

## Logamatic 4323

For contractors

Read carefully prior  
to commissioning and  
servicing

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# 1 Safety

## 1.1 About these instructions

These service instructions contain important information regarding the safe and appropriate commissioning and servicing of the Logamatic 4323 control unit.


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

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

## 1.2 Correct use

The Logamatic 4323 control unit is designed exclusively to regulate and control heating systems, for example in residential complexes and other types of commercial buildings.

## 1.3 Standards and guidelines/directives

 The design and operation of this product conform to European Directives and the supplementary national requirements. Its conformity is demonstrated by the CE designation.

You can view the Declaration of Conformity on the internet at [www.buderus.de/konfo](http://www.buderus.de/konfo) or request a copy from your local Buderus sales office.

## 1.4 Symbol key

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



**WARNING!**

### RISK TO LIFE

Identifies possible risks associated with a product that might lead to serious injury or death if appropriate care is not taken.



**CAUTION!**

### RISK OF INJURY/ SYSTEM DAMAGE

Indicates a potentially dangerous situation which could lead to minor or moderately serious injuries or to damage to property.



### USER INFORMATION

User tips for the optimum utilisation and setting of the appliance plus useful information.

## 1.5 Please observe these notes

- Only operate the control units as intended and when they are in perfect working order.
- Carefully read these service instructions before carrying out any work on the control unit.



**WARNING!**

### RISK TO LIFE

from electric shock!

- Ensure that all electrical work is only carried out by an authorised electrician.
- Before opening the control unit: Isolate all poles of the mains power supply and secure against unintentional reconnection.



**CAUTION!**

### RISK OF INJURY/ SYSTEM DAMAGE

from operator error!

Operator errors can result in injury and/or damage to property.

- Ensure that children never operate the appliance unsupervised or play with it.
- Ensure that only personnel able to operate the appliance correctly have access to it.

**CAUTION!****SYSTEM DAMAGE**

from frost!  
When the heating system is switched off, it can suffer damage from frost.

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

**USER INFORMATION**

Ensure that a regulation isolator is available to disconnect all poles from the mains power supply. If no isolator is available, you must fit one.

**USER INFORMATION**

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

**USER INFORMATION**

Ensure that underfloor heating circuits are equipped with a temperature limiter.

**1.8 Disposal**

- Dispose of the control unit packaging in an environmentally responsible manner.
- Electronic components must not be disposed of with general domestic waste. Dispose of old control units in an environmentally responsible manner through an approved organisation.  
When disposing of the control unit, remove the lithium battery from the CM431 module inside the control unit and dispose of it separately.

**1.6 Important notes on commissioning**

- Before switching the control unit on, check that its switches and those on the function modules are set to "AUT".
- The control unit operating instructions contain a setting record for the use of the system operator. During commissioning, make a note in this record of all settings and heating circuit allocations.

**1.7 Cleaning the control unit**

- Only clean the control unit with a damp cloth.

## 2 Product description and standard delivery

### 2.1 Product description

The digital Logamatic 4323 control unit can be used as a stand-alone heating circuit controller with monitoring of the heat provision from a manually or externally heated buffer cylinder or, as a substation, for the demand-dependent control of a feed pump.

The heating circuit control function is part of the standard equipment level (one heating circuit with servomotor). It may be extended with four function modules to match it to the demands of a specific heating system.

For function extension, a combination with other digital control units (e.g. Logamatic 4122) in an ECOCAN-BUS connection is also feasible. In such cases, the Logamatic 4323 (as a stand-alone heating circuit controller) acts as a master control unit that monitors the manually or externally regulated heating of a buffer cylinder, and makes the stored heating energy available to connected consumers.

As the substation in an ECOCAN-BUS connection, the Logamatic 4323 control unit can communicate with a master boiler control unit that is part of a Logamatic 4000 control system.

### 2.2 Standard delivery

- Digital Logamatic 4323 control unit with
  - CM431 controller module
  - ZM433 central module
  - MEC2 programming unit or boiler display and safety components
- FA outside temperature sensor
- FZB feed temperature sensor

## 3 Setting parameters and display data

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

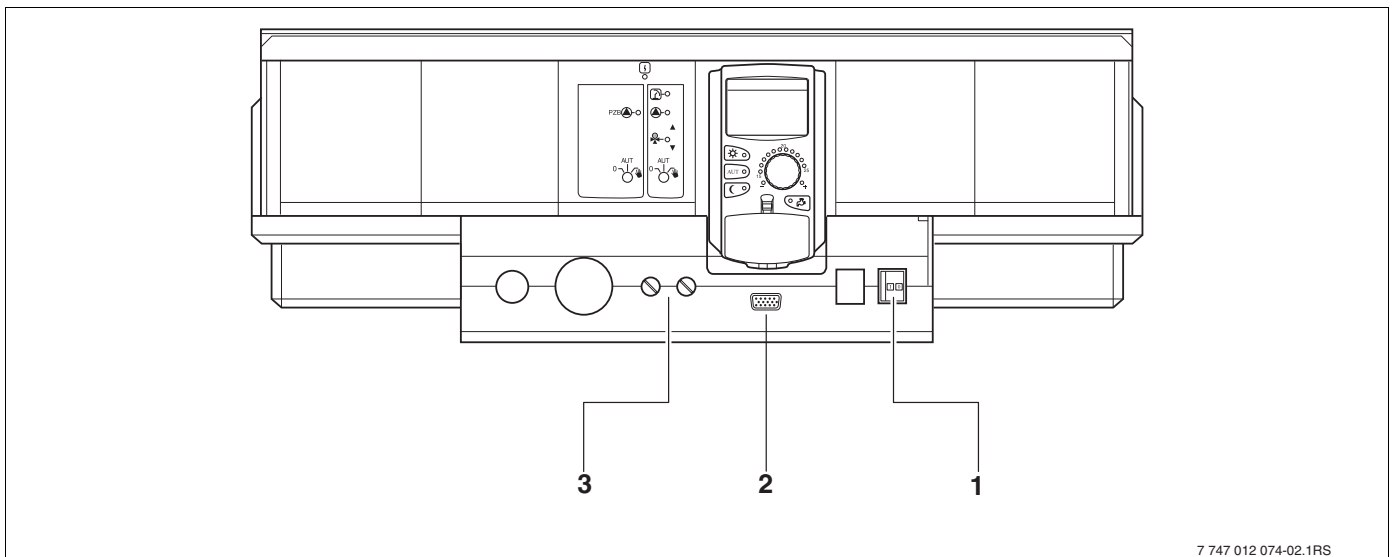
<b>Gen. parameters</b> <ul style="list-style-type: none"> <li>Min outside temp</li> <li>Type of building</li> <li>Summer/Winter Time adjustment</li> <li>Remote adjust.</li> <li>Fault message manual control</li> <li>Automatic maint. message</li> <li>0 - 10 V input</li> <li>Temp control 0 V equates to ...</li> <li>Temp control 10 V equates to ...</li> </ul> <b>Module selection</b> <ul style="list-style-type: none"> <li>Slot A</li> <li>Slot 1</li> <li>Slot 2</li> <li>Slot 3</li> <li>Slot 4</li> </ul> <b>Heating circ. 0</b> <ul style="list-style-type: none"> <li>Heating system</li> <li>Heat circ desig.</li> <li>Low end temp.</li> <li>Design temp.</li> <li>Minimum Flow temp.</li> <li>Maximum Flow temp.</li> <li>Remote control</li> <li>Max room infl</li> <li>Setback type</li> <li>Outside hold frm</li> <li>Holiday Setback type</li> <li>No setback below ...</li> <li>Flow Setback</li> <li>Room Temperatur Offset</li> <li>Autom adaptation</li> <li>Switch optimisation</li> <li>Schutdown optimisation</li> <li>Frost prot from</li> <li>DHW priority</li> <li>Servomotor</li> <li>Servomotor runtime</li> <li>Boil. raising</li> <li>External Day/night/aut</li> <li>External fault message - pump</li> <li>Screed drying</li> <li>Screed temperature increase</li> <li>Screed Heat-up time</li> <li>Screed max. temp.</li> <li>Screed max.time</li> <li>Screed Setback temp.</li> <li>Screed Setback time</li> </ul> <b>Heating circuit 1, 2, 3 etc. see heating circuit 0</b>	<b>DHW</b> <ul style="list-style-type: none"> <li>DHW yes/no</li> <li>DHW Range to</li> <li>Switch optimisation</li> <li>Residual heat use</li> <li>Hysteresis</li> <li>Stop hysteresis</li> <li>Start hysteresis</li> <li>LAP primary circ.</li> <li>DHW yes/no</li> <li>Boiler raising</li> <li>External fault message WF1/WF2</li> <li>External contact WF1/WF3</li> <li>Thermal disinfection</li> <li>Temperature Thermal disinfection</li> <li>Weekday Thermal disinfection</li> <li>Time Thermal disinfection</li> <li>Daily Heat-up</li> <li>DHW Circulation (Start frequency per hour)</li> </ul> <b>Substation</b> <ul style="list-style-type: none"> <li>Minimum Heat-up temp.</li> <li>Maximum Heat-up time</li> <li>Boiler raising</li> </ul> <b>Special parameter</b> <b>Heat. curves</b> <ul style="list-style-type: none"> <li>Heating circ. 0</li> <li>Heating circ. 1</li> <li>Heating circ. 2</li> <li>Heating circ. 3</li> <li>Heating circ. 4</li> <li>Heating circ. 5</li> <li>Heating circ. 6</li> <li>Heating circ. 7</li> <li>Heating circ. 8</li> </ul> <b>Relay test</b> <ul style="list-style-type: none"> <li>Heating circ. 0</li> <li>Heating circ. 1</li> <li>Heating circ. 2</li> <li>Heating circ. 3</li> <li>Heating circ. 4</li> <li>Heating circ. 5</li> <li>Heating circ. 6</li> <li>Heating circ. 7</li> <li>Heating circ. 8</li> <li>DHW</li> <li>Substation</li> </ul>	<b>LCD test</b> <b>Errors</b> <b>Monitor</b> <ul style="list-style-type: none"> <li>Heating circ. 0</li> <li>Heating circ. 1</li> <li>Heating circ. 2</li> <li>Heating circ. 3</li> <li>Heating circ. 4</li> <li>Heating circ. 5</li> <li>Heating circ. 6</li> <li>Heating circ. 7</li> <li>Heating circ. 8</li> <li>DHW</li> <li>Substation</li> </ul> <b>Version</b> <b>Control unit</b> <b>Reset</b> <ul style="list-style-type: none"> <li>Factory settings control unit</li> <li>Fault log</li> <li>Maint. message</li> </ul>
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Fig. 1 Setting parameters and display data



## 4 Controls and MEC2 programming unit

### 4.1 Control unit - controls



7 747 012 074-02.1RS

Fig. 2 Control unit - controls (delivered condition)

- 1 ON/OFF switch
- 2 Connection for external service equipment
- 3 F1, F2 fuses

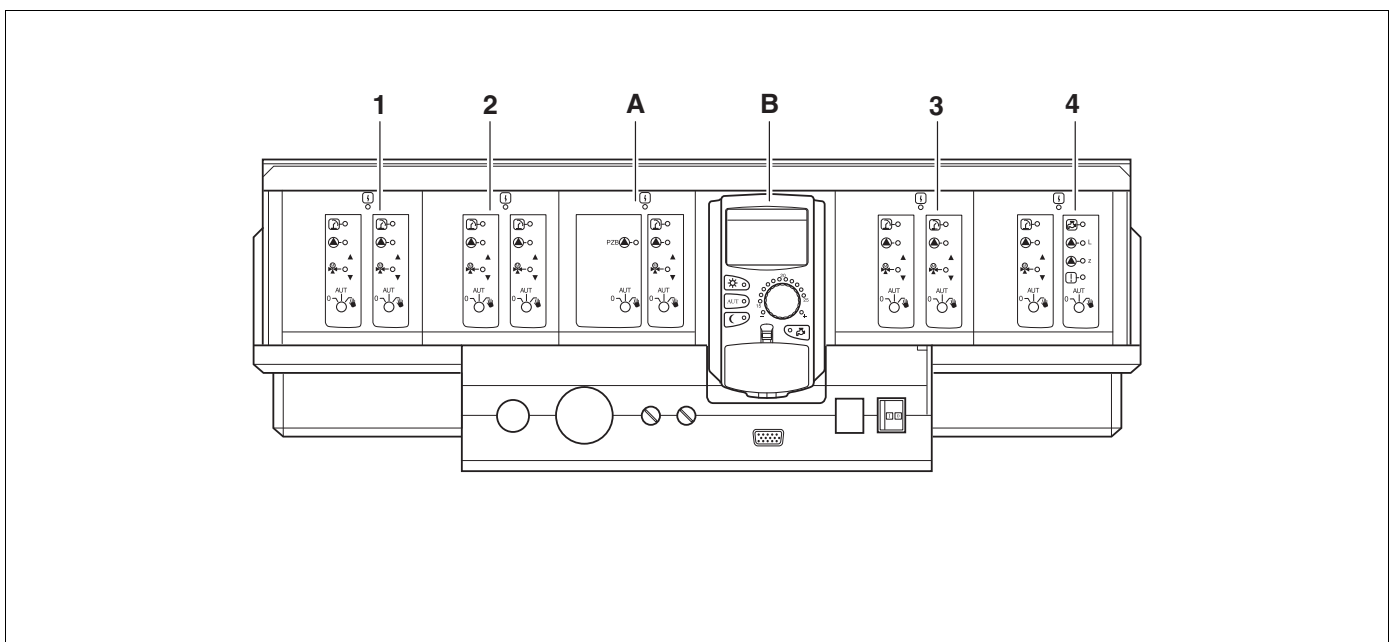
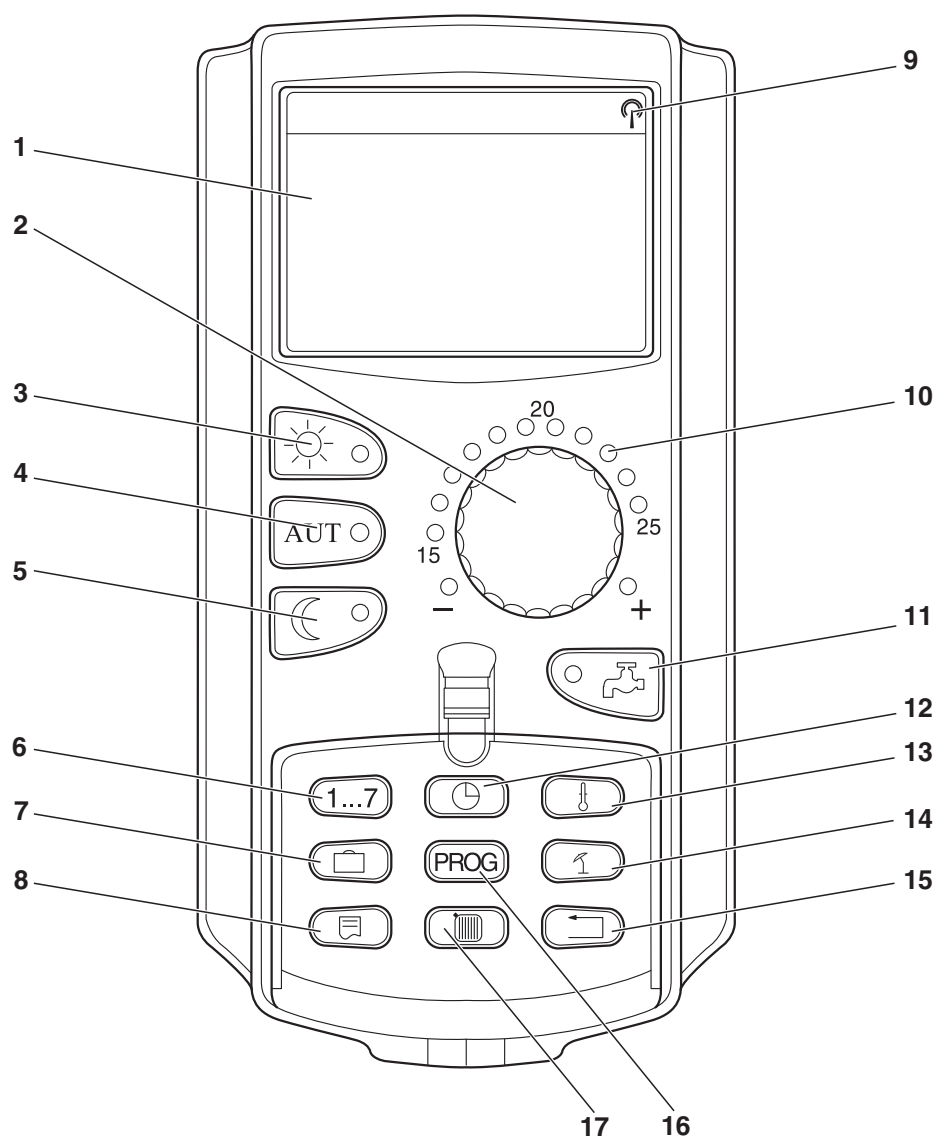


Fig. 3 Fitted modules

- Slot 1: e.g. FM442 - heating circuit 1, heating circuit 2
- Slot 2: e.g. FM442 - heating circuit 3, heating circuit 4
- A Slot A: ZM433 - feed for external heat sources, heating circuit 0
- B Slot B: MEC2 (CM431) - MEC2 programming unit
- 3 Slot 3: e.g. FM442 - heating circuit 5, heating circuit 6
- 4 Slot 4: e.g. FM441 - heating circuit 7, DHW/DHW circulation pump or heating circuit 7, heating circuit 8 (with module FM442 in slot 4)

## 4.2 MEC2 programming unit



7 747 012 074-01.1RS

Fig. 4 MEC2 programming unit

- |  |  |
|--|--|
| 1 Display                                      | 9 Radio clock signal (only within Germany) |
| 2 Rotary selector                              | 10 Display for set room temperature        |
| 3 constant heating mode                        | 11 Enter DHW temperature/reheating         |
| 4 automatic heating mode acc. to a time switch | 12 Set the time                            |
| 5 constant setback mode                        | 13 Change temperature values               |
| 6 Enter the day of the week                    | 14 Summer/Winter Time adjustment           |
| 7 Enter holidays                               | 15 back to the standard display            |
| 8 Select standard display                      | 16 Select a time switch program            |
|  | 17 Select heating circuits/DHW circuit     |

## 5 Modules and their functions

All modules are shown here that are or can be fitted into your Logamatic 4323 control unit.

		Logamatic
		4323
Module	MEC2 programming unit	O
	CM431 controller module	O
	ZM433 central module Feed for external heat generation + heating circuit	O
	FM441 function module 1 heating circuit + 1 DHW circuit	X <sup>1)</sup>
	FM442 function module 2 heating circuits	X
	FM443 function module Solar thermal circuit	X
	FM444 function module Alternative heat source	X
	FM445 function module LAP/LSP (primary system)	X <sup>1)</sup>
	FM446 function module EIB interface	X
	FM448 function module Central fault message	X <sup>2)</sup>
	FM456 function module KSE2 (cascade- 2 boilers)	X <sup>3)</sup>
	FM457 function module KSE4 (cascade- 4 boilers)	X <sup>3)</sup>
	FM458 function module Strategy module	X <sup>2) 3)</sup>

Tab. 1 Modules and their functions

1) Only one DHW module per control unit.

2) Module FM458 must not be fitted together with module FM448 in one control unit.

