

Logamatic 4211

For contractors

Read carefully prior to
commissioning and service
work.

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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 4211 control unit.

These service instructions are designed 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 4211 control unit is designed to regulate and control heating systems in detached houses and apartment buildings, in residential complexes and other types of buildings.

1.3 Standards and guidelines



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 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 unit as intended and when it is 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 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. Install an isolator if none is available.

**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.

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 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 4211 control unit is suitable for regulating a floorstanding Buderus oil/gas fired boiler with single stage, two-stage or modulating burner.

As standard, the unit includes the DHW heating (cylinder system) and heating circuit control (one heating circuit without actuator) functions.

It may be extended with two function modules to match it to an individual heating system.

2.2 Standard delivery

- Digital Logamatic 4211 control unit with MEC2 programming unit
- Outside temperature sensor FA
- Boiler water temperature sensor FK

3 Setting instructions for high limit safety cut-out (STB)

Dismantling the casing and removing the high limit safety cut-out

- The high limit safety cut-out (STB) (→ Fig. 1, [2]) must be removed from the casing for the required temperature to be selected.
- Undo both screws (→ Fig. 1, [1]) to remove the high limit safety cut-out.
- Remove lid (→ Fig. 1, [3]).
- Remove protective cap (→ Fig. 1, [2]).
- Undo the screw connection.
- Remove the high limit safety cut-out and carry out the following adjustments.

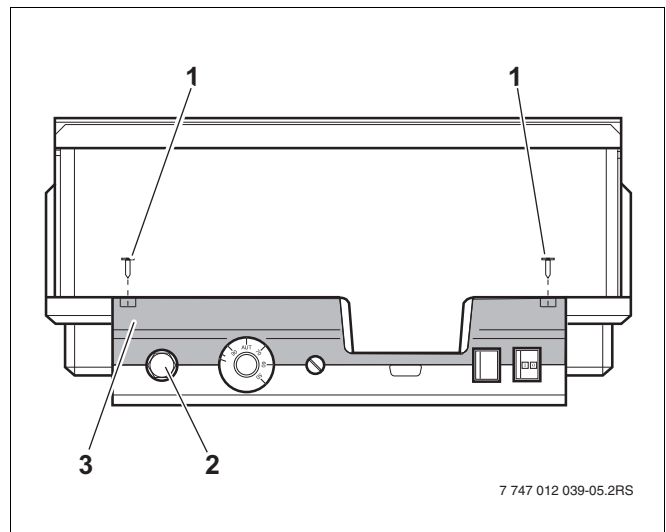


Fig. 1 Logamatic 4... control unit



USER INFORMATION

Set the high limit safety cut-out, in accordance with local regulations, to the maximum permissible heating system temperature.



USER INFORMATION

The factory setting is 110 °C.

High limit safety cut-out setting

Fig. 2 Version A

- Undo screw (→ Fig. 2, [1]).
- Set the thin plate with temperature scale (→ Fig. 2, [2]) to marking (→ Fig. 2, [3]).
- Retighten screw (→ Fig. 2, [1]).

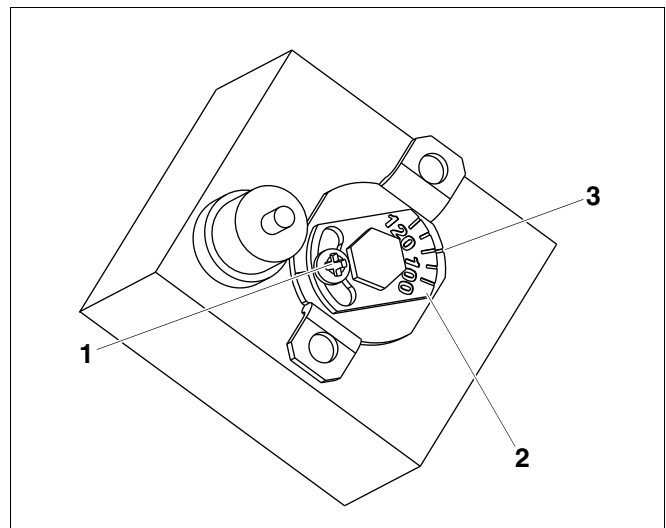


Fig. 2 Version A

Fig. 3 Version B

- Move lever (→ Fig. 3, [1]) to the corresponding temperature.

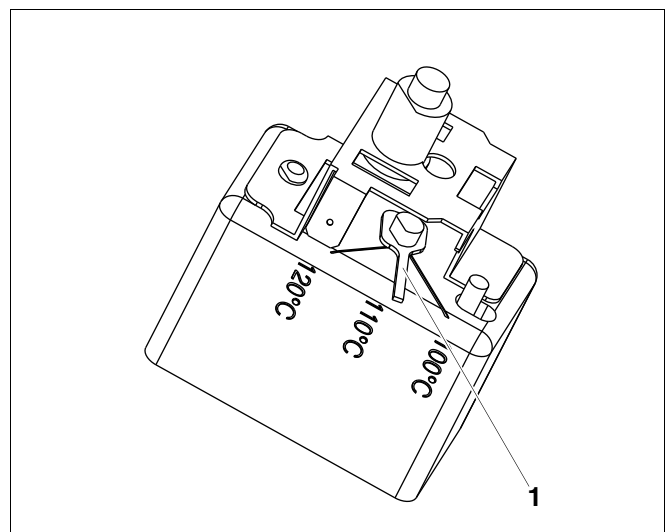


Fig. 3 Version B

4 Setting instructions for boiler water thermostat (TR)



USER INFORMATION

Changing the boiler water thermostat from 90 °C to 105 °C (only with high limit safety cut-out setting 120 °C).

For systems requiring a boiler water temperature in excess of 90 °C (**see note**), the boiler water thermostat can be changed from 90 °C to 105 °C.

- Pull off rotary selector.
- Break off end stop tabs (→ Fig. 4, [1]).
- Reposition rotary selector.



USER INFORMATION

Logamatic control units can be operated with a maximum temperature of 99 °C (→ Chapter 14.3.4).

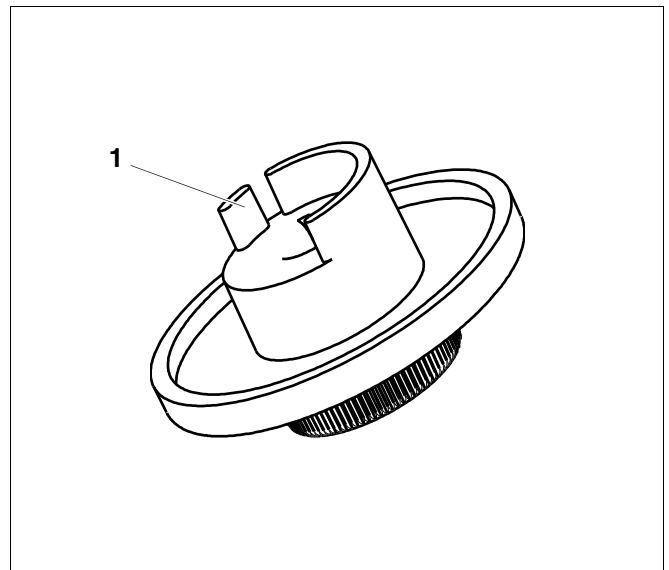


Fig. 4 Rotary selector

5 Adjustable parameters and display data

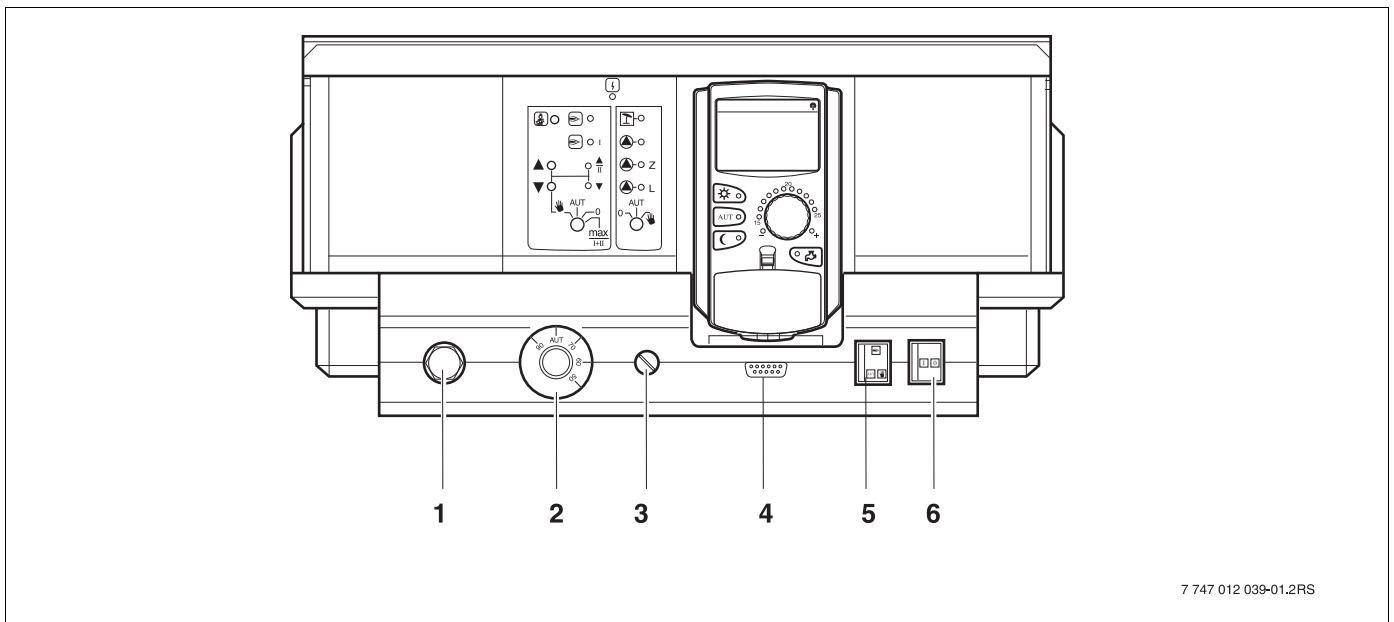
Some options are only displayed subject to the installed modules and prior settings.

<ul style="list-style-type: none"> General parameters <ul style="list-style-type: none"> Minimum outside temperature Type of building Summer/winter time adjustment Remote adjust. Heat yield Level limit transducer Fault message manual control Automatic maint. message Module selection <ul style="list-style-type: none"> Slot A Slot 1 Slot 2 Boiler param. <ul style="list-style-type: none"> Boiler type Fuel Ecostream control Type of burner Sequence reversal after ... Hours Minimum modulation output Burner set motor runtime Load limit from outside temperature Boiler pump function Boiler pump run-on time Minimum burner runtime Pump logic temperature Minimum start temperature Maximum shutdown temperature Flue gas temperature limit Heating circ. 1 <ul style="list-style-type: none"> Heating system Heat. circ. desig. Low end temp. Design temperature Minimum flow temperature Maximum flow temperature Remote control Maximum room infl Setback type Outside hold frm. Holiday setback type No setback below ... Flow setback Room temperature offset Automatic adaptation Switching optimisation Stop optimisation Frost prot from DHW priority Servomotor (not on heating circuit 0) Servomotor runtime Boiler raising 	<ul style="list-style-type: none"> External Day/Night/Aut External fault message - pump Screed drying Screed temperature rise Screed heat-up time Maximum screed temperature xxxx Maximum screed time Screed setback temperature Screed setback time Heating circuit 0, 2, 3, 4 see heating circuit 1 DHW <ul style="list-style-type: none"> DHW yes/no DHW range to Switching optimisation Residual heat use Hysteresis Boiler raising External fault message WF1/WF2 External contact WF1/WF3 Thermal disinfection Thermal disinfection temperature Thermal disinfection weekday Thermal disinfection time Daily heat-up DHW circulation (start frequency per hour) Special parameters Heating characteristics <ul style="list-style-type: none"> Heating curve heating circ. 0 Heating curve heating circ. 1 Heating curve heating circ. 2 Heating curve heating circ. 3 Heating curve heating circ. 4 Relay test <ul style="list-style-type: none"> Boiler Heating circ. 0 Heating circ. 1 Heating circ. 2 Heating circ. 3 Heating circ. 4 DHW LCD test Fault Monitor <ul style="list-style-type: none"> Boiler Heating circ. 0 Heating circ. 1 Heating circ. 2 Heating circ. 3 Heating circ. 4 DHW Version Control unit Reset <ul style="list-style-type: none"> Control unit settings Burner Hours run Fault log Maximum flue gas temperature Heat yield Maint. message
--	--

Fig. 5 Adjustable parameters and display data

6 Controls and MEC2 programming unit

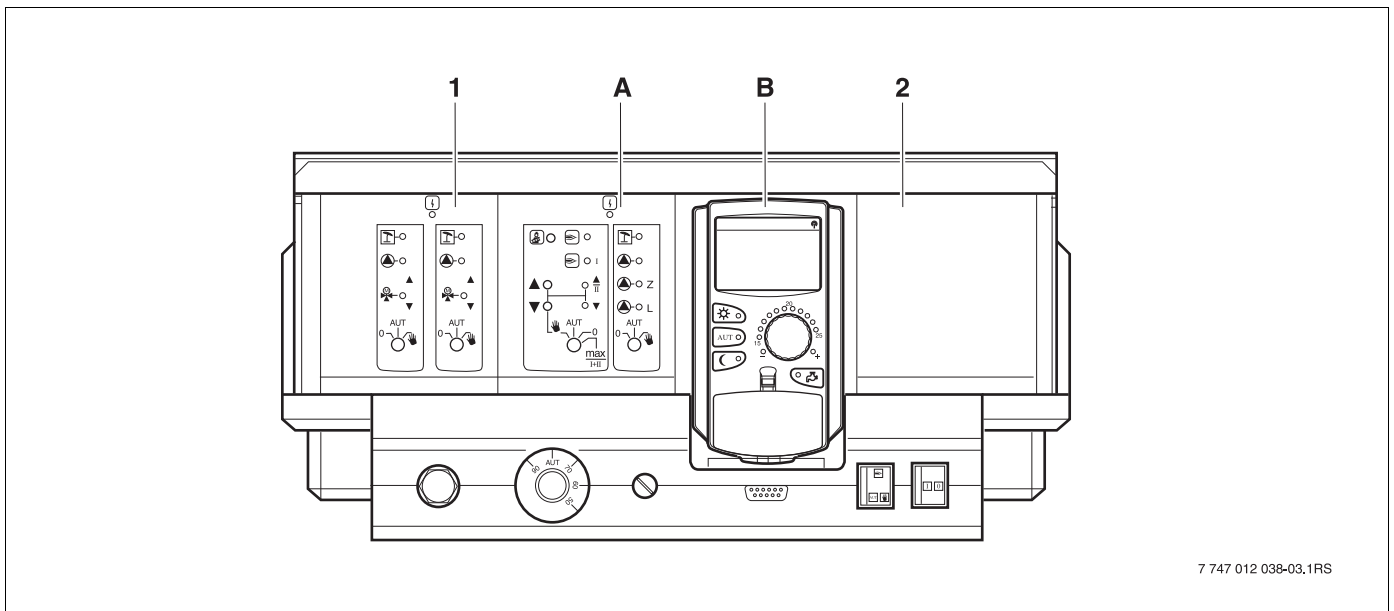
6.1 Control unit controls



7 747 012 039-01.2RS

Fig. 6 Control unit controls (delivered condition)

