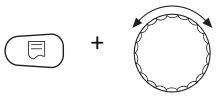
Hold down "Display" and turn the dial until the desired value appears (here: "date").



The display shows the set value.

Release "Display" to save your input.

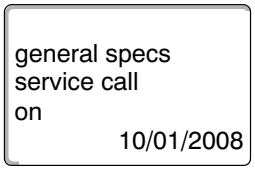
Turn dial one click clockwise.



Hold down "Display" and turn the dial until the desired value appears (here: "10/01/2008").

The display shows the set value.

Release "Display" to save your input.



Press "Back" to return to the next level up.

USER NOTE

The service call is recorded in the fault log and can be transferred via the Logamatic telecontrol system.

The status of the service call can be checked in the "act system data" menu.

The service call can be reset in the "reset" menu.

	Input range	Factory setting
automatic service call	no hours run date	no

9.7 0 – 10 V input

As soon as a module with 0 – 10 V input has been installed in the control panel, the following screens appear as listed in the table below:

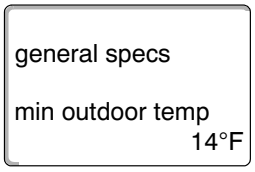
Module	Name	Temperature control	Power control
FM448	fault module	X	
FM456	KSE 2 (EMS)	X	X (CM431 V6.xx or higher)
FM457	KSE 4 (EMS)	X	X (CM431 V6.xx or higher)
FM458	Strategy module	X	X (CM431 V8.xx or higher)
ZM433	Sub station	X	

USER NOTE

This manual only describes temperature control.

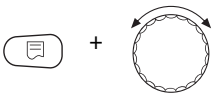
Call up the service level. "general data" appears as the first main menu.

Press "Display" to call up a submenu (here: "min outdoor temp").

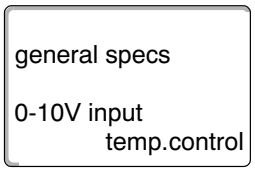


The display shows the selected submenu.

Turn the dial until submenu "0-10V input" appears.



Hold down "Display" and turn the dial until the desired set value appears (here: "temp.control").



The display shows the set value.

Release "Display" to save your input.

	Input range	Factory setting
0 – 10 V input	OFF temp.control	temp.control

9.8 Temperature control 0 – 10 V input

If you have selected "temperature" for the 0 – 10 V input, you can adapt the start and stop point, if required, for the external 0 – 10 V input.

You can set the following:

– The set point in °F (°C) for 0 V ("temperature 0V corresp. to")

– The set point in °F (°C) for 10 V ("temperature 10V corresp. to")

The following linear curve is calculated from these values:

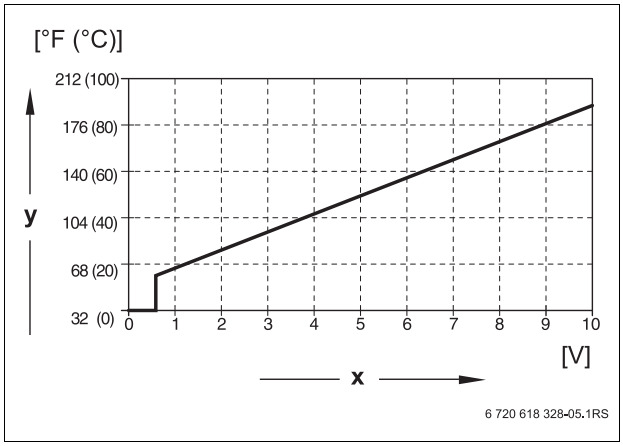


Fig. 16 U-terminals 3 and 4

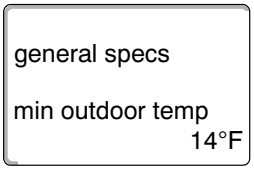
x Input voltage in V (factory setting)

y Set point boiler temperature in °F (°C)

The start value (start point) of the curve is set to 0.6 V for a positive curve; Fig. 16 shows the factory setting.

Call up the service level. "general data" appears as the first main menu.

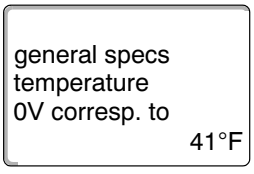
Press "Display" to call up a submenu (here: "min outdoor temp").



The display shows the selected submenu.

Turn the dial until submenu "temperature 0V corresp. to" or "temperature 10V corresp. to" appears.

Hold down "Display" and turn the dial until the desired set value appears (here: "41°F" (5°C)).

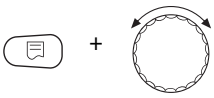


The display shows the set value.

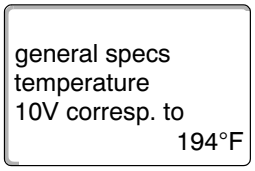
Release "Display" to save your input.

Press "Back" to return to the next level up.

Turn the dial until submenu "temperature 10V corresp. to" appears.



Hold down "Display" and turn the dial until the desired set value appears (here: "194°F" (90°C)).



The display shows the set value.

Release "Display" to save your input.

	Input range	Factory setting
temperature 0 V	41 °F – 210 °F (5 °C – 99 °C)	41 °F (5 °C)
temperature 10 V	41 °F – 210 °F (5 °C – 99 °C)	194 °F (90 °C)

USER NOTE

If a curve with a negative incline is programmed, e.g. 0 volt = 194 °F (90 °C), ensure that all 0 – 10 V inputs of a control panel are controlled. An open input corresponds to 0 V and thus a to heat demand for, e.g. 194 °F (90 °C).

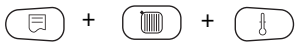
The demand should be set parallel at all inputs of a control if applicable.

10 Module selection

On starting the Logamatic 4323 control panel or after a system reset, the modules are automatically recognized and their information downloaded.

Example:	Slot 1:	FM442
	Slot 2, 3 and 4:	N/A

However, these modules can also be set manually if necessary.



Call up the service level. "general data" appears as the first main menu.

Turn the dial until main menu "module selection" appears.

service level

module selection

The display shows the selected main menu.

Press "Display" to call up a submenu (here: "Slot A central module").

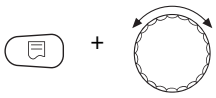
module selection
Slot A
central module
ZM433

The display shows the selected submenu.

Turn the dial until submenu "Slot 1" appears.

module selection
Slot 1
2 heating zones
FM442

The display shows the set value.



Hold down "Display" and turn the dial until the desired value appears (here: "module none/automatic"). We recommend this setting. The modules are automatically recognized and installed.

module selection
Slot 1
module
none/automatic

The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

11 Heating zone data

The following heating systems can be selected:

– "none"
The heating zone function is not required. All following submenu items for "heatingzone data" are not applicable.

– "radiator" or "baseboard"
The heating curve is automatically calculated for radiators or convectors, depending on the required curve.

– "floor"
A flatter heating curve is automatically calculated for lower design temperatures.

– "low level"
The level of the supply temperature is a linear consequence of the outdoor temperature. The resulting heating curve connects as a straight line the base point with a second point that depends on the design temperature.

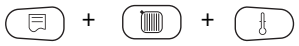
– "constant"
Use this system for controlling a swimming pool heating system or to pre-control ventilation circuits, if the heating must always provide the same, set supply temperature, independent of the outdoor temperature. You cannot install a remote control for this heating zone if you have selected this system.

– "room thermostat"
The set supply temperature is only dependent on the actual room temperature. A remote control must be installed in the room. The heating system is switched off if the room becomes too hot.

11.1 Heating system selection

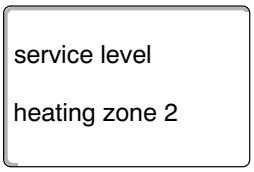
Example:

You want to set "floor" for submenu "heating system" in main menu "heating zone 2".



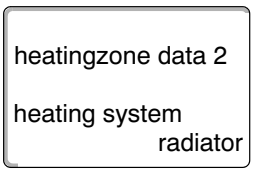
Call up the service level. "general data" appears as the first main menu.

Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

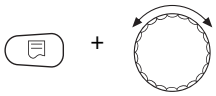


The display shows the selected main menu.

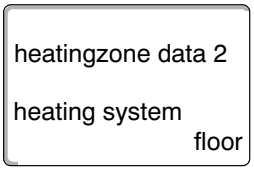
Press "Display" to call up a submenu (here: "heating system").



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "floor").



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
heating system	none radiator baseboard floor constant low level room thermostat	radiator

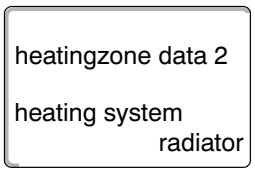
11.2 Renaming heating zone

Instead of the description "heating zone + no.", you can select a different designation from the default list.

Call up the service level. "general data" appears as the first main menu.

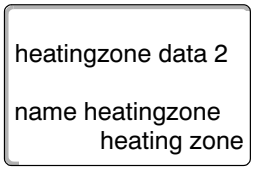
Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2")

Press "Display" to call up a submenu (here: "heating system").

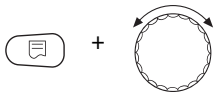


The display shows the selected submenu.

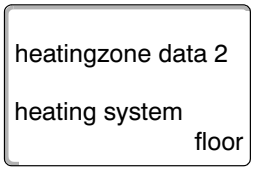
Turn the dial until submenu "name heatingzone" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "floor").



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

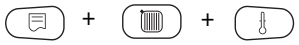
	Input range	Factory setting
name heatingzone	heating zone apartment floor bathroom pool office basement building	heating zone

11.3 Adjusting base point temperature

This function will only be displayed for "low level" heating systems.

By setting the "heating system low level" you have determined a straight heating curve using the base point and design temperatures.

With the base point temperature, you determine the start of the heating curve. The base point temperature is applicable for an outdoor temperature of 68 °F (20 °C).



Call up the service level. "general data" appears as the first main menu.

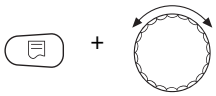
Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

Press "Display" to call up a submenu (here: "heating system").

heatingzone data 2

heating system
radiator

The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "low level").

heatingzone data 2

heating system
low level

The display shows the set value.

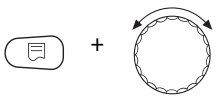
Release "Display" to save your input.

Turn the dial until submenu "base point temp." appears.

heatingzone data 2

base point temp.
86°F

The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "90°F" (32°C)).

heatingzone data 2

base point temp.
90°F

The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
base point temp.	68 °F – 176 °F (20 °C – 80 °C)	86 °F (30 °C)

11.4 Setting design temperature

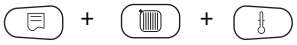
The design temperature is the supply temperature at the adjusted minimum outdoor temperature (→ Chapter 9.1).

The following applies to "low level" heating systems:

– Set the design temperature at least 18 °F (10 °C) higher than the base point temperature.

– Changing the design temperature allows the heating system to operate with a flatter or steeper heating curve.

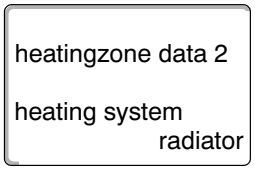
This function will not be displayed with "room thermostat" heating systems.



Call up the service level. "general data" appears as the first main menu.

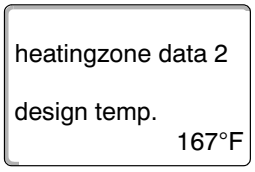
Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

Press "Display" to call up a submenu (here: "heating system").

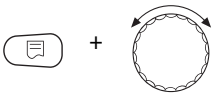


The display shows the selected submenu.

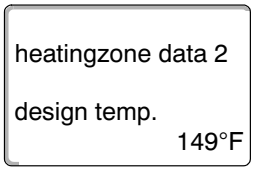
Turn the dial until submenu "design temp." appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "149°F" (65°C)).



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

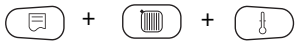
	Input range	Factory setting
design temp.	86 °F – 194 °F (30 °C – 90 °C)	167 °F (75 °C) for radiator/baseboard/constant/low level 113 °F (45 °C) for radiant floor heating systems

11.5 Minimum supply temperature

The minimum supply temperature limits the heating curve to a minimum set point.

This function will not be displayed with "constant" heating systems.

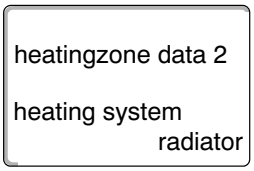
Change value only if necessary.



Call up the service level. "general data" appears as the first main menu.

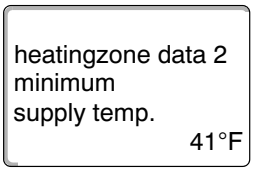
Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

Press "Display" to call up a submenu (here: "heating system").

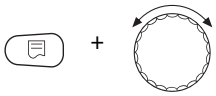


The display shows the selected submenu.

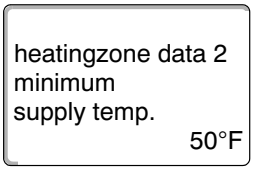
Turn the dial until submenu "minimum supply temp." appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "50°F" (10°C)). This value sets the temperature below which the supply temperature must not drop.