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

O = Standard equipment level

X = Accessories

## 5.1 CM431 controller module

### Setting the control unit address

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

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

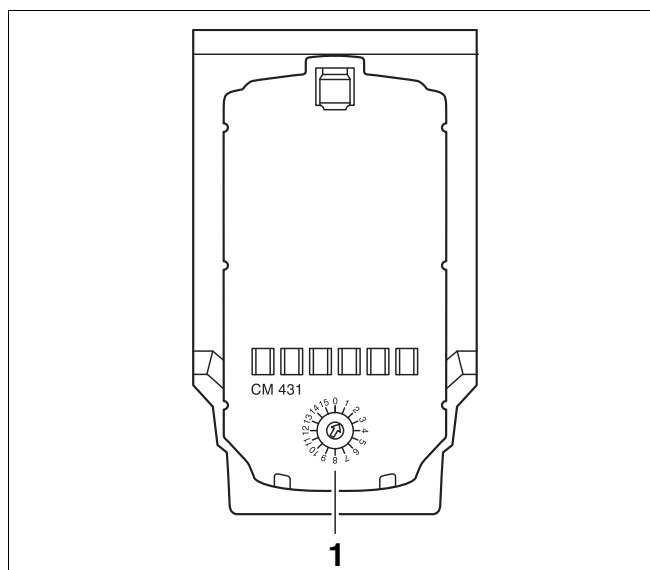


Fig. 5 Address settings

Address	Description
0	Stand-alone control unit: Set the address to 0 if the control unit operates as stand-alone equipment (factory setting).
1 – 15	Each control unit connected must be given a different address if several control units operate together. A fault message is displayed by the MEC2 programming unit if the same address is allocated more than once.
1	Master (lead control unit): Address 1 is a special setting, since the control unit with this address is the master. The master controls the boiler. Always connect the outside temperature sensor to the master. You may setup the Logamatic 4323 control unit as the master if an external heat source is operated via the Logamatic 4323 control unit. When connected to others, operate the Logamatic 4323 control unit as the master (address=1), if an FM456, FM457 or FM458 cascade module is fitted into the Logamatic 4323 control unit. The master monitors the ECOCAN-BUS, which links the control units. The master recognises if an address has been allocated more than once. A fault message is displayed by the MEC2. All control units transfer their set values to the master, which uses them to formulate the overall set value. <b>Any chain must only include one master.</b>
2 – max.15	Slave (subordinate control unit): 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 unit will always be a slave and therefore have an address set higher than 1.

Tab. 2 Control unit addresses



### USER INFORMATION

The outside temperature sensor (FA) and the system flow sensor (FK) in conjunction with the Logamatic 4323 control unit 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 flow sensor at the FZB).

## 5.2 NM482 power supply module

### Terminator when networking several control units



#### RISK TO LIFE

from electric shock!

#### WARNING!

- Ensure that all electrical work is only carried out by an authorised electrician.
- Before opening the control unit: Isolate all poles of the mains power supply and secure against unintentional reconnection.

To ensure fault free data transmission between several control units, fit a terminator to the two control units which are furthest apart.

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

The factory setting is:

Gravity switch S1 open = terminator not fitted.

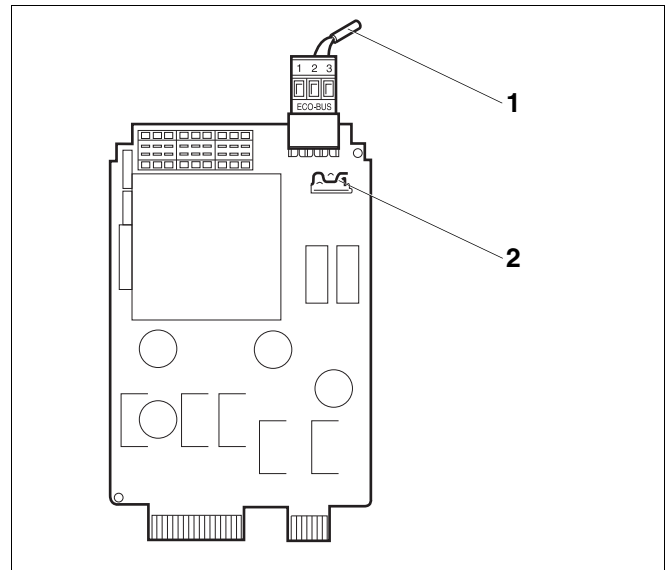
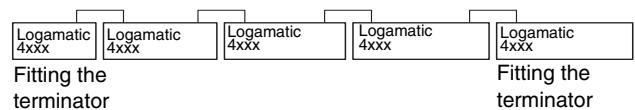


Fig. 6 NM482 power supply module

1 ECOCAN-BUS

2 Gravity switch S1 (for terminator) factory setting: open


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



### 5.3 ZM433 central module

The ZM433 module regulates one feed pump to transfer heat, in case of demand, from the external heat sources to the heating system. This module also controls one heating circuit with mixer.

The switches on the module only have service and maintenance functions and only affect 230 V outputs.

If the switches are not set to automatic, a corresponding message appears on the MEC2 programming unit, and the fault indicator  illuminates.



#### USER INFORMATION

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

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

The control functions remain operational in manual mode.



#### USER INFORMATION

For information regarding the sensor connection, see Chapter 5.1.

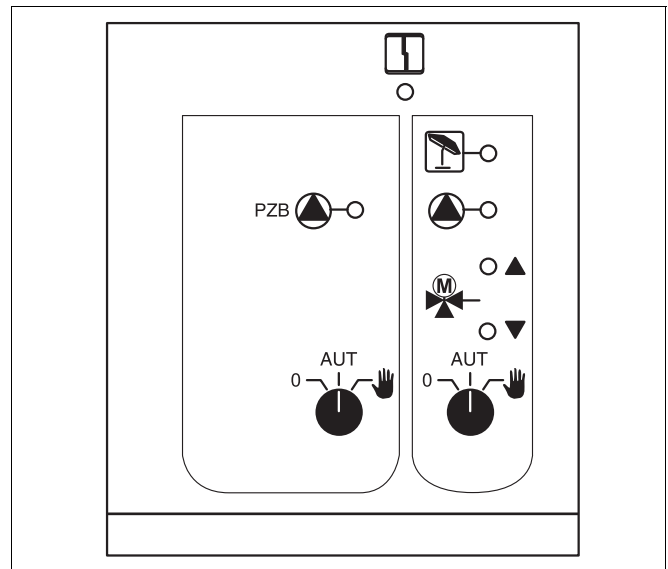


Fig. 7 ZM433

Display



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

#### LEDs for the following functions:

Display



"Mixer opens" (hotter)

Display



"Mixer closes" (colder)

Display




Heating circuit in summer mode

Display



Feed or heating circuit pump operational


## Feed function


Manual feed pump switch  (→ Fig. 8, [1])



### USER INFORMATION

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


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

 : The feed pump is switched on.

AUT: The feed pump operates automatically.

0: The feed pump is switched off. The control functions continue to be active.


## Heating circuit function


Switch for heating circuit 0  (→ Fig. 8, [2])



### USER INFORMATION

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

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

 : The heating circuit pump is switched on.  
The mixer is switched volt-free and can be manually operated.

AUT: The heating circuit operates in automatic mode.

0: The heating circuit pump is switched off.  
The mixer is switched volt-free. The control functions continue to be active.

Current functions are indicated by LEDs.

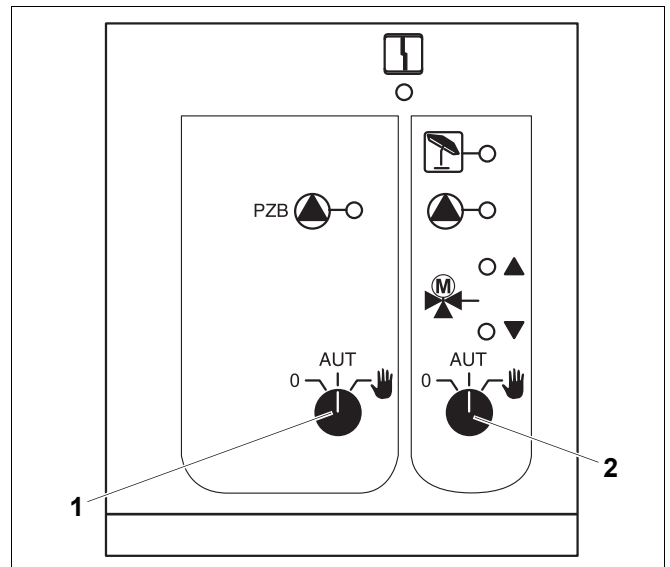


Fig. 8 ZM433

1 Manual feed pump switch

2 Switch – heating circuit 0

**U terminals 1 – 4**

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

**USER INFORMATION**

To avoid generating undefined input values, voltages greater than 10 V must not be applied to the 0 – 10 V input.

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

Via terminals U1 and U2 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 circuits, continue to be taken into consideration.

**USER INFORMATION**

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

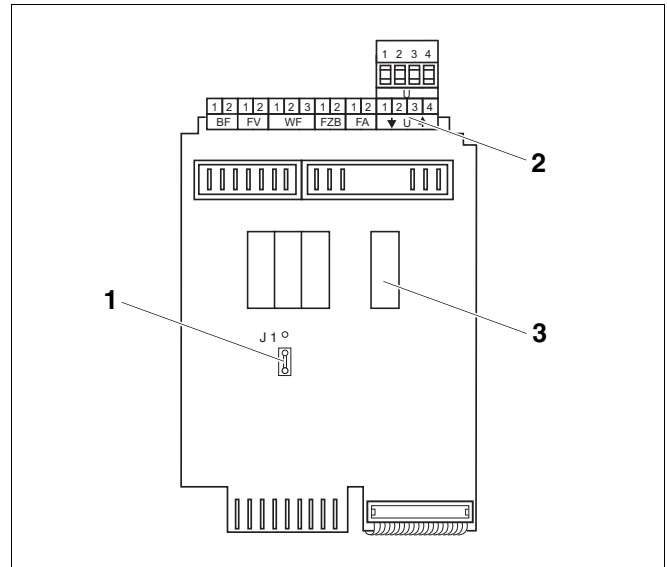


Fig. 9 ZM433 (view from the back)

- 1 Strapping plug J 1 (factory setting 0 – 10 V)
- 2 U terminals
- 3 Relay

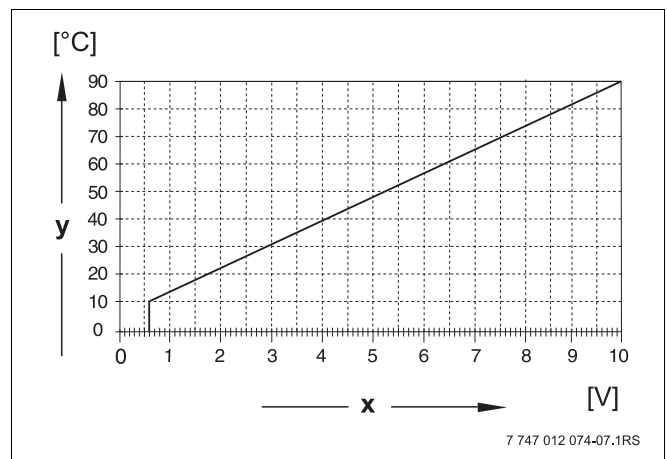


Fig. 10 U terminals 1 and 2

- x 0 – 10 V input in V (factory setting)
- y Set flow temperature in °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 flow temperature for all connected heating circuits.

### Strapping plug J1

Alternatively, the set value can also be issued as 0 – 20 mA signal.

The strapping plug (jumper) J1 should then be repositioned from  to .

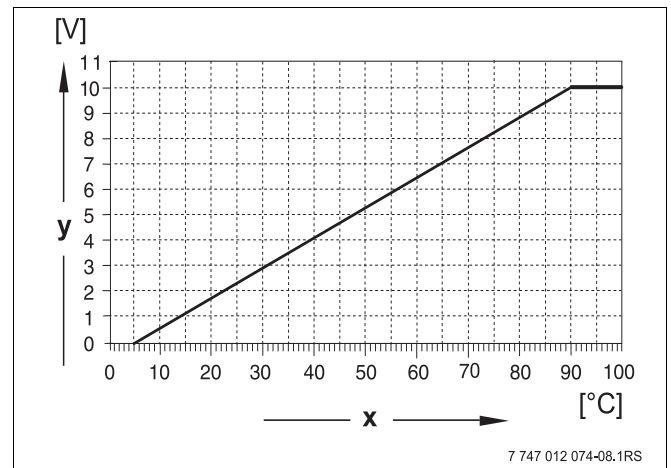


Fig. 11 U terminals 3 and 4

**x** Set flow temperature in °C (factory setting)


**y** 0 – 10 V input in V

## 5.4 FM441 function module (accessory)

The FM441 module regulates one heating circuit and one DHW heating facility.

The switches on the module only have service and maintenance functions and only affect 230 V outputs.

Only fit this module into the control unit once.

If the switches are not set to automatic, a corresponding message appears on the MEC2 programming unit, and the  fault indicator illuminates.



### USER INFORMATION

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

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

The control functions remain operational in manual mode.

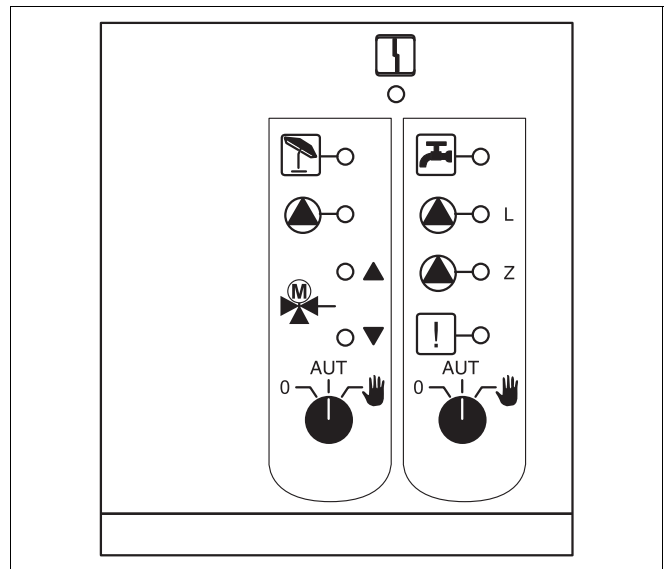


Fig. 12 FM441

Display



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

### LEDs for the following functions:

Display		"Mixer opens" (hotter)
Display		"Mixer closes" (colder)
Display		Heating circuit in summer mode
Display		DHW in night mode below the set temperature.
Display		Heating circuit pump active
Display	- L	Cylinder primary pump active
Display	- Z	DHW circulation pump active
Display		Thermal disinfection active

## Heating circuit and DHW function

Heating circuit switch (→ Fig. 13, [1]) and DHW (→ Fig. 13, [2]).

for heating circuit:





for DHW supply:



### USER INFORMATION

In standard mode, set the switches to "AUT".

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

 : The heating circuit pump or primary pump will be switched on.

The mixer is switched volt-free and can be manually operated.

The DHW circulation pump is switched off.

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

**0**: The heating circuit pump or DHW cylinder primary pump as well as the DHW circulation pump are switched off.

The mixer is switched volt-free. The control functions continue to be active.

Current functions are indicated by LEDs.

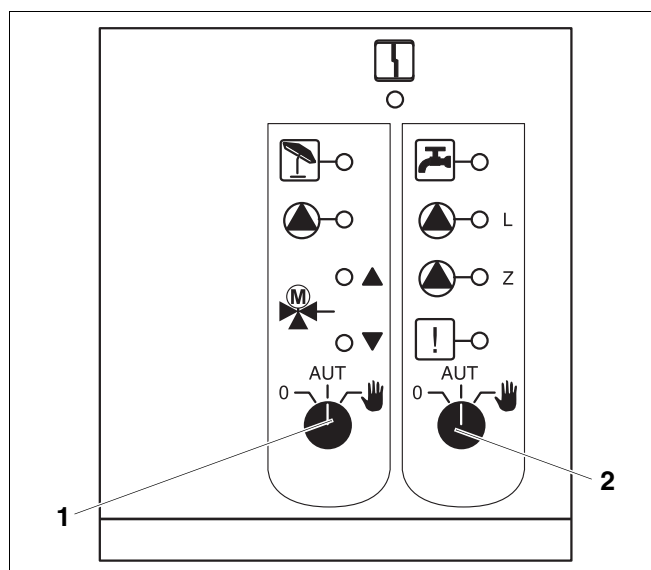


Fig. 13 FM441


1 Heating circuit switch

2 Manual DHW switch

## 5.5 FM442 function module (accessory)

The FM442 module regulates two independent heating circuits with mixer. Several of these modules can be used in one control unit.

The switches on the module only have service and maintenance functions and only affect 230 V outputs.

If the switches are not set to automatic, a corresponding message appears on the MEC2 programming unit, and the fault indicator  illuminates.



### USER INFORMATION


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

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

The control functions remain operational in manual mode.

### Heating circuit function

Heating circuit switch


e.g. for heating circuit 1 and 2 



### USER INFORMATION

In standard mode, set the switches to "AUT".

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

 The heating circuit pump is switched on. The mixer is switched volt-free and can be manually operated.

**AUT:** The heating circuit operates in automatic mode.

**0:** The heating circuit pump is switched off. The mixer is switched volt-free. The control functions continue to be active.

Current functions are indicated by LEDs.

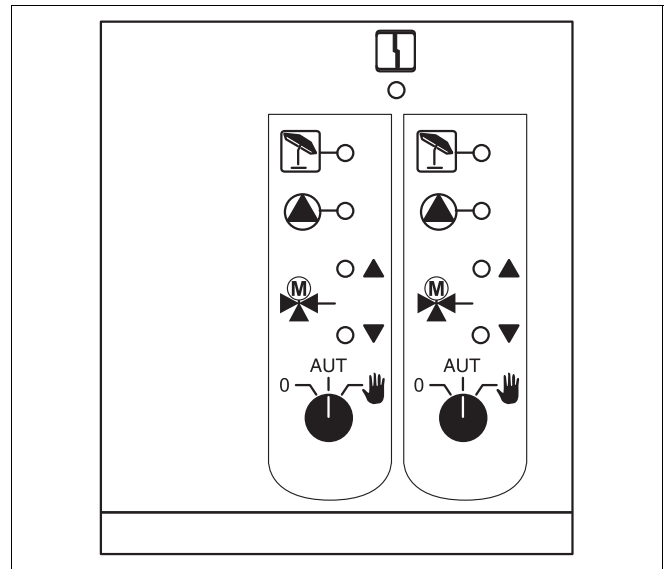




Fig. 14 FM442

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

LEDs for the following functions:

Display  "Mixer opens" (hotter)

Display  "Mixer closes" (colder)

Display  Heating circuit in summer mode

Display  Heating circuit pump operational

## 6 Commissioning the MEC2 programming unit

You can use the MEC2 programming unit for all Logamatic 4000 control units.

The MEC2 programming unit can:

- be fitted directly into the control unit or
- be used as a remote control unit in a wall retainer or
- be connected via an adaptor with a separate power supply unit.

The MEC2 commences the initialisation after a power supply has been connected.

The display shows "MEC is initialised".

The control unit address is then briefly displayed.

If the MEC2 is plugged into the control unit or is wall mounted, it automatically detects the control unit with which it is connected (automatic detection). You do not have to select the control unit.

The information displayed varies according to the application:

MEC is  
initialised

Connection with  
control unit

Address            XX  
established

Monitor data  
will  
from ctrl unit  
taken

Unknown  
Control unit

### Ex works MEC2 installed in a control unit

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

The display shows "Monitor data will from ctrl unit taken".

### MEC2 installed in another control unit

If the MEC2 contains a software version that is not able to recognise this type of control unit, the display shows "Unknown Control unit".

- Remove the MEC2 from the control unit and replace it with an MEC2 with a suitable software version.

## MEC2 with set parameters installed in control unit

MEC is  
initialised

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

Connection with  
control unit  
Address        XX  
established

### a) Alternative control unit

other  
Ctrl. unit type  
Night button  
receive

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



Press "Night mode".

Data are  
from ctrl unit  
taken

The display will then show the adjacent message.