- | | |
|-----------------------------|--|
| 1 High limit safety cut-out | 4 Connection for external service equipment and the MEC2 |
| 2 Boiler water thermostat | 5 Burner emergency operation switch |
| 3 Fuse F1 | 6 ON/OFF switch |

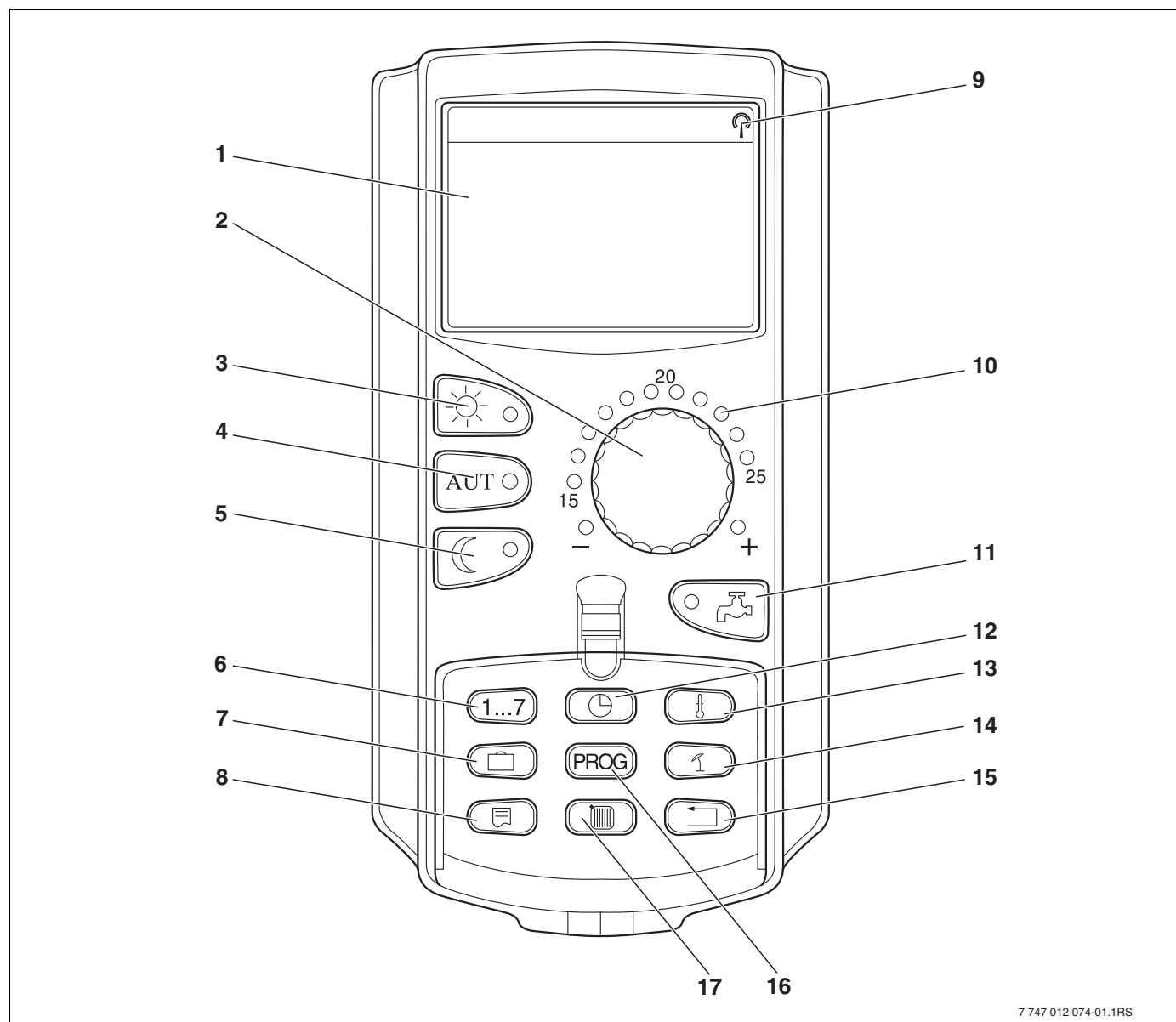


7 747 012 038-03.1RS

Fig. 7 Fitted modules

- | |
|---|
| 1 Slot 1: e.g. FM442 - heating circuit 1, heating circuit 2 |
| A Slot A: ZM422 - feed for external heat sources, heating circuit 0 |
| B Slot B: MEC2 (CM431) - MEC2 programming unit |
| 2 Slot 2: e.g. FM442 - heating circuit 3, heating circuit 4 |

6.2 MEC2 programming unit



7 747 012 074-01.1RS

Fig. 8 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 in acc. with a time switch | 12 Setting the time |
| 5 Constant setback mode | 13 Change temperature values |
| 6 Enter 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 |

7 Modules and their functions

All modules which are or can be fitted into your Logamatic 4211 control unit are shown here.

The following pages contain information as to the most important modules you can use.

		Logamatic
		4211
Module	MEC2 programming unit	O
	CM431 controller module	O
	ZM422 central module Burner controller, 1 heating circuit + 1 DHW circuit	O
	FM441 function module 1 heating circuit + 1 DHW circuit	–
	FM442 function module 2 heating circuits	X
	FM443 function module Solar circuit	X
	FM444 function module Alternative heat source	X
	FM445 function module LAP/LSP (primary system)	X
	FM446 function module Interface EIB	X
	FM448 function module Central fault message	X
	ZM426 auxiliary module Additional STB	X
	FM458 function module Strategy module	–

Tab. 1 Modules and their functions

O = Standard equipment level

X = Accessories

– = Combination/installation not possible

7.1 CM431 controller module

Setting the control unit address

Address settings (→ Fig. 9, [1]) for the Logamatic 4211 control unit are made on the CM431 module (behind the MEC2 programming unit).

- Remove the MEC2 programming unit.
- You can now select the control unit address with a screwdriver.

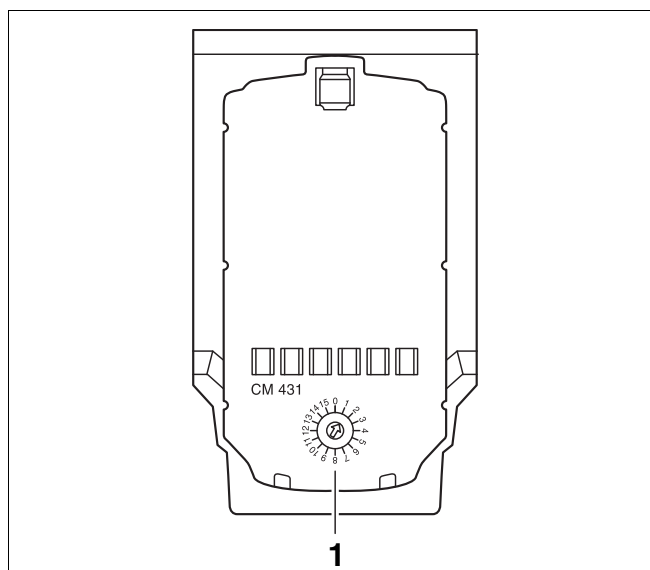


Fig. 9 Setting addresses

Address	Description
0	Stand-alone control unit: Set the address to 0 if the control unit operates as stand-alone equipment (factory setting).
	Each connected device must be given a different address if several devices are networked. 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 has special significance since, where several control units are networked, the control unit with this address acts as the master device. The master controls the boiler. Always connect the outside temperature sensor to the master. The master monitors the ECOCAN-BUS that links the control units, and a telecontrol modem or other devices if installed. The master recognises if an address has been allocated more than once. A fault message is displayed by the MEC2. All networked control units transfer their set values to the master, which uses them to formulate the overall set value. Any network must only include one master.
2 – 15	Not applicable to Logamatic 4211 control unit

Tab. 2 Control unit addresses

7.2 NM482 power supply module

Terminator when networking several control units



RISK TO LIFE

from electric shock.

WARNING!

- Ensure that all electrical work is 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. 10, [2]).

The factory setting is:

Gravity switch S1 open = terminator not fitted

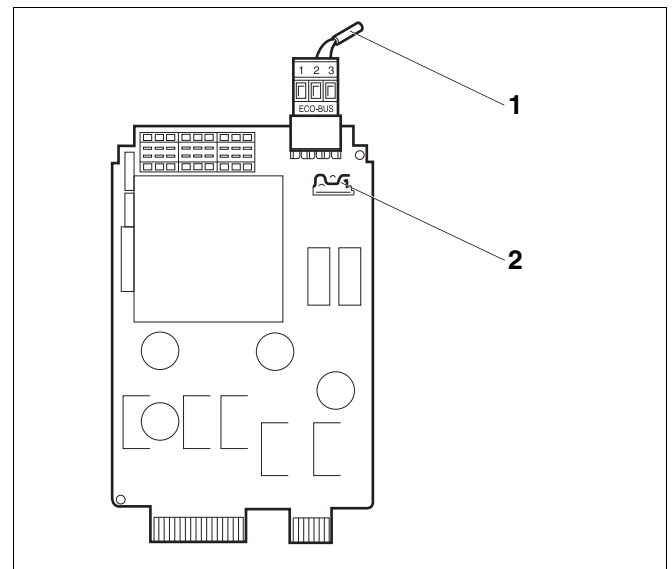
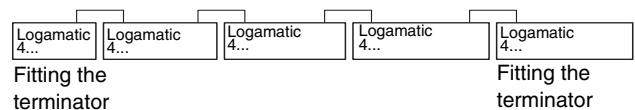


Fig. 10 NM482 power supply module

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



7.3 ZM422 central module

The ZM422 module is part of the standard equipment level of the Logamatic 4211 control unit. The switches on the module are only provided for service and maintenance functions.

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 4211 control unit).



The control functions remain operational in manual mode.

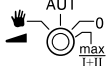
Burner function

"Flue gas test" key  for flue gas test

Press and hold "flue gas test" for a few seconds.

The central heating control unit operates for 30 minutes at a higher flow temperature.

During the flue gas test, fault indicator  and summer mode indicator  flash alternately. Press "flue gas test" again to cancel the flue gas test.

Switch for burner 



USER INFORMATION

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

Positions **0**, **manual** and **max I + II** are special settings reserved for contractors.

The burner may be directly controlled with the switch.

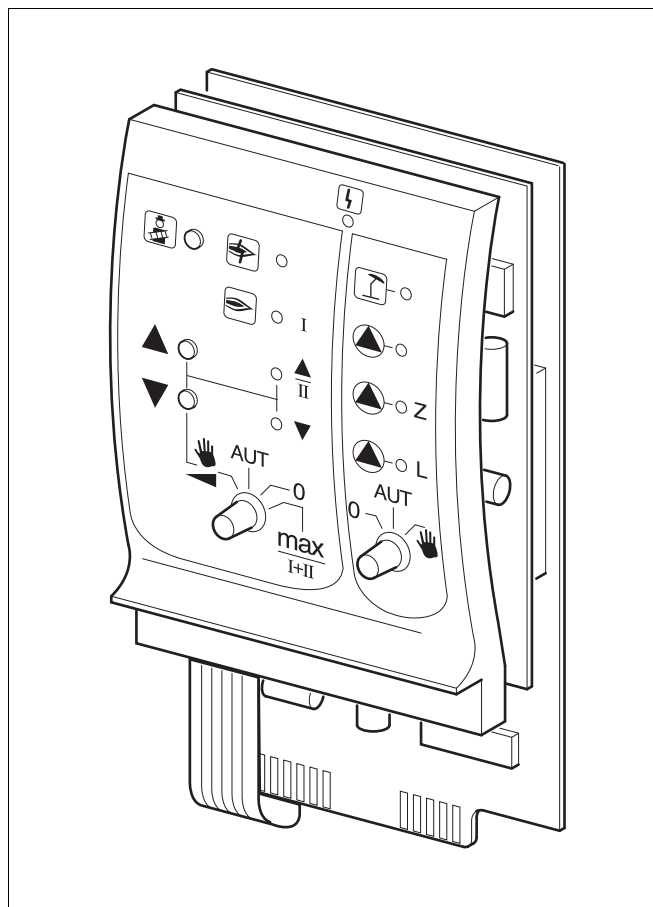






Fig. 11 ZM422


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

LEDs for burner functions


Display  Burner fault


Display  Burner operational


Display  Modulation output is increased/
2. stage operational


Display  Modulating output is decreased



LEDs for heating circuit 0 and DHW functions

Display  Boiler circuit 0 in summer mode

Display  Heating circuit 0 or boiler pump operational

Display  Cylinder primary pump operational

Display  DHW circulation pump operational

-  : As the base load, only the first stage will be enabled for single and two-stage burners. The second stage is at zero volt. The burner servomotor cannot be reversed. For modulating burners, the burner output can be infinitely increased using ▲ and infinitely reduced using ▼.
- AUT: The burner operates in automatic mode.
- 0: The burner is switched off. Except when the burner emergency switch is set to .
- max I+II: The burner operates continuously at maximum output.

Heating circuit and DHW function


Heating circuit and DHW switch 



USER INFORMATION

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

The positions **0** and **manual** are special settings reserved for contractors only.


-  : The heating circuit 0 pump or boiler pump and the cylinder primary pump are switched on.
- AUT: Heating circuit 0 pump or the boiler circuit and DHW circuit operate in automatic mode.
- 0: Heating circuit 0 pump or boiler pump, the cylinder primary pump and DHW circulation pump are switched off. The control functions continue to operate.

LEDs indicate the current function status.

7.4 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 for Logamatic 4211 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 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.

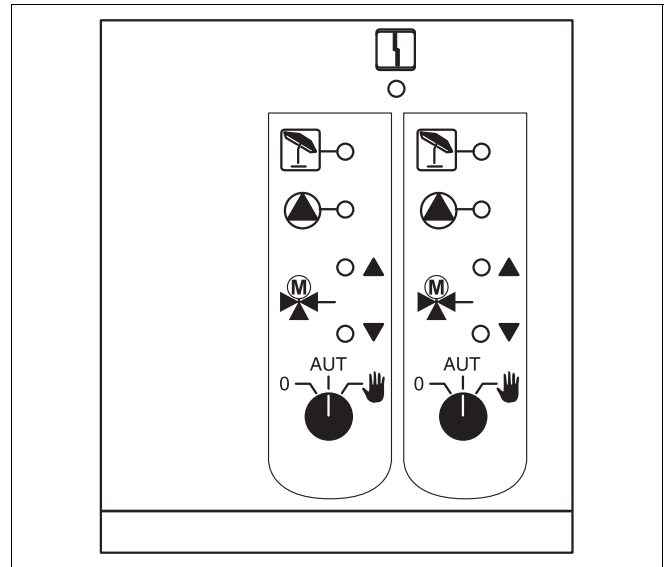







Fig. 12 FM442

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

8 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 initialisation after a power supply has been connected.