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

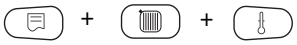
	Input range	Factory setting
minimum supply temp.	41 °F – 158 °F (5 °C – 70 °C)	41 °F (5 °C)

11.6 Maximum supply temperature

The maximum supply temperature limits the heating curve to a maximum set value.

This function will not be displayed with "constant" heating systems.

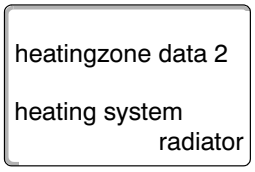
Change value only if necessary.



Call up the service level. "general data" appears as the first main menu.

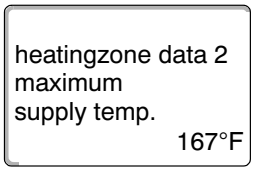
Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

Press "Display" to call up a submenu (here: "heating system").

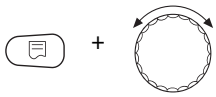


The display shows the selected submenu.

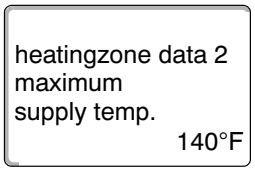
Turn the dial until submenu "maximum supply temp." appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "140°F" (60°C)). This value sets the temperature above which the supply temperature must not rise.



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
Maximum supply temperature for floor	86 °F – 140 °F (30 °C – 60 °C)	122 °F (50 °C)
Maximum supply temperature for radiators, convectors, base point	86 °F – 194 °F (30 °C – 90 °C)	167 °F (75 °C)

11.7 Selecting remote control

Under this menu item you can specify whether a remote control for the heating zone is installed. You can select:

– No remote control

– Remote control with display (MEC2) "MEC heatingzones"
If "remote control w/ display" is selected for several heating zones, these are grouped as "MEC heatingzones".

– Remote control without display (BFU)

USER NOTE

No remote control unit may be installed for "constant" heating zone systems or when "external changeover" has been enabled.

A remote control must be installed for the following functions that monitor the room temperature:

– Night setback with room hold

– Max room effect

– Automatic adaptation

– Start optimization

– "room thermostat" heating system

Explanation of "MEC heatingzones"

The MEC2 can be installed in a reference room; it then functions as a room sensor with display.
With the MEC2 you can control several heating zones simultaneously. These are grouped together under the term "MEC heatingzones".

The following functions can be run for the "MEC heatingzones":

– Operating mode switching

– Set point adjustments

– Set warm weather shutdown temperature

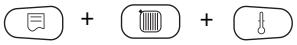
– Vacation function

– Party mode

– Pause function

The heating zones grouped together under "MEC heatingzones" can, for specific settings, also be selected as "primary zone".

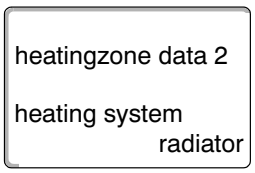
The timer program "PROG" function is only available for each individual heating zone.



Call up the service level. "general data" appears as the first main menu.

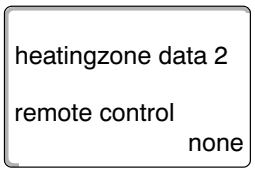
Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

Press "Display" to call up a submenu (here: "heating system").

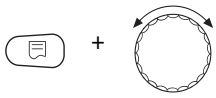


The display shows the selected submenu.

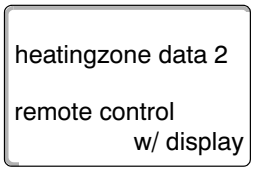
Turn the dial until submenu "remote control" appears.



The display shows the selected submenu.



Hold down "Display" and select the desired value with the dial (here: "w/ display"). Turn the dial to "with display" if the selected heating zone has been assigned to the MEC2.



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

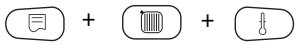
	Input range	Factory setting
remote control	none w/o display w/ display	none

11.8 Maximum room effect

This function will only appear if a remote control has been selected, but will not be shown for "room thermostat" heating systems.
The maximum room effect limits the effect of the actual room temperature (room temperature hook-up) to the set supply temperature. This value determines the maximum possible room temperature setback in those rooms that are supplied via the currently selected heating zone and where there are no remote control units installed.

USER NOTE

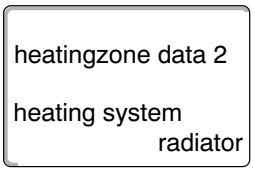
Do not expose the MEC2 remote control or the BFU remote control to external heat sources, such as lamps, TV sets, or alternative heat sources.



Call up the service level. "general data" appears as the first main menu.

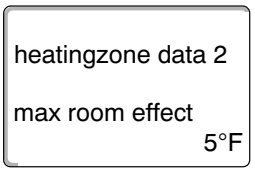
Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

Press "Display" to call up a submenu (here: "heating system").

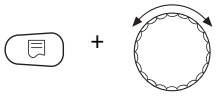


The display shows the selected submenu.

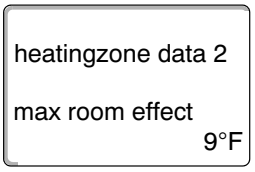
Turn the dial until submenu "max room effect" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "9°F" (5°C)).



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
max room effect	0 °F – 18 °F (0 °C – 10 °C)	5 °F (3 °C)

11.9 Selecting setback type

The following functions for reduced mode or night mode can be selected:

– "outdoor setback" determines the outdoor temperature limit.
The heating zone is switched off when this value is exceeded.
Below this limit, the heating system heats to the set night temperature.

– With "room setback" you determine a night temperature as the room temperature.
The heating zone is switched off when this value is exceeded.
Below this limit, the heating system heats to the set night temperature.
For this function a remote control must be located in the relevant room.

– "shut down" switches off the entire heating zone in reduced mode.

– In setback mode, the system heats to the set night temperature if "setback" is selected. The heating zone pumps operate constantly.

USER NOTE

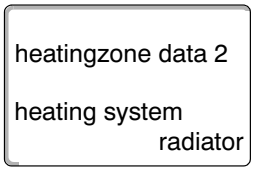
If "constant" has been selected in the heating system menu item, only "setback", "outdoor setback" or "shut down" can be selected.

– Setting the heating system to "room thermostat" and setback type to "setback" achieves the same effect for temperature setback as "room setback".

Call up the service level. "general data" appears as the first main menu.

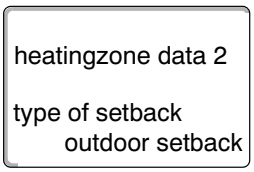
Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

Press "Display" to call up a submenu (here: "heating system").

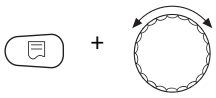


The display shows the selected submenu.

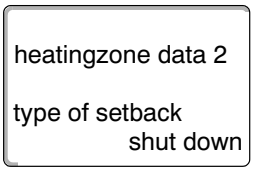
Turn the dial until submenu "type of setback" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "shut down").



The display shows the set value.

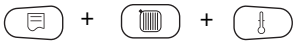
Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
type of setback	outdoor setback shut down setback room setback	outdoor setback

11.10 Setting outdoor setback temperature

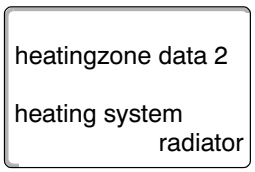
Enter the outdoor temperature at which the heating operation should change over from "shut down" to "setback" if you have selected "outdoor setback" as setback type.



Call up the service level. "general data" appears as the first main menu.

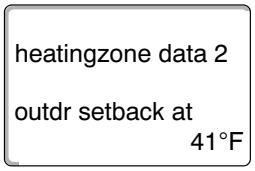
Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

Press "Display" to call up a submenu (here: "heating system").

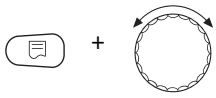


The display shows the selected submenu.

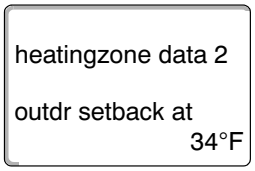
Turn the dial until submenu "outdr setback at" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "34°F" (1°C)).



The display shows the set value.

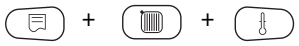
Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
outdr setback at	-4 °F – 50 °F (-20 °C – 10 °C)	41 °F (5 °C)

11.11 Vacation setback type

A separate setback type can be set for the time of the vacation.
For explanations of possible settings, see Chapter 11.9.



Call up the service level. "general data" appears as the first main menu.

Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

Press "Display" to call up a submenu (here: "heating system").

heatingzone data 2

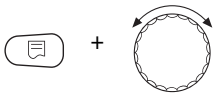
heating system
radiator

The display shows the selected submenu.

Turn the dial until submenu "vacation type of setback" appears.

heatingzone data 2
vacation
type of setback
room setback

The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "outdoor setback").

heatingzone data 2
vacation
type of setback
outdoor setback

The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
vacation type of setback	room setback outdoor setback* shut down setback	room setback

***** With setting "vacation outdoor setback" the dial also takes you into the menu where you set the temperature (between -4 °F (-20 °C) and 50 °F (10 °C).

11.12 Stopping setback at low outdoor temperatures

This feature allows interruption of setback when the actual temperature falls below a selected adjusted outdoor temperature, to prevent the living space cooling down excessively.

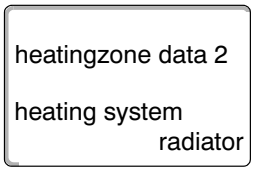
USER NOTE

Setback will not be blocked in manual mode or in vacation mode.

Call up the service level. "general data" appears as the first main menu.

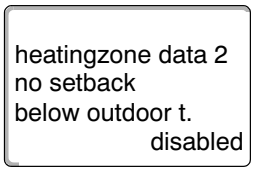
Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

Press "Display" to call up a submenu (here: "heating system").



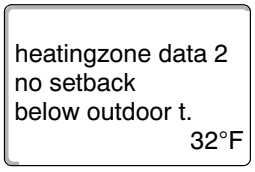
The display shows the selected submenu.

Turn the dial until submenu "no setback below outdoor t." appears.



The display shows the selected submenu.

Hold down "Display" and turn the dial until the desired value appears (here: "32°F" (0°C)).



The display shows the set value.

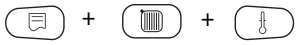
Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
no setback below outdoor t.	disabled -22 °F – 50 °F (-30 °C – 10 °C)	disabled

11.13 Setting supply setback

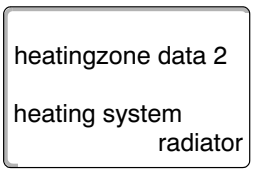
Because **no remote control** can be connected to the "constant" heating system, a setback entry for the "setback" and "outdoor setback" setback types can be made in this submenu item.



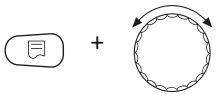
Call up the service level. "general data" appears as the first main menu.

Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

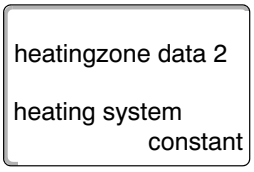
Press "Display" to call up a submenu (here: "heating system").



The display shows the selected submenu.



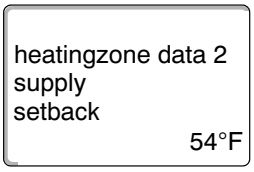
Hold down "Display" and turn the dial until the desired value appears (here: "constant").



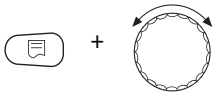
The display shows the set value.

Release "Display" to save your input.

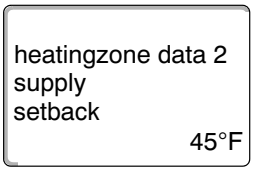
Turn the dial until "supply setback" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "45°F" (25°C)).



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
supply setback	0 °F – 72 °F (0 °C – 40 °C)	54 °F (30 °C)

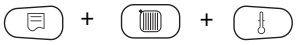
11.14 Room temperature offset

This setting is only recommended if no remote control has been installed inside the living space.
If the average actual temperature measured with a thermometer deviates from the set temperature for some time, this function enables a matching of both values.The calibration moves the heating characteristic curve at the same time. The changes take effect after a time delay.

Example:

Displayed set room temperature	72 °F (22 °C)
Actual room temperature	75 °F (24 °C)

The set value lies 3 °F (2 °C) below the actual value.



Call up the service level. "general data" appears as the first main menu.

Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

Press "Display" to call up a submenu (here: "heating system").

heatingzone data 2

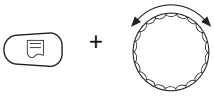
heating system
radiator

The display shows the selected submenu.

Turn the dial until submenu "room temperature offset" appears.

heatingzone data 2
room temperature
offset
0°F

The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "-4°F" (-2°C)).

heatingzone data 2
room temperature
offset
-4°F

The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
offset	-9 °F – 9 °F (-5 °C – 5 °C)	0 °F (0 °C)

11.15 Automatic adaptation

This function will only appear if "radiator", "baseboard" or "floor" has been selected as the heating system.