NB  
Other  
Control unit

### b) Alternative control unit of the same type

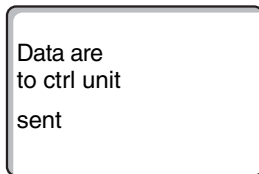
If the MEC2 is connected to a different control unit of the same type, the display will show the adjacent message for approximately 3 seconds.

Aut button  
transmit  
Night button  
receive

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



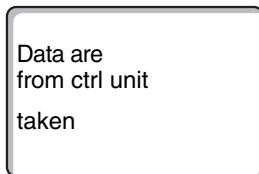
Press "AUT" = "Data are to ctrl unit sent".



The display will then show the adjacent message.

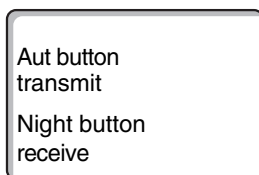


Press "Night mode" = "Data are from ctrl unit taken".



The display will then show the adjacent message.

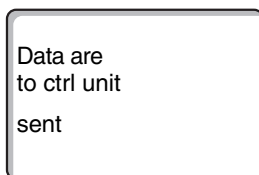
### c) Identical control unit



If the MEC2 programming unit is separated from the control unit and data is also modified, the display shows "Aut button transmit, Night button receive", when the unit is reinstalled into the same control unit. The control unit scans whether the new data should be accepted or whether the old data from the control unit should be used again.



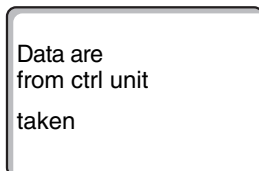
Press "AUT" = "Data are to ctrl unit sent".



The display will then show the adjacent message.



Press "Night mode" = "Data are from ctrl unit taken".



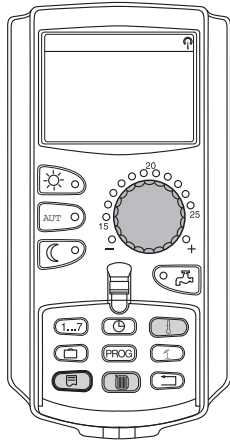
The display will then show the adjacent message.

## 7 Calling up the service level

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

**Unauthorised access to the service level invalidates your warranty.**

The controls marked in grey are used for this function.



SERVICE LEVEL

Gen. parameters

Press the "Display" + "Heating circ." + "Temp" keys simultaneously and then release.

The service level is now activated.

### 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 rotary selector. The main menus are structured as a loop and recommence after the last main menu.



- Gen. parameters
- Module selection
- ...
- ...
- Gen. parameters



### Calling up submenus

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



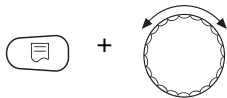
Press "Display".



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

Example main menu: Gen. parameters.

- Min outside temp
- Type of building
- ...
- Min outside temp



Press and hold down "Display". You can modify the adjustable parameters of the submenu selected by turning the rotary selector. 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

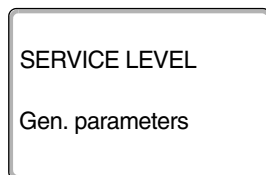


### USER INFORMATION

The menus displayed on the MEC2 programming unit of the control unit depend on which modules are fitted 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.



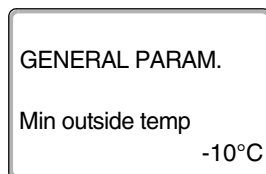
Call up the service level.



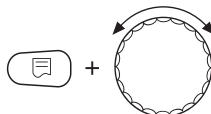
"Gen. parameters" is shown as the first main menu.



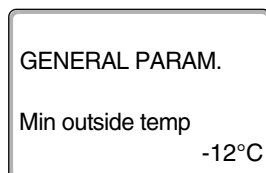
Press "Display" to call up a submenu (here: "Min outside temp").



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "-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 unit automatically reverts to the standard display if no key is pressed for some time or if the flap is shut.

## 9 General parameters



### USER INFORMATION

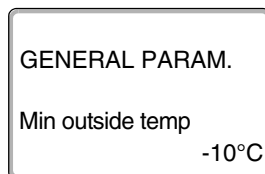
In the main menu "Gen. parameters" you can adjust values for the submenus listed relating to the heating system and the characteristics of the house in question. The following pages explain how to adjust values relating to the submenus.



Call up the service level. "Gen. parameters" is shown as the first main menu.



Press "Display" to call up a submenu (here: "Min outside temp").



The display shows the selected submenu.



You can scroll through the following submenus by turning the rotary selector:

- Min outside temp
- Type of building
- Summer/Winter Time adjustment
- Remote adjust.
- Fault message manual control
- Automatic maint. message
- 0 – 10 V input

## 9.1 Minimum outside temperature

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

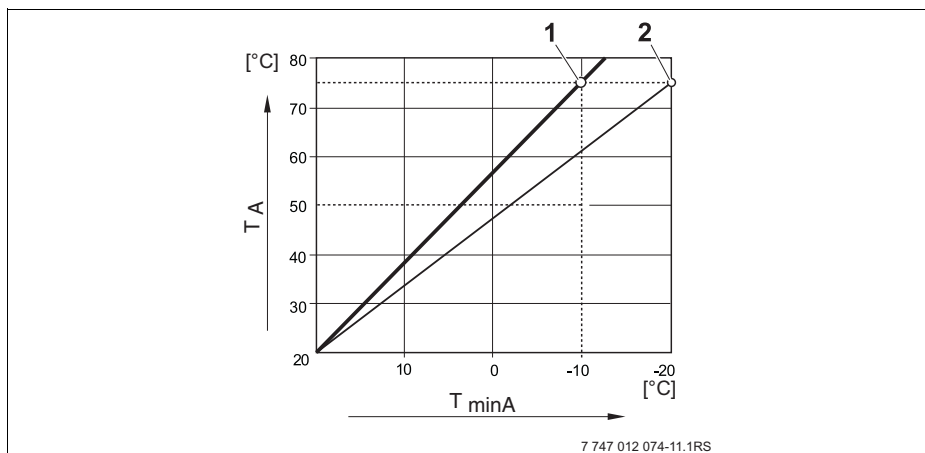


Fig. 15 Heating curve adjustment: Adjustment of gradient via design temperature and minimum outside temperature

$T_{\min A}$  Minimum outside temperature

$T_A$  Design temperature (flow temperature that should be achieved at min. outside temperature)

- 1 Adjustment: Design temperature 75 °C, minimum outside temperature -10 °C (standard curve)
- 2 Adjustment: Design temperature 75 °C, minimum outside temperature -20 °C



### USER INFORMATION

Determine the minimum outside temperature for your region (average value) from Tab. 3, page 29.

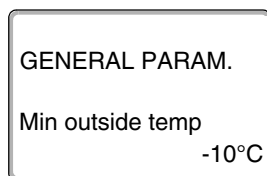
If your region is not included in the table, take the value from the heat demand calculation for your building.



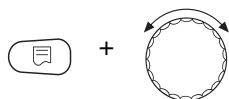
Call up the service level. "Gen. parameters" is shown as the first main menu.



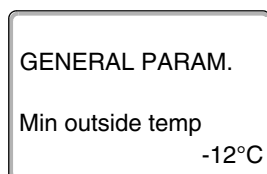
Press "Display" to call up a submenu (here: "Min outside temp").



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "-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
Minimum outside temperature	-30 °C – 0 °C	-10 °C

### Minimum outside temperatures for Europe

Town	Minimum outside temperature in °C
Athens	-2
Berlin	-15
Brussels	-10
Budapest	-12
Bucharest	-20
Frankfurt/M	-14
Hamburg	-12
Helsinki	-24
Istanbul	-4
Copenhagen	-13
Lisbon	0
London	-1
Madrid	-4
Marseilles	-6
Moscow	-30
Munich	-16
Naples	-2
Nice	0
Paris	-10
Prague	-16
Rome	-1
Sevastopol	-12
Stockholm	-19
Valencia	-1
Vienna	-15
Zurich	-16

Tab. 3 Minimum outside temperatures for Europe

## 9.2 Type of building

Under building type, please enter the heat storage capacity of the building. 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 categories:

- light = low heat storage capacity, e.g. pre-fabricated houses, wooden-framed constructions,
- medium = medium heat storage capacity, e.g. house built with breeze blocks,
- heavy = high heat storage capacity, e.g. house built with bricks.

Call up the service level. "Gen. parameters" is shown as the first main menu.

Press "Display" to call up a submenu (here: "Min outside temp").

The display shows the selected submenu.

Turn the rotary selector until submenu "Type of building" appears.

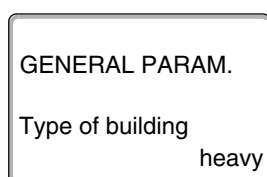
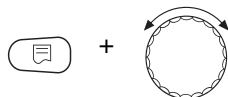
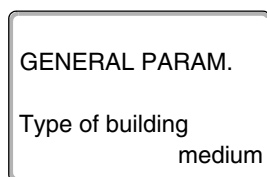
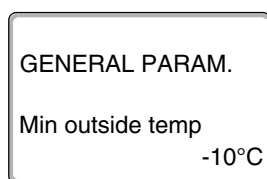
The display shows the selected submenu.

Hold down "Display" and turn the rotary selector until the required value appears (here: "heavy").

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 building	medium heavy light	medium

### 9.3 Summer/Winter Time adjustment

Three different date and time setting options are available for all connected control units:

- Radio clock  
The adjustment is made completely automatically by the radio time signal.
- Automatic  
Date and time input via keypad. The change from summertime to winter time and vice versa is made automatically on the last weekend in March and October.
- Manual  
Date and time input via keypad. There will be no automatic summer/winter time adjustment.



#### USER INFORMATION

The MEC2 contains a radio clock receiver, which constantly monitors and corrects the time switch inside the control unit. There will be no changeover between summertime and winter time.  
Well-screened boiler rooms in cellars can restrict the reception of the radio time signal, making it necessary for you to set the date and time manually.

---




#### USER INFORMATION

Never enable the "Radio clock" function outside Germany.

---

#### **When using the MEC2 as a remote control, the reception of the radio time signal depends on location and position.**

Reception of the radio time signal is indicated by symbol  on the display.

Generally, reception is possible within a radius of approximately 1.500 km around Frankfurt/Main [Germany].

In case of reception problems, please observe the following:

- The radio reception is weaker in rooms surrounded by steel-reinforced walls, in cellars, high-rise buildings etc.
- Maintain a minimum distance of 1.5 m from sources of interference, such as computer monitors and TV sets.
- The radio reception tends to be better at night than during the day.



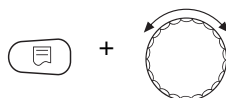
Call up the service level. "Gen. parameters" is shown as the first main menu.



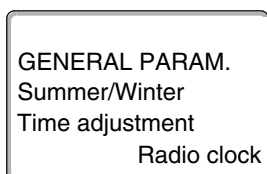
Press "Display" to call up a submenu (here: "Min outside temp").



Turn the rotary selector until submenu "Summer/Winter Time adjustment" appears.



Hold down "Display" and turn the rotary selector until the required value appears (here: "Radio clock").



The display shows the selected submenu.

Release "Display" to save your input.



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



#### USER INFORMATION

If "Radio clock" is not selected, radio time reception is disabled in all control units connected to a data line. This also applies to the radio time signals of the BFU/F remote control and other MEC2 programming units with radio clock reception. The last input at a control unit in the system is valid.

	Input range	Factory setting
Summer/Winter Time adjustment	Radio clock automatic manual	automatic



## 9.4 Remote adjust.

The remote adjustment offers the option of external data input or modification via service tools, such as the Logamatic telecontrol system.

Yes = Optional remote adjustment, e.g. via the Logamatic telecontrol system,

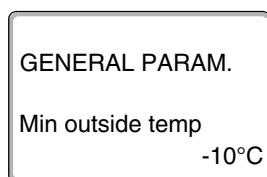
No = Remote adjustment is not possible, but system data can be downloaded and monitored.



Call up the service level. "Gen. parameters" is shown as the first main menu.



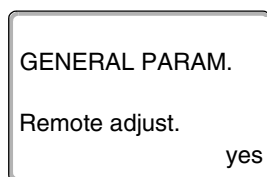
Press "Display" to call up a submenu (here: "Min outside temp").



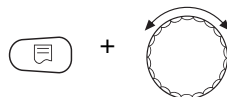
The display shows the selected submenu.



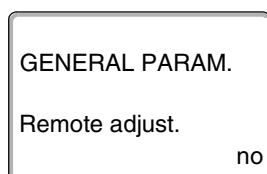
Turn the rotary selector until submenu "Remote adjust." appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required 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 INFORMATION

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

	Input range	Factory setting
Remote adjust.	yes no	yes

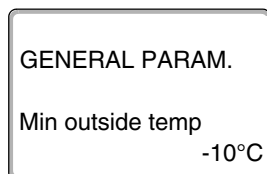
## 9.5 Manual fault message control

You can show a fault message on MEC2 programming unit display when the switch of a function module is set to .

Call up the service level. "Gen. parameters" is shown as the first main menu.



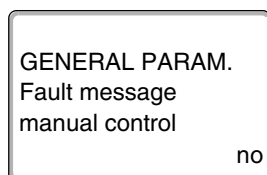
Press "Display" to call up a submenu (here: "Min outside temp").



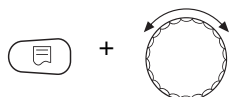
The display shows the selected submenu.



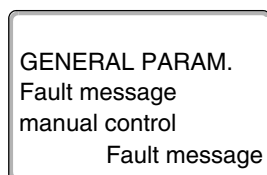
Turn the rotary selector until submenu "Fault message manual control" appears.



The display shows the selected submenu.



Hold down "Display" and select the required value with the rotary selector (here: "Fault message").



The display shows the set value.

Release "Display" to save your input.



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



### USER INFORMATION

In the case of "no", a warning notice appears if the flap is closed.

If "Fault message", an entry also appears in the fault log. Automatic forwarding via the Logamatic telecontrol system is then possible.

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

	Input range	Factory setting
Manual fault message control	no fault message central fault message	no

## 9.6 Automatic maintenance message

You can generate an automatic maintenance message at the operator level on the MEC2 programming unit display.

You can set the following:

- Maintenance message by date. Enter the date of the next scheduled service (01.01.2000 – 31.12.2088).
- Maintenance according to "Hours run" (only for control units with direct boiler control).



### USER INFORMATION

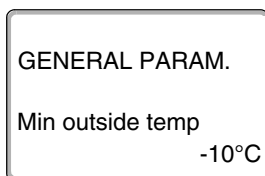
The maintenance message "after Hours run" is not possible with this control unit.



Call up the service level. "Gen. parameters" is shown as the first main menu.



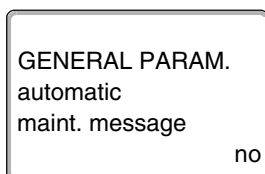
Press "Display" to call up a submenu (here: "Min outside temp").



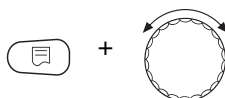
The display shows the selected submenu.



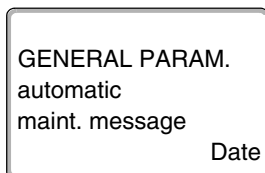
Turn the rotary selector until the "automatic maint. message" submenu appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "Date").

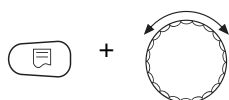


The display shows the set value.

Release "Display" to save your input.



Turn the rotary selector one increment clockwise.



GENERAL PARAM.  
maint. message  
on  
01.10.2008

Hold down "Display" and turn the rotary selector until the required value appears (here: "01.10.2008").

The display shows the set value.

Release "Display" to save your input.



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



#### USER INFORMATION

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

The status of the maintenance message can be scanned in the "Monitor" menu.

The maintenance message can be reset using the "Reset" menu.

	Input range	Factory setting
Automatic maintenance message	no Hours run Date	no

## 9.7 0 – 10 V input

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

Module	Name	Temperature control	Output control
<b>FM447</b>	Strategy module	X	
<b>FM448</b>	Fault mess. mod	X	
<b>FM452</b>	KSE 2 (UBA 1)	X	X (CM431 V6.xx or higher)
<b>FM454</b>	KSE 4 (UBA 1)	X	X (CM431 V6.xx or higher)
<b>FM456</b>	KSE 2 (EMS)	X	X (CM431 V6.xx or higher)
<b>FM457</b>	KSE 4 (EMS)	X	X (CM431 V6.xx or higher)
<b>FM458</b>	Strategy module	X	X (CM431 V8.xx or higher)
<b>ZM433</b>	Substation	X	



### USER INFORMATION

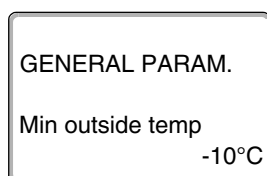
This manual only describes temperature control.



Call up the service level. "Gen. parameters" is shown as the first main menu.



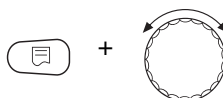
Press "Display" to call up a submenu (here: "Min outside temp").



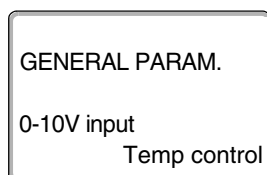
The display shows the selected submenu.



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



Hold down "Display" and turn the rotary selector until the required set value appears (here: "Temp control").



The display shows the set value.

Release "Display" to save your input.

	Input range	Factory setting
<b>0 – 10 V input</b>	OFF Temp control	Temp control

## 9.8 Temperature control 0 – 10 V input

If you have selected "Temp. contr" 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 value in °C for 0 V ("Temp. contr 0V equates to temp. control").
- The set value in °C for 10 V ("Temp. contr 10V equates to").

The following linear curve is calculated from these values:

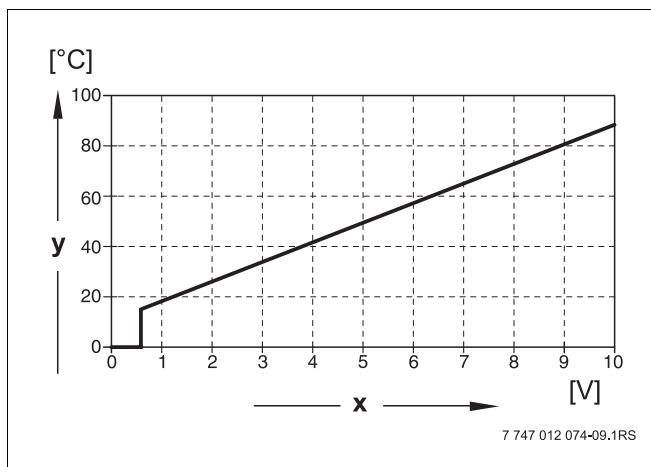


Fig. 16 U terminals 3 and 4

**x** Input voltage in V (factory setting)

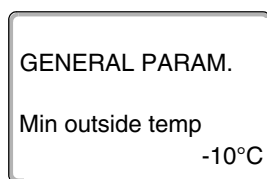
**y** Set boiler temperature in °C

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

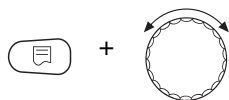
Call up the service level. "Gen. parameters" is shown as the first main menu.

Press "Display" to call up a submenu (here: "Min outside temp").

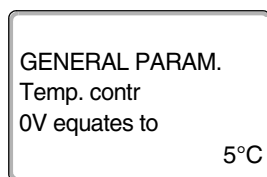
The display shows the selected submenu.



Turn the rotary selector until submenu "Temp. contr 0V equates to" or "Temp. contr 10V equates to" appears.



Hold down "Display" and turn the rotary selector until the required set value appears (here: "5°C").



The display shows the set value.

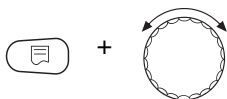
Release "Display" to save your input.



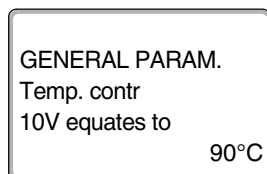
Press "Back" to return to the next level up.