The display shows "MEC is initialised".

The control unit address is then briefly displayed.

MEC is
initialised

Connection with
control unit

Address
established

If the MEC2 is fitted in the control unit or wall retainer, it automatically detects the control unit to which it is connected (automatic detection). You do not have to select the control unit.

The information displayed varies according to the application:

Monitor data
will

from ctrl unit
taken

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".

Unknown
Control unit

MEC2 installed in another control unit

If the MEC2 is programmed with 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

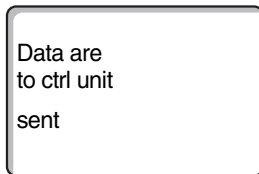
If the MEC2 is connected to a different control unit of the same type, the display will show the adjacent message for approximately 3 seconds.

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.



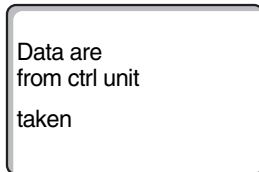
Press "AUT" = "Data are to ctrl unit sent".



The display will then show the adjacent message.

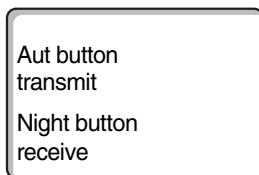


Press "Night mode" = "Data are from ctrl unit taken".



The display will then show the adjacent message.

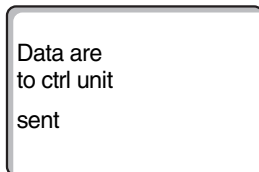
c) Identical control unit



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 in 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.



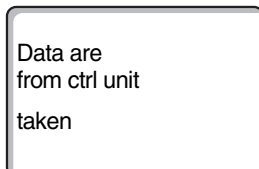
Press "AUT" = "Data are to ctrl unit sent".



The display will then show the adjacent message.



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



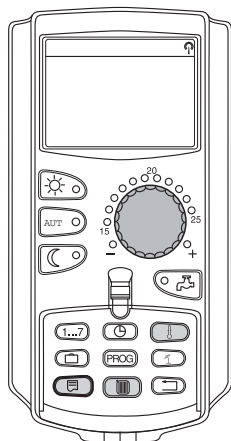
The display will then show the adjacent message.

9 Calling up the service level

Access to the service level is password protected. The service level is intended for 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 "Display" + "Heating circ." + "Temp" simultaneously and then release.

The service level is now enabled.

Control system "Press and turn"

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

Calling up main menus

You can scroll through the main menu level by turning the 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.



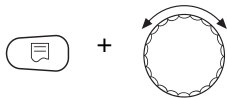
Press "Display".



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.



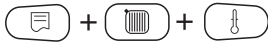
Press "Back" to return to the next level up.

10 Calling up and modifying settings

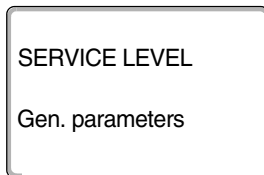


USER INFORMATION

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 standard Logamatic 4211 control unit incl. the ZM422 central module (standard equipment level), and those of the most commonly used FM442 function module (accessory). All other menus are explained in the separate technical documentation of each respective module.



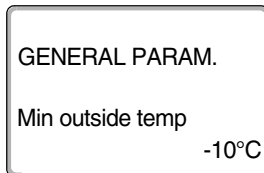
Call up the service level.



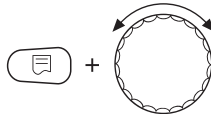
"Gen. parameters" is shown as the first main menu.



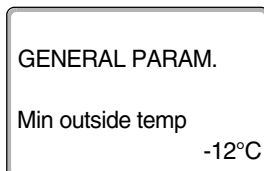
Press "Display" to call up a submenu (here: "Min outside temp").



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 standard display, if no key is pressed for a long period of time.

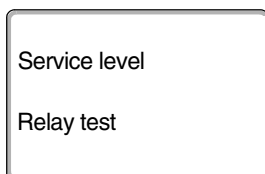
11 Checking the high limit safety cut-out (STB)



Call up the service level.



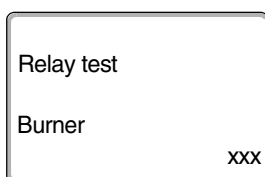
Turn the rotary selector until parameter "Relay test" appears.



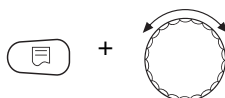
The display shows the selected submenu.



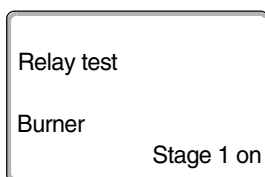
Press "Display" twice to call up a submenu (here: "Burner").



The display shows the selected submenu.



Hold down "Display" and select the required value with the rotary selector (here: "Stage 1 on").



The display shows the selected function.



Release "Display" to save your input.

The burner starts.

- Pull off the thermostat selector (TR).
- Push lever or key (→ Fig. 13, page 26) (subject to controller type) back with a screwdriver, and hold until the high limit safety cut-out has responded.

Terminating or exiting the test



Press "Back" to interrupt or terminate the test.

Triggering the high limit safety cut-out

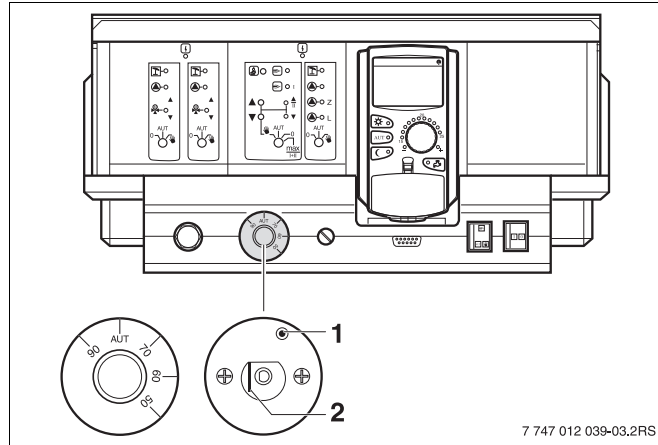


Fig. 13 Triggering the high limit safety cut-out

- 1 Key
- 2 Lever

- Push the selector back onto the thermostat and turn it to "AUT".

Resetting the high limit safety cut-out

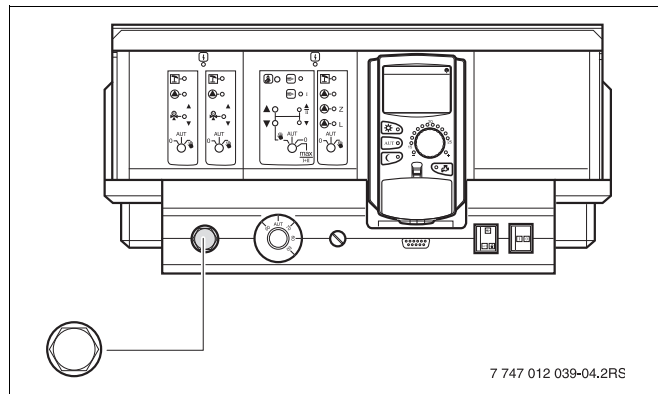


Fig. 14 Resetting the high limit safety cut-out

- Undo the cap nut to reset the high limit safety cut-out and push the reset key beneath.

12 General parameters



USER INFORMATION

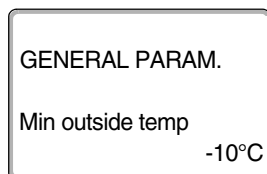
In main menu "Gen. parameters" you can adjust values for the submenus listed relating to the heating system and the characteristics of the house in question. The following pages explain how to adjust values relating to the submenus.



Call up the service level. "General param." 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

12.1 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).

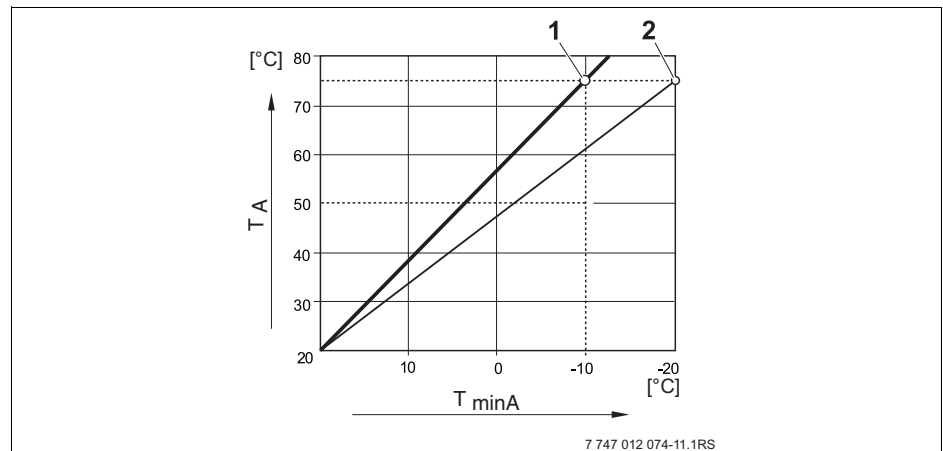


Fig. 15 Heating curve adjustment: Adjustment of gradient via design temperature and minimum outside temperature

$T_{\min A}$ 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.

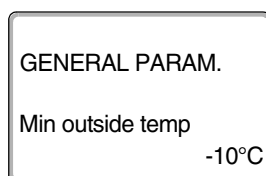
If your region is not included in the table, take the value from the heat demand calculation for your building.



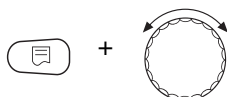
Call up the service level. "General param." is shown as the first main menu.



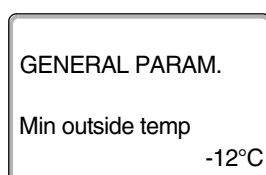
Press "Display" to call up a submenu (here: "Min outside temp").



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

12.2 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. "General param." 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.

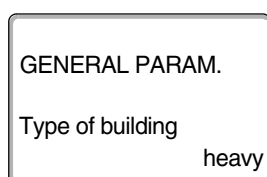
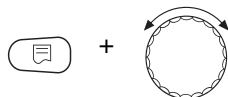
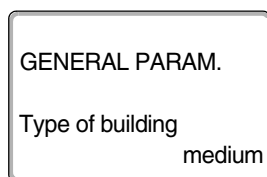
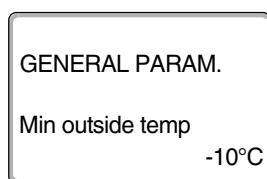
The display shows the selected submenu.

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

12.3 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 summer to winter time and vice versa is made automatically on the last weekend in March and October.
- Manual
Single 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. You never need to set the time during commissioning, after prolonged power failure, after the heating system has been switched off for longer periods on its mains electrical isolator or for changing from summer to winter time and vice versa.


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

Use outside Germany precludes enabling of the radio clock function.

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

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

Normally, reception is possible within a radius of 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, 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.



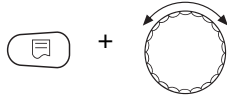
Call up the service level. "General param." is shown as the first main menu.



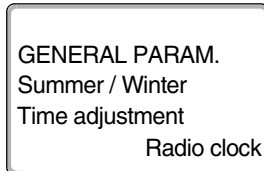
Press "Display" to call up a submenu (here: "Min outside temp").



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

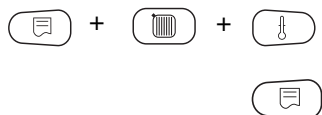
If "Radio clock" is not selected, radio time reception is disabled in all control units connected to a data line. This also applies to the radio time signals of the BFU/F remote control and other MEC2 programming units with radio clock reception. The last input at a control unit in the network is valid.

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

12.4 Remote adjust.

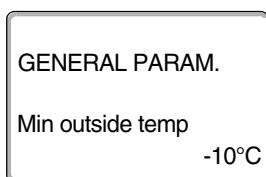
The remote adjustment offers the option of external data input or modification via service tools, such as the Logamatic telecontrol system.

- 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. "General param." is shown as the first main menu.

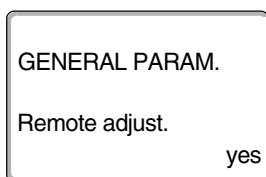
Press "Display" to call up a submenu (here: "Min outside temp").



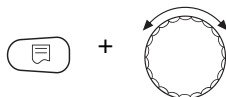
The display shows the selected submenu.



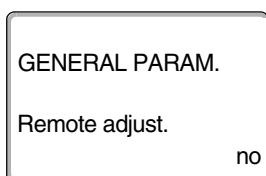
Turn the rotary selector until submenu "Remote adjust." appears.



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

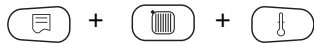
This parameter cannot be adjusted via the telecontrol system; it is only intended to be used in situ.

	Input range	Factory setting
Remote adjust.	yes no	yes

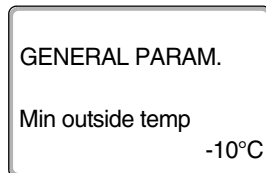
12.5 Fault message manual control

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

Call up the service level. "General param." is shown as the first main menu.



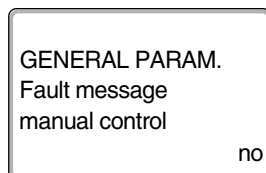
Press "Display" to call up a submenu (here: "Min outside temp").



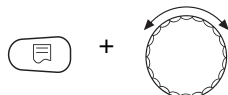
The display shows the selected submenu.



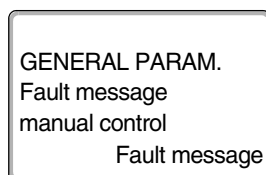
Turn the rotary selector until submenu "Fault message manual control" appears.



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 "cent. fault mess", the output of a central fault message also appears via a zero volt contact e.g. via the FM448 function module.

	Input range	Factory setting
Fault message manual control	no Fault message cent. fault mess	no

12.6 Automatic maintenance message

At the user level you can generate an automatic maintenance message to appear on the MEC2 programming unit display.

You can set the following:

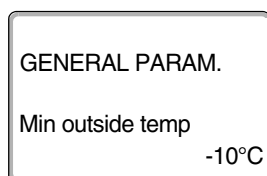
- Maintenance message by date. Enter the date of the next scheduled service (01.01.2000 – 31.12.2088).
- Maintenance according to "Hours run".



Call up the service level. "General param." is shown as the first main menu.