The "auto adaptation" is not activated at the factory.

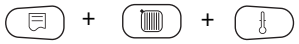
Where a remote control with room temperature sensor is installed in the room, the heating curve is automatically adjusted to the building by monitoring the room and supply temperature.

Prerequisites are:

– a representative room with reference temperature,

– completely open thermostat valves in the room,

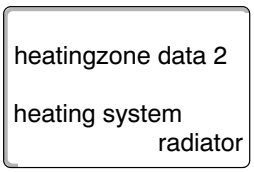
– no continuously changing outside heat influence.



Call up the service level. "general data" appears as the first main menu.

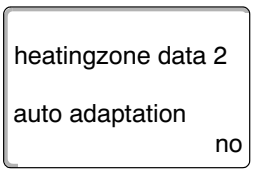
Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

Press "Display" to call up a submenu (here: "heating system").

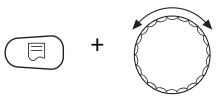


The display shows the selected submenu.

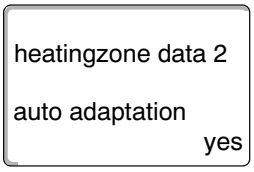
Turn the dial until submenu "auto adaptation" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "yes").



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
auto adaptation	no yes	no

11.16 Setting switch optimization

The function "optimization for" is not enabled at the factory.

Install a remote control with room temperature sensor to enable the "optimization" function.

The following variations are possible:

– Heat-up starts before the actual switching time if "start-up" has been selected. The control panel calculates the start time so that the set room temperature is achieved at the set start point.

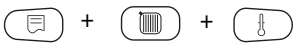
– At "shut down" the system begins setback, where possible prior to the actual setback time to save energy. If a room cools down unexpectedly or suddenly, the stop optimization is terminated and heating continues normally up to the programmed setback time.

– Both optimization versions are used when "startup/shutdown" has been enabled.

– Switch optimization is disabled if "none" is selected.

USER NOTE

As the start optimization is limited to 240 minutes, start optimization is frequently inappropriate for systems with a long heat-up time.



Call up the service level. "general data" appears as the first main menu.

Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

Press "Display" to call up a submenu (here: "heating system").

heatingzone data 2

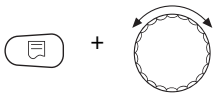
heating system
radiator

The display shows the selected submenu.

Turn the dial until submenu "optimization for" appears.

heatingzone data 2
optimization
for
none

The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "shut down").

heatingzone data 2
optimization
for
shut down

The display shows the set value.

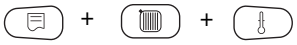
Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
optimization	none start-up shut down startup/shutdown	none

11.17 Setting switch-off optimization time

If you have selected "shut down" or "startup/shutdown" in section 11.16, you can enter from when setback mode should begin. Change the setting only if necessary.



Call up the service level. "general data" appears as the first main menu.

Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

Press "Display" to call up a submenu (here: "heating system").

heatingzone data 2

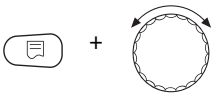
heating system
radiator

The display shows the selected submenu.

Turn the dial until submenu "shutdown optimizationtime" appears.

heatingzone data 2
shutdown
optimizationtime
60min.

The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "30min.").

heatingzone data 2
shutdown
optimizationtime
30min.

The display shows the set value.

Release "Display" to save your input.

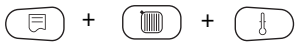
Press "Back" to return to the next level up.

	Input range	Factory setting
shutdown optimizationtime	10 min. – 60 min.	60 min.

11.18 Setting frost protection temperature

The frost protection temperature only needs to be changed in special cases.

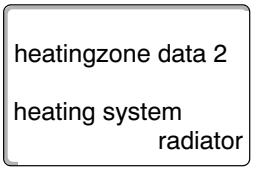
The circulation pump is automatically switched on as soon as the preset outdoor temperature threshold is reached.



Call up the service level. "general data" appears as the first main menu.

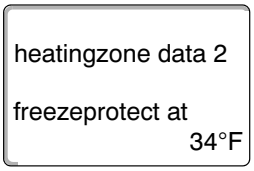
Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

Press "Display" to call up a submenu (here: "heating system").

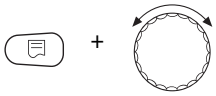


The display shows the selected submenu.

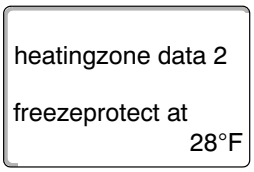
Turn the dial until submenu "freezeprotect at" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "28°F" (-2°C)).



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
freezeprotect	-4 °F – 34 °F (-20 °C – 1 °C)	34 °F (1 °C)

11.19 Setting DHW priority

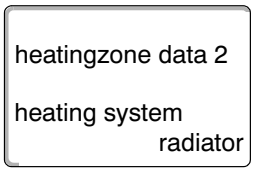
The circulation pumps of all heating zones are switched off while DHW is being heated if you activate the function "DHW priority".

In mixed heating zones, the mixer is moved towards "Mixer closes" (colder).

Call up the service level. "general data" appears as the first main menu.

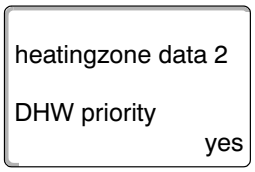
Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

Press "Display" to call up a submenu (here: "heating system").

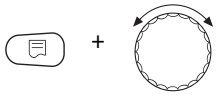


The display shows the selected submenu.

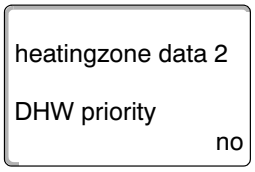
Turn the dial until submenu "DHW priority" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "no").



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
DHW priority	yes no	yes

11.20 Input heating zone actuator

You may determine via the "actuator" function, whether or not the system is equipped with a heating zone actuator (mixer).

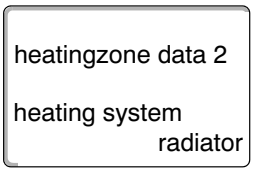
The control panel drives the actuator if it is installed in the heating zone (mixer).

The heating zone is controlled via the boiler supply temperature if no heating zone actuator is installed.

Call up the service level. "general data" appears as the first main menu.

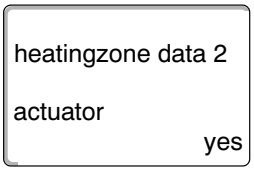
Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

Press "Display" to call up a submenu (here: "heating system").

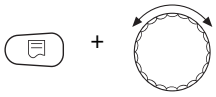


The display shows the selected submenu.

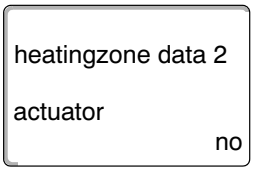
Turn the dial until submenu "actuator" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "no").



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

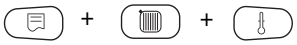
	Input range	Factory setting
actuator	yes no	yes

11.21 Entering actuator run time

Here you can enter the actuator run time of existing actuators. Generally, actuators have a run time of 120 sec.

USER NOTE

If you notice a constant oscillation of the mixer, you can slow down the control characteristics by reducing the actuator run time. Then the constant cycling of the mixer will stop.



Call up the service level. "general data" appears as the first main menu.

Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

Press "Display" to call up a submenu (here: "heating system").

heatingzone data 2

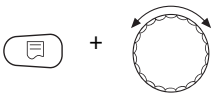
heating system
radiator

The display shows the selected submenu.

Turn the dial until submenu "actuator run time" appears.

heatingzone data 2
actuator
run time
120sec

The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "90sec").

heatingzone data 2
actuator
run time
90sec

The display shows the set value.

Release "Display" to save your input.

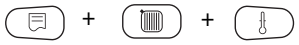
Press "Back" to return to the next level up.

	Input range	Factory setting
actuator run time	10 sec – 600 sec	120 sec

11.22 Boiler temperature increase

If a heating zone is controlled with an actuator, a higher set value should be set for the boiler than the normal set value for the heating zone.

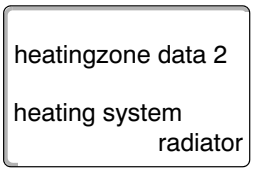
The value "boiler temp rise" corresponds to the temperature differential between the set boiler temperature and the set heating zone temperature.



Call up the service level. "general data" appears as the first main menu.

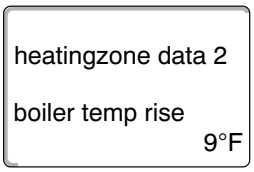
Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

Press "Display" to call up a submenu (here: "heating system").

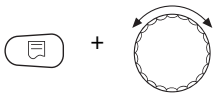


The display shows the selected submenu.

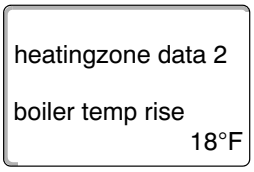
Turn the dial until submenu "boiler temp rise" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "18°F" (10°C)).



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
boiler temp rise	0 °F – 36 °F (0 °C – 20 °C)	9 °F (5 °C)

11.23 External changeover

Using the "external changeover" function, you can use an on-site switch at terminals WF1/2/3 (pink) to change the operating mode of a heating zone. This is where you configure this control panel input.

The menu item "external changeover" will only be displayed if "none" was selected under parameter "remote control".

The menu item is also not shown if the "room thermostat" heating system is selected, because this requires a remote control.

The function is disabled at the factory.

Two changeover functions can be selected:

Changeover 1 Day/night via terminals WF1 and WF3

Contacts WF1 and WF3 closed	= Day mode
Contacts WF1 and WF3 open	= Night mode

Changeover 2 Day/night/aut via terminals WF1, WF2 and WF3

Activation is only possible is terminals WF1 and WF2 are not assigned by the "external pump fault message".

Contacts WF1 and WF3 closed	= Day mode
Contacts WF1 and WF2 closed	= Night mode
All contacts open	= Automatic mode

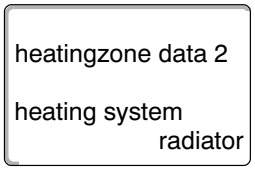
USER NOTE

Day mode will be run constantly if both contacts are simultaneously closed by mistake.

Call up the service level. "general data" appears as the first main menu.

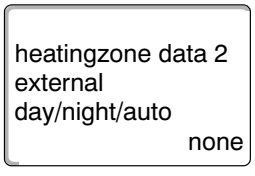
Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

Press "Display" to call up a submenu (here: "heating system").

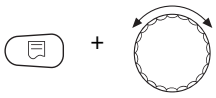


The display shows the selected submenu.

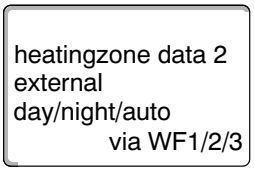
Turn the dial until submenu "external day/night/auto" is displayed.



The display shows the selected submenu.



Hold down "Display" and select the desired value with the dial (here: "via WF1/2/3").



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
external day/night/auto	none via WF1/3 via WF1/2/3	none

11.24 External pump fault message

The function is disabled at the factory.
You can select whether fault messages for a pump are displayed in this menu item.

You can connect an external zero volt fault relay to terminals WF1 and WF2. If the contact is open a fault message is displayed.

You can select between:

1. "none"

2. "Pump fault message via WF1/2"

If an input was made under the menu item "external day/night/auto via WF1/2/3", this menu item cannot be opened because the input contacts are already assigned.

Call up the service level. "general data" appears as the first main menu.

Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

Press "Display" to call up a submenu (here: "heating system").

heatingzone data 2

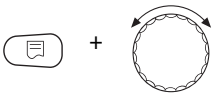
heating system
radiator

The display shows the selected submenu.

Turn the dial until submenu "external fault circulator" is displayed.

heatingzone data 2
external fault
circulator
none

The display shows the selected submenu.



Hold down "Display" and select the desired value with the dial (here: "via WF1/2").

heatingzone data 2
external fault
circulator
via WF1/2

The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
external fault circulator	none via WF1/2	none

11.25 Drying slab

With this control panel you can enter a drying program for the slab if the heating system includes floor heating. "floor" must be set as the heating system.

USER NOTE

Check with your drying slab contractor for special requirements for drying slab drying prior to enabling this function.

After a power failure, drying slab drying continues from where it was interrupted.