Turn the rotary selector until submenu "Temp. contr 10V equates to" appears.



Hold down "Display" and turn the rotary selector until the required set value appears (here: "90°C").



The display shows the set value.

Release "Display" to save your input.

	Input range	Factory setting
Temperature control 0 V	5 °C – 99 °C	5 °C
Temperature control 10 V	5 °C – 99 °C	90 °C



#### USER INFORMATION

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

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

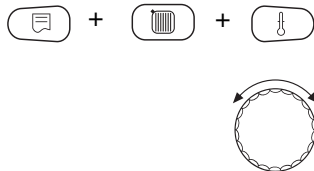
## 10 Module selection

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

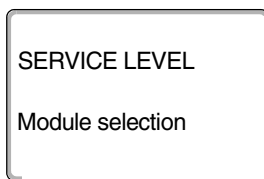
**Example:** Slot 1: FM442  
Slot 2, 3 and 4: free

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

Call up the service level. "Gen. parameters" is shown as the first main menu.



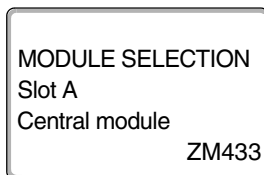
Turn the rotary selector until the main menu "Module selection" appears.



The display shows the selected main menu.



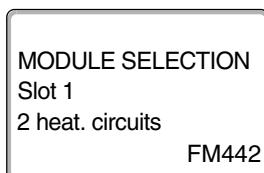
Press "Display" to call up a submenu (here: "Slot A Central module").



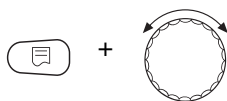
The display shows the selected submenu.



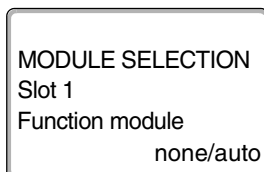
Turn the rotary selector until submenu "Slot 1" appears.



The display shows the set value.



Hold down "Display" and turn the rotary selector until the required value appears (here: "Function module none/auto"). We recommend this setting. The modules are automatically recognised and installed.



The display shows the set value.

Release "Display" to save your input.



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



## 11 Heating circuit data

### You may select the following heating systems:

- None  
The heating circuit function is not required. All subsequent submenu points relating to "Heat circ. data" no longer apply.
- Radiators or Convector  
The heating curve is automatically calculated for radiators or convector heaters, depending on the required curve.
- Underfloor  
A flatter heating curve is automatically calculated for lower design temperatures.
- Low end  
The level of the flow temperature is a linear consequence of the outside temperature. The resulting heating curve connects as a straight line the low end 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 flow temperature, independent of the outside temperature. You cannot install a remote control for this heating circuit if you have selected this system.
- Room controller  
The set flow temperature is only dependent on the actual room temperature. For this, you must install a remote control inside the room. The heating system is switched off if the room becomes too hot.

## 11.1 Heating system selection

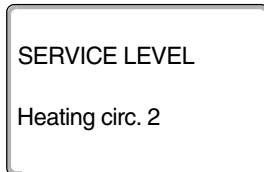
### Example:

You want to set "Underfloor" for submenu "Heating system" in the main menu "Heating circ. 2".

Call up the service level. "Gen. parameters" is shown as the first main menu.



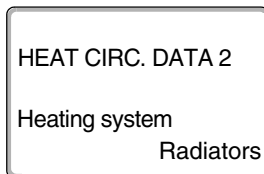
Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").



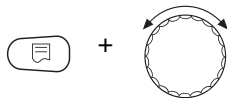
The display shows the selected main menu.



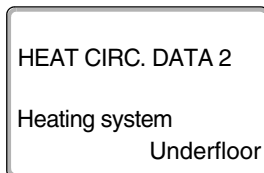
Press "Display" to call up a submenu (here: "Heating system").



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "Underfloor").



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 Radiators Convector Underfloor Constant Low end Room controller	Radiators

## 11.2 Renaming the heating circuit



Instead of the description "Heating circ. + no.", you may select a different designation from the default list.

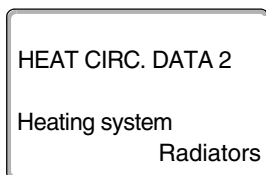
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").



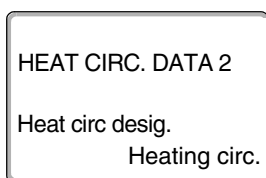
Press "Display" to call up a submenu (here: "Heating system").



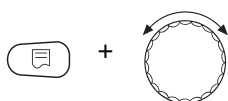
The display shows the selected submenu.



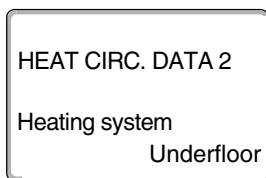
Turn the rotary selector until submenu "Heat circ desig." appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "Underfloor").



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
Heat circ desig.	Heating circ. Apartment Underfloor Bathroom Swimming pool Floor Cellar Building	Heating circ.

### 11.3 Setting the low end temperature

This function will only be displayed for "Low end" heating systems.

By setting the "Low end heating system" you have determined a straight heating curve using the low end and the design temperatures.

With the low end temperature, you determine the beginning of the heating curve. The low end temperature is applicable for an outside temperature of 20 °C.



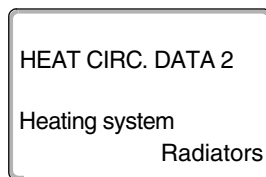
Call up the service level. "Gen. parameters" is shown as the first main menu.



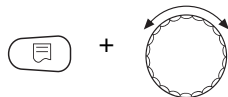
Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").



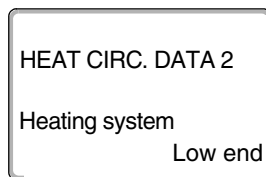
Press "Display" to call up a submenu (here: "Heating system").



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "Low end").

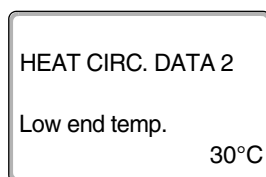


The display shows the set value.

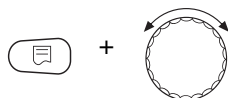
Release "Display" to save your input.



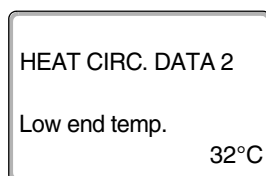
Turn the rotary selector until submenu "Low end temp." appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "32°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
Low end temperature	20 °C – 80 °C	30 °C

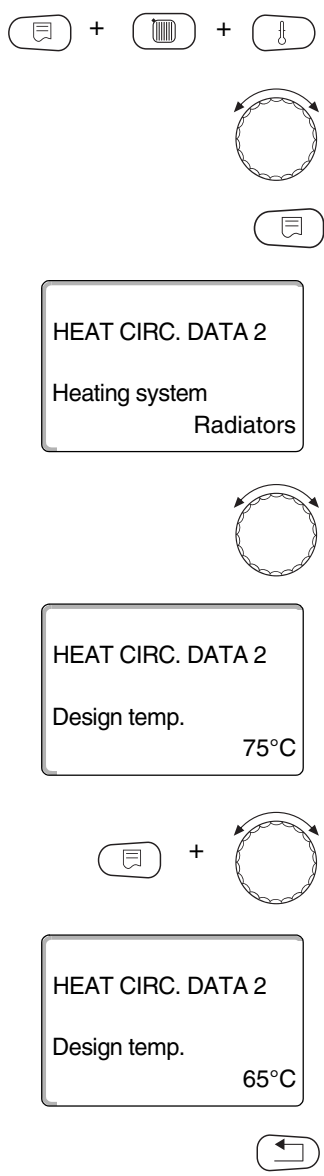
## 11.4 Setting the design temperature

The design temperature is the flow temperature at the adjusted minimum outside temperature. (→ Chapter 9.1)

The following applies to "Low end" heating systems:

- Set the design temperature at least 10 °C higher than the low end 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 controller" heating systems.**



Call up the service level. "Gen. parameters" is shown as the first main menu.

Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").

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

The display shows the selected submenu.

Turn the rotary selector until submenu "Design temp." appears.

The display shows the selected submenu.

Hold down "Display" and turn the rotary selector until the required value appears (here: "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 temperature	30 °C – 90 °C	75 °C for Radiators/Convectors/ Constant/Low end 45 °C for underfloor heating systems

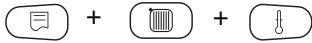
## 11.5 Minimum flow temperature

The minimum flow temperature limits the heating curve to a minimum set value.

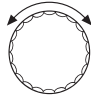
**This function will not be displayed with "Constant" heating systems.**

Change value only if necessary.

Call up the service level. "Gen. parameters" is shown as the first main menu.



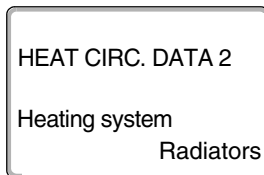
Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").



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



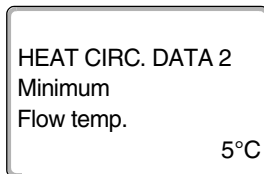
The display shows the selected submenu.



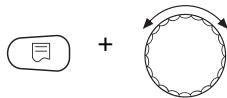
Turn the rotary selector until submenu "Minimum Flow temp." appears.



The display shows the selected submenu.

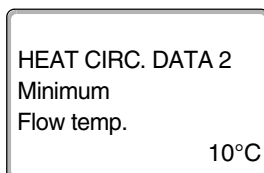


Hold down "Display" and turn the rotary selector until the required value appears (here: "10°C"). This value sets the temperature below which the flow temperature must not drop.



The display shows the set value.

Release "Display" to save your input.



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



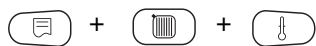
	Input range	Factory setting
Minimum flow temperature	5 °C – 70 °C	5 °C

## 11.6 Maximum flow temperature

The maximum flow 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.



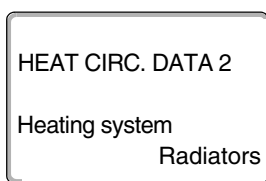
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").



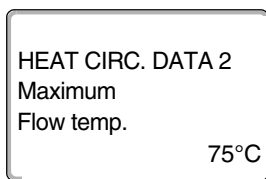
Press "Display" to call up a submenu (here: "Heating system").



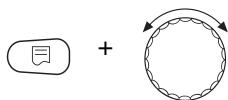
The display shows the selected submenu.



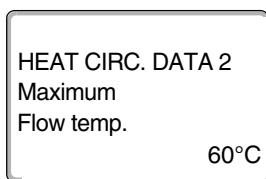
Turn the rotary selector until submenu "Maximum Flow temp." appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "60°C"). This value sets the temperature above which the flow 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 flow temperature for underfloor heating	30 °C – 60 °C	50 °C
Maximum flow temperature for radiators, convector heaters, low end	30 °C – 90 °C	75 °C

## 11.7 Selecting remote control

Under this parameter, you can determine whether a remote control unit will be installed for the heating circuit concerned. Here you can select the following:

- No remote control
- Remote control with display (MEC2) "MEC heat. circ."  
If "Remote control with display" is selected for several heating circuits, these are grouped as "MEC heat.circ".
- Remote control without display (BFU or BFU/F)



### USER INFORMATION

No remote control unit may be installed for "Constant" heating circuit systems or when "External changeover" has been activated.

A remote control unit must be installed to enable the following functions, which monitor the room temperature:

- Night setback with hold room temperature
  - Max. room influence
  - Automatic adaptation
  - Optimisation
  - "Room controller" heating system
- 

### Explanations relating to "MEC heating circuits"

With the MEC2 you can control several heating circuits simultaneously. These are grouped together under the term "MEC heat. circ".

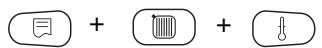
The following functions can be carried out for "MEC heat. circ".:

- Changing the operating mode
- Adjusting the set value
- Summer/Winter Time adjustment
- Holiday function
- Party function
- Pause function

The heating circuits grouped together under "MEC heat. circ." can, for specific settings, also be selected as "Single heat. circ".

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





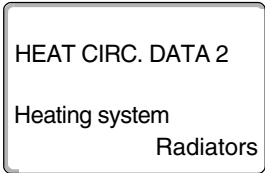
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").



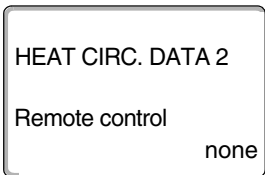
Press "Display" to call up a submenu (here: "Heating system").



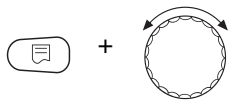
The display shows the selected submenu.



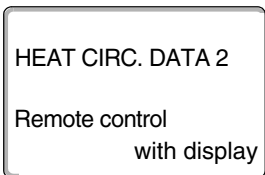
Turn the rotary selector until submenu "Remote control" appears.



The display shows the selected submenu.



Hold down "Display" and select the required value with the rotary selector (here: "with display"). Turn the rotary selector to "with display" if the selected heating circuit 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	<div>none</div> <div>without display</div> <div>with display</div>	<div>none</div>

## 11.8 Maximum room influence

**This function will only appear if a remote control has been selected, but will not be shown for "Room controller" heating systems.**

The maximum room influence limits the effect of the actual room temperature (room temperature hook-up) to the set flow temperature. This value determines the maximum possible room temperature setback in those rooms that are supplied via the currently selected heating circuit and where there are no remote control units installed.



### USER INFORMATION

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



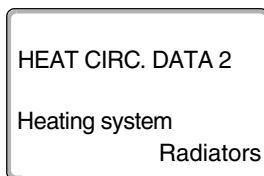
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").



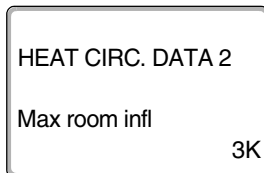
Press "Display" to call up a submenu (here: "Heating system").



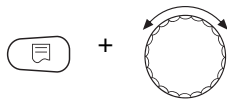
The display shows the selected submenu.



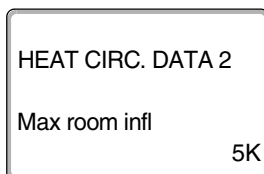
Turn the rotary selector until submenu "Max. room infl" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "5K").



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 influence	0 K – 10 K	3 K

## 11.9 Select the type of setback

You can select the following functions for setback or night operation:

- "Hold if cold" determines the outside temperature limit.  
The heating circuit is switched off when this value is exceeded.  
Below this limit, the heating system heats to the set night temperature.
- With "Hold room temp" you determine a night temperature as room temperature.  
The heating circuit 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.
- In setback mode, the heating circuit is generally switched off at "Standby".
- In setback mode, the system heats to the set night temperature if "Reduced" is selected. The heating circuit pumps operate constantly.



### USER INFORMATION

You can only select "Reduced", "Hold if cold" or "Standby" if you have selected "Constant" under the main parameter "Heating system".

- Setting the heating system to "Room controller" and setback type to "Reduced" achieves the same effect for temperature setback as "Hold room temp".



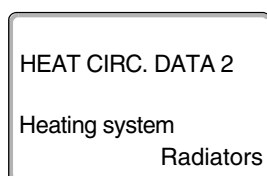
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").



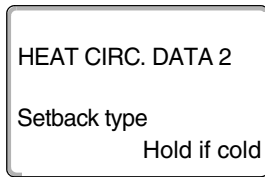
Press "Display" to call up a submenu (here: "Heating system").



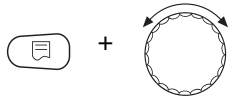
The display shows the selected submenu.



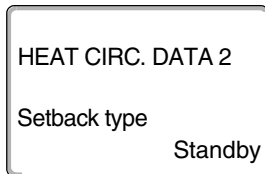
Turn the rotary selector until submenu "Setback type" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "Standby").



The display shows the set value.

Release "Display" to save your input.

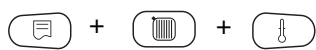


Press "Back" to return to the next level up.

	Input range	Factory setting
<b>Setback type</b>	Hold if cold Standby Reduced Hold room temp	Hold if cold

## 11.10Setting the outside stop temperature

Enter the outside temperature at which the heating operation should change over from "Standby" to "Reduced", if you have selected "Hold if cold" as setback type.



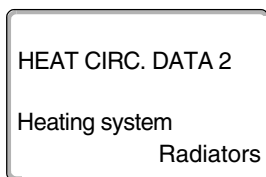
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").



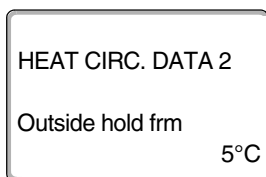
Press "Display" to call up a submenu (here: "Heating system").



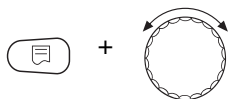
The display shows the selected submenu.



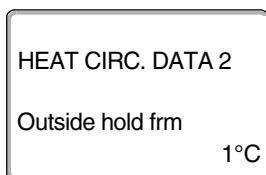
Turn the rotary selector until submenu "Outside hold frm" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "1°C").



The display shows the set value.

Release "Display" to save your input.

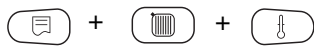


Press "Back" to return to the next level up.

	Input range	Factory setting
Outside hold frm	-20 °C – 10 °C	5 °C

## 11.11 Holiday setback type

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



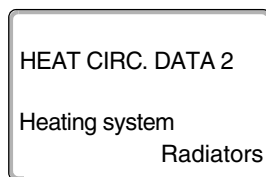
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").



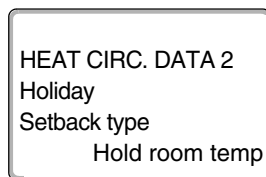
Press "Display" to call up a submenu (here: "Heating system").



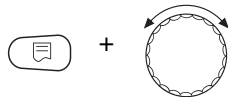
The display shows the selected submenu.



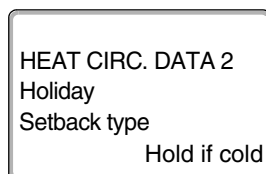
Turn the rotary selector until submenu "Holiday Setback type" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "Hold if cold").



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
<b>Holiday Setback type</b>	Hold room temp Hold if cold* Standby Reduced	Hold room temp

\* With setting "Holiday hold if cold" the rotary selector also takes you into the menu where you set the temperature (between -20°C and 10°C).

## 11.12 Stopping setback at low outside temperatures

DIN 12831 enables the stopping of setback when the actual temperature falls below a selected adjusted outside temperature, to prevent the living space cooling down excessively.



### USER INFORMATION

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



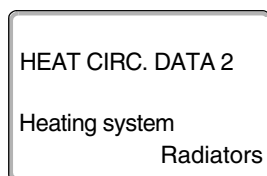
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").



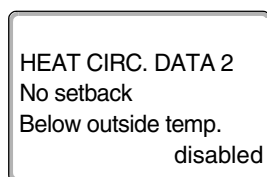
Press "Display" to call up a submenu (here: "Heating system").



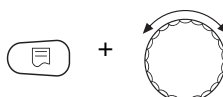
The display shows the selected submenu.



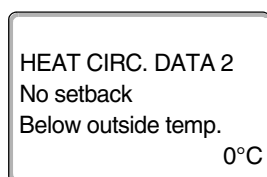
Turn the rotary selector until submenu "No setback Below outside temp." appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "0°C").



The display shows the set value.

Release "Display" to save your input.

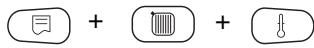


Press "Back" to return to the next level up.

	Input range	Factory setting
No setback Below outside temp.	disabled -30 °C – 10 °C	disabled

### 11.13 Setting flow setback

Since you cannot connect a **remote control** to heating systems set to "Constant", you may enter a setback value for the "Reduced" and "Hold if cold" setback types.



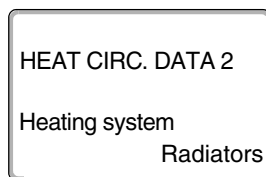
Call up the service level. "Gen. parameters" is shown as the first main menu.