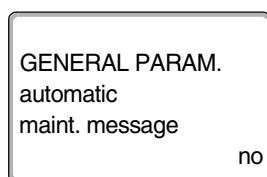
Press "Display" to call up a submenu (here: "Min outside temp").



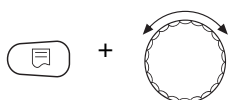
The display shows the selected submenu.



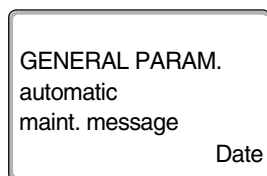
Turn the rotary selector until the "automatic maint. message" submenu appears.



The display shows the selected submenu.



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

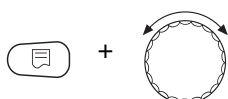


The display shows the set value.

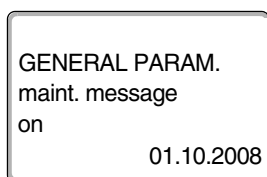
Release "Display" to save your input.



Turn the rotary selector one increment clockwise.



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

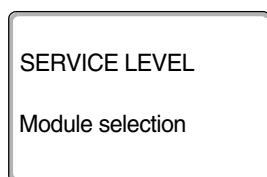
13 Module selection

On starting the Logamatic 4211 control unit or after a system reset, the modules are automatically recognised and their information downloaded.

Example: Slot 1: FM442
Slot 2: free

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

Call up the service level. "General param." is shown as the first main menu.

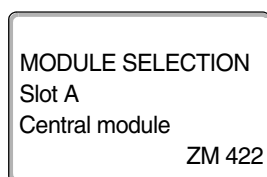


Turn the rotary selector until main menu "Module selection" appears.

The display shows the selected main menu.



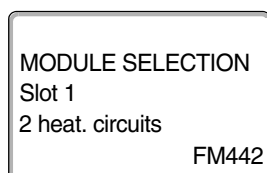
Press "Display" to call up a submenu (here: "Slot A Central module").



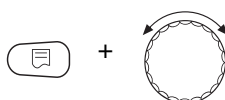
The display shows the selected submenu.



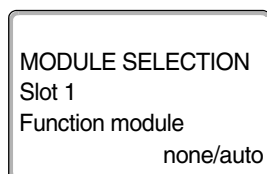
Turn the rotary selector until submenu "Slot 1" appears.



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.

14 Boiler parameters

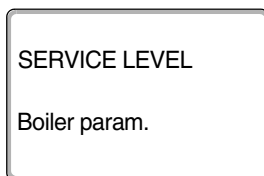
14.1 Selecting the boiler type

Subject to the selected boiler type, special setting options will be displayed. For further information regarding the setting of boiler-specific parameters, see Chapter 29.

14.1.1 Low temperature boiler

The low temperature boiler is operated with a factory-set pump logic, which depends on the selected burner type.

Call up the service level. "General param." is shown as the first main menu.

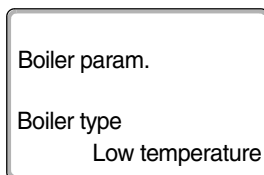


Turn the rotary selector until main menu "Boiler param." appears.

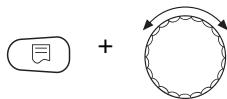
The display shows the selected main menu.



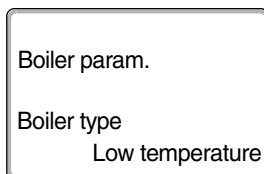
Press "Display" to call up a submenu (here: "Boiler type").



The display shows the selected submenu.



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



The display shows the set value.

Release "Display" to save your input.



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

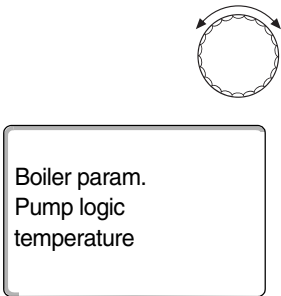
	Input range	Factory setting
Boiler type	Low temperature Ecostream Condensing LT/low end temp.	Low temperature

Pump logic temperature

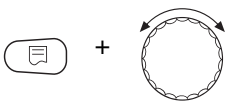
The heating circuit circulation pumps and, if installed, the boiler circuit pump are switched on to maintain the boiler operating conditions subject to the pump logic temperature. The preset pump logic temperature only needs to be changed in special cases and is only adjustable in case of boiler type = low temperature.

The factory-set pump logic temperature is 5 K below the minimum shutdown temperature of the boiler.

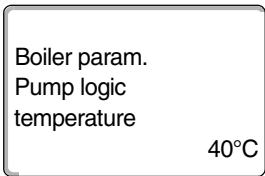
Turn the rotary selector until submenu "Pump logic temperature" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "40°C").



The display shows the set value.

Release "Display" to save your input.

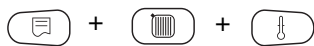
	Input range	Factory setting
Pump logic temperature	15 °C – 60 °C	Single stage: 40 °C Two-stage: 45 °C Modulating: 50 °C

14.1.2 Ecostream boiler

The boiler operating conditions for the Ecostream boilers are set at the factory and are automatically taken into account. Parameter "Ecostream control via" is used to ascertain how the boiler operating temperature should be controlled.

The factory setting provides a boiler operating temperature of 50 °C.
The minimum set value for the boiler flow temperature is 4 K higher (54 °C).

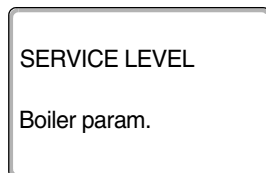
According to factory-set defaults and with the setting "Act.heat.circ.", the heating circuit circulation pump starts 5 K below the boiler operating temperature and stops 7 K below.



Call up the service level. "General param." is shown as the first main menu.



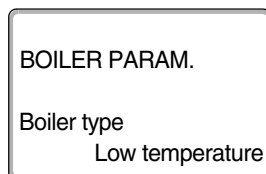
Turn the rotary selector until main menu "Boiler param." appears.



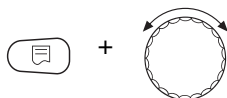
The display shows the selected main menu.



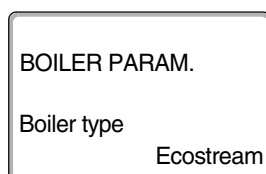
Press "Display" to call up a submenu (here: "Boiler type").



The display shows the selected submenu.



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



The display shows the set value.

Release "Display" to save your input.

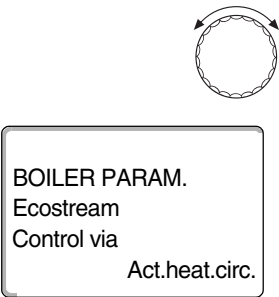
Ecostream control via

This setting determines via which servomotor the preset operating flow temperature should be regulated. Make this setting in accordance with the existing or intended hydraulic conditions. It affects the control of the respective servomotor and the pre-determined set values.

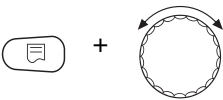
Select from the following options:

- "Act.heat.circ.", if the Ecostream control unit is to be regulated by a higher control of the heating circuit actuator (diverter valve). Heating circuits must be equipped with actuators that are regulated by heating circuit modules of the same Logamatic series (no third party controllers). The control function is designed for a runtime of 120 s.
- "Ext. control", if the Ecostream is to be regulated by an external control unit, e.g. if the Logamatic 4211 does not need to fulfil any operating conditions, for example in dual-block boiler systems with integral control unit for regulating the annular butterfly valves of the boiler blocks.

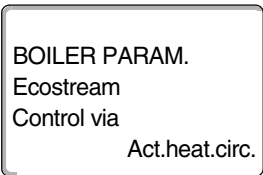
Turn the rotary selector until submenu "Ecostream Control via" appears.



The display shows the selected submenu.



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



The display shows the set value.

Release "Display" to save your input.

	Input range	Factory setting
Ecostream control via	Act.heat.circ. Ext. control	Act.heat.circ.

Servomotor runtime

The servomotor runtime is preset and should generally not be changed.

**USER INFORMATION**

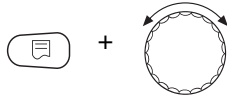
Observe that incorrect entries may lead to fluctuating flow temperatures during operation.



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

BOILER PARAM.
Servomotor
runtime

The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "120 s").

BOILER PARAM.
Servomotor
runtime

120 s

The display shows the set value.

Release "Display" to save your input.

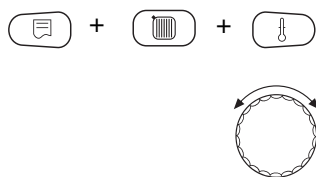
The runtimes of the heating circuit actuators are requested separately under parameter "Heating circuit". If the runtimes of the individual heating circuit actuators are different, a representative value (average) must be entered.

	Input range	Factory setting
Servomotor runtime	10 s – 600 s	120 s

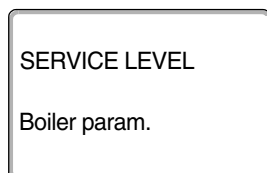
14.1.3 Condensing boiler

Select the boiler type "Condensing" if a condensing boiler has been installed.
No operating conditions need to be maintained for this type of boiler.

Call up the service level. "General param." is shown as the first main menu.



Turn the rotary selector until main menu "Boiler param." appears.

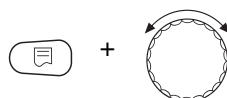
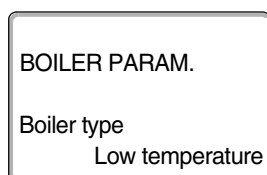


The display shows the selected main menu.

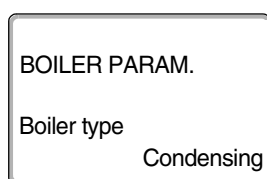


Press "Display" to call up a submenu (here: "Boiler type").

The display shows the selected submenu.



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



The display shows the set value.

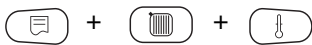
Release "Display" to save your input.

14.1.4 Low temperature boiler with low end temperature

The respective factory-set operating conditions selected in the control unit automatically apply when selecting this boiler type. A servomotor regulates the boiler operating temperature in the boiler flow. These set values **always** apply, if a load demand exists for the boiler via a consumer, irrespective of whether the burner is switched on or off. To support the operating temperature control, the heating circuit circulation pumps and the boiler circuit pump are switched off, if the actual temperature falls below the defined minimum temperature.

**USER INFORMATION**

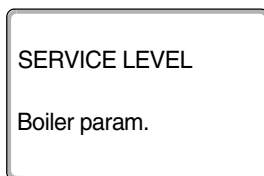
The LT/low end temperature must be controlled via the heating circuit actuators.



Call up the service level. "General param." is shown as the first main menu.



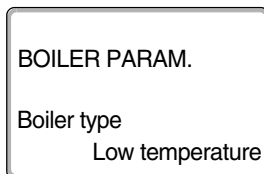
Turn the rotary selector until main menu "Boiler param." appears.



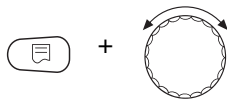
The display shows the selected main menu.



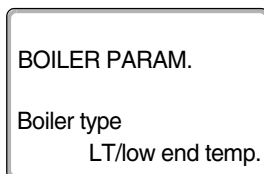
Press "Display" to call up a submenu (here: "Boiler type").



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "LT/low end temp").



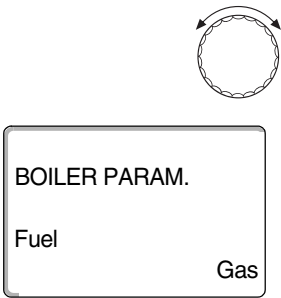
The display shows the set value.

Release "Display" to save your input.

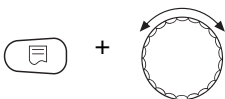
Fuel

Set the fuel to be used in this parameter. This setting influences the set value for the servomotor and burner control. Factory settings default "Gas"; lower set values for the low end temperature apply when changing the setting to oil.

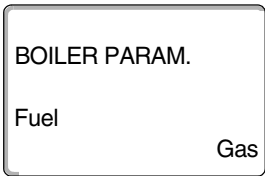
Turn the rotary selector until submenu "Fuel" appears.



The display shows the selected submenu.



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



The display shows the set value.

Release "Display" to save your input.

	Input range	Factory setting
Fuel	Gas Oil	Gas

14.2 Setting the burner type

Additional setting screens will be displayed subject to the selected burner type.

The following burner types are available:

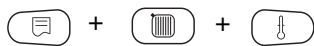
"single stage"

"two-stage"

"modulating"

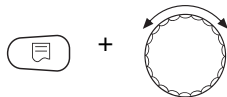
"2 x single stage" is designed for the following cases:

- For a boiler sequence comprising two single stage boilers that are operated with only one Logamatic 4211 on the first boiler and a constant temperature control unit on the second boiler.
- For certain dual block boilers, each equipped with two single stage burners, which operate independently of each other.



SERVICE LEVEL

Boiler param.



BOILER PARAM.

Type of burner
single stage

Call up the service level. "General param." is shown as the first main menu.

Turn the rotary selector until main menu "Boiler param." appears.

The display shows the selected main menu.

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

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

The display shows the set value.

Release "Display" to save your input.

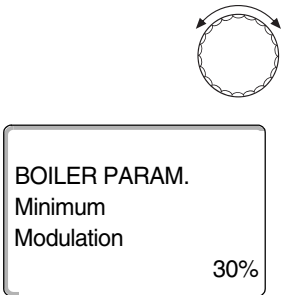
	Input range	Factory setting
Type of burner	single stage two-stage modulating 2 x single stage	single stage

14.2.1 Modulating burner

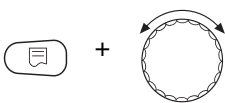
Minimum modulation output

The "Minimum modulation output" is that part of the total output, down to which the burner can be modulated. The burner will be completely switched off if the demand falls below this set value. Incorrect settings can lead to control fluctuations.

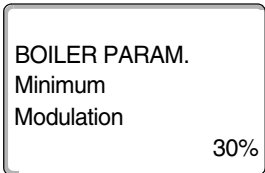
Turn the rotary selector until submenu "Minimum Modulation" appears.



The display shows the selected submenu.



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



The display shows the set value.

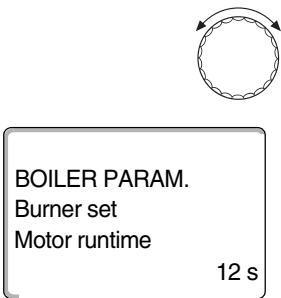
Release "Display" to save your input.

	Input range	Factory setting
Minimum modulation	10 % ... 60 %	30 %

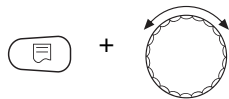
Burner set motor runtime

Turn until "Burner set Motor runtime" is displayed. This tells the control unit the time required by the burner servomotor for the movement between "closed" and "open".

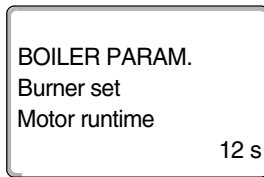
Turn the rotary selector until submenu "Burner set Motor runtime" appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "12 s").