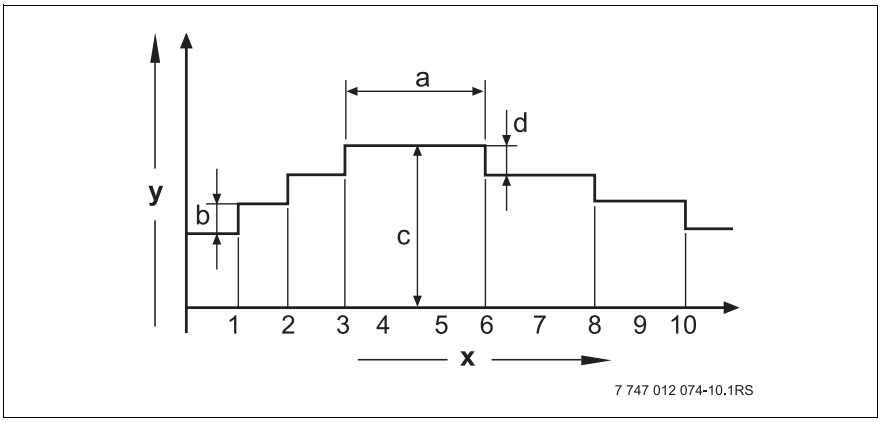


Fig. 17 Drying slab

x Time (days)

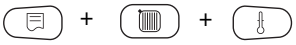
y Temperature

a 3 days' hold time

b Increase by

c Max. temperature

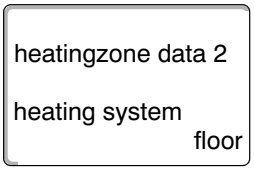
d Setback



Call up the service level. "general data" appears as the first main menu.

Turn the dial until main menu "heating zone + no." appears (here: "heating zone 2").

Press "Display" to call up a submenu (here: "heating system").



The display shows the selected submenu.

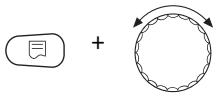
Turn the dial until submenu "drying slab" appears.

heatingzone data 2

drying slab

no

The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "yes").

heatingzone data 2

drying slab

yes

The display shows the set value.

Release "Display" to save your input.

	Input range	Factory setting
drying slab	no yes	no

USER NOTE

Parameters on the following pages enable you to select the temperatures and settings for the drying period.
The setting reverts automatically to "no" as soon as the drying process has been completed.

Setting the temperature increase

Here you can select the steps in which the temperature should increase to dry out the drying slab.

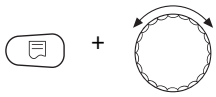
The temperature rise begins at 68 °F (20 °C).

Turn the dial until submenu "drying slab increase by" appears.

heatingzone data 2
drying slab
increase by

9°F

The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "18°F" (10°C)).

heatingzone data 2
drying slab
increase by

18°F

The display shows the set value.

Release "Display" to save your input.

	Input range	Factory setting
increase by	2 °F – 18 °F (1 °C – 10 °C)	9 °F (5 °C)

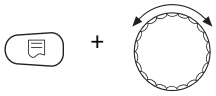
Heat-up time

By setting the "increase" parameter, you determine in which daily cycle the temperature should rise to dry out the drying slab.

Turn the dial until submenu "drying slab increase" appears.

heatingzone data 2
drying slab
increase
daily

The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "every 5th day").

heatingzone data 2
drying slab
increase
every 5th day

The display shows the set value.

Release "Display" to save your input.

	Input range	Factory setting
Increase in daily cycles	daily, every 2nd day, every 3rd day, every 4th day, every 5th day	daily

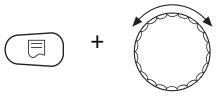
Setting the maximum temperature

Here you can enter the maximum temperature for drying slab drying.

Turn the dial until submenu "drying slab max temperature" appears.

heatingzone data 2
drying slab
max temperature
113°F

The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "77°F" (25°C)).

heatingzone data 2
drying slab
max temperature
77°F

The display shows the set value.

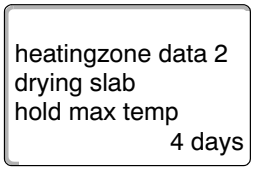
Release "Display" to save your input.

	Input range	Factory setting
Maximum temperature	77 °F – 140 °F (25 °C – 60 °C)	113 °F (45 °C)

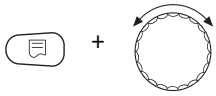
Set the holding time

Here you can select a period of time for which the maximum temperature should be held to dry out the drying slab.

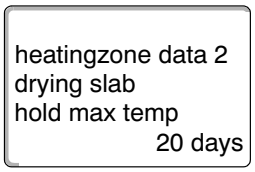
Turn the dial until submenu "drying slab hold max temp" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "20 days").



The display shows the set value.

Release "Display" to save your input.

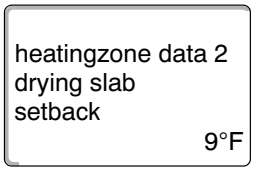
	Input range	Factory setting
Hold maximum temperature	0 days – 20 days	4 days

Setting setback temperature

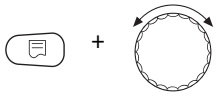
Here you can select the steps in which the temperature for drying out the drying slab should be set back.

The setback ends at 68 °F (20 °C).

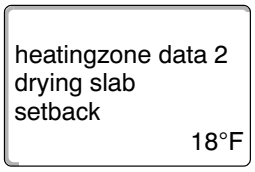
Turn the dial until submenu "drying slab setback" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "18°F" (10°C)).



The display shows the set value.

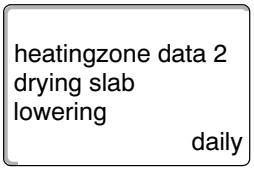
Release "Display" to save your input.

	Input range	Factory setting
setback	2 °F – 18 °F (1 °C – 10 °C)	9 °F (5 °C)

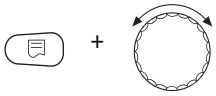
Set setback time

By setting the "lowering" parameter, you determine in which daily cycle the temperature for drying the drying slab should be set back.

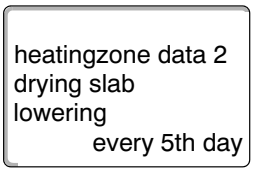
Turn the dial until submenu "drying slab lowering" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "every 5th day").



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

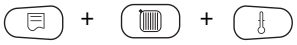
	Input range	Factory setting
Setback in daily cycles	none daily, every 2nd day, every 3rd day, every 4th day, every 5th day	daily

12 DHW data

In its standard version, the Logamatic 4323 control panel is not equipped with any DHW heating function.
The following details regarding DHW data refer to the FM441 function module (accessory).

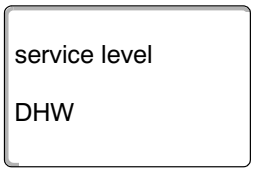
12.1 Selecting the DHW storage tank

Here, you can log the DHW storage tank in and out if a DHW module is installed. If a cascade module is installed instead of a DHW module, you can select the type of hydraulic connection of the DHW storage tank.



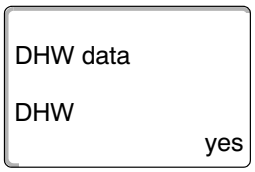
Call up the service level. "general data" appears as the first main menu.

Turn the dial until main menu "DHW" appears.

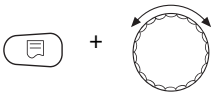


The display shows main menu "DHW".

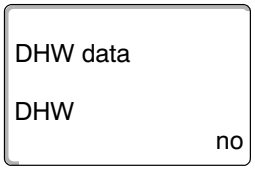
Press "Display" to call up a submenu (here: "DHW").



The automatically-recognized DHW storage tank will be preset on the display.



Hold down "Display" and turn the dial until the desired value appears (here: "no").



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
DHW	yes no	yes

12.2 Set temperature range

With this function you can set the upper limit for the desired DHW temperature.

WARNING!

RISK OF SCALDING

from hot water.

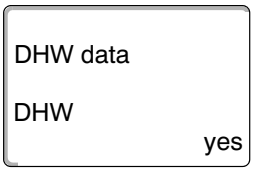
There is a risk of scalding if the desired DHW temperature is set higher than 122 °F (50 °C).

- Do not draw off DHW unmixed.

Call up the service level. "general data" appears as the first main menu.

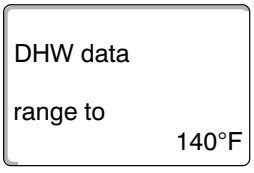
Turn the dial until main menu "DHW" appears.

Press "Display" to call up a submenu (here: "DHW").

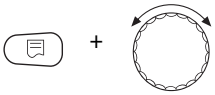


The display shows the selected submenu.

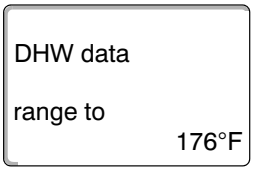
Turn the dial until submenu "range to" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "176°F" (80°C)).



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
range to	140 °F – 176 °F (60 °C – 80 °C)	140 °F (60 °C)

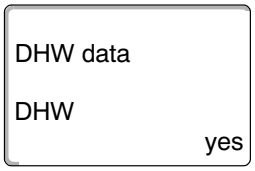
12.3 Selecting switching optimization

If you select the "optimization" function, DHW heating will begin prior to the actual start point. The control panel calculates the start time, taking into consideration the residual DHW storage tank heat and the start of heating for the heating zones, so that the DHW temperature is reached at the time you have selected (time switch).

Call up the service level. "general data" appears as the first main menu.

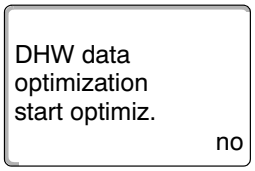
Turn the dial until main menu "DHW" appears.

Press "Display" to call up a submenu (here: "DHW").

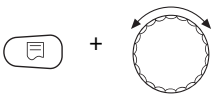


The display shows the selected submenu.

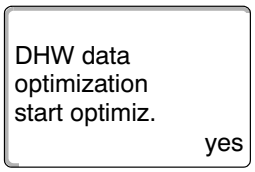
Turn the dial until submenu "optimization start optimiz." appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "yes").



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
optimization	yes no	no

12.4 Selecting residual heat use

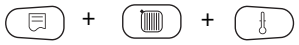
If you select the "utlz.leftovr.ht" function, you can also utilize the residual boiler heat for heating the storage tank.

"Residual heat use yes"

If you select "utlz.leftovr.ht yes", the control panel calculates the shutdown temperature of the burner and the primary pump runtime until the storage tank is fully heated up using the residual boiler heat. The burner is switched off before the set DHW temperature is reached. The tank heating pump continues to operate. The control panel calculates the run time of the primary pump (between 3 and 30 minutes) to heat the storage tank.

"Residual heat use no"

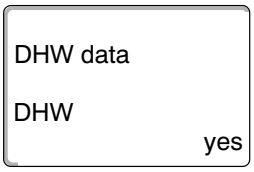
If you select "utlz.leftovr.ht no", you will only use a small amount of residual heat. The burner runs until the desired DHW temperature has been reached. The storage tank primary pump runs on for 3 minutes after the burner has been switched off.



Call up the service level. "general data" appears as the first main menu.

Turn the dial until main menu "DHW" appears.

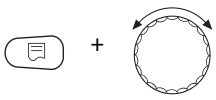
Press "Display" to call up a submenu (here: "DHW").



The display shows the selected submenu.

Turn the dial until submenu "utlz.leftovr.ht" appears.

The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "no").

The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
utlz.leftovr.ht	yes no	yes

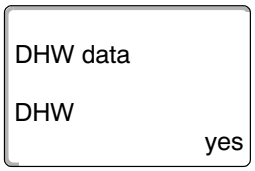
12.5 Setting differential

With "differential" you can determine, at how many Fahrenheit (°F) (Kelvin (K)) below the set DHW temperature the reloading of the storage tank begins.

Call up the service level. "general data" appears as the first main menu.

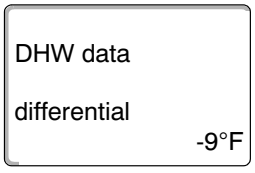
Turn the dial until main menu "DHW" appears.

Press "Display" to call up a submenu (here: "DHW").

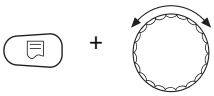


The display shows the selected submenu.

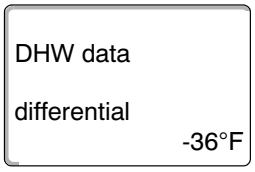
Turn the dial until submenu "differential" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "-36°F" (-20°C)).



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

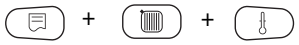
	Input range	Factory setting
differential	-36 °F – 4 °F (-20 °C – 2 °C)	-9 °F (-5 °C)

12.6 Increasing boiler temperature

With the "raise boilr temp" function, you can determine the boiler water temperature during DHW heating.

The boiler raising temperature is added to the desired DHW temperature and results in the desired supply temperature for DHW heating.

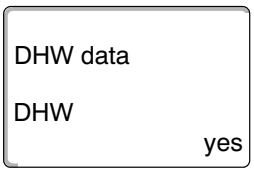
The factory setting of 72 °F (40 °C) is optimized for rapid DHW heating.



Call up the service level. "general data" appears as the first main menu.

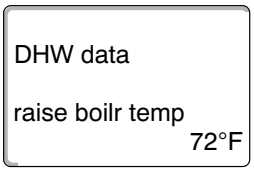
Turn the dial until main menu "DHW" appears.