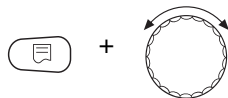
Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").



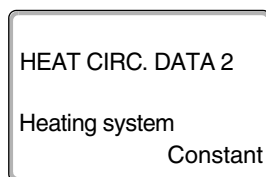
Press "Display" to call up a submenu (here: "Heating system").



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "Constant").

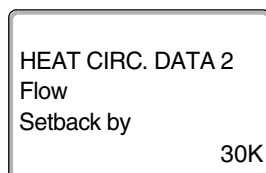


The display shows the set value.

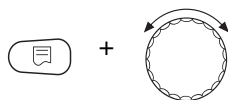
Release "Display" to save your input.



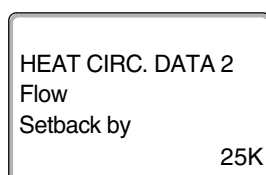
Turn the rotary selector until "Flow Setback by" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "25K").



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
Flow setback	0 K – 40 K	30 K



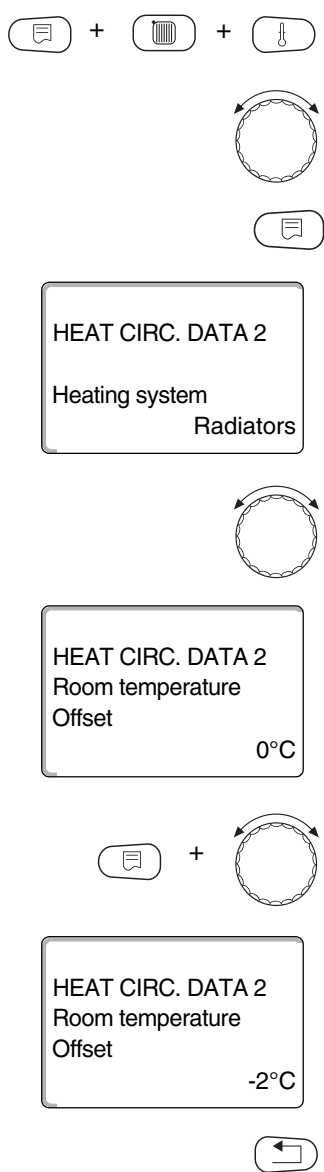
## 11.14 Room temperature offset

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.  
 Parallel offset of the heating curve through matching.  
 The changes take effect after a time delay.

### Example:

Displayed set room temperature	22 °C
Actual room temperature	24 °C

The set value lies 2 °C below the actual value.



Call up the service level. "Gen. parameters" is shown as the first main menu.

Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").

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

The display shows the selected submenu.

Turn the rotary selector until submenu "Room temperature Offset" appears.

The display shows the selected submenu.

Hold down "Display" and turn the rotary selector until the required value appears (here: "-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
Offset	-5 °C – 5 °C	0 °C

## 11.15 Automatic adaptation

**This function will only appear if "Radiator", "Convector" or "Underfloor" has been selected as the heating system.**

"Autom adaptation" is not enabled 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 flow temperature.

Conditions are:

- A representative room with reference temperature.
- Fully opened thermostatic valves in the room.
- No constantly fluctuating external heat influence.

Call up the service level. "Gen. parameters" is shown as the first main menu.

Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").

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

The display shows the selected submenu.

Turn the rotary selector until submenu "Autom adaptation" appears.

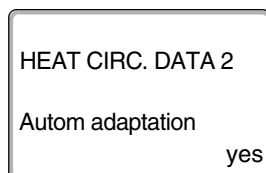
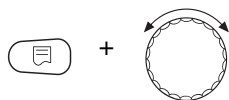
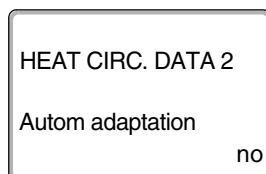
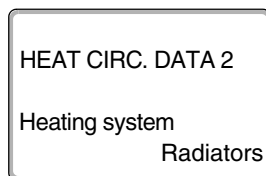
The display shows the selected submenu.

Hold down "Display" and turn the rotary selector until the required 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
Automatic adaptation	no yes	no

## 11.16 Setting switching optimisation

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

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

The following variations are possible:

- Heat-up commences before the actual switching time, if "Start" has been selected.  
The control unit calculates the start time so that the set room temperature is achieved at the set start point.
- At "Stop" 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 optimisation is terminated and heating continues normally up to the programmed setback time.
- Both optimisation versions are used when "Start/Stop" has been enabled.
- Switching optimisation is not implemented if "none" is selected.



### USER INFORMATION

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



Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").



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

HEAT CIRC. DATA 2  
Heating system  
Radiators

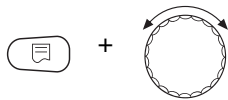
The display shows the selected submenu.



Turn the rotary selector until submenu "Optimisation for" appears.

HEAT CIRC. DATA 2  
Optimisation  
for  
none

The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "Stop").

HEAT CIRC. DATA 2  
Optimisation  
for  
Stop

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
Optimisation	none Start Stop Start/Stop	none

## 11.17 Setting stop optimisation time

If you have selected **"Stop"** or **"Start/Stop"** in section 11.16, you may enter as of when the setback operation should begin. Change the setting only if necessary.



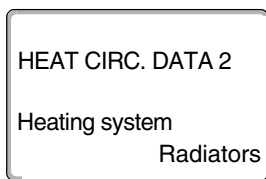
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").



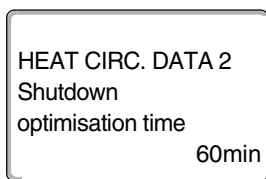
Press "Display" to call up a submenu (here: "Heating system").



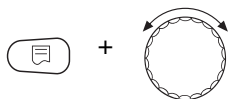
The display shows the selected submenu.



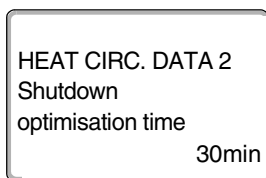
Turn the rotary selector until submenu "Shutdown optimisation time" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "30 min").



The display shows the set value.

Release "Display" to save your input.



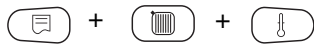
Press "Back" to return to the next level up.

	Input range	Factory setting
Shutdown optimisation time	10 minutes – 60 minutes	60 minutes

## 11.18 Setting the frost protection temperature

Only change the frost protection temperature in special circumstances.

The circulation pump is automatically switched on as soon as a set outside temperature threshold is reached.



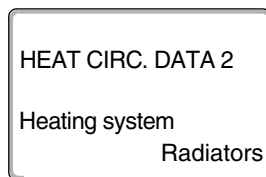
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").



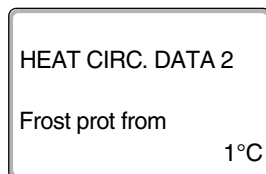
Press "Display" to call up a submenu (here: "Heating system").



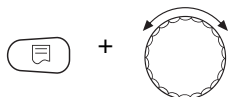
The display shows the selected submenu.



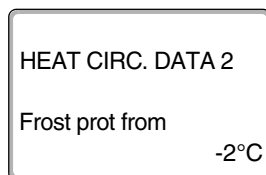
Turn the rotary selector until submenu "Frost prot from" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "-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
Frost protection	-20 °C – 1 °C	1 °C

## 11.19Setting the DHW priority

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

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



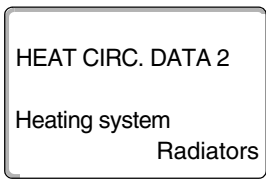
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").



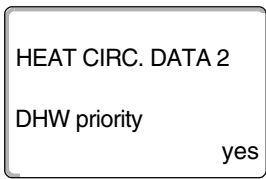
Press "Display" to call up a submenu (here: "Heating system").



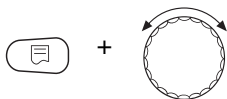
The display shows the selected submenu.



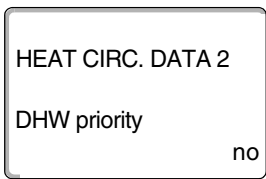
Turn the rotary selector until submenu "DHW priority" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required 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 Entering the heating circuit actuator

Via the "Servomotor" function, you can enter whether or not the system is equipped with a heating circuit actuator (mixer).

The control unit drives the actuator if it is installed in the heating circuit (mixer).

The heating circuit is regulated via the boiler flow temperature if no heating circuit actuator is installed.

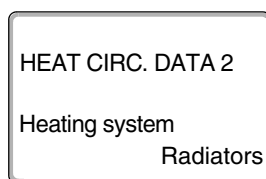
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").



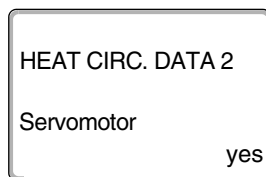
Press "Display" to call up a submenu (here: "Heating system").



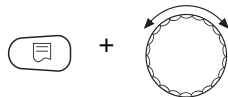
The display shows the selected submenu.



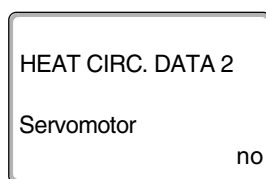
Turn the rotary selector until submenu "Servomotor" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required 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
<b>Servomotor</b>	yes no	yes



## 11.21 Enter servomotor runtime

Here you may enter the servomotor runtime of existing servomotors. Generally, servomotors have a runtime of 120 sec.



### USER INFORMATION

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



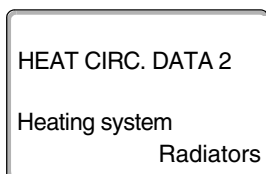
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").



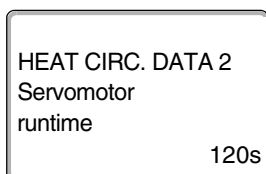
Press "Display" to call up a submenu (here: "Heating system").



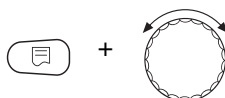
The display shows the selected submenu.



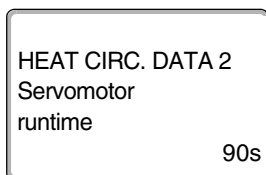
Turn the rotary selector until submenu "Servomotor runtime" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "90s").



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
<b>Servomotor runtime</b>	10 seconds – 600 seconds	120 seconds

## 11.22 Boiler raising

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

The value "Boil.raising" corresponds to the temperature differential between the set boiler temperature and the set heating circuit temperature.



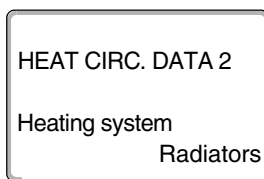
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").



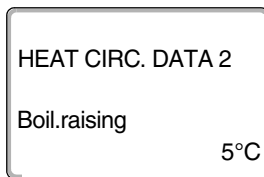
Press "Display" to call up a submenu (here: "Heating system").



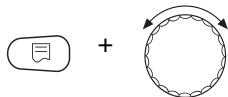
The display shows the selected submenu.



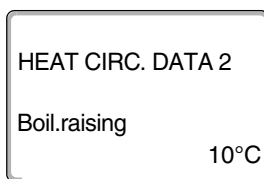
Turn the rotary selector until submenu "Boil.raising" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "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 raising	0 °C – 20 °C	5 °C

## 11.23 External changeover

Using the "External changeover" function, you can use an on-site switch at terminals WF123 (pink) to change the operating mode of a heating circuit. This is where you configure this control unit input.

The menu item "External changeover" will only be displayed if "None" was selected under parameter "Remote control".

This parameter will also not be displayed if the "Room controller" heating system has been selected, since this requires the installation of a remote control unit.

This function is turned off at the factory.

You may select from the following two changeover functions:

### 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

This may only be enabled if terminals WF1 and WF2 are not assigned to "External fault message pump".

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



#### USER INFORMATION

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



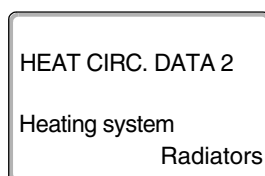
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").



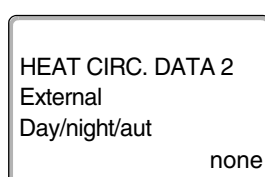
Press "Display" to call up a submenu (here: "Heating system").



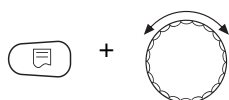
The display shows the selected submenu.



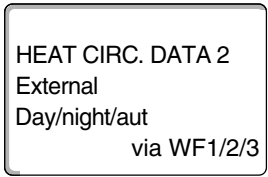
Turn the rotary selector until submenu "External Day/night/aut" is displayed.



The display shows the selected submenu.



Hold down "Display" and select the required value with the rotary selector (here: "via WF 1/2/3").



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/aut	none Day via WF1/3 via WF1/2/3	none

## 11.24 External fault message - pump

This function is turned off at the factory.  
This parameter allows you to enter whether fault messages relating to a pump should be displayed.

You may connect an external zero volt fault relay to terminals WF1 and WF2.  
A fault message will be displayed if the contact is open.

Here you can select from the following:

1. "None"
2. "Pump fault message via WF1/2"

This parameter cannot be called up if "External Day/night/aut via WF1/2/3" was entered under this parameter, since the input contact is already allocated.

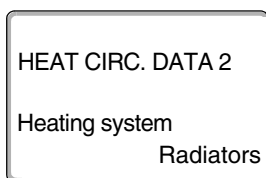
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").



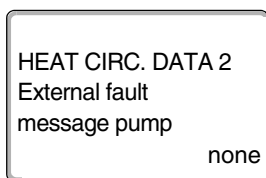
Press "Display" to call up a submenu (here: "Heating system").



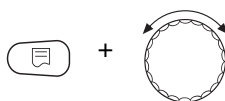
The display shows the selected submenu.



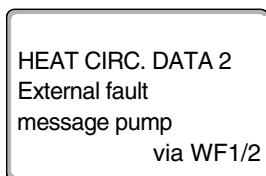
Turn the rotary selector until submenu "External fault message pump" is displayed.



The display shows the selected submenu.



Hold down "Display" and select the required value with the rotary selector (here: "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 message pump	none via WF1/2	none

## 11.25 Screed drying

If the heating system is equipped with underfloor heating, you can enter a screed drying program with this control unit. "Underfloor" must be set as the heating system.



### USER INFORMATION

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

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

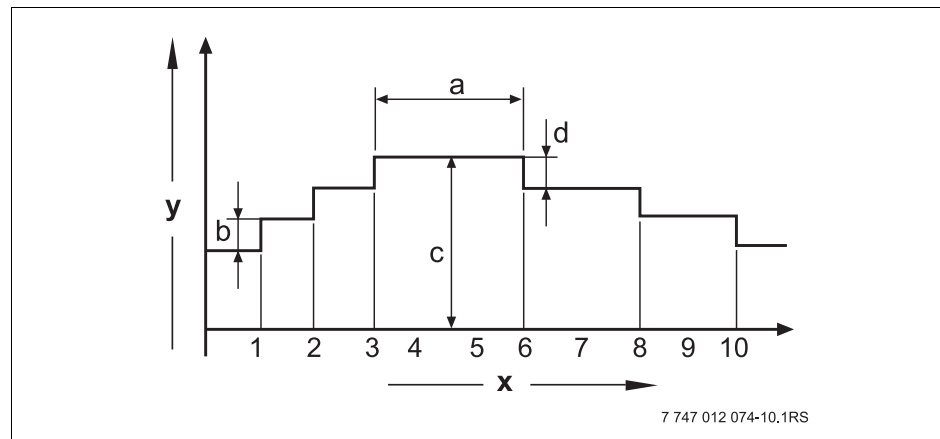


Fig. 17 Screed drying

**x** Time (days)

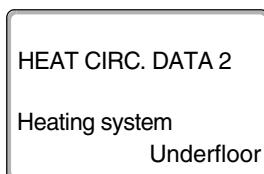
**y** Temperature

**a** 3 days hold time

**b** Temp increase by

**c** Max. temperature

**d** Setback by



Call up the service level. "Gen. parameters" is shown as the first main menu.

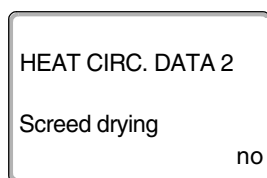
Turn the rotary selector until the main menu "Heating circ. + no." appears (here: "Heating circ. 2").

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

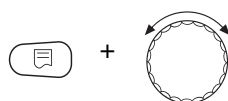
The display shows the selected submenu.

Turn the rotary selector until submenu "Screed drying" appears.

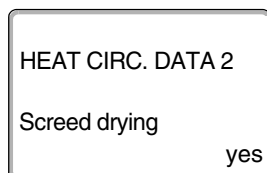
The display shows the selected submenu.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "yes").



The display shows the set value.

Release "Display" to save your input.

	Input range	Factory setting
<b>Screed drying</b>	no yes	no



## USER INFORMATION

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.

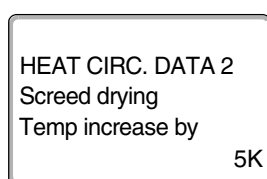
## Setting the temperature rise

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

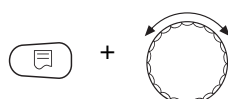
The temperature rise begins at 20 °C.



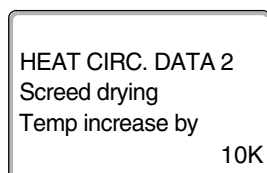
Turn the rotary selector until submenu "Screed drying Temp increase by" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "10K").



The display shows the set value.

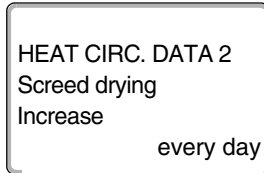
Release "Display" to save your input.

	Input range	Factory setting
<b>Temp increase by</b>	1 K – 10 K	5 K

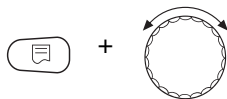
**Heat-up time**

By setting the "Increase" parameter, you determine in which daily cycle the temperature should rise to dry out the screed.

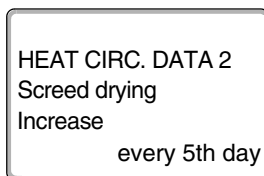
Turn the rotary selector until submenu "Screed drying Increase" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "every 5th day").



The display shows the set value.

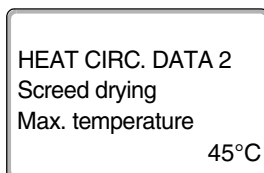
Release "Display" to save your input.

	Input range	Factory setting
<b>Increase in daily cycles</b>	every day – every 5th day	every day

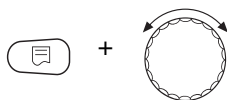
**Setting the maximum temperature**

Here you may enter the maximum temperature for screed drying.

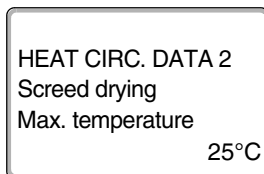
Turn the rotary selector until submenu "Screed drying Max. temperature" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "25°C").



The display shows the set value.

Release "Display" to save your input.

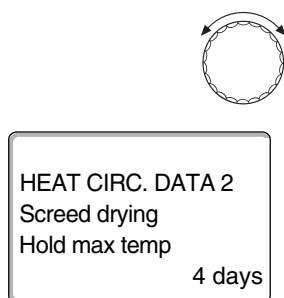
	Input range	Factory setting
<b>Maximum temperature</b>	25 °C – 60 °C	45 °C



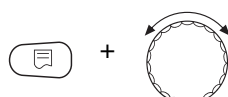
## Setting the hold time

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

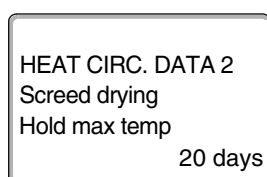
Turn the rotary selector until submenu "Screed drying Hold max temp" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "20 days").



The display shows the set value.

Release "Display" to save your input.