The display shows the set value.

Release "Display" to save your input.

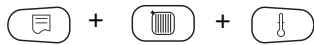
	Input range	Factory setting
Burner set motor runtime	5 s – 60 s	12 s

14.2.2 2 x single stage burner

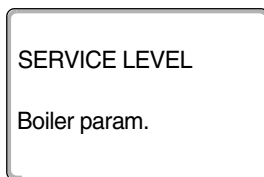
Sequence reversal after ... hours

You can select the number of hours after which the sequence with the two 2 x single stage boiler blocks is reversed.

Call up the service level. "General param." is shown as the first main menu.



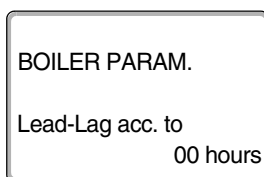
Turn the rotary selector until main menu "Boiler param." appears.



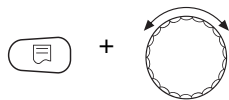
The display shows the selected main menu.



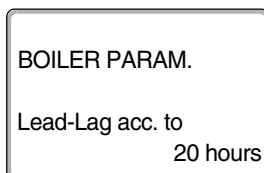
Turn the rotary selector until submenu "Lead-Lag acc. to".



The display shows the selected submenu.



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



The display shows the set value.

Release "Display" to save your input.

	Input range	Factory setting
Sequence reversal after ... hours	00, 10, 20, ... 1000 hours	00 hours

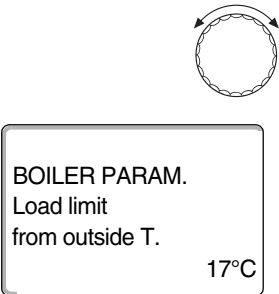
Load limit

You can enter an outside temperature under parameter "Load limit", from which stage 2 will be automatically blocked, if you have selected the "2 x single stage" burner type.

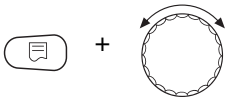
Example:

From a certain outside temperature upwards, operation will be limited to one boiler stage or one boiler block.

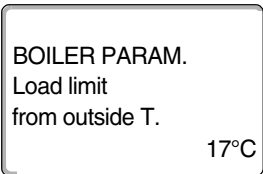
Turn the rotary selector until submenu "Load limit from outside T." appears.



The display shows the selected submenu.



Hold down "Display" and turn the rotary selector until the required value appears (here: "17°C").



The display shows the set value.

Release "Display" to save your input.

	Input range	Factory setting
Load limit from outside temperature	-31 °C – 30 °C none	17 °C

14.3 General settings regarding boiler parameters

The following settings are independent of boiler type and burner type.

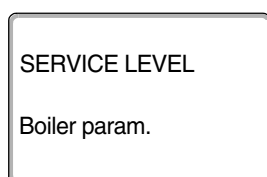
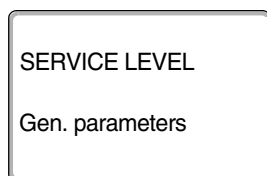
- Setting the pump function
Subject to the hydraulic system or the operating conditions of certain boilers, the boiler pumps will be utilised as feed, bypass or test point pumps.
- Boiler pump run-on time
Enter a time for which the pump should continue to run after the burner has shut down, to maximise the use of the heat stored in the boiler.
- Minimum burner runtime
The minimum burner runtime tells the system the minimum length of time the burner operates after it has been switched on, irrespective of the current set value. This prevents the burner being frequently cycled on and off under certain system conditions.
- Minimum start temperature
The burner will be switched on again no later than when the boiler flow temperature falls to the minimum start temperature when there is a heat demand.
- Maximum shutdown temperature
The burner will be switched off no later than when the boiler flow temperature reaches the maximum shutdown temperature.
- Maximum flue gas temperature limit
A flue gas temperature sensor must be installed to capture the flue gas temperature. A service message may be issued via a telecontrol system if the "maximum flue gas temperature" is exceeded. The boiler should then be serviced.

14.3.1 Pump function

The pump function can only be set when no heating circuit 0 was chosen.

The following pump functions are available:

- Boiler pump
The control logic and the boiler circuit pump characteristics depend on the selected boiler type, i.e. the possible boiler operating conditions affect the boiler circuit pump control. In exceptional cases the run-on time of the boiler pump can be altered.
- Sensor pump
This pump is primarily used to flood the boiler sensor in dual-boiler systems. The test point pump always operates in parallel with the operation of burner stage 1. The pump is controlled independently of the set boiler type. If you make this selection, the boiler or the test point pump will not be subject to any boiler operating conditions. The operating conditions specified in Code of Practice K6 must be ensured at all times.
- None



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

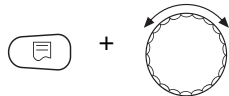
The display shows the selected main menu.

Turn the rotary selector until main menu "Boiler param." appears.

The display shows the selected submenu.



Turn the rotary selector until submenu "Pump function" appears.



Hold down "Display" and turn the rotary selector until the required value appears (here: "none").

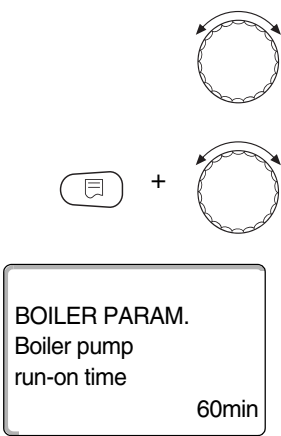
BOILER PARAM.
Pump function
none

The display shows the set value.

Release "Display" to save your input.

Setting boiler pump run-on time

Change the factory-set value of 60 min. only in exceptional cases.
Turn the rotary selector until submenu "Boiler pump run-on time" appears.



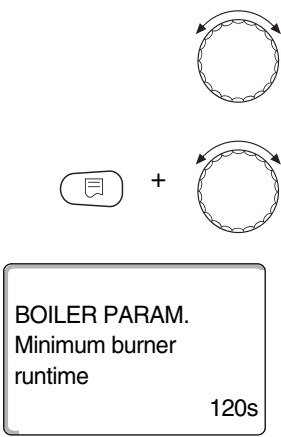
Hold down "Display" and turn the rotary selector until the required value appears (here: "60min").

The display shows the set value.
Release "Display" to save your input.

	Input range	Factory setting
Boiler pump function	Boiler pump Sensor pump none	none
Boiler pump run-on time	0 min – 60 min Const. operation	60 min

14.3.2 Setting the minimum burner runtime

Here, you select the minimum burner runtime after a burner start.
Change the factory setting only in exceptional cases.
Turn the rotary selector until submenu "Minimum burner runtime" appears.



Hold down "Display" and turn the rotary selector until the required value appears (here: "120s").

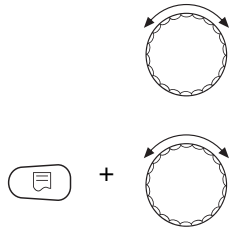
The display shows the set value.
Release "Display" to save your input.

14.3.3 Selecting the minimum start temperature

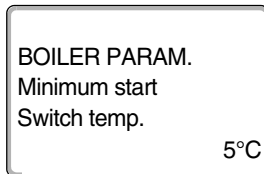
Here, you set the minimum limit for the boiler water temperature, from which the burner starts.

Modify the minimum start temperature only if necessary.

Turn the rotary selector until submenu "Minimum start Switch temp." appears.



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



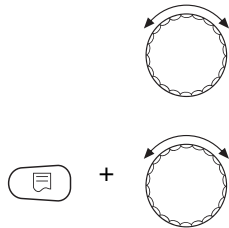
The display shows the set value.

Release "Display" to save your input.

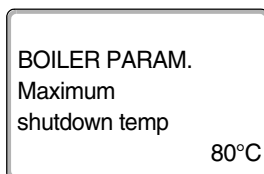
14.3.4 Selecting the maximum shutdown temperature

Modify the maximum shutdown temperature only if necessary.

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



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.



USER INFORMATION

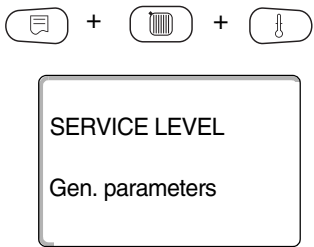
When selecting > 75 °C set the thermostat to 90 °C (→ page 26).

	Input range	Factory setting
Minimum burner runtime	0 s – 300 s	120 s
Minimum start temperature	5 °C – 65 °C	5 °C
Maximum shutdown temperature	70 °C – 99 °C	85 °C

14.3.5 Enter maximum flue gas temperature limit

A fault message is issued if the temperature limit at the flue gas sensor (accessory) is exceeded.

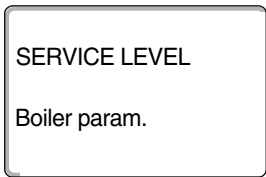
Call up the service level. "Gen. parameters" is shown as the first main menu.



The display shows the selected main menu.



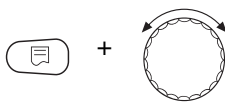
Turn the rotary selector until main menu "Boiler param." appears.



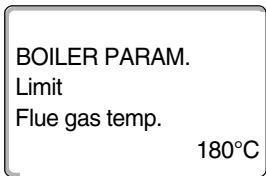
The display shows the selected submenu.



Turn the rotary selector until submenu "Limit Flue gas temp." appears.



Hold down "Display" and turn the rotary selector until the required value appears (here: "180°C").



The display shows the set value.

Release "Display" to save your input.

	Input range	Factory setting
Maximum flue gas temperature limit	none 50 °C – 250 °C	none

15 Heating circuit data

You can 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/Convactor"
The heating curve is automatically calculated for radiators or convactor 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.



USER INFORMATION

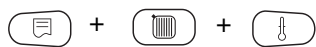
It is recommended to enable the "Underfloor" heating system only in conjunction with mixed heating circuits.

15.1 Heating system selection

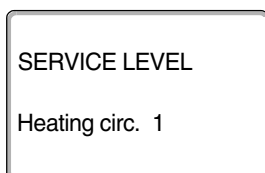
Example:

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

Call up the service level. "General param." is shown as the first main menu.



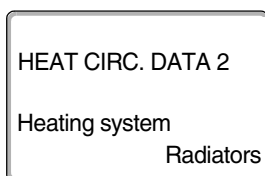
Turn the rotary selector until main menu "Heating circ. + no." appears (here: "Heating circ. 1").



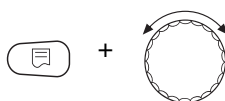
The display shows the selected main menu.



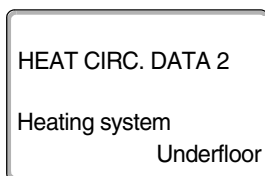
Press "Display" to call up a submenu (here: "Heating system").



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.



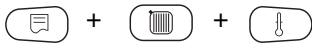
Press "Back" to return to the next level up.

	Input range	Factory setting
Heating system	None Radiators Convactor Underfloor Constant Low end Room controller	Radiators

15.2 Renaming the heating circuit

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

Call up the service level. "General param." is shown as the first main menu.



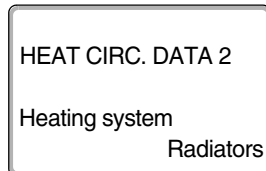
Turn the rotary selector until main menu "Heating circ. + no." appears (here: "Heating circ. 2")



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



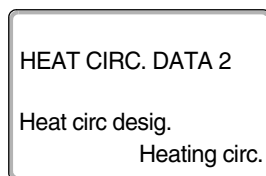
The display shows the selected submenu.



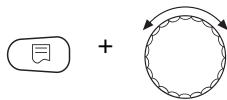
Turn the rotary selector until submenu "Heat circ desig." appears.



The display shows the selected submenu.

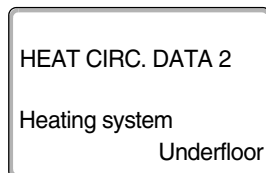


Hold down "Display" and turn the rotary selector until the required value appears (here: "Underfloor").



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.

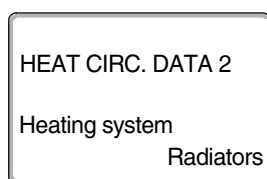
15.3 Setting the low end temperature

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 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.

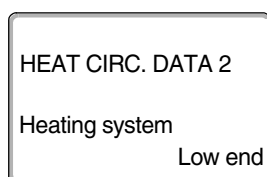
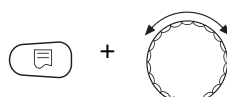
Call up the service level. "General param." is shown as the first main menu.



Turn the rotary selector until 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.



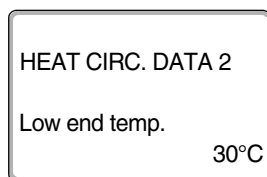
Hold down "Display" and turn the rotary selector until the required value appears (here: "Low end").

The display shows the set value.

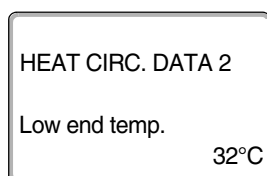
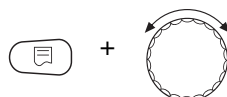
Release "Display" to save your input.



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

15.4 Setting the design temperature

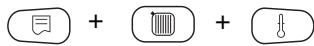
The design temperature is the flow temperature at the adjusted minimum outside temperature (→ Chapter 12.1).

This parameter cannot be adjusted with heating system "Room controller".

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.

Call up the service level. "General param." is shown as the first main menu.



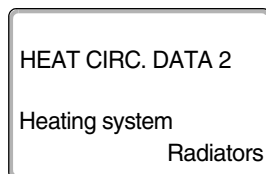
Turn the rotary selector until main menu "Heating circ. + no." appears (here: "Heating circ. 2").



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



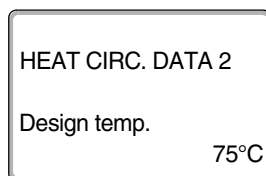
The display shows the selected submenu.



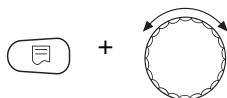
Turn the rotary selector until submenu "Design temp." appears.



The display shows the selected submenu.

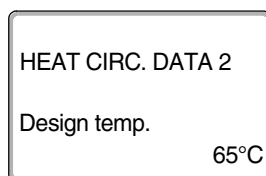


Hold down "Display" and turn the rotary selector until the required value appears (here: "65°C").



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/convector/ low end/constant 45 °C for underfloor heating systems

15.5 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.

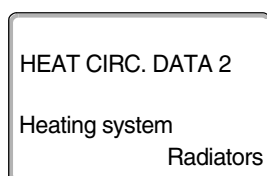
Call up the service level. "General param." is shown as the first main menu.



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



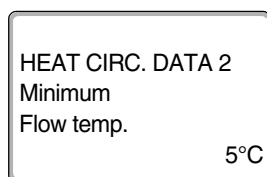
Press "Display" to call up a submenu (here: "Heating system").