Press "Display" to call up a submenu (here: "DHW").

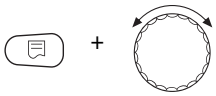


The display shows the selected submenu.

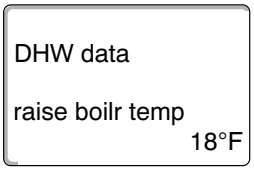
Turn the dial until submenu "raise boilr temp" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "18°F" (10°C)).



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

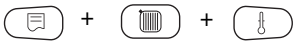
	Input range	Factory setting
raise boilr temp	18 °F – 72 °F (10 °C – 40 °C)	72 °F (40 °C)

12.7 External fault message (WF1/2)

An external zero volt fault message contact of a DHW primary pump or an inert anode can be connected to terminals WF1 and WF2 of FM441 module.

– WF1 and WF2 contacts closed = no fault

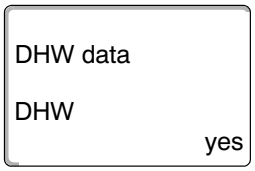
– WF1 and WF2 contacts open = fault



Call up the service level. "general data" appears as the first main menu.

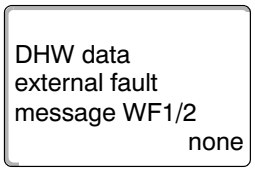
Turn the dial until main menu "DHW" appears.

Press "Display" to call up a submenu (here: "DHW").

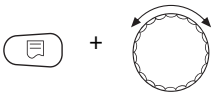


The display shows the selected submenu.

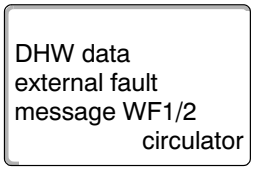
Turn the dial until submenu "external fault message WF1/2" is displayed.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "circulator").



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
external fault message (subject to heat source and module)	none inert anode circulator	none

12.8 External contact (WF1/3)

"loading once" or "disinfection" can be initiated (subject to setting) if a zero volt button is connected to terminals WF1 and WF3 in module FM441.

The thermal disinfection switching program is disabled if "thermal disinfection" has been selected.

"Loading once"

If DHW heating has been switched off according to the switching times of the DHW program, you may start "loading once" with the button. The DHW recirculation pump starts simultaneously.

Unlike heating once via the MEC2 remote control, the "loading once" process cannot be cancelled.

"loading once" will only be stopped when the storage tank has been fully heated.

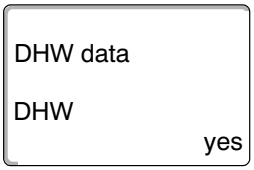
"Disinfection"

You can start thermal disinfection with the above-mentioned zero volt button if you have assigned the external contact to "disinfection". Any existing thermal disinfection program will then become ineffective.

Call up the service level. "general data" appears as the first main menu.

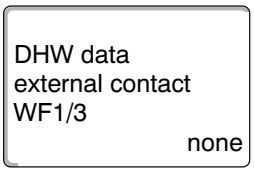
Turn the dial until main menu "DHW" appears.

Press "Display" to call up a submenu (here: "DHW").

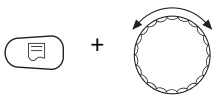


The display shows the selected submenu.

Turn the dial until submenu "external contact WF1/3" is displayed.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "loading once").

DHW data
external contact
WF1/3
loading once

The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
external contact	loading once disinfection none	none

12.9 Selecting and setting thermal disinfection

If you select the "thermal disinfection" function, the DHW is brought to a temperature (158 °F (70 °C)) once or several times a week. This is high enough to kill off germs (e.g. legionella bacteria).

The tank primary pump and DHW recirculation pump run constantly during the thermal disinfection process.

If you have selected "thermal disinfection yes", thermal disinfection starts according to factory settings or your own preferences.

Thermal disinfection is indicated by LED [!] on the FM441 module.

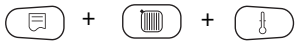
You can adjust the factory settings for thermal disinfection via additional menus.

USER NOTE

The "thermal disinfection" function is not shown if thermal disinfection was previously selected with the "external contact WF1/3" function.

The system tries to reach the set thermal disinfection temperature for three hours. If this fails, for example because too much DHW was used during this time, the error message "thermal disinfection failed" appears.

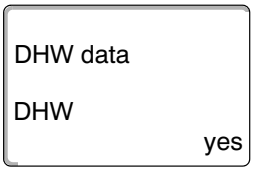
You may also set up thermal disinfection via your own switching program.



Call up the service level. "general data" appears as the first main menu.

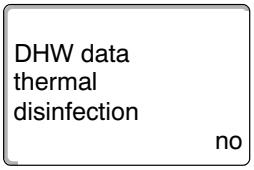
Turn the dial until main menu "DHW" appears.

Press "Display" to call up a submenu (here: "DHW").

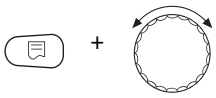


The display shows the selected submenu.

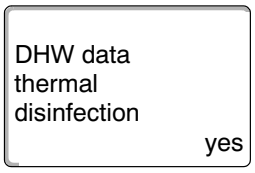
Turn the dial until "thermal disinfection" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "yes").



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
thermal disinfection	no yes	no

12.10 Setting disinfection temperature

Via the "temperature disinfection" function, you can set the thermal disinfection temperature (→ Chapter 12.9).

WARNING!

RISK OF SCALDING

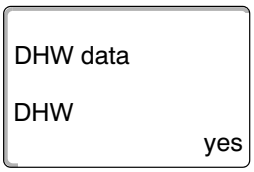
from hot water.

- If thermal disinfection is activated, ensure that a thermostatic tempering valve is installed as protection against scalding.

Call up the service level. "general data" appears as the first main menu.

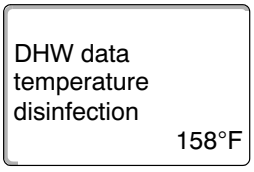
Turn the dial until main menu "DHW" appears.

Press "Display" to call up a submenu (here: "DHW").

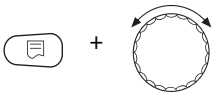


The display shows the selected submenu.

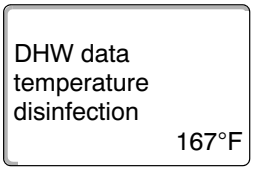
Turn the dial until submenu "temperature disinfection" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "167°F" (75°C)).



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
temperature disinfection	149 °F – 167 °F (65 °C – 75 °C)	158 °F (70 °C)

12.11 Setting day of week for disinfection

The day of the week for disinfection can be set with the "day of week disinfection" function.

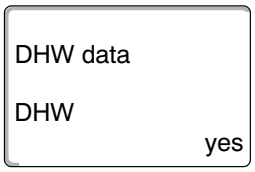
USER NOTE

The "day of week disinfection" function is not displayed if thermal disinfection was previously set using the "external contact WF1/3" function.

Call up the service level. "general data" appears as the first main menu.

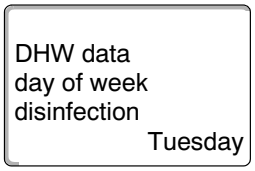
Turn the dial until main menu "DHW" appears.

Press "Display" to call up a submenu (here: "DHW").

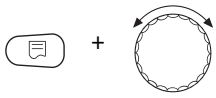


The display shows the selected submenu.

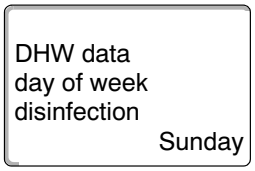
Turn the dial until submenu "day of week disinfection" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "Sunday").



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

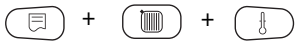
	Input range	Factory setting
day of week disinfection	Monday – Sunday daily	Tuesday

12.12 Setting time of day for disinfection

The time of day for disinfection can be set with the "time disinfection" function.

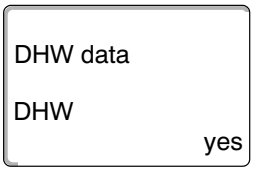
USER NOTE

The "time disinfection" function is not displayed if thermal disinfection was previously set using the "external contact WF1/3" function.

.  Call up the service level. "general data" appears as the first main menu.

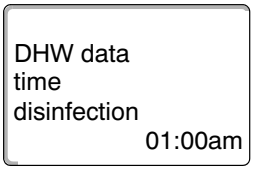
 Turn the dial until main menu "DHW" appears.

 Press "Display" to call up a submenu (here: "DHW").

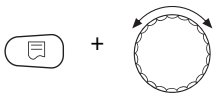


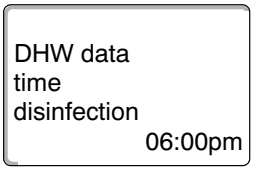
The display shows the selected submenu.

 Turn the dial until submenu "time disinfection" appears.



The display shows the selected submenu.

 Hold down "Display" and turn the dial until the desired value appears (here: "06:00pm" (18:00)).



The display shows the set value.

Release "Display" to save your input.

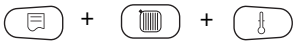
 Press "Back" to return to the next level up.

	Input range	Factory setting
time disinfection	12:00 am – 11:00 pm (00:00 – 23:00)	01:00 am (01:00)

12.13 Daily heating

When daily heat-up is set, the DHW (which may include a solar storage tank, if installed) is heated to 140 °F (60 °C) once a day to prevent legionella bacteria from multiplying in the DHW.

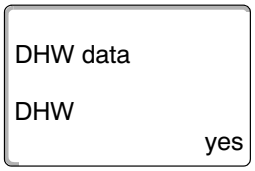
The time when the storage tank is heated can be adjusted.



Call up the service level. "general data" appears as the first main menu.

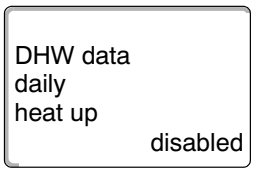
Turn the dial until main menu "DHW" appears.

Press "Display" to call up a submenu (here: "DHW").

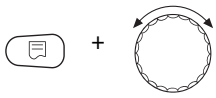


The display shows the selected submenu.

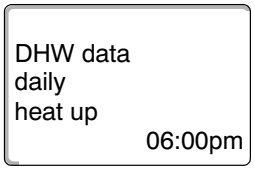
Turn the dial "daily heat up" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "06:00pm" (18:00)).



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

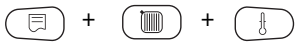
USER NOTE

If the DHW was heated to 140 °F (60 °C) within the last 12 hours, it is not heated at the specified time.

	Input range	Factory setting
daily heat up	disabled 12:00 am – 11:00 pm (00:00 – 23:00)	disabled

12.14 Selecting the recirculation pump

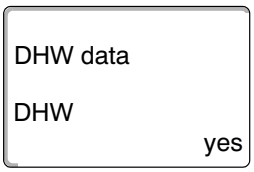
You can set DHW to be immediately available at the tap via the "recirculation" function.



Call up the service level. "general data" appears as the first main menu.

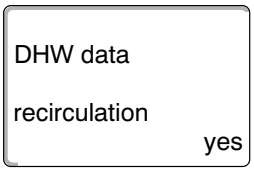
Turn the dial until main menu "DHW" appears.

Press "Display" to call up a submenu (here: "DHW").

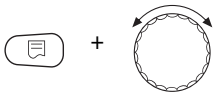


The display shows the selected submenu.

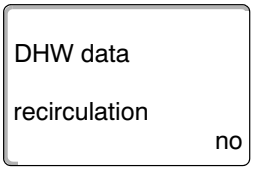
Turn the dial until submenu "recirculation" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "no").



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
recirculation	yes no	yes

12.15 Setting the recirculation pump intervals

Interval operation reduces the operating costs of the recirculation pump.

You can set DHW to be immediately available at the draw-off points using the "recirculation per hour" function.

The set interval applies during the period when the time program enables the recirculation pump. This may be:

– the factory-set recirculation pump program,

– your own recirculation pump program,

– a connection to the heating zone switching times.

In constant mode the recirculation pump operates continuously when in day mode, and is switched off in night mode.

Example:

Your own time program was created to start the recirculation pump between 5:30 am – 10:00 pm (05:30 h – 22:00 h) with setting "recirculation per hour 2 cycles".

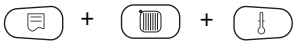
The circulation pump is run

– at 5:30 am (05:30 h) for 3 minutes,

– at 6:00 am (06:00 h) for 3 minutes,

– at 6:30 am (06:30 h) for 3 minutes,

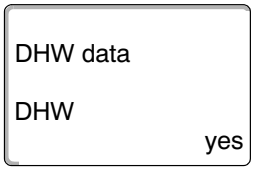
– etc. until 10:00 pm (22:00 h).



Call up the service level. "general data" appears as the first main menu.

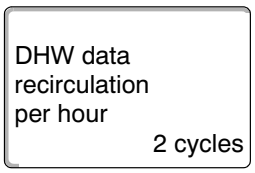
Turn the dial until main menu "DHW" appears.