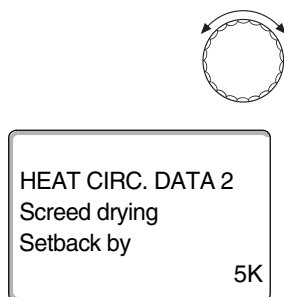
	Input range	Factory setting
<b>Hold maximum temperature</b>	0 days – 20 days	4 days

## Setting the setback temperature

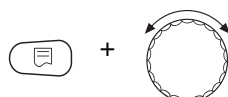
Here you can select the steps in which the temperature for drying out the screed should be set back.

The setback ends at 20 °C.

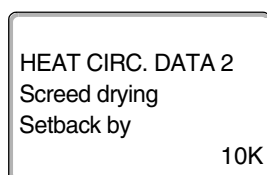
Turn the rotary selector until submenu "Screed drying Setback by" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "10K").



The display shows the set value.

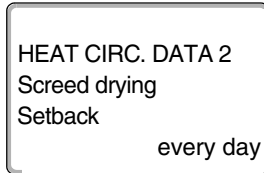
Release "Display" to save your input.

	Input range	Factory setting
<b>Setback by</b>	1 K – 10 K	5 K

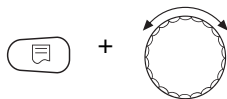
### Set setback time

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

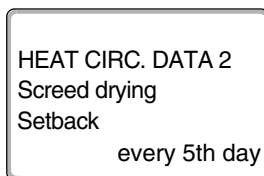
Turn the rotary selector until submenu "Screed drying Setback" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required 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.

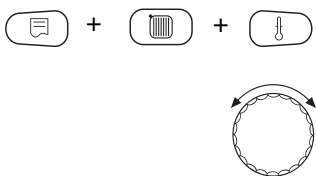
	Input range	Factory setting
<b>Setback in daily cycles</b>	none every day – every 5th day	every day

## 12 DHW data

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

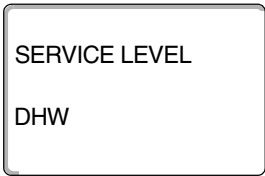
### 12.1 Selecting the DHW cylinder

Here, you can log the DHW cylinder 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 cylinder.



Call up the service level. "Gen. parameters" is shown as the first main menu.

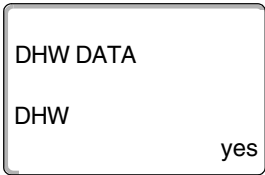
Turn the rotary selector until the main menu "DHW" appears.



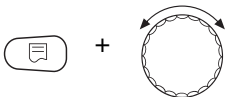
The display shows the main menu "DHW".



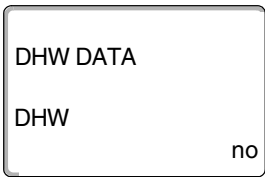
Press "Display" to call up a submenu (here: "DHW").



The automatically recognised DHW cylinder will be preset on the display.



Hold down "Display" and turn the rotary selector until the required 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 Setting the temperature range

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



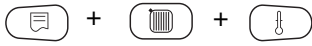
**WARNING!**

### RISK OF SCALDING

from hot water!

There is a risk of scalding if the required DHW temperature is set higher than 60 °C.

- In such cases, only ever draw off mixed water (hot and cold).



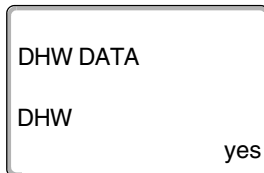
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "DHW" appears.



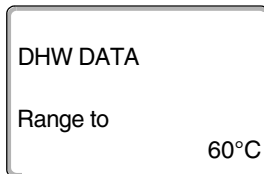
Press "Display" to call up a submenu (here: "DHW").



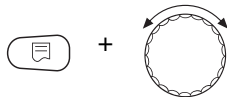
The display shows the selected submenu.



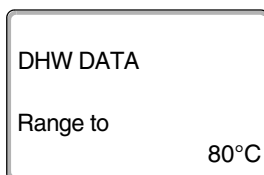
Turn the rotary selector until submenu "Range to" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "80°C").



The display shows the set value.

Release "Display" to save your input.

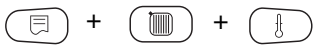


Press "Back" to return to the next level up.

	Input range	Factory setting
Range to	60 °C – 80 °C	60 °C

12.3 Selecting switching optimisation

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



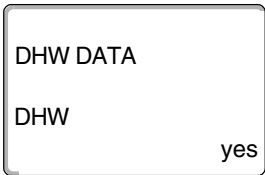
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "DHW" appears.



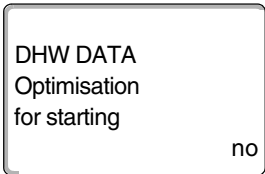
Press "Display" to call up a submenu (here: "DHW").



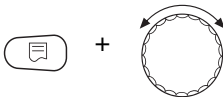
The display shows the selected submenu.



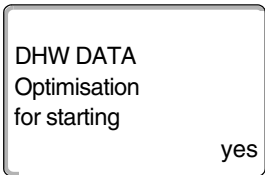
Turn the rotary selector until submenu "Optimisation for starting" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required 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
Optimisation	yes no	no

## 12.4 Selecting residual heat use

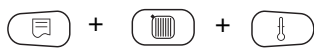
If you select the "Residual heat use" function, you may also utilise the residual boiler heat for heating the cylinder.

### "Residual heat use yes"

If you select "Residual heat use yes", the control unit calculates the shutdown temperature of the burner and the primary pump runtime until the cylinder is fully heated up using the residual boiler heat. The burner is switched off before the set DHW temperature is reached. The cylinder primary pump continues to operate. The control unit calculates the runtime of the primary pump (between 3 and 30 minutes) to fully heat the cylinder.

### "Residual heat use no"

If you select "Residual heat use no", you will only utilise a small amount of residual heat. The burner runs until the required DHW temperature has been reached. The cylinder primary pump runs on for 3 minutes after the burner is switched off.



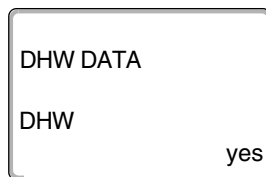
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "DHW" appears.



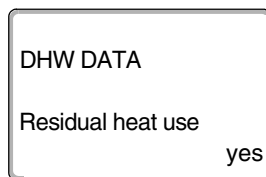
Press "Display" to call up a submenu (here: "DHW").



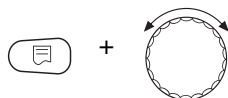
The display shows the selected submenu.



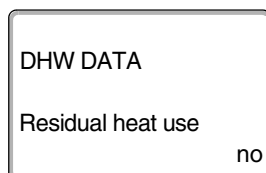
Turn the rotary selector until submenu "Residual heat use" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required 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
Residual heat use	yes no	yes

12.5 Setting hysteresis

With the "Hysteresis" function, you can determine at how many Kelvin (K) below the set DHW temperature the reheating of the cylinder begins.  
(1 K equates to 1 °C)



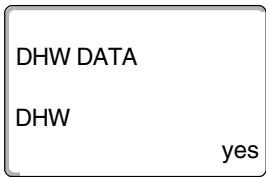
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "DHW" appears.



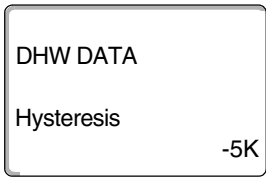
Press "Display" to call up a submenu (here: "DHW").



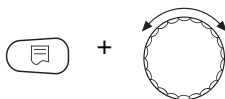
The display shows the selected submenu.



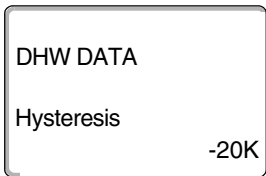
Turn the rotary selector until submenu "Hysteresis" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "-20K").



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
Hysteresis	-20 K – 2 K	-5 K

## 12.6 Raising the boiler water temperature

With the "Boiler raising" function, you can determine the boiler water temperature during DHW heating.

The boiler raising temperature is added to the required DHW temperature and results in the required flow temperature for DHW heating.

The factory setting of 40 K (1 K equals 1 °C) is optimised for rapid DHW heating.



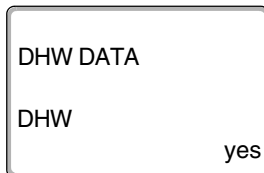
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "DHW" appears.



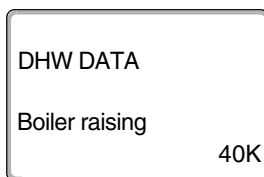
Press "Display" to call up a submenu (here: "DHW").



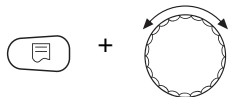
The display shows the selected submenu.



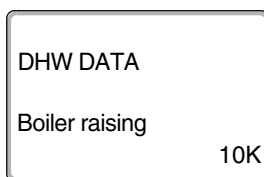
Turn the rotary selector until submenu "Boiler raising" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "10K").



The display shows the set value.

Release "Display" to save your input.



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

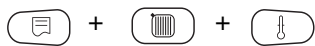
	Input range	Factory setting
Boiler raising	10 K – 40 K	40 K



## 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 the FM441 modules.

- Contacts WF1 and WF2 closed = no fault
- Contacts WF1 and WF2 open = fault condition



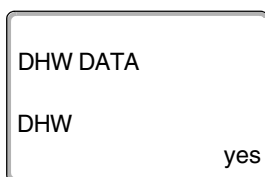
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "DHW" appears.



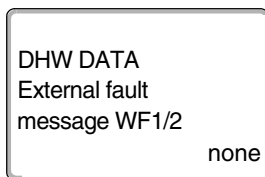
Press "Display" to call up a submenu (here: "DHW").



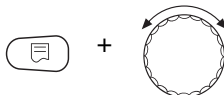
The display shows the selected submenu.



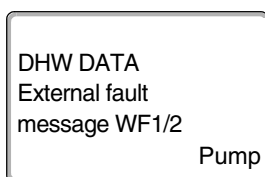
Turn the rotary selector until submenu "External fault message WF1/2" is displayed.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "Pump").



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
<b>External fault message</b> (subject to heat source and module)	none Inert anode Pump	none

## 12.8 External contact (WF1/3)

"Heating once" or "Therm. disinfect" can be initiated (subject to setting) if a zero volt pushbutton is connected to terminals WF1 and 3 in module FM441.

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

### "Heating once"

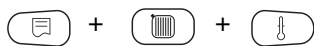
If DHW heating has been switched off according to the switching times of the DHW program, you may start "Heating once" with the pushbutton. The DHW circulation pump starts simultaneously.

Unlike heating once via the MEC2 programming unit, the "Heating once" process cannot be cancelled.

"Heating once" will only be stopped when the cylinder has been fully heated.

### "Therm. disinfect"

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



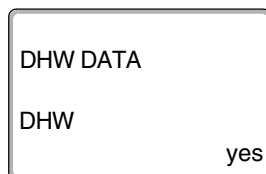
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "DHW" appears.



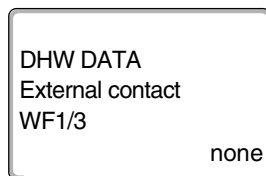
Press "Display" to call up a submenu (here: "DHW").



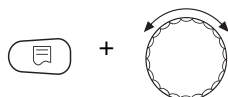
The display shows the selected submenu.



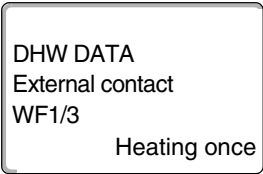
Turn the rotary selector until submenu "External contact WF1/3" is displayed.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "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
External contact	Heating once Therm. disinfect none	none

12.9 Selecting and setting up thermal disinfection

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

The cylinder primary pump and DHW circulation pump run constantly during the thermal disinfection process.

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

Thermal disinfection is indicated by LED  on the FM441 module.

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



USER INFORMATION

The "Therm. disinfect" function will not be displayed if thermal disinfection was previously selected via the "external contact WF 1/3" function.

The system tries to reach the set thermal disinfection temperature for three hours. If this fails, the fault message "Therm. disinfect failed" appears.

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



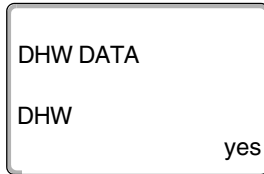
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "DHW" appears.



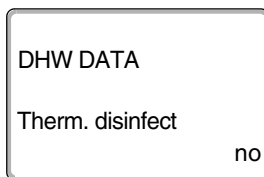
Press "Display" to call up a submenu (here: "DHW").



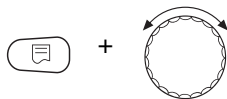
The display shows the selected submenu.



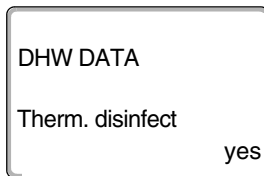
Turn the rotary selector until "Therm. disinfect" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required 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

### 12.10Setting the thermal disinfection temperature

You can set the thermal disinfection (→ Chapter 12.9) via the "Temperature Therm. disinfect" function.







**WARNING!**


**RISK OF SCALDING**

from hot water!


- If the DHW circuit is not equipped with a thermostatic mixer, never open the hot water taps/valves on their own (i.e. without mixing in cold water) during or immediately after thermal disinfection.










DHW DATA  
DHW  
yes



DHW DATA  
Temperature  
Therm. disinfect  
70°C



DHW DATA  
Temperature  
Therm. disinfect  
75°C



Call up the service level. "Gen. parameters" is shown as the first main menu.

Turn the rotary selector until the main menu "DHW" appears.

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

The display shows the selected submenu.

Turn the rotary selector until submenu "Temperature Therm. disinfect" appears.

The display shows the selected submenu.

Hold down "Display" and turn the rotary selector until the required value appears (here: "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
Thermal disinfection temperature	65 °C – 75 °C	70 °C

Logamatic 4323 - Subject to technical modifications.

Buderus

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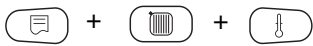
## 12.11 Setting the day of the week for thermal disinfection

You can set the day of the week when thermal disinfection should be carried out via the "Weekday Therm. disinfect" function.



### USER INFORMATION

The "Weekday Therm. disinfect" function is not displayed if thermal disinfection was previously set using the "External contact WF 1/3" function.



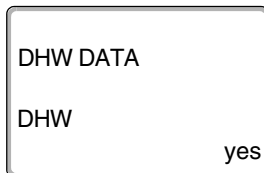
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "DHW" appears.



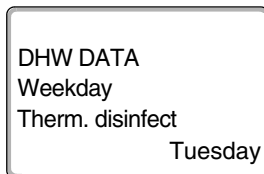
Press "Display" to call up a submenu (here: "DHW").



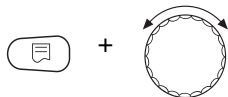
The display shows the selected submenu.



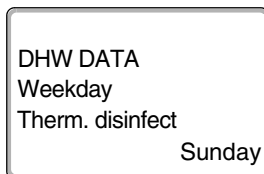
Turn the rotary selector until submenu "Weekday Therm. disinfect" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required 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
Thermal disinfection day	Monday – Sunday daily	Tuesday

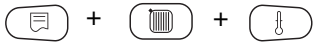
12.12 Set the time of day for thermal disinfection

You can set the time of day when thermal disinfection should be carried out via the "Time Therm. disinfect" function.



USER INFORMATION

The "Time Therm. disinfect" function is not displayed if thermal disinfection was previously set using the "External contact WF 1/3" function.



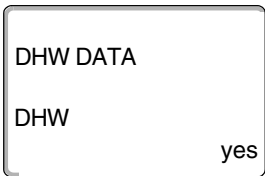
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "DHW" appears.



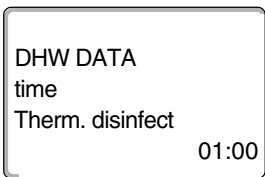
Press "Display" to call up a submenu (here: "DHW").



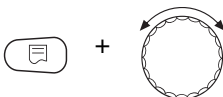
The display shows the selected submenu.



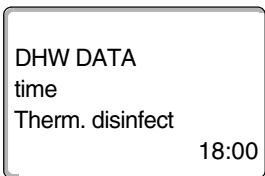
Turn the rotary selector until submenu "time Therm. disinfect" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "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
Thermal disinfection time	00:00 – 23:00	01:00

### 12.13 Daily heat-up

When daily heat-up is set, the DHW (which may include a solar cylinder, if installed) is heated to 60 °C once a day to prevent legionella bacteria from multiplying in the DHW. This complies with the requirements of DVGW Code of Practice W551.

The time when the cylinder is heated can be adjusted.



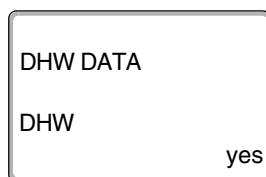
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "DHW" appears.



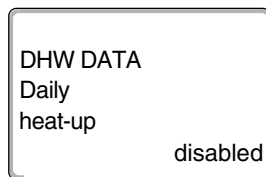
Press "Display" to call up a submenu (here: "DHW").



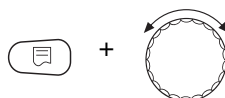
The display shows the selected submenu.



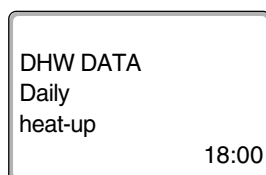
Turn the rotary selector until "Daily heat-up" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "18:00").



The display shows the set value.

Release "Display" to save your input.



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



#### USER INFORMATION

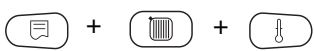
If the DHW was heated to 60 °C within the last 12 hours, it is not heated at the specified time.

	Input range	Factory setting
Daily heat-up	disabled 00:00 – 23:00	disabled



12.14 Selecting the DHW circulation pump

You can set DHW to be immediately available at the draw-off points via the "DHW circulat" function.



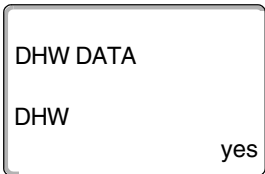
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "DHW" appears.



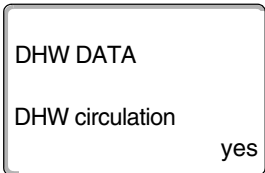
Press "Display" to call up a submenu (here: "DHW").



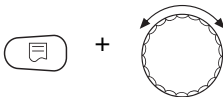
The display shows the selected submenu.



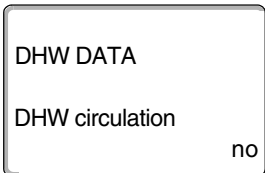
Turn the rotary selector until submenu "DHW circulation" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required 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 circulation	yes no	yes

## 12.15 Setting the DHW circulation pump intervals

You can reduce operating costs using the intermittent DHW circulation pump operation.

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

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

- The factory-set DHW circulation pump program
- Your own DHW circulation pump program
- A connection to the heating circuit switching times

In constant operation the DHW circulation pump operates all day and is switched off during night operation.

Example:

Your own time program was created that starts the DHW circulation pump between 05:30 – 22:00 with setting "DHW circulation per hour 2 times ON".

The DHW circulation pump is switched on in cycles

- at 05:30 for 3 minutes,
- at 06:00 for 3 minutes,
- at 06:30 for 3 minutes,
- etc. until 22:00.



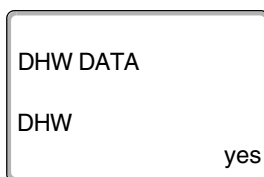
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "DHW" appears.



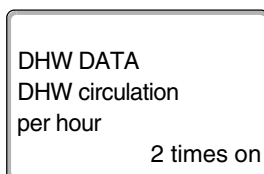
Press "Display" to call up a submenu (here: "DHW").



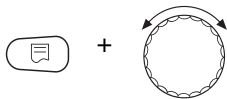
The display shows the selected submenu.