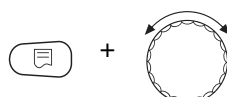
The display shows the selected submenu.



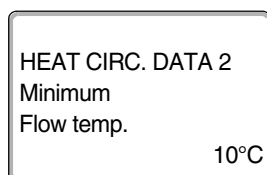
Turn the rotary selector until submenu "Minimum Flow temp." appears.



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.

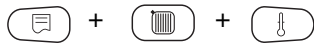
	Input range	Factory setting
Minimum flow temperature	5 °C – 70 °C	5 °C

15.6 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.



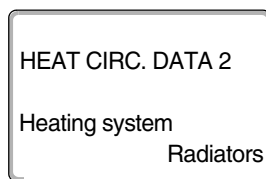
Call up the service level. "General param." is shown as the first main menu.



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



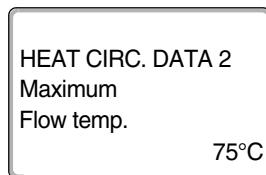
Press "Display" to call up a submenu (here: "Heating system").



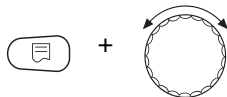
The display shows the selected submenu.



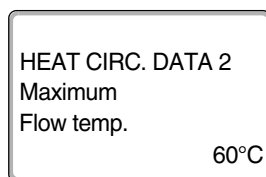
Turn the rotary selector until submenu "Maximum Flow temp." appears.



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

15.7 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."
- 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 enabled.

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.



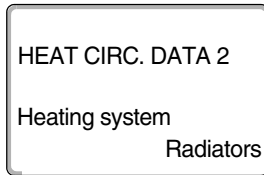
Call up the service level. "General param." is shown as the first main menu.



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



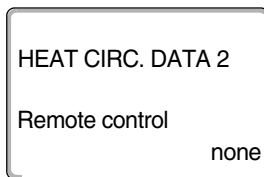
Press "Display" to call up a submenu (here: "Heating system").



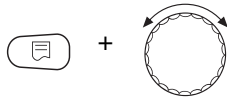
The display shows the selected submenu.



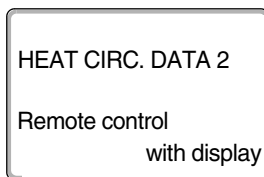
Turn the rotary selector until submenu "Remote control" appears.



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	none without display with display	none

15.8 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 influence of 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.



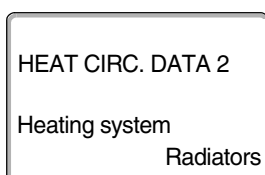
Call up the service level. "General param." is shown as the first main menu.



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



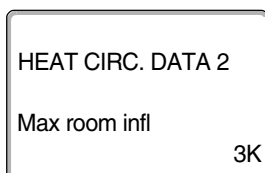
Press "Display" to call up a submenu (here: "Heating system").



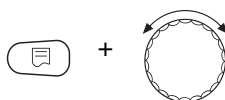
The display shows the selected submenu.



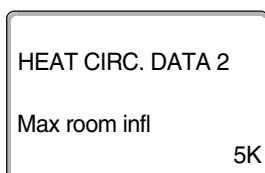
Turn the rotary selector until submenu "Max room infl" appears.



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

15.9 Selecting the type of setback

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

- "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 the 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".



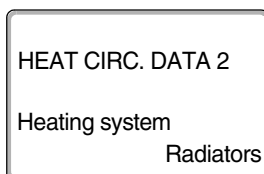
Call up the service level. "General param." is shown as the first main menu.



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



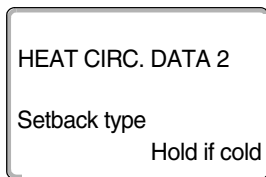
Press "Display" to call up a submenu (here: "Heating system").



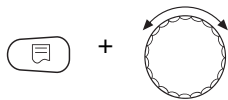
The display shows the selected submenu.



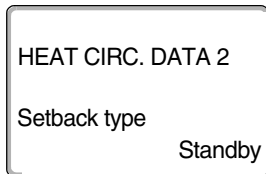
Turn the rotary selector until submenu "Setback type" appears.



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
Setback type	Hold if cold Standby Reduced Hold room temp	Hold if cold

15.10 Setting the outside stop temperature

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



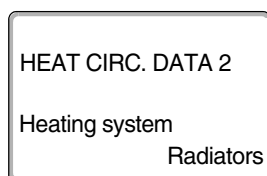
Call up the service level. "General param." is shown as the first main menu.



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



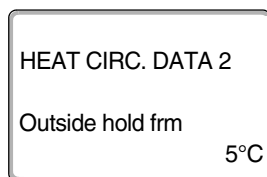
Press "Display" to call up a submenu (here: "Heating system").



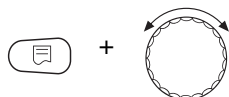
The display shows the selected submenu.



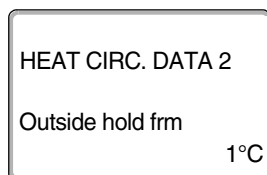
Turn the rotary selector until submenu "Outside hold frm" appears.



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.

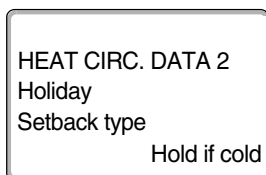
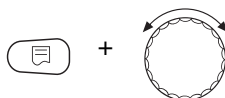
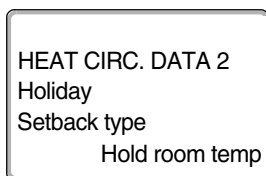
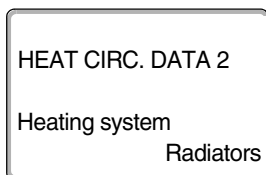
Release "Display" to save your input.



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

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

15.11 Holiday setback type



A separate setback type can be set for the duration of your holiday.
For explanations of possible settings, see Chapter 15.9.

Call up the service level. "General param." is shown as the first main menu.

Turn the rotary selector until 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
Holiday setback type	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).

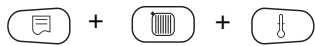
15.12 Stopping setback at low outside temperatures

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 or in holiday mode.



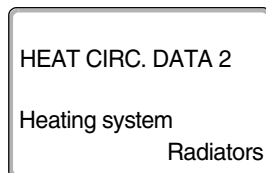
Call up the service level. "General param." is shown as the first main menu.



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



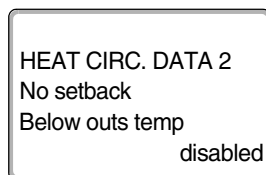
Press "Display" to call up a submenu (here: "Heating system").



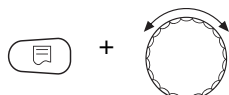
The display shows the selected submenu.



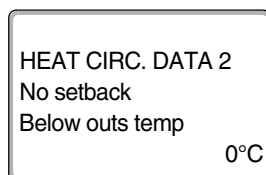
Turn the rotary selector until submenu "No setback Below outs temp" appears.



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.

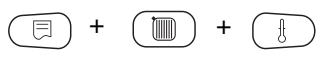


Press "Back" to return to the next level up.

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

15.13Setting flow setback

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



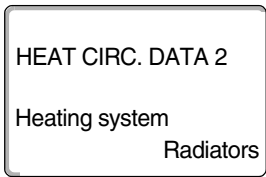
Call up the service level. "General param." is shown as the first main menu.



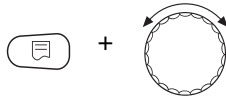
Turn the rotary selector until main menu "Heating circ. + no." appears (here: "Heating circ. 2").



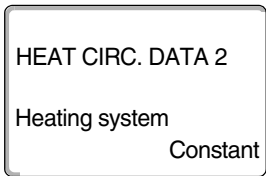
Press "Display" to call up a submenu (here: "Heating system").



The display shows the selected submenu.



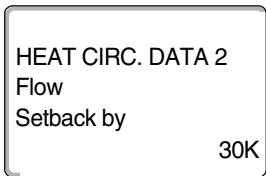
Hold down "Display" and turn the rotary selector until the required value appears (here: "Constant").



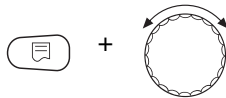
The display shows the set value.
Release "Display" to save your input.



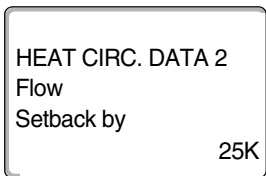
Turn the rotary selector until "Flow Setback by" appears.



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

15.14 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.



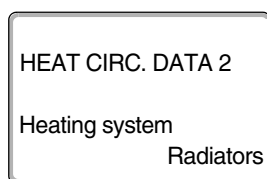
Call up the service level. "General param." is shown as the first main menu.



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



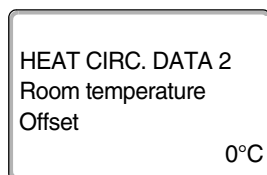
Press "Display" to call up a submenu (here: "Heating system").



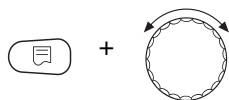
The display shows the selected submenu.



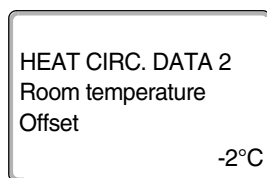
Turn the rotary selector until submenu "Room temperature Offset" appears.



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

15.15 Automatic adaptation

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

"Autom adaptation" is not enabled at the factory.

Where a remote control is installed in the room, the heating curve is automatically adjusted to the building by constantly monitoring the room and flow temperatures.

Conditions are:

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

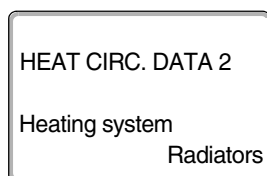
Call up the service level. "General param." is shown as the first main menu.



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



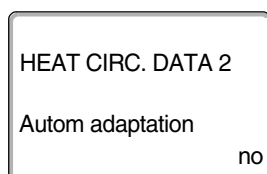
Press "Display" to call up a submenu (here: "Heating system").



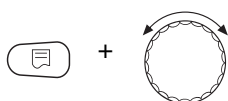
The display shows the selected submenu.



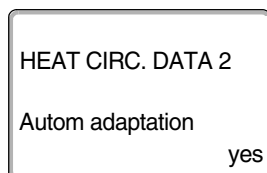
Turn the rotary selector until submenu "Autom adaptation" appears.



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

15.16 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 and 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.



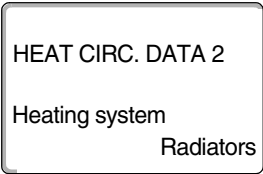
Call up the service level. "General param." is shown as the first main menu.



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



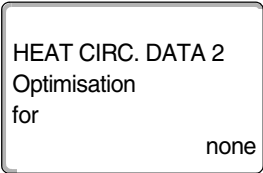
Press "Display" to call up a submenu (here: "Heating system").



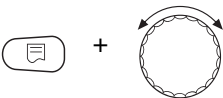
The display shows the selected submenu.



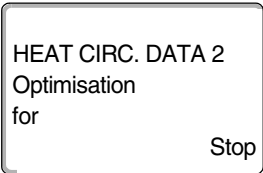
Turn the rotary selector until submenu "Optimisation for" appears.



The display shows the selected submenu.



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



The display shows the set value.
Release "Display" to save your input.

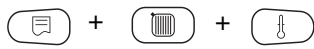


Press "Back" to return to the next level up.

	Input range	Factory setting
Optimisation	<div>none</div> <div>Start</div> <div>Stop</div> <div>Start/Stop</div>	none

15.17 Setting stop optimisation time

If you have selected **"Stop"** or **"Start/Stop"** in section 15.16, you can enter from when setback mode should begin. Change the setting only if necessary.



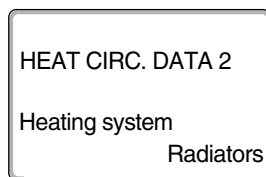
Call up the service level. "General param." is shown as the first main menu.



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



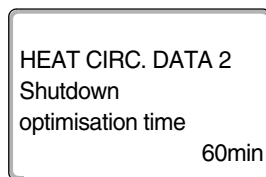
Press "Display" to call up a submenu (here: "Heating system").



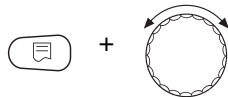
The display shows the selected submenu.



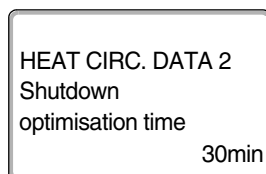
Turn the rotary selector until submenu "Shutdown optimisation time" appears.



The display shows the selected submenu.



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



The display shows the set value.

Release "Display" to save your input.



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

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

15.18 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.



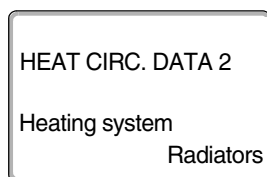
Call up the service level. "General param." is shown as the first main menu.



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



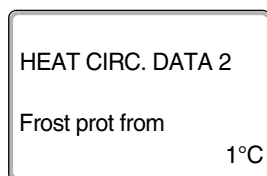
Press "Display" to call up a submenu (here: "Heating system").



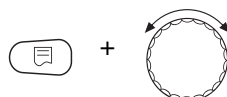
The display shows the selected submenu.



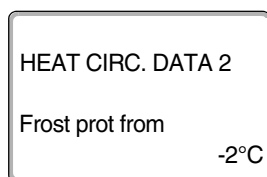
Turn the rotary selector until submenu "Frost prot from" appears.



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

15.19 Setting the DHW priority

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

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



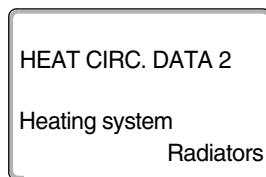
Call up the service level. "General param." is shown as the first main menu.



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



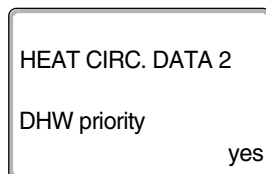
Press "Display" to call up a submenu (here: "Heating system").



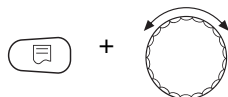
The display shows the selected submenu.



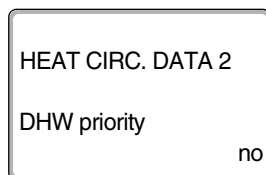
Turn the rotary selector until submenu "DHW priority" appears.



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

15.20 Entering the heating circuit actuator



USER INFORMATION

No actuator (mixer) can be entered for heating circuit 0.

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.

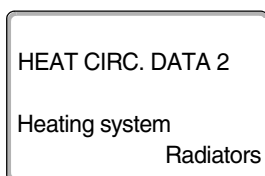
Call up the service level. "General param." is shown as the first main menu.