Press "Display" to call up a submenu (here: "DHW").

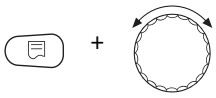


The display shows the selected submenu.

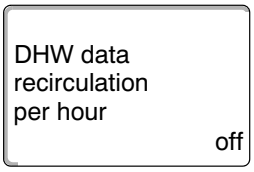
Turn the dial until submenu "recirculation per hour" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "off"). The recirculation pump will now only operate during heating once.



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
recirculation per hour	off 1 cycles 2 cycles 3 cycles 4 cycles 5 cycles 6 cycles constant oper.	2 cycles

13 Substations

The Logamatic 4323 control panel with ZM433 central module can be operated with

– address 0 (stand-alone),

– address 1 (linked to a master, i.e. the control panel that provides externally generated heat) and with

– address > 1 (as substation linked to other Buderus Logamatic 4000 control panels).

Operation with address 0 (stand-alone) or address 1 (as master)

An external heat source, such as

– a solid fuel boiler,

– a solar thermal system or

– an external boiler

supplies heat, with priority to a buffer storage tank, which contains the supply sensor. The supply sensor measures the buffer temperature. If this exceeds the minimum heat-up temperature, the supply pump (if installed) and other pumps will be switched on.

Operation with address > 1 (substation)

The supply sensor is only required if the substation is physically far from the heat source. Otherwise, the system supply temperature will be transferred by the master control panel via the ECOCAN-BUS.

Line losses are compensated if the substation is physically far from the heat source, by setting a boiler temperature rise against the set control panel value. To support the other supply pumps, the supply pump may also be connected in case of long line runs.

USER NOTE

If a cascade or strategy module (FM456, FM457, FM458) is installed in the control panel, that module will control the boiler system (address 0 or 1).

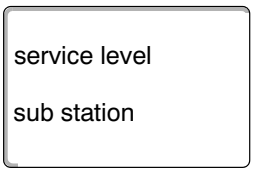
- In that case set the minimum heat-up temperature to "off".

13.1 Setting the minimum warm up temperature

This menu will only be displayed by the Logamatic 4323 control panel if address 0 or 1 has been selected. The heat consumers will only be supplied with heat if the set temperature has been exceeded, or no later than after the time set up under "maximum warm up time" has expired.

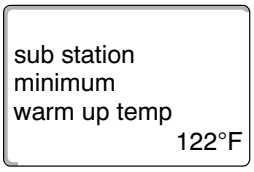
Call up the service level. "general data" appears as the first main menu.

Turn the dial until the main menu "sub station" appears.

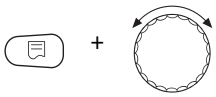


The display shows the selected main menu.

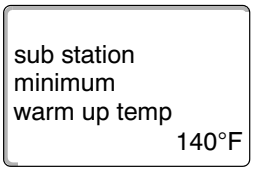
Press "Display" to call up a submenu (here: "minimum warm up temp").



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "140°F" (60°C)).



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

USER NOTE

If "off" has been selected, any possibly installed buffer or the existing start-up time of a heat source not controlled by the control panel will then not be taken into consideration.

	Input range	Factory setting
minimum warm up temp	off 34 °F – 140 °F (1 °C – 60 °C)	122 °F (50 °C)

13.2 Setting the maximum warm up time

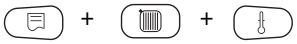
This menu will only be displayed by the Logamatic 4323 control panel if address 0 or 1 has been selected, and the minimum warm up temperature and therefore also the warm up time have been enabled.
Here, set the maximum time after which the heating zone pumps are started, even if "minimum warm up temp" has not been achieved within "maximum warm up time".

In addition, the temperatures at the FB and FZB sensors are evaluated for control of the PS tank primary pump.

Sensor temperature:

– FB hotter than FZB: Tank primary pump PS on

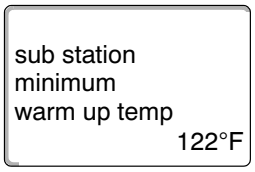
– FB colder than FZB: Tank primary pump PS off



Call up the service level. "general data" appears as the first main menu.

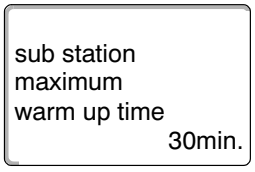
Turn the dial until the main menu "sub station" appears.

Press "Display" to call up a submenu (here: "minimum warm up temp")

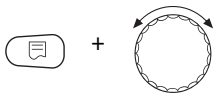


The display shows the selected submenu.

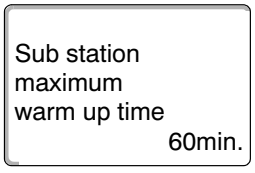
Turn the dial until submenu "maximum warm up time" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "60min.").



The display shows the set value.

Release "Display" to save your input.

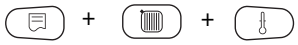
Press "Back" to return to the next level up.

	Input range	Factory setting
maximum warm up time	10 min. – 60 min.	30 min.

13.3 Setting boiler raising

This menu will only appear when operating the Logamatic 4323 control panel as a substation (address > 1).

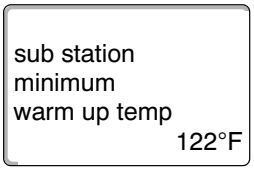
The value entered here will be added to the heat demand of the control panel and thereby increases the demand temperature. This setting is recommended for compensating temperature losses in systems with long supply lines.



Call up the service level. "general data" appears as the first main menu.

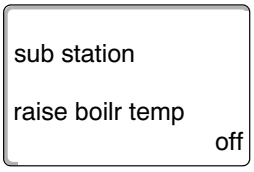
Turn the dial until the main menu "sub station" appears.

Press "Display" to call up a submenu (here: "minimum warm up temp").

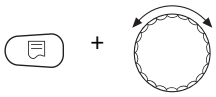


The display shows the selected submenu.

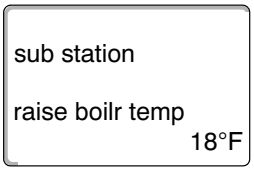
Turn the dial until submenu "raise boilr temp" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "18°F" (10°C)).



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

	Input range	Factory setting
raise boilr temp	off 2 °F – 36 °F (1 °C – 20 °C)	off

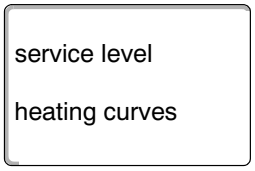
14 Characteristic heating curve

Using the "heating curves" menu, you can display the current heating curves of the relevant heating zones.

The supply temperatures (ST), which depend on the outdoor temperature (OT), are displayed.

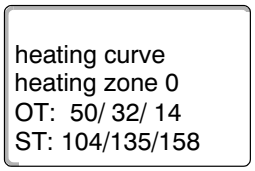
Call up the service level. "general data" appears as the first main menu.

Turn the dial until main menu "heating curves" appears.



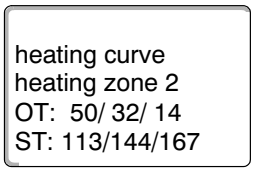
The display shows the selected main menu.

Press "Display" to call up a submenu (here: "heating zone 0").



The display shows the selected submenu.

Turn the dial until submenu "heating zone 2" appears.



The display shows the selected submenu.

Press "Back" to return to the next level up.

15 Running relay test

With the "relay test" menu, you can check whether you have correctly connected the external components (e.g. pumps).

The displays depend on the installed modules. Depending on the current operating conditions, there may be a time delay between demand and display.

CAUTION!

SYSTEM DAMAGE

through disabled functions.

The heat supply of the heating system is not assured during the relay test. All functions are disconnected from the control.

- Exit this function after the relay test to prevent system damage.

With the FM441 and FM442 modules used most commonly in the Logamatic 4323 control panel, the following relays can be called up:

Heating zone 0 – 9

– Circulator

– Actuator

DHW

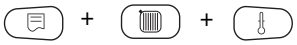
– Tank primary pump

– Recirculation pump

Substation

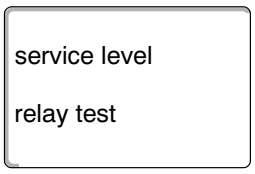
– Circulator

Relay test example



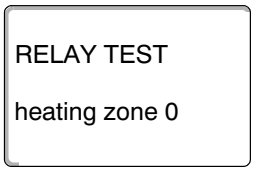
Call up the service level. "general data" appears as the first main menu.

Turn the dial until main menu "relay test" appears.



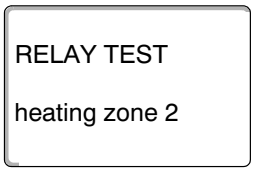
The display shows the selected main menu.

Press "Display" to call up a submenu (here: "heating zone 0").



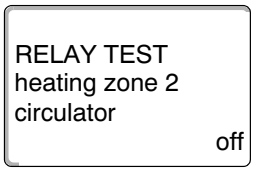
The display shows the selected submenu.

Turn the dial until submenu "heating zone 2" appears.



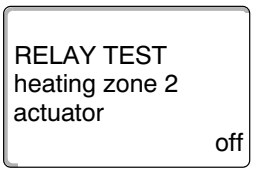
The display shows the selected submenu.

Press "Display" to call up a further submenu (here: "circulator").

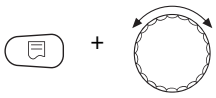


The display shows the selected submenu.

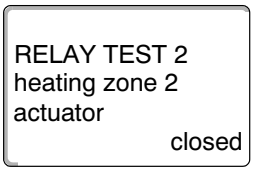
Turn the dial until submenu "actuator" appears.



The display shows the selected submenu.



Hold down "Display" and turn the dial until the desired value appears (here: "closed").



The display shows the set value.

Release "Display" to save your input.

Press "Back" twice to return to the next levels up.

This ends the relay test. This will also be the case when you close the flap.

USER NOTE

All relay test settings are cancelled at the end of the test.

16 Multi-boiler systems

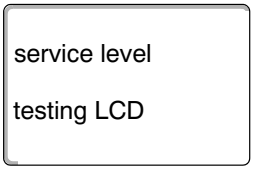
The Logamatic 4323 control panel, together with modules FM456/457/458, can control multi-boiler systems (cascades).
For a description of this function, see the technical documentation of the relevant module.

17 Carrying out an LCD test

Using the "testing LCD" menu, you can check whether all symbols are fully displayed.

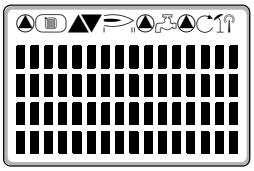
Call up the service level. "general data" appears as the first main menu.

Turn the dial until main menu "testing LCD" appears.



The display shows the selected main menu.

Press "Display".

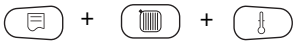


The LCD is OK if all signs and symbols are correctly displayed.

Press "Back" to return to the next level up.

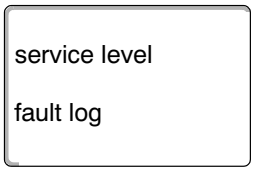
18 Fault log

Using the "fault log" menu, you can display the last four fault messages of your heating system. The MEC2 can only display the fault messages of the control panel it is connected to.



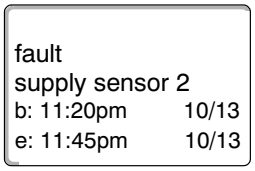
Call up the service level. "general data" appears as the first main menu.

Turn the dial until main menu "fault log" appears.



The display shows the selected main menu.

Press "Display".



The fault message is displayed.

Fault messages recorded by the control panel will be displayed together with the beginning and end times of the fault.

The display will show "no fault" if the connected control panel has not recorded any faults.

Turn dial and scroll through the recent fault messages.

Press "Back" to return to the next level up.

Fault displays

The Logamatic 4323 can display the following faults, if in addition to the ZM433, the most frequently-used function modules FM441 and the FM442 are installed.

- outdoor sensor
- supply sensor x
- DHW sensor
- DHW cold
- DHW warning
- disinfection
- remote control x
- communication HZx
- ECO-BUS receive
- no master
- BUS: addr.confl.
- Addr.conflict x
- wrong module x
- unknown module x
- inert anode
- external fault
- insuff. supply
- supply sensor FZB
- manual XX
- service date

With the use of other modules, additional fault messages are possible. For information about these, see the corresponding instructions.