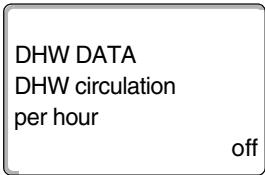
Turn the rotary selector until submenu "DHW circulation per hour" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "off"). The DHW circulation 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
DHW circulation per hour	off 1 time on 2 times on 3 times on 4 times on 5 times on 6 times on Constant operation	2 times on

## 13 Substations

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

- Address 0 (stand-alone),
- Address 1 (linked to a master, i.e. the control unit that provides externally generated heat) and with
- Address > 1 (as substation linked to other Buderus Logamatic 4000 control units)

### 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 cylinder, which contains the feed sensor. The feed sensor measures the buffer temperature. If this exceeds the minimum heat-up temperature, the feed pump (if installed) and other pumps will be switched on.

### Operation with address > 1 (substation)

The feed sensor is only required if the substation is physically far from the heat source. Otherwise, the system flow temperature will be transferred by the master control unit 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 unit value. To support the other supply pumps, the feed pump may also be connected in case of long line runs.



#### USER INFORMATION

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

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

### 13.1 Setting the minimum heat-up temperature

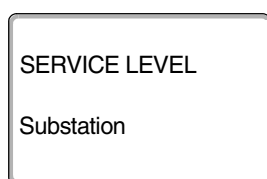
This menu will only be displayed by the Logamatic 4323 control unit if address 0 or 1 has been selected. The heat consumers will only be supplied with heat if the set temperature has been exceeded, or no later than after the time set up under "Maximum Heat-up time" has expired.



Call up the service level. "Gen. parameters" is shown as the first main menu.



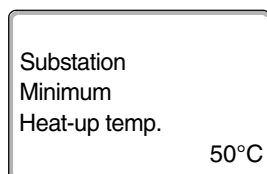
Turn the rotary selector until the main menu "Substation" appears.



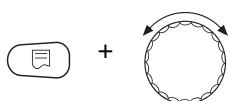
The display shows the selected main menu.



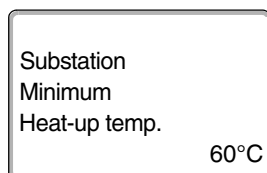
Press "Display" to call up a submenu (here: "Minimum Heat-up temp.").



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "60°C").



The display shows the set value.

Release "Display" to save your input.



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



#### USER INFORMATION

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

	Input range	Factory setting
Minimum heat-up temp.	off 1 °C – 60 °C	50 °C

## 13.2 Setting the maximum heat-up time

This menu will only be displayed by the Logamatic 4323 control unit, if address 0 or 1 has been selected, and the minimum heat-up temperature and therefore also the heat-up time have been enabled.

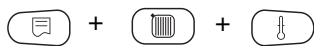
Here, set the maximum time after which the heating circuit pumps are started, even if "Minimum Heat-up temp." has not been achieved within "Maximum Heat-up time".

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

Sensor temperature:

- FB hotter than FZB: Cylinder primary pump PS on
- FB colder than FZB: Cylinder primary pump PS off

Call up the service level. "Gen. parameters" is shown as the first main menu.



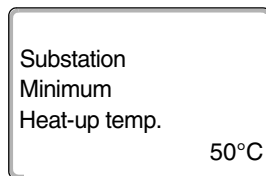
Turn the rotary selector until the main menu "Substation" appears.



Press "Display" to call up a submenu (here: "Minimum Heat-up temp.").



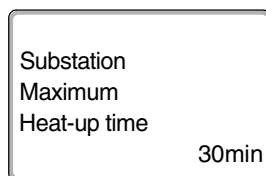
The display shows the selected submenu.



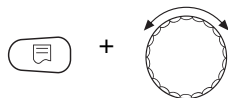
Turn the rotary selector until submenu "Maximum Heat-up time" appears.



The display shows the selected submenu.

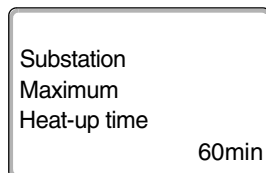


Hold down "Display" and turn the rotary selector until the required value appears (here: "60min").



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 heat-up time	10 minutes – 60 minutes	30 minutes

### 13.3 Setting boiler raising

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

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



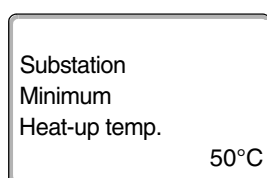
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "Substation" appears.



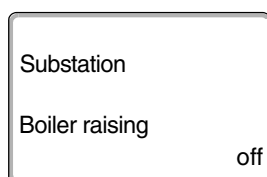
Press "Display" to call up a submenu (here: "Minimum Heat-up temp.").



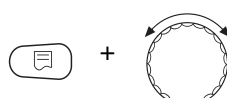
The display shows the selected submenu.



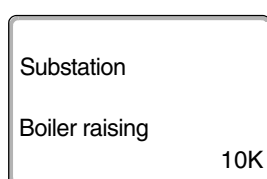
Turn the rotary selector until submenu "Boiler raising" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "10K").



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
<b>Boiler raising</b>	off 1 K – 20 K	off

## 14 Special parameters

This parameter enables heating contractors to optimise the system beyond the standard parameters by fine-tuning the sub-parameters.

This level is reserved for trained heating contractors. Therefore, settings are not made in plain text but in code, which is explained in a separate document.

This document, "Special parameters Logamatic 4000", is available from your local Buderus sales office.



## 15 Heating curve

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

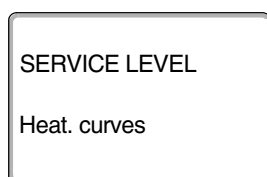
The flow temperatures (FL), which depend on the outside temperature (OT), are displayed.



Call up the service level. "Gen. parameters" is shown as the first main menu.



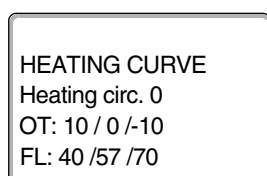
Turn the rotary selector until the main menu "Heat. curves" appears.



The display shows the selected main menu.



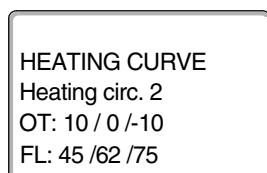
Press "Display" to call up a submenu (here: "Heating circ. 0").



The display shows the selected submenu.



Turn the rotary selector until submenu "Heating circ. 2" appears.



The display shows the selected submenu.



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

## 16 Carrying out a relay test

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

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



**CAUTION!**

### **SYSTEM DAMAGE**

from disabled functions!

The heat supply of the heating system is not assured during the relay test. The control system deactivates all functions.

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

With the modules installed most commonly in the Logamatic 4323 control unit, i.e. FM441 and FM442, the following relays can be called up:

Heating circuit 0 – 9

- Circ. pump
- Servomotor

DHW

- Cylinder primary pump
- DHW circulation pump

Substation

- Feed pump

### Relay test example

Call up the service level. "Gen. parameters" is shown as the first main menu.

Turn the rotary selector until the main menu "Relay test" appears.

The display shows the selected main menu.

Press "Display" to call up a submenu (here: "Heating circ. 0").

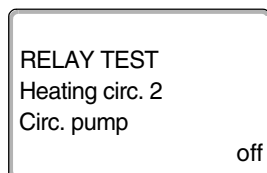
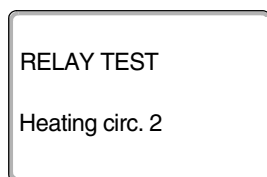
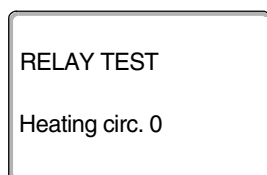
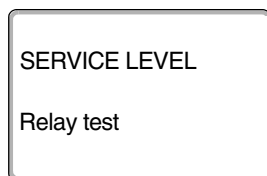
The display shows the selected submenu.

Turn the rotary selector until submenu "Heating circ. 2" appears.

The display shows the selected submenu.

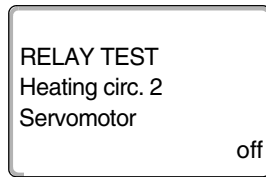
Press "Display" to call up a further submenu (here: "Circ. pump").

The display shows the selected submenu.

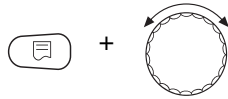




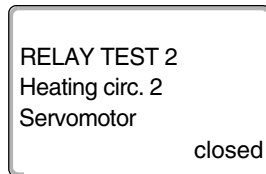
Turn the rotary selector until submenu "Servomotor" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required 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 INFORMATION

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

## 17 Multi-boiler systems

The Logamatic 4323 control unit, together with modules FM456/457/458, can regulate multi-boiler systems (cascades).

For a description of this function, see the technical documentation of the relevant module.

## 18 Carrying out an LCD test

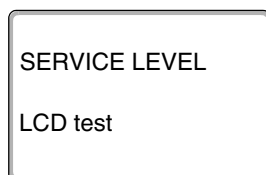
With the "LCD test" menu you can check whether all signs and symbols are fully displayed.



Call up the service level. "Gen. parameters" is shown as the first main menu.



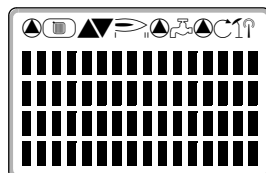
Turn the rotary selector until the main menu "LCD test" appears.



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.

## 19 Fault log

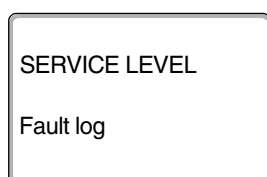
Using the "Fault log" menu, you can display the last four fault messages of your heating system. The MEC2 can only display the fault messages of the control unit with which it is connected.



Call up the service level. "Gen. parameters" is shown as the first main menu.



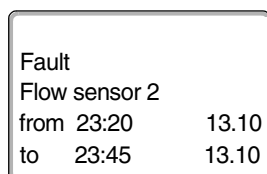
Turn the rotary selector until the main menu "Fault log" appears.



The display shows the selected main menu.



Press "Display".



The fault message is displayed.

Fault messages recorded by the control unit will be displayed together with the time for the beginning and end of the fault.

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



Turn rotary selector and scroll through recent fault messages.



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

### Fault displays

The following faults can be displayed by the Logamatic 4323 control unit, subject to the most commonly used modules FM441 and FM442 being installed, as well as the ZM433 central module.

- Outside temperature sensor
- Flow sensor x
- DHW sensor
- DHW stays cold
- DHW warning
- Thermal disinfection
- Remote control x
- Communication HKx
- ECOCAN-BUS reception
- No master
- Conflicting BUS addresses
- Address confl x
- Incorrect module x
- Unknown module x
- Inert anode
- External fault input
- Insuff. supply
- Flow sensor FZB
- Manual mode XX
- Maint. date



## 20 Fault

Fault	Effect on control characteristics	Possible causes of the fault	Remedy
Outs. temp. sensor	<ul style="list-style-type: none"> <li>– The minimum outside temperature is applied instead of the actual outside temperature.</li> </ul>	<ul style="list-style-type: none"> <li>– The outside temperature sensor is either faulty, not connected or is not plugged into the control unit at the control unit with address 1, or is contacted at the wrong module.</li> <li>– Communication to control unit with address 1 is interrupted.</li> <li>– Central module or control unit is faulty.</li> </ul>	<ul style="list-style-type: none"> <li>– Checks of the outside temperature sensor.</li> <li>– Check whether the outside temperature sensor is connected to the control unit with address 1 (for information regarding the position of the outside temperature sensor see → Chapter 5.1).</li> <li>– Check communication with address 1.</li> <li>– Replace outside temperature sensor or central module.</li> </ul>
Flow sensor x	<ul style="list-style-type: none"> <li>– The mixer is no longer being controlled.</li> </ul>	<ul style="list-style-type: none"> <li>– Sensor is faulty or not connected.</li> <li>– An actuator (mixer) was inadvertently selected for the heating circuit.</li> </ul>	<ul style="list-style-type: none"> <li>– Check sensor connection.</li> <li>– If the heating circuit is to be operated without an actuator, enter "No" under actuator in the appropriate menu of the MEC2 (→ Chapter 11.20).</li> </ul>
DHW sensor	<ul style="list-style-type: none"> <li>– DHW is no longer heated.</li> </ul>	<ul style="list-style-type: none"> <li>– Sensor is faulty or not connected.</li> <li>– DHW was inadvertently selected.</li> <li>– Module or control unit faulty.</li> </ul>	<ul style="list-style-type: none"> <li>– Check sensor connection.</li> <li>– Check sensor connection on the DHW cylinder.</li> <li>– Deselect DHW in the MEC2 under parameter DHW data, if DHW heating is no longer required (→ Chapter 12).</li> <li>– Replace sensor or module.</li> </ul>
DHW stays cold	<ul style="list-style-type: none"> <li>– DHW is no longer heated. Current DHW temperature is below 40°C.</li> </ul>	<ul style="list-style-type: none"> <li>– Primary pump faulty.</li> <li>– FM441 function module faulty.</li> <li>– More DHW is removed than newly heated.</li> </ul>	<ul style="list-style-type: none"> <li>– Check whether the thermostat or the switch is set to "AUT".</li> <li>– Check function of sensor and primary pump.</li> <li>– Replace FM441 module.</li> <li>– Check sensor connection on the DHW cylinder.</li> </ul>
DHW warning	<ul style="list-style-type: none"> <li>– There is a constant attempt to fill the DHW cylinder.</li> <li>– DHW priority is switched off after this fault message is displayed.</li> </ul>	<ul style="list-style-type: none"> <li>– Constant drawing or system leak.</li> <li>– Switch not set to "AUT".</li> <li>– Sensor faulty or not connected. Sensor incorrectly mounted.</li> <li>– Primary pump incorrectly connected or faulty.</li> <li>– Module or control unit faulty.</li> </ul>	<ul style="list-style-type: none"> <li>– Stop the any leaks.</li> <li>– Check whether the switch is set to "AUT".</li> <li>– Check sensor connection and values.</li> <li>– Check the primary pump function, e.g. with a relay test (→ Chapter 16).</li> <li>– Replace sensor or module.</li> </ul>
Thermal disinfection	<ul style="list-style-type: none"> <li>– Thermal disinfection was terminated.</li> </ul>	<ul style="list-style-type: none"> <li>– Too much water drawn during thermal disinfection.</li> <li>– Boiler output is temporarily insufficient due to heat drawn by other consumers (e.g. heating circuits).</li> <li>– Sensor is faulty or not connected, or primary pump is faulty.</li> <li>– Module or control unit faulty.</li> </ul>	<ul style="list-style-type: none"> <li>– Select a time for thermal disinfection when there is no other demand for heat.</li> <li>– Check sensor and primary pump function, and replace if required (→ Chapter 16 and 25).</li> <li>– If necessary, replace module or control unit.</li> </ul>

Tab. 4 Fault table

<b>Fault</b>	<b>Effect on control characteristics</b>	<b>Possible causes of the fault</b>	<b>Remedy</b>
Remote control x	– Because no actual room temperature is available, the effects of the following features are disabled: Room influence, start and stop optimisation, automatic adaptation.	<ul style="list-style-type: none"> <li>– Remote control incorrectly connected or faulty.</li> <li>– Incorrect address allocated to remote control.</li> <li>– Remote control cable damaged by a drill or is broken.</li> </ul>	<ul style="list-style-type: none"> <li>– Check remote control function or connection. Replace remote control or module.</li> <li>– Check remote control address (see BFU remote control documentation).</li> <li>– Check connecting cables.</li> </ul>
Communication HKx	– Because no actual room temperature is available, the effects of the following features are disabled: Room influence, start and stop optimisation, automatic adaptation.	<ul style="list-style-type: none"> <li>– Remote control incorrectly connected or faulty.</li> <li>– By mistake, neither a BFU remote control nor a MEC2 was selected for this heating circuit in the MEC2.</li> <li>– Incorrect address allocated to remote control.</li> <li>– Remote control or matching module is faulty.</li> </ul>	<ul style="list-style-type: none"> <li>– Check remote control function or connection.</li> <li>– Select the correct remote control in the MEC2 under "Remote control" (→ Chapter 11.7).</li> <li>– Check remote control address (see BFU remote control documentation).</li> <li>– Replace remote control or module.</li> </ul>
ECOCAN-BUS reception	– No effect on the control characteristics.	– Rotary encoder on CM431 (behind MEC2 or boiler display) incorrectly addressed.	– Check setting of rotary encoder (→ Chapter 5.1).
		– Gravity switch on NM482 is incorrectly positioned.	– Check gravity switch (→ Chapter 5.2).
No master	– The system operates with minimum outside temperature.	– By mistake, there is no master control unit (address 1) in the network.	– Check addresses of all control units in the network. On the master control unit, CM431 must be set to address 1 (→ Chapter 5.1).
		– Connecting cable to master control unit is interrupted.	– Check function of connecting cable.
		– Master control unit (address 1) is switched off or faulty.	– Check master control unit and replace if necessary.
Conflicting Bus addresses	<ul style="list-style-type: none"> <li>– Bus communication no longer possible.</li> <li>– All control functions requiring data exchange via the ECOCAN-BUS can no longer be implemented.</li> </ul>	– 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).
Address conflict x	– Functions of the module with address conflict can no longer be implemented. All other modules in the control unit as well as the ECOCAN-BUS continue to function normally.	– Module must not be installed into this control unit (e.g. 2 x FM441 in one control unit or FM447 in Logamatic 4323).	– Check using Chapter 5, Tab. 1, whether the module may be used for this type of control unit.
Incorrect Module x	– Module switches all outputs off and corresponding fault LED on.	– A different module was installed in one slot of the control unit (e.g. FM442 was replaced with FM441).	– Insert new module into MEC2 (→ Chapter 10).
		– By mistake, an incorrect module was selected for this MEC2 slot.	– Check module selected in MEC2 (→ Chapter 10).
		– MEC2 programming unit, corresponding module or control unit is faulty.	– If necessary, replace relevant component.

Tab. 4 Fault table

<b>Fault</b>	<b>Effect on control characteristics</b>	<b>Possible causes of the fault</b>	<b>Remedy</b>
Unknown module x	– Module switches all outputs off and corresponding fault LED on.	– This is a newer module type which is not recognised by the older control software. – Module or control unit is faulty.	– Checking the control unit version in the MEC2 (→ Chapter 22). If necessary, replace the CM431 and MEC. – If necessary, replace module or control unit.
Inert anode	– No effects on control characteristics.	– Inert anode incorrectly connected or faulty. – Module is faulty.	– Check the inert electrode and replace if necessary. – Replace module.
External Fault input		– External components incorrectly connected or faulty. – Module is faulty.	– Check connection and function of external components (cylinder primary and DHW circulation pumps). – 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.	– Fit boiler sensor in the heat source or buffer cylinder.
	– System may be insufficiently supplied	– Heat supply insufficient or non-existent.	– Recharge a wood burning boiler, for example.
Flow sensor FZB	– Pump logic will be cancelled.	– Sensor is faulty or not connected.	– Check sensor connection. If necessary, replace the sensor.
		– Sensor should not be required, but is needed because control unit has been incorrectly set up.	– Check control unit address: Sensor is required for address 0 or 1 at the CM431. With a CAN address <1, a boiler system is regulated by this control unit, then parameter Minimum heat-up temp (→ Chapter 13.1) is set to "off". Sensor will only be required for control unit addresses higher than 1 if boiler rise (→ Chapter 11.22) higher than 0 has been entered.
		– Module or control unit faulty.	– If necessary, replace module or control unit.
Manual mode XX	– Control unit operates in manual mode.	– A function module switch may not have been set to "AUT".	– Set the corresponding function module switch to "AUT".
Maintenance Date	– No influence on control characteristics.	– The specified period before the next service has expired.	– Perform maintenance and then reset maintenance message.

Tab. 4 Fault table

## 21 Monitor data

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

Some display values are separated by a slash. The number in front of the slash determines the set value of each respective parameter and the figure behind the slash is the actual value.