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



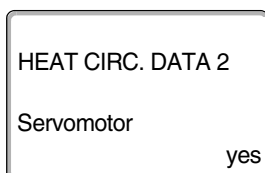
Press "Display" to call up a submenu (here: "Heating system").



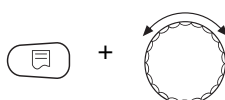
The display shows the selected submenu.



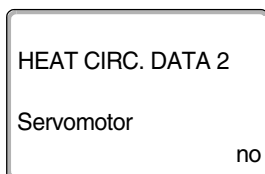
Turn the rotary selector until submenu "Servomotor" appears.



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
Servomotor	yes no	yes

15.21 Entering servomotor runtime

Here you can enter the servomotor runtime of existing servomotors. Generally, servomotors have a runtime of 120 s.



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 cease.



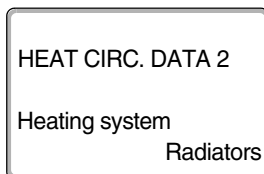
Call up the service level. "General param." is shown as the first main menu.



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



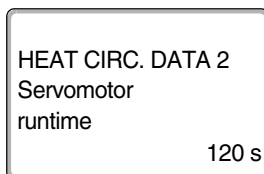
Press "Display" to call up a submenu (here: "Heating system").



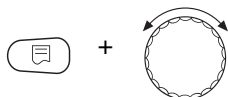
The display shows the selected submenu.



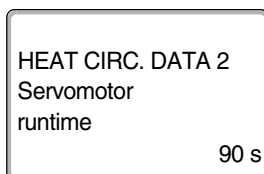
Turn the rotary selector until submenu "Servomotor runtime" appears.



The display shows the selected submenu.



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



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
Servomotor runtime	10 – 600 s	120 s

15.22 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.



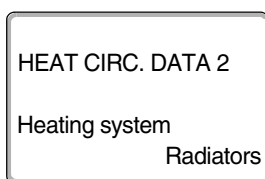
Call up the service level. "General param." is shown as the first main menu.



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



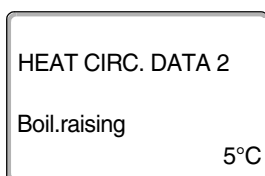
Press "Display" to call up a submenu (here: "Heating system").



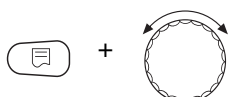
The display shows the selected submenu.



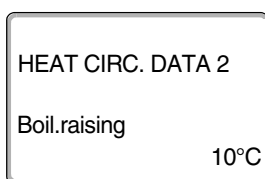
Turn the rotary selector until submenu "Boil.raising" appears.



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

15.23 External changeover

The heating circuit operating mode can be changed over via an external contact (terminal WF) at the FM442 module.

Not possible when using the "Room controller" heating system.

Parameter "External changeover" will only be shown if "none" was selected at 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 can 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 can 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 mode will be run constantly if both contacts are simultaneously closed by mistake.



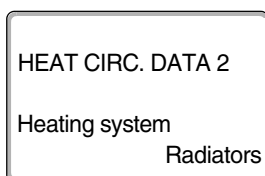
Call up the service level. "General param." is shown as the first main menu.



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



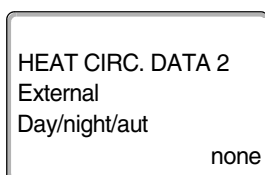
Press "Display" to call up a submenu (here: "Heating system").



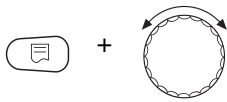
The display shows the selected submenu.



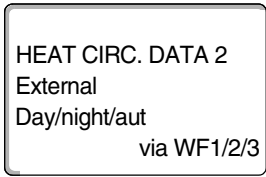
Turn the rotary selector until submenu "External Day/night/aut" is displayed.



The display shows the selected submenu.



Hold down "Display" and select the required value with the rotary selector (here: "via WF1/2/3").



The display shows the set value.
Release "Display" to save your input.



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

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

15.24 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.

If the heating circuit pump is equipped with a fault message output, that output can be connected to terminals WF1 and WF2 of the FM442 module. 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"

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

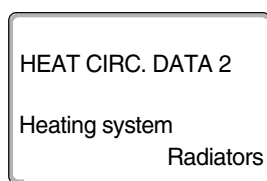
Call up the service level. "General param." is shown as the first main menu.



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



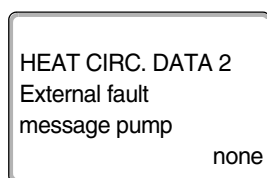
Press "Display" to call up a submenu (here: "Heating system").



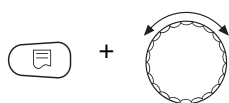
The display shows the selected submenu.



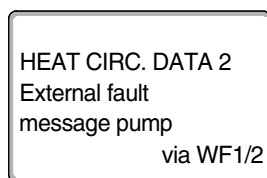
Turn the rotary selector until submenu "External fault message pump" is displayed.



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

15.25 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.

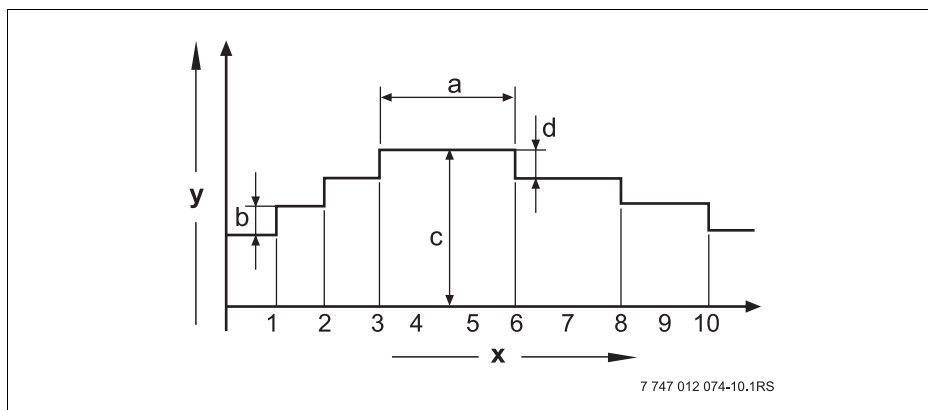


Fig. 16 Screed drying

- x** Time (days)
- y** Temperature
- a** 3 days' hold time
- b** Temp increase by
- c** Max. temperature
- d** Setback by



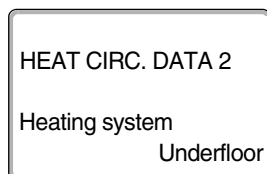
Call up the service level. "General param." is shown as the first main menu.



Turn the rotary selector until 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.



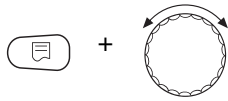
Turn the rotary selector until submenu "Screed drying" appears.

HEAT CIRC. DATA 2

Screed drying

no

The display shows the selected submenu.



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

HEAT CIRC. DATA 2

Screed drying

yes

The display shows the set value.

Release "Display" to save your input.

	Input range	Factory setting
Screed drying	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.



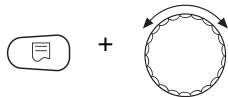
HEAT CIRC. DATA 2

Screed drying

Temp increase by

5K

The display shows the selected submenu.



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

HEAT CIRC. DATA 2

Screed drying

Temp increase by

10K

The display shows the set value.

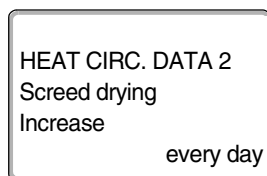
Release "Display" to save your input.

	Input range	Factory setting
Temp increase by	1 K – 10 K	5 K

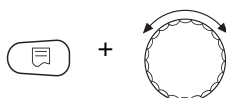
Setting the heat-up time

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

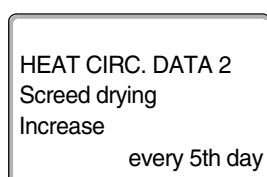
Turn the rotary selector until submenu "Screed drying Increase" appears.



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.

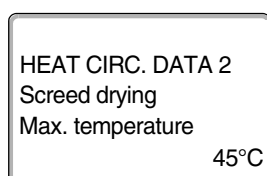
Release "Display" to save your input.

	Input range	Factory setting
Increase in daily cycles	every day – every 5th day	every day

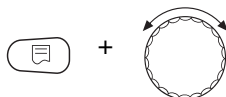
Setting the maximum temperature

Here you can enter the maximum temperature for screed drying.

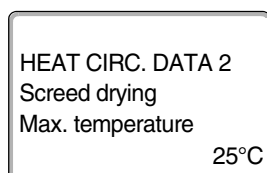
Turn the rotary selector until submenu "Screed drying Max. temperature" appears.



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.

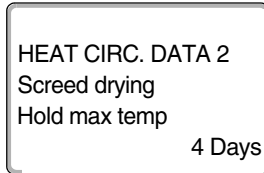
Release "Display" to save your input.

	Input range	Factory setting
Maximum temperature	25 °C – 60 °C	45 °C

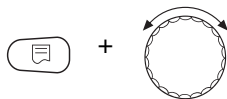
Setting the hold time

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

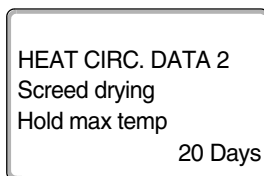
Turn the rotary selector until submenu "Screed drying Hold max temp" appears.



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.

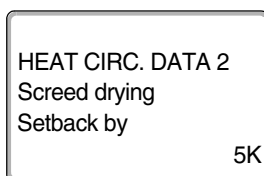
	Input range	Factory setting
Hold maximum temperature	0 days – 20 days	4 days

Setting the setback temperature

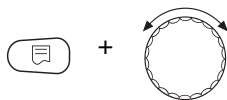
Here you can select the steps in which the temperature for drying out the screed should be set back.

The setback ends at 20 °C.

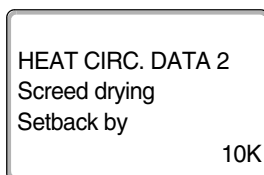
Turn the rotary selector until submenu "Screed drying Setback by" appears.



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.

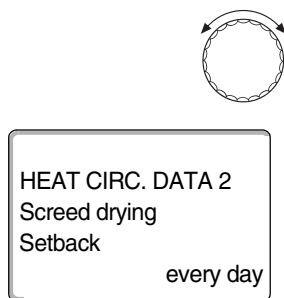
Release "Display" to save your input.

	Input range	Factory setting
Setback by	1 K – 10 K	5 K

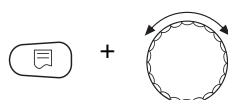
Setting the setback time

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

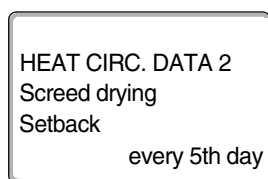
Turn the rotary selector until submenu "Screed drying Setback" appears.



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.



USER INFORMATION

Selecting "none" terminates screed drying at the end of the maximum hold time.

	Input range	Factory setting
Setback in daily cycles	none every day – every 5th day	every day

16 DHW data

The "DHW" function is part of the standard equipment level of this control unit.

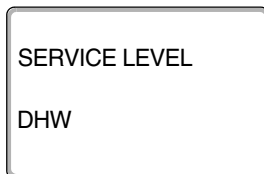
16.1 Deselecting DHW



Call up the service level. "General param." is shown as the first main menu.



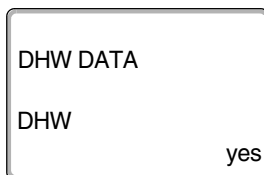
Turn the rotary selector until main menu "DHW" appears.



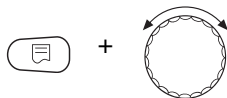
The display shows main menu "DHW".



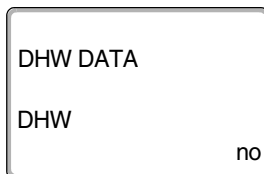
Press "Display" to call up a submenu (here: "DHW").



The display shows submenu "DHW".



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

16.2 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).










DHW DATA
DHW
yes



DHW DATA
Range to
60°C



DHW DATA
Range to
80°C



Call up the service level. "General param." is shown as the first main menu.

Turn the rotary selector until 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.

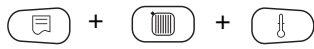
	Input range	Factory setting
Range to	60 °C – 80 °C	60 °C

Logamatic 4211 - Subject to technical modifications.

Buderus
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16.3 Selecting switching optimisation

If you select the "Optimisation" function, DHW will be heated 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 (in the heating program) you have selected.



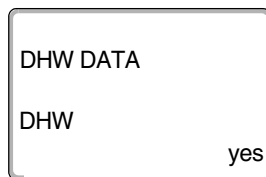
Call up the service level. "General param." is shown as the first main menu.



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



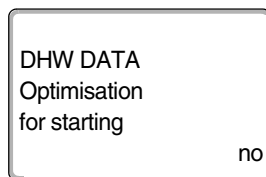
Press "Display" to call up a submenu (here: "DHW").



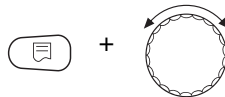
The display shows the selected submenu.



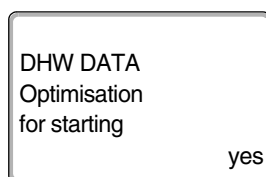
Turn the rotary selector until submenu "Optimisation for starting" appears.



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

16.4 Selecting residual heat use

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

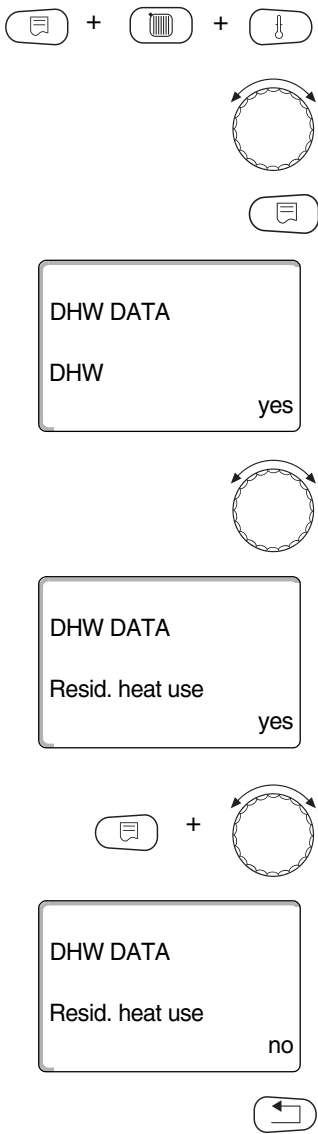
"Resid. heat use yes"

If you select "Resid. 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.

"Resid. heat use no"

If you select "Resid. heat use no" you will only utilise a little 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. "General param." is shown as the first main menu.



Turn the rotary selector until 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 "Resid. 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.

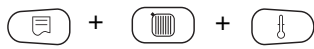
Release "Display" to save your input.