19 Fault

Fault	Effect on control characteristics	Possible causes of fault	Remedy
outdoor sensor	– The minimum outdoor temperature is applied.	– The outdoor temperature sensor is either defective, not connected, not plugged into the control panel network at the control panel with address 1, or is contacted at the wrong module.	– Checks of the outdoor temperature sensor. – Check whether the outdoor temperature sensor is connected to the control panel with address 1 (for information regarding the position of the outdoor temperature sensor see → Chapter 5.1).
		– Communication to control panel with address 1 is interrupted.	– Check communication with address 1.
		– Central module or control panel defective.	– Replace outdoor temperature sensor or central module.
supply sensor x	– Mixer is no longer being controlled.	– Sensor is defective or not connected.	– Check the sensor connection.
		– An actuator (mixer) was inadvertently selected for the heating zone.	– If the heating zone is to be operated without an actuator, enter "no" under actuator in the appropriate menu of the MEC2 (→ Chapter 11.20).
DHW sensor	– Heating of domestic hot water is stopped.	– Sensor is defective or not connected.	– Check the sensor connection. – Check sensor connection on DHW storage tank.
		– DHW was inadvertently selected.	– Deselect DHW in the MEC2 under parameter DHW data if DHW heating is no longer desired (→ Chapter 12).
		– Module or control defective.	– Replace sensor or module.
DHW cold	– Heating of domestic hot water is stopped. Current DHW temperature is below 104 °F (40 °C).	– Loading pump defective. – FM441 function module defective. – More DHW is used than is heated.	– Check that temperature control or hand switch is set to "AUT". – Check function of sensor and tank primary pump. – Replace FM441 module. – Check sensor connection on DHW storage tank.
DHW warning	– There is a constant attempt to fill the DHW storage tank. – DHW priority is switched off once this fault message appears.	– Constant drawing or system leak.	– Stop any leaks.
		– Manual switch not set to "AUT".	– Check whether manual switch is set to "AUT".
		– Sensor defective or not connected. Sensor incorrectly mounted.	– Check sensor connection and values.
		– Primary pump incorrectly connected or defective.	– Check primary pump function, e.g. with a relay test (→ Chapter 15).
		– Module or control defective.	– Replace sensor or module.
disinfection	– Thermal disinfection has been interrupted.	– Water draw too great during the disinfection period.	
		– Boiler output is temporarily insufficient due to heat drawn by other consumers (e.g. heating zones).	– Select a time for thermal disinfection when there is no other demand heat.
		– Sensor defective or not connected, or primary pump defective.	– Check sensor and primary pump function, replace if necessary (→ Chapter 15).
		– Module or control defective.	– If necessary, replace module or control panel.

Tab. 3 Fault table

Fault	Effect on control characteristics	Possible causes of fault	Remedy
remote control x	– Because no actual room temperature is available, the effects of the following features are disabled: room effect, start and stop optimization, automatic adaptation.	– Remote control incorrectly connected or defective. – Incorrect address allocated to remote control. – Remote control cable damaged by a drill or is broken.	– Check remote control function and connection. Replace remote control or module. – Check remote control address (see BFU remote control documentation). – Check connecting cables.
communica-tion HZx	– Because no actual room temperature is available, the effects of the following features are disabled: room effect, start and stop optimization, automatic adaptation.	– Remote control incorrectly connected or defective. – By mistake, neither a BFU remote control nor an MEC2 was selected for this heating zone in the MEC2. – Remote control has an incorrectly allocated address. – Remote control or associated module is defective.	– Check remote control function and connection. – Select the correct remote control in the MEC2 under "remote control" (→ Chapter 11.7). – Check remote control address (see BFU remote control documentation). – Replace remote control or module.
ECO-BUS receive	– No effect on the control characteristics.	– The rotary encoder on the CM431 (behind the MEC2 or boiler display) has incorrect address. – Hook switch on NM482 is incorrectly positioned.	– Check setting of rotary encoder (→ Chapter 5.1). – Check hook switch (→ Chapter 5.2).
no master	– System operates with minimum outdoor temperature.	– By mistake, there is no master control panel (address 1) in the network. – Connecting cable to master control panel broken. – Master control panel (address 1) is switched off or defective.	– Check addresses of all control panels in the network. On the master control panel, CM431 must be set to address 1 (→ Chapter 5.1). – Check function of connecting cable. – Check master control panel and replace if required.
BUS: addr.confl.	– BUS communication no longer possible. – All control functions requiring data exchange via the ECOCAN-BUS can no longer be implemented.	– Multiple identical addresses are present. Each address must only be assigned once in the ECOCAN-BUS network.	– Check the addresses of all BUS subscribers (address settings → Chapter 5.1).
Addr.conflict x	– Functions of module with address conflict can no longer be implemented. All other modules in control panel and ECOCAN-BUS continue to function normally.	– Module must not be installed into this control panel (e.g. 2 x FM441 in one control panel or FM447 in Logamatic 4323).	– Check using Chapter 5, Tab. 1, whether the module may be used for this type of control panel.
wrong module x	– All outputs are switched off from the module and the corresponding error LED is switched on.	– Different module installed in one slot of control panel (e.g. FM442 was replaced with FM441). – By mistake, an incorrect module was selected for this MEC2 slot. – The MEC2 remote control, corresponding module or control panel is defective.	– Insert new module into MEC2 (→ Chapter 10). – Check module selected in the MEC2 (→ Chapter 10). – If necessary, replace relevant component.

Tab. 3 Fault table

Fault	Effect on control characteristics	Possible causes of fault	Remedy
unknown module x	– All outputs are switched off from the module and the corresponding error LED is switched on.	– This is a later module type, not recognized by the older control software.	– Checking the control panel version in the MEC2 (→ Chapter 21). If necessary, replace the CM431 and MEC.
		– Module or control panel is defective.	– If necessary, replace module or control panel.
inert anode	– No effects on control characteristics.	– Inert anode incorrectly connected or defective.	– Check inert anode and replace if required.
		– The module is defective.	– Replace the module.
external fault		– External components incorrectly connected or defective.	– Check connection and function of external components (tank primary and DHW recirculation pumps).
		– The module is defective.	– If necessary, replace the module.
insuff. supply	– Pump logic will be cancelled.	– Boiler sensor incorrectly positioned. Sensor must always be installed in the heat source.	– Install boiler sensor in the heat source or buffer storage tank.
	– System may be insufficiently supplied.	– Heat supply insufficient or non-existent.	– Recharge a wood burning boiler, for example.
supply sensor FZB	– Pump logic will be cancelled.	– Sensor is defective or not connected.	– Check the sensor connection. If necessary, replace the sensor.
		– Sensor should not be required, but is needed because control panel has been incorrectly set up.	– Check control panel address: Sensor is required for address 0 or 1 at the CM431. With a CAN address <1, a boiler system is controlled by this control panel, then parameter "minimum warm up temp" (→ Chapter 13.1) is set to "off". Sensor will only be required for control panel addresses higher than 1 if boiler rise (→ Chapter 11.22) higher than 0 has been entered.
		– Module or control defective.	– If necessary, replace module or control panel.
manual XX	– Control is run in manual mode.	– Someone may have forgotten to set the manual switch of a function module to "AUT".	– Set the corresponding function module manual switch to "AUT".
service date	– No influence on control characteristics.	– The period set until the next maintenance has expired.	– Carry out maintenance and then reset the service call.

Tab. 3 Fault table

20 Monitor data

Using the "act system data" menu you can display the set and actual values. The menus described in these instructions relate exclusively to the Logamatic 4211 control panel with the most commonly used FM441 and FM442 modules.

Some display values are separated by a slash. The number in front of the slash specifies the set value of each corresponding parameter and the figure after the slash is the actual value.

You can display data for the following components (if installed):

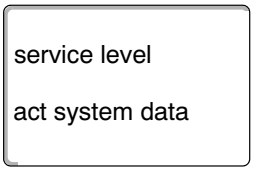
– Heating zones
– DHW
– Substation
– Monitor data of other installed modules

20.1 Heating zone monitor data

Using the monitor menu "heating zone" you can display the data for one heating zone.

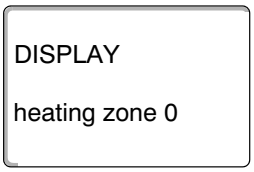
Call up the service level. "general data" appears as the first main menu.

Turn the dial until main menu "act system data" appears.



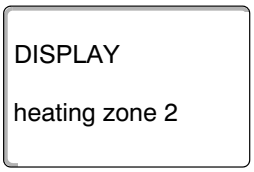
The display shows the selected main menu.

Press "Display" to call up a submenu (here: "heating zone 0").



The display shows the selected submenu.

Turn the dial until submenu "heating zone 2" appears.



The display shows the selected submenu.

Press "Display".

MONITOR	HZ2
supply	140/138
Room	68/66
night mode alwys	

The set and actual values for the **supply and room temperatures** are displayed.

The last line displays one of the following **operating modes**:

- night mode alwys
- day mode always
- auto mode always
- automatic day
- vacation
- summer
- startopt
- stopopt.
- slab
- DHW priority
- no setback

Turn the dial to scroll through the heating zone monitor data.

MONITOR	HZ2
design	167
startopt	15min
stopopt.	30min

Design temperature adaptation

This value displays the design temperature calculated by adaptation.

Start optimization

A calculated period, by which the heating system starts its heating operation prior to the actual set point, so that the set room temperature is reached by the actual start time.

Stop optimization

A calculated period to commence an early setback to save energy.

Turn the dial to scroll through the heating zone monitor data.

MONITOR	HZ2
act.pos.	50%
circulator	off

Actuator

Indicates the calculated controlling pulse in percent.

Example:

- 0 % = no control command
- 50 % = actuator is commanded in a cycle of 10 seconds for 5 seconds in the direction "Mixer opens" (hotter).
- -100 % = actuator is controlled every 10 seconds for 10 seconds towards "Mixer closes" (colder) (constant).

Circulator

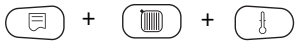
Indicates the operating condition of the circulation pump.

Press "Back" to return to the next level up.

20.2 DHW monitor data

The "DHW" monitor menu can be used to display data for DHW settings.

The displays depend on the settings that have been selected in the "DHW" function.



Call up the service level. "general data" appears as the first main menu.

Turn the dial until main menu "act system data" appears.

Press "Display" to call up a submenu (here: "heating zone 0").

DISPLAY

heating zone 0

The display shows the selected submenu.

Turn the dial until submenu "DHW" appears.

DISPLAY

DHW

The display shows the selected submenu.

Press "Display".

MONITOR DHW
temperature 140/135
automatic day
optimizd 120min

The calculated set value and the actual value for the **DHW temperature** are displayed.

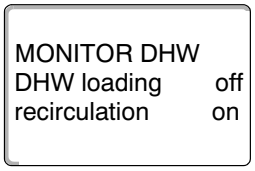
Possible operating modes:

- off
- constant oper.
- auto mode always
- automatic day
- vacation
- optimization
- disinfection
- reloading
- daily heat up

optimizd

Indicates the period during which the system starts DHW heating before the actual set point, to achieve the set DHW temperature in good time.

Rotate selector to scroll through the DHW monitor data.



DHW loading

Indicates the operating condition of the tank primary pump.

recirculation

Indicates the operating condition of the DHW circulation pump.

Press "Back" to return to the next level up.

20.3 Substation monitor data

Call up the service level. "general data" appears as the first main menu.

Turn the dial until main menu "act system data" appears.

Press "Display" to call up a submenu (here: "heating zone 0").

```
DISPLAY

heating zone 0
```

The display shows the selected submenu.

Turn the dial until the desired submenu appears (here: "sub station").

```
DISPLAY

sub station
```

The display shows the selected submenu.

Press "Display".

```
sub station
outdoor          5
avg temp         4
supply     140/138
```

The "outdoor" value indicates the current **outdoor temperature**.

The "avg temp" value describes the outdoor temperature, taking the specified type of building into consideration, with which the heating curve was calculated.

The "supply" value indicates the **supply temperature (set value/actual value)** that is captured by the master via the supply sensor, and that is transmitted by a substation via the ECOCAN-BUS.

Turn the dial to scroll through the substation monitor data.

```
sub station
supply     140/138
external demand  0
circulator     off
```

System supply (set value/actual value)

The system supply of the control panel network is indicated.

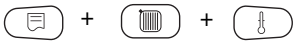
The value "**external demand**" indicates an additional heat demand in °F (°C), fed in via terminal U (connection 1 and 2) in accordance with the diagram on page 16.

The "**circulator**" value indicates the status of the supply pump.

Press "Back" to return to the next level up.

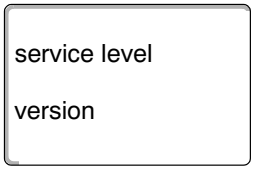
21 Display version

Using the "version" menu you can display the MEC2 remote control version as well as that of the selected control panel.



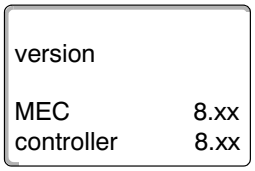
Call up the service level. "general data" appears as the first main menu.

Turn the dial until main menu "version" appears.



The display shows the selected main menu.

Press "Display" to call up a submenu.

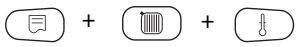


The versions for the MEC2 remote control and the control panel are displayed.

Press "Back" to return to the next level up.

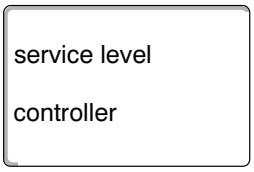
22 Selecting the control panel

With the "controller" menu you can select a control panel, if the **MEC2 is operated offline**, i.e. without connected control panel or with a separate power supply unit.