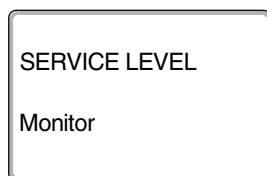
You can display data for the following components (if installed):

- Heating circuits
- DHW
- Substation
- Monitor data of other installed modules

### 21.1 Heating circuit monitor data

Using the monitor menu "Heating circ." you can display the data for one heating circuit.

Call up the service level. "Gen. parameters" is shown as the first main menu.

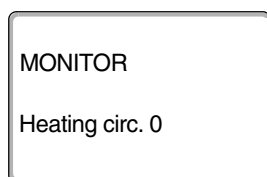


Turn the rotary selector until the main menu "Monitor" appears.

The display shows the selected main menu.



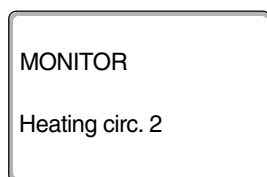
Press "Display" to call up a submenu (here: "Heating circ. 0").



The display shows the selected submenu.



Turn the rotary selector until submenu "Heating circ. 2" appears.



The display shows the selected submenu.



Press "Display".

MONITOR	B2
Flow	60/59
Room	20/19
Constant night	

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

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

- Constant night
- Constant day
- Automatic night
- Automatic day
- Holiday
- Summer
- Start optimising
- Stop optimising
- Screed
- DHW priority
- No setback

Turn the rotary selector to scroll through the heating circuit monitor data.



MONITOR	B2
Size adaptor	75
On opt.	15min
Off opt.	30min

### Design temperature adaptation

This value displays the design temperature calculated by adaptation.

### Start optimisation

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

### Stop optimisation

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

Turn the rotary selector to scroll through the heating circuit monitor data.



MONITOR	B2
Servomotor	50%
Circ. pump	off

### Servomotor

Indicates the calculated regulating pulse in percent.

Example:

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

### Circ. pump

Indicates the operating condition of the circulation pump.



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

## 21.2 DHW monitor data

Using the monitor menu "DHW" you can display the data relating to the DHW settings.

The displays depend on the settings selected under the "DHW" function.

Call up the service level. "Gen. parameters" is shown as the first main menu.

Turn the rotary selector until the main menu "Monitor" appears.

Press "Display" to call up a submenu (here: "Heating circ. 0").

The display shows the selected submenu.

Turn the rotary selector until submenu "DHW" appears.

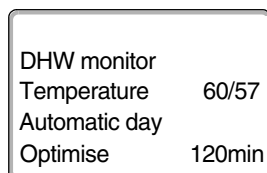
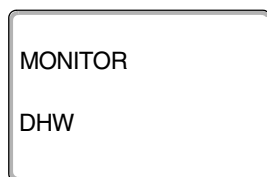
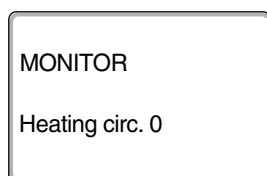
The display shows the selected submenu.

Press "Display".

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

### Possible operating modes:

- Off
- Constant operation
- Automatic night
- Automatic day
- Holiday
- Optimisation
- Thermal disinfection
- Reheating
- Daily heat-up



**Optimise**

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

Turn the rotary selector to scroll through the DHW monitor data.



DHW monitor	
Prim. heating	off
DHW circulation	on

**Heating**

indicates the operating condition of the DHW cylinder primary pump.

**DHW circulation**

Indicates the operating condition of the DHW circulation pump.



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

### 21.3 Substation monitor data



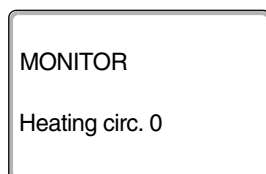
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "Monitor" appears.



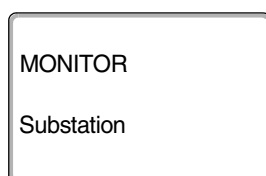
Press "Display" to call up a submenu (here: "Heating circ. 0").



The display shows the selected submenu.



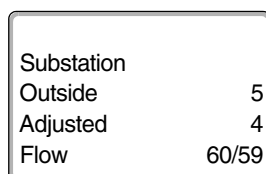
Turn the rotary selector until the required submenu appears (here: "Substation").



The display shows the selected submenu.



Press "Display".



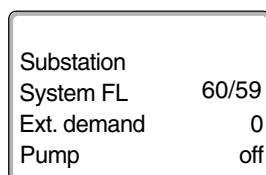
The "Outside" value indicates the current **outside temperature**.

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

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



Turn the rotary selector to scroll through the substation monitor data.



#### System flow (set value/actual value)

The system flow of the control unit network is indicated.

The value "**ext. demand**" indicates a further heat demand in °C via terminal U (connection 1 and 2) in accordance with the diagram on Page 16.

The "**Pump**" value indicates the status of the feed pump.



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



## 22 Display version

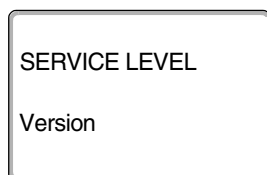
Using the "Version" menu you can display MEC2 programming unit version as well as that of the selected control unit.



Call up the service level. "Gen. parameters" is shown as the first main menu.



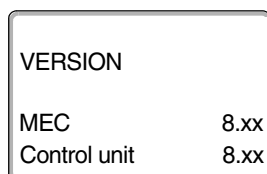
Turn the rotary selector until the main menu "Version" appears.



The display shows the selected main menu.



Press "Display" to call up a submenu.



The versions for the MEC2 programming unit and the control unit are displayed.



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

## 23 Selecting the control unit

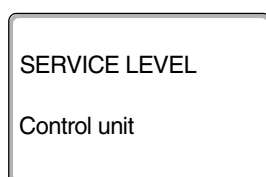
With the "Control unit" menu you can select a control unit, if the **MEC2** is operated "**offline**", i.e. without a connected control unit or with a separate power supply unit.



Call up the service level. "Gen. parameters" is shown as the first main menu.



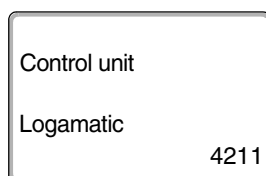
Turn the rotary selector until the main menu "Control unit" appears.



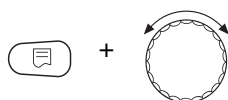
The display shows the selected main menu.



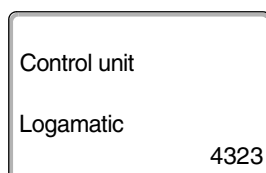
Press "Display" to call up a submenu (here: "Logamatic 4211").



The display shows the selected submenu.



Hold down "Display" and select the required value with the rotary selector (here: "4323").



The display shows the set value.

Release "Display" to save your input.



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

## 24 Reset



### USER INFORMATION

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

Exception: The time switch program is retained.

### 24.1 Reset all control unit parameter settings

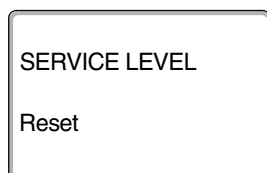
All values are automatically reset.



Call up the service level. "Gen. parameters" is shown as the first main menu.



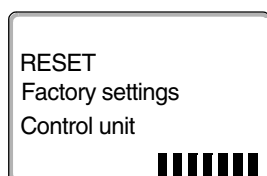
Turn the rotary selector until the main menu "Reset" appears.



The display shows the selected main menu.



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



The display shows the selected submenu.



Press and hold "Display".



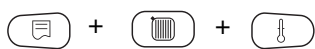
The blocks in the last line disappear one after the other. The settings have been reset when no further blocks are displayed. The reset operation will be terminated if you release the key before all blocks have disappeared. After implementing a reset, the display automatically reverts to the next level up.



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

## 24.2 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.



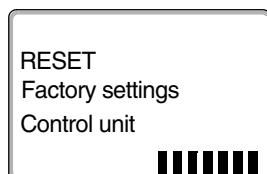
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "Reset" appears.



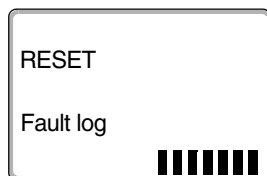
Briefly press "Display" to call up a submenu (here: "Factory settings Control unit"). All settings may be lost if you press for too long.



The display shows the selected submenu.



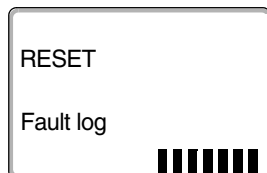
Turn the rotary selector until "Fault log" appears.



The display shows the selected submenu.



Press and hold down "Display".



The blocks in the last line disappear one after the other. The fault log is reset after the final block has disappeared. Reset will be terminated if you release the key 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.

## 24.3 Resetting the maintenance message

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



### USER INFORMATION

Resetting the maintenance message restarts the maintenance interval. Please note that with maintenance messages set according to date, the next maintenance date will be set for one year later.



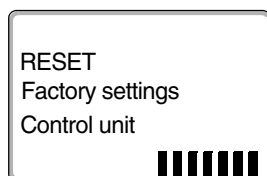
Call up the service level. "Gen. parameters" is shown as the first main menu.



Turn the rotary selector until the main menu "Reset" appears.



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



The display shows the selected submenu.



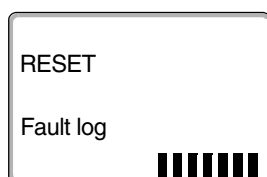
Turn the rotary selector until submenu "maint. message" appears.



The display shows the selected submenu.



Press and hold down "Display".



The blocks in the last line disappear one after the other. The maintenance message is reset after the final block has disappeared. Reset will be terminated if you release the key 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.

## 25 Specification

### 25.1 Logamatic 4323 control unit

Dimensions W/H/L	mm	660/240/230
Operating voltage (at 50 Hz $\pm 4$ %)	L	230 $\pm 10$ %
Power consumption	VA	5
Control unit fuse	A	2 x 10
Maximum switching current	A	5
Heating circuit pump output		
Feed pump output		
Heating circuit actuator control	L	230
Servomotor runtime	s	120 (adjustable 10-600)
Type of controller		Three-point stepper controller (PI characteristics)
Ambient temperatures		
Operation	°C	+5...+50
Handling	°C	-20...+50

Tab. 5 Specification - Logamatic 4323 control unit

### Sensor measuring range

Sensor	lower fault limit in °C	lowest display value in °C	highest display value in °C	upper fault limit in °C
FA Outside temp.	-50	-40	50	> 70
FZB System flow temp.	< -5	0	99	> 125
FV Flow temp. B 0	< -5	0	99	> 125

Tab. 6 Measuring range

### 25.2 FM441 function module

Operating voltage (at 50 Hz $\pm 4$ %)	L	230 $\pm 10$ %
Power consumption	VA	2
Control unit fuse	A	10
Maximum switching current	A	5
Cylinder primary pump output		
DHW circulation pump output		
Heating circuit pump output		
Heating circuit actuator control	L	230
Servomotor runtime	s	10 (adjustable 10-600)
Controller		Three-point stepper controller (PI characteristics)

Tab. 7 Specification for FM441 function module

## Sensor measuring range

Sensor	lower fault limit in °C	lowest display value in °C	highest display value in °C	upper fault limit in °C
<b>FV</b> <b>Flow temp. B</b>	< -5	0	99	> 125
<b>FB</b> <b>DHW temp.</b>	< -7	0	99	> 125

Tab. 8 Measuring range

## 25.3 FM442 function module

Operating voltage (at 50 Hz $\pm 4$ %)	<b>L</b>	230 $\pm 10$ %
Power consumption	<b>VA</b>	2
Maximum switching current      Heating circuit pump output	<b>A</b>	5
Heating circuit actuator control	<b>L</b>	230
Servomotor runtime	<b>s</b>	Three-point stepper controller (PI characteristics)

Tab. 9 Specification for FM442 function module

## Sensor measuring range

Sensor	lower fault limit in °C	lowest display value in °C	highest display value in °C	upper fault limit in °C
<b>FV1</b> <b>Flow temp. B on left</b>	< -5	0	99	125
<b>FV2</b> <b>Flow temp. B on right</b>	< -5	0	99	125

Tab. 10 Measuring range

## 26 Sensor curves

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

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

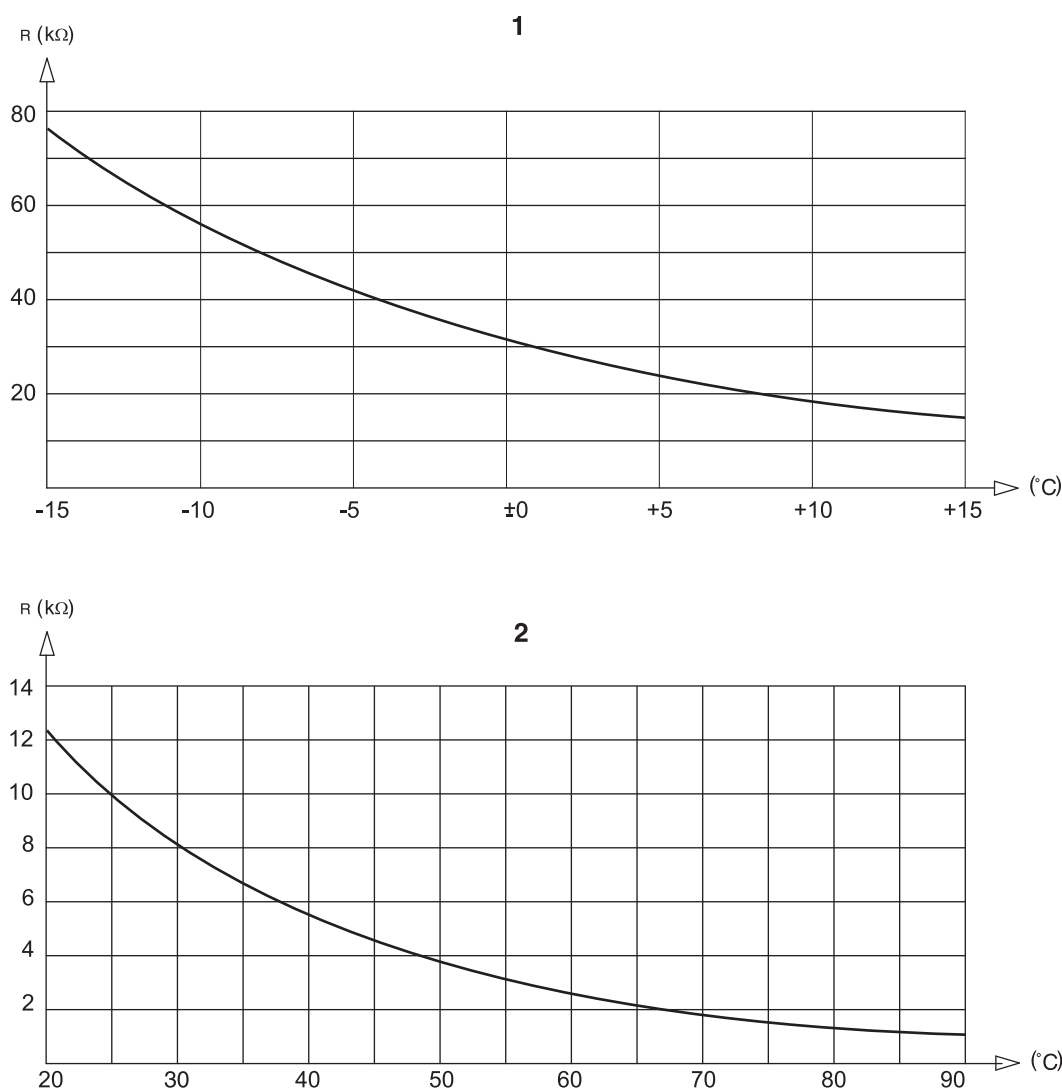
### Fault test (without room temperature sensor)

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



#### USER INFORMATION

The sensor tolerance for all curves is up to 3 %/25 °C



7 748 018 515-02.1RS

Fig. 18 Outside temperature sensor and boiler water, flow, and DHW temperature sensors

- 1 Outside temperature sensor curve
- 2 Sensor curves - boiler water, flow and DHW temperature



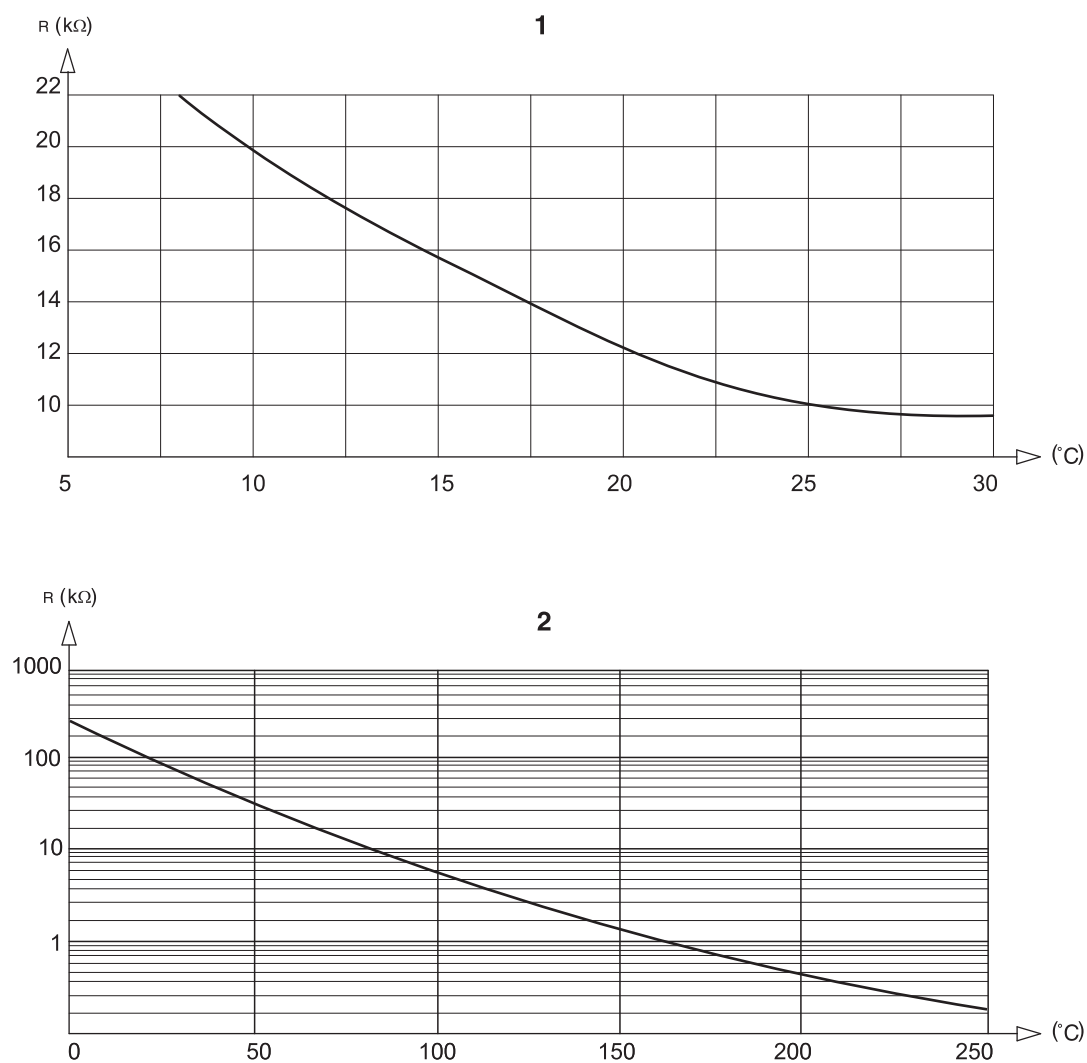


Fig. 19 Room temperature and flue gas temperature sensors

- 1 Room temperature sensor curve
- 2 Flue gas temperature sensor curve

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