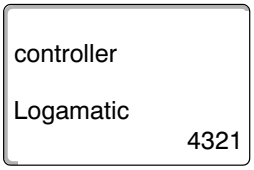
Call up the service level. "general data" appears as the first main menu.

Turn the dial until main menu "controller" appears.

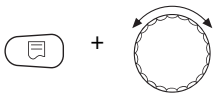


The display shows the selected main menu.

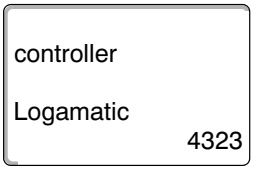
Press "Display" to call up a submenu (here: "Logamatic 4321").



The display shows the selected submenu.



Hold down "Display" and select the desired value with the dial (here: "4323").



The display shows the set value.

Release "Display" to save your input.

Press "Back" to return to the next level up.

23 Reset to the factory settings

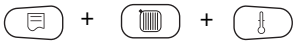
USER NOTE

With the "reset" menu you can change all settings of the operator or service levels back to their factory settings.

Exception: The timer program is retained.

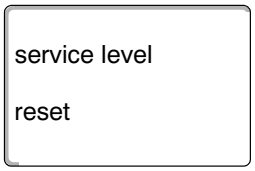
23.1 Resetting all control panel parameter settings

All values are automatically reset.



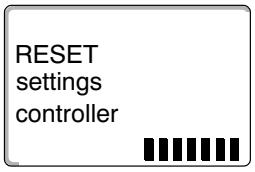
Call up the service level. "general data" appears as the first main menu.

Turn the dial until main menu "reset" appears.



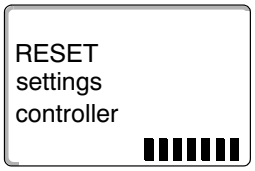
The display shows the selected main menu.

Briefly press "Display" to call up a submenu (here: "settings controller"). All settings may be lost if you press for too long.



The display shows the selected submenu.

Press and hold "Display".

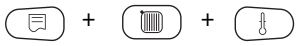


The blocks in the last line disappear one after another. The reset occurs when all blocks have disappeared. If the button is released while a block is still visible, the reset is canceled. After implementing a reset, the display automatically reverts to the next level up.

When terminating a reset, press "Back" to return to the next level up.

23.2 Resetting the fault log

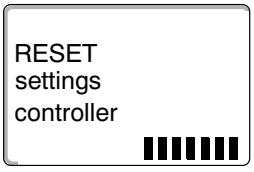
Using the "reset fault log" function you can reset the whole fault memory. This deletes all entries in the fault log.



Call up the service level. "general data" appears as the first main menu.

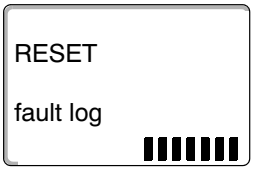
Turn the dial until main menu "reset" appears.

Briefly press "Display" to call up a submenu (here: "settings controller"). All settings may be lost if you press for too long.



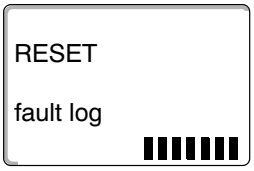
The display shows the selected submenu.

Turn the dial until "fault log" appears.



The display shows the selected submenu.

Press and hold down "Display".



The blocks in the last line disappear one after another. The fault log is reset after the final block has disappeared. Reset will be terminated if you release the button before all blocks have disappeared. After implementing a reset, the display automatically reverts to the next level up.

When terminating a reset, press "Back" to return to the next level up.

23.3 Resetting the service call

Reset the service call after maintenance has been completed. This means that the service call is no longer shown when the flap is closed.

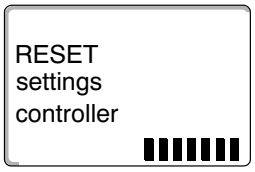
USER NOTE

The maintenance interval is restarted by resetting the service call. Note that in the case of service calls by date the next maintenance date is reset to one year ahead.

Call up the service level. "general data" appears as the first main menu.

Turn the dial until main menu "reset" appears.

Briefly press "Display" to call up a submenu (here: "settings controller"). All settings may be lost if you press for too long.

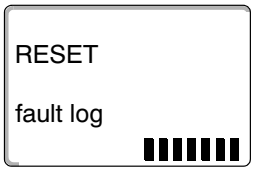


The display shows the selected submenu.

Turn the dial until submenu "service call" appears.

The display shows the selected submenu.

Press and hold down "Display".



The blocks in the last line disappear one after another. The service call is reset after the final block has disappeared. Reset will be terminated if you release the button before all blocks have disappeared. After implementing a reset, the display automatically reverts to the next level up.

When terminating a reset, press "Back" to return to the next level up.

24 Sensor characteristics

- Isolate the heating system from the power supply before taking any readings.

Fault test (without room temperature sensor)

- Remove the sensor terminals.
- Check the resistance at the sensor lead ends using an ohmmeter.
- Check the sensor temperature with a thermometer.

Using the diagram you can check whether temperature and resistance correlate.

USER NOTE

For all curves, the sensor tolerance is up to 3 %/77 °F (25 °C).

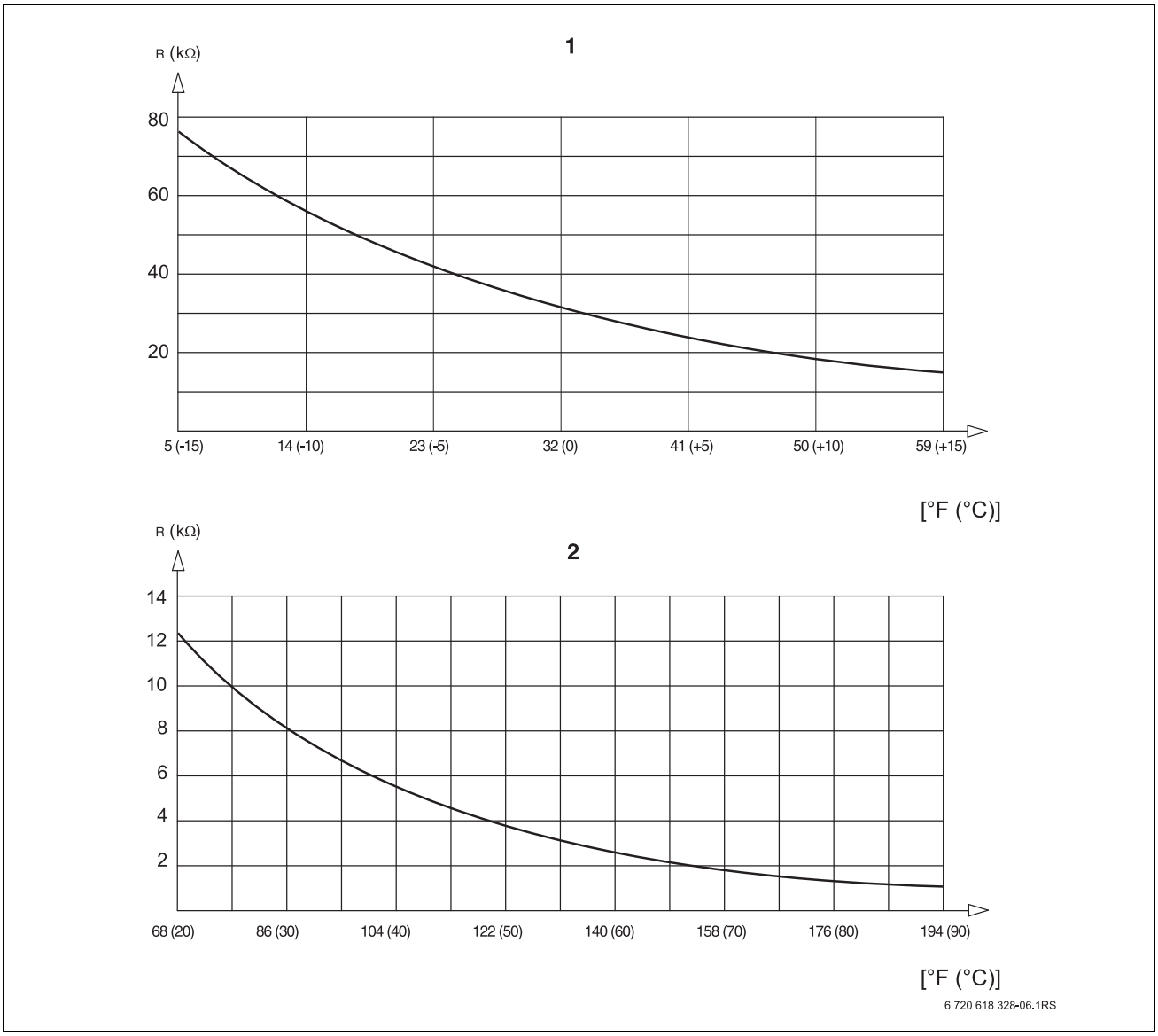


Fig. 18 Outdoor temperature sensor and boiler water, supply, DHW temperature sensor

1 Outdoor temperature sensor curve

2 Sensor curves – boiler water, supply and DHW temperature

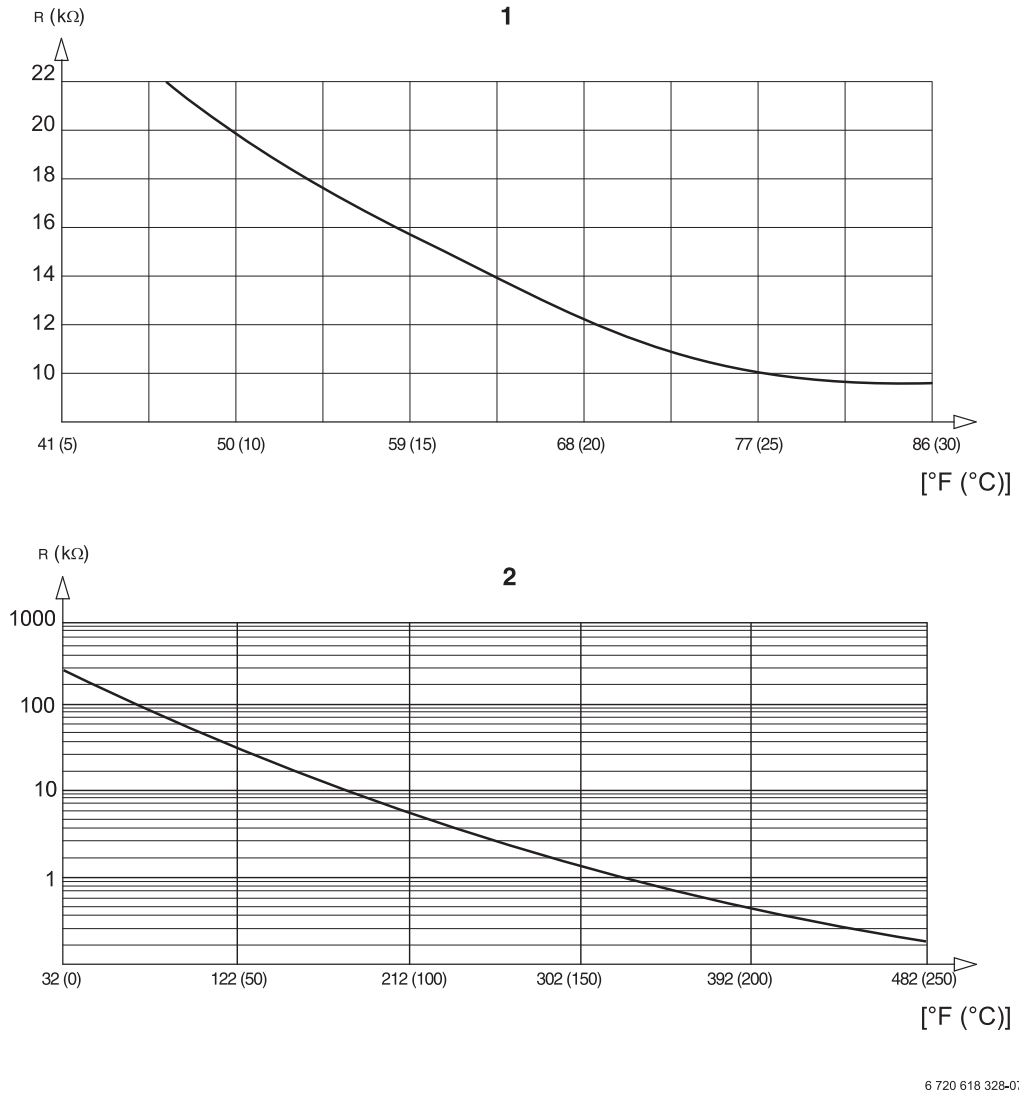


Fig. 19 Room temperature and emission temperature sensor

1 Room temperature sensor curve

2 Flue gas temperature sensor curve

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