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

	Input range	Factory setting
Residual heat use	yes no	yes

16.5 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.



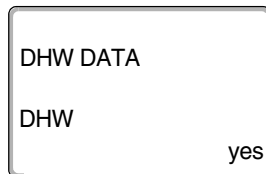
Call up the service level. "General param." is shown as the first main menu.



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



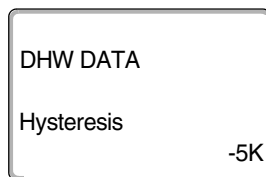
Press "Display" to call up a submenu (here: "DHW").



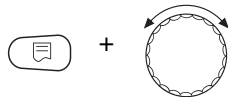
The display shows the selected submenu.



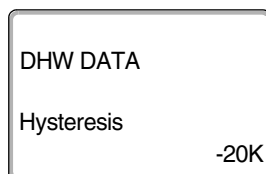
Turn the rotary selector until submenu "Hysteresis" appears.



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.

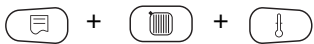
	Input range	Factory setting
Hysteresis	-20 K – 2 K	-5 K

16.6 Raising the boiler water temperature

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

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

The factory setting of 40 K is optimised for rapid DHW heating.



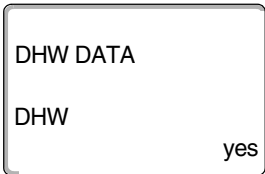
Call up the service level. "General param." is shown as the first main menu.



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



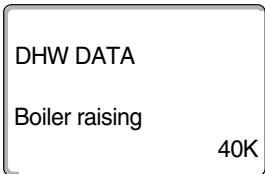
Press "Display" to call up a submenu (here: "DHW").



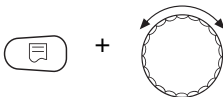
The display shows the selected submenu.



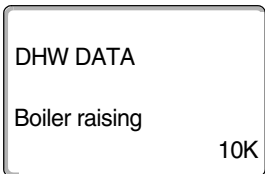
Turn the rotary selector until submenu "Boiler raising" appears.



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 temperature increase	10 K – 40 K	40 K

16.7 External fault message (WF1/2)

An external zero volt fault message contact of a primary pump or an inert anode can be connected to terminals WF1 and WF2 of the Logamatic 4211 control unit.



USER INFORMATION

This function is only available if the WF inputs are not required for heating circuit 0.

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



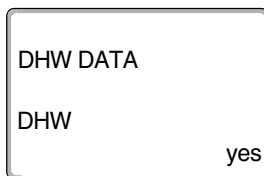
Call up the service level. "General param." is shown as the first main menu.



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



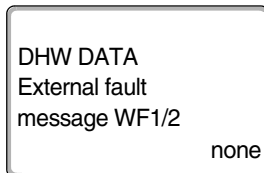
Press "Display" to call up a submenu (here: "DHW").



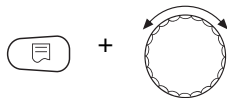
The display shows the selected submenu.



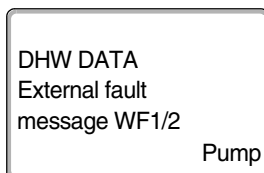
Turn the rotary selector until submenu "External fault message WF1/2" is displayed.



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
External fault message	none Inert anode Pump	none

16.8 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 WF3 of the Logamatic 4211 control unit.



USER INFORMATION

This function is only available if the WF inputs are not required for heating circuit 0.

"Heating once"

If DHW heating has been switched off according to the switching times of the DHW program, you can 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 stop when the cylinder has been fully heated up.

"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.



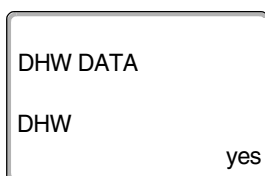
Call up the service level. "General param." is shown as the first main menu.



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



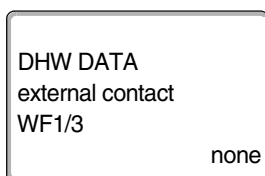
Press "Display" to call up a submenu (here: "DHW").



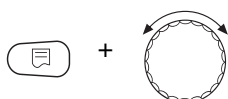
The display shows the selected submenu.



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").

DHW DATA
external contact
WF1/3
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

16.9 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 which 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.

You can 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 can also set up thermal disinfection via your own individual program.

Call up the service level. "General param." is shown as the first main menu.



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



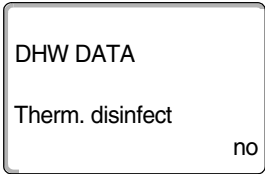
Press "Display" to call up a submenu (here: "DHW").

The display shows the selected submenu.

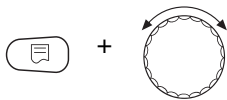
DHW DATA
DHW
yes



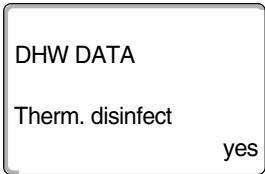
Turn the rotary selector until "Therm. disinfect" appears.



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

16.10 Setting the thermal disinfection temperature

You can select the thermal disinfection temperature 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.



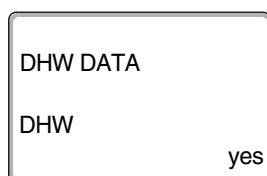
Call up the service level. "General param." is shown as the first main menu.



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



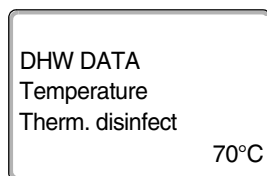
Press "Display" to call up a submenu (here: "DHW").



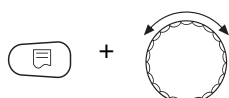
The display shows the selected submenu.



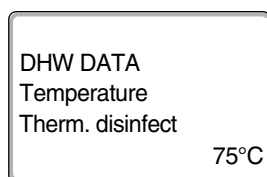
Turn the rotary selector until submenu "Temperature Therm. disinfect" appears.



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

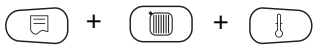
16.11 Setting the day of the week for thermal disinfection

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.



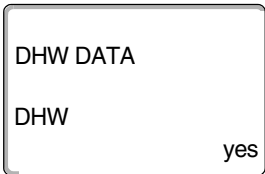
Call up the service level. "General param." is shown as the first main menu.



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



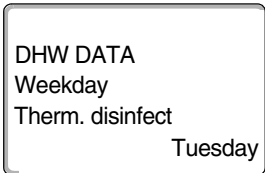
Press "Display" to call up a submenu (here: "DHW").



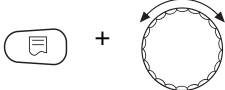
The display shows the selected submenu.



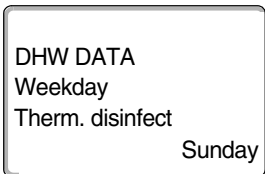
Turn the rotary selector until submenu "Weekday Therm. disinfect" appears.



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 weekday	Monday – Sunday daily	Tuesday

16.12 Setting the time for thermal disinfection

You can set the time of day when thermal disinfection should be implemented 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 WF1/3" function.



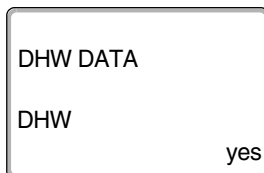
Call up the service level. "General param." is shown as the first main menu.



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



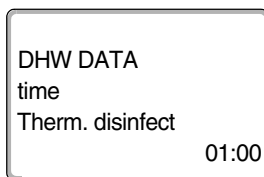
Press "Display" to call up a submenu (here: "DHW").



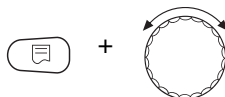
The display shows the selected submenu.



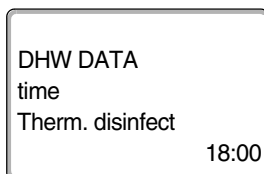
Turn the rotary selector until submenu "time Therm. disinfect" appears.



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

16.13 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.

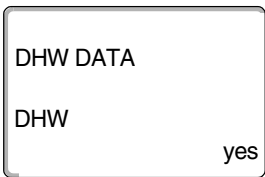
Call up the service level. "General param." is shown as the first main menu.



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



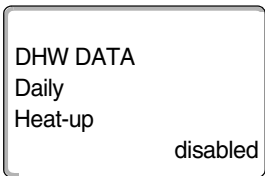
Press "Display" to call up a submenu (here: "DHW").



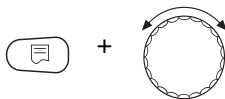
The display shows the selected submenu.



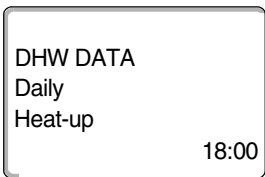
Turn the rotary selector until "Daily Heat-up" appears.



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

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

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

16.14 Selecting the DHW circulation pump

With the "DHW circulation" function you can indicate that a DHW circulation pump is installed, which ensures that DHW is immediately available at the draw-off points.



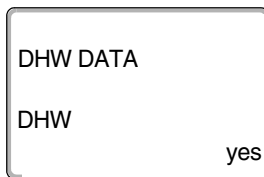
Call up the service level. "General param." is shown as the first main menu.



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



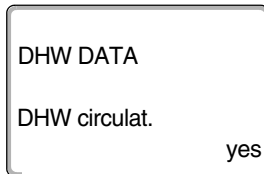
Press "Display" to call up a submenu (here: "DHW").



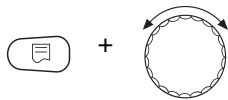
The display shows the selected submenu.



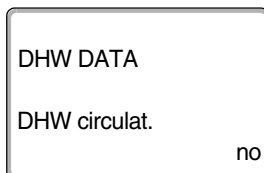
Turn the rotary selector until submenu "DHW circulat." appears.



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

16.15 Setting the DHW circulation pump intervals

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

In function "DHW circulation per hour" you can select how often per hour the DHW circulation pump runs for 3 minutes.

The set interval applies during the period 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 mode the DHW circulation pump operates all day and is switched off in night mode.

Example:

Your own time program was created that switches the DHW circulation pump on 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.



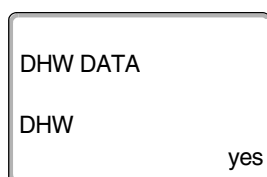
Call up the service level. "General param." is shown as the first main menu.



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



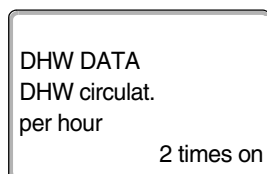
Press "Display" to call up a submenu (here: "DHW").



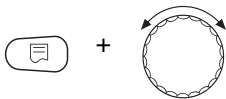
The display shows the selected submenu.



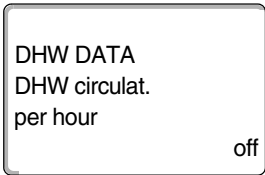
Turn the rotary selector until submenu "DHW circulat. per hour" appears.



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 Const. operation	2 times on

17 Special parameters

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

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

This document "Special parameters Logamatic 4000" is available via the Buderus website.

18 Heating curve

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

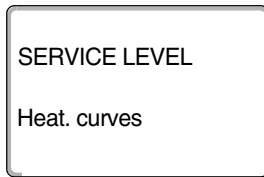
The flow temperatures (FL), which depend on the outside temperature (OT), are displayed.



Call up the service level. "General param." is shown as the first main menu.



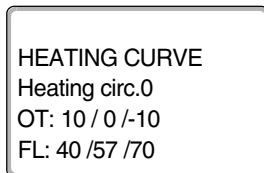
Turn the rotary selector until main menu "Heat. curves" appears.



The display shows the selected main menu.



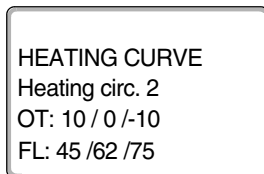
Press "Display" to call up a submenu (here: "Heating circ.0").



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.

19 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 disables all functions.

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

With the modules used most commonly in the Logamatic 4211 control unit, the following relays can be called up:

Boiler

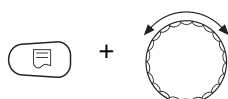
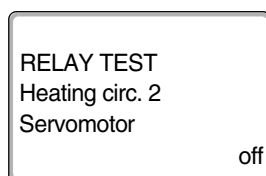
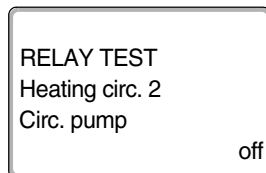
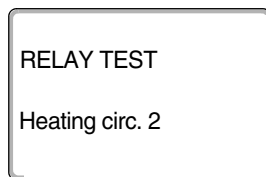
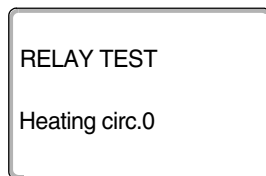
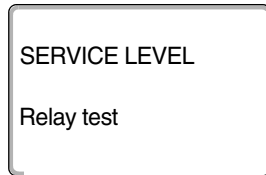
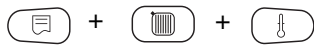
- Burner
- Servomotor
- Boiler pump (if enabled)

Heating circuit 0 – 4

- Circ. pump
- Actuator (not for heating circuit 0)

DHW

- Cylinder primary pump
- DHW circulation pump



Relay test example

Call up the service level. "General param." is shown as the first main menu.

Turn the rotary selector until 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.

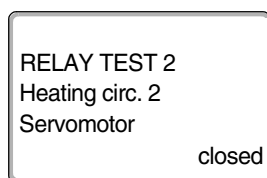
Press "Display" to call up a further submenu (here: "Circ. pump").

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 higher levels.

This ends the relay test.



USER INFORMATION

At the end of the "Relay test", all adjustments are cancelled.

20 Carrying out an LCD test

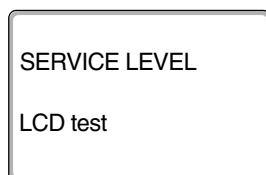
With the "LCD test" menu, you can check whether all signs and symbols are fully displayed.



Call up the service level. "General param." is shown as the first main menu.



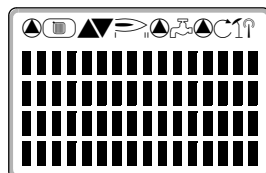
Turn the rotary selector until main menu "LCD test" appears.



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.

21 Fault log

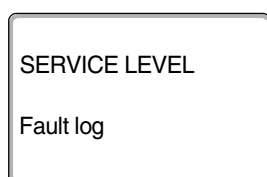
Using the "Fault log" menu, you can display the last four fault messages of your heating system. The MEC2 can only display the fault messages of the control unit with which it is connected.



Call up the service level. "General param." is shown as the first main menu.



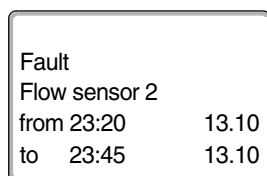
Turn the rotary selector until main menu "Fault log" appears.



The display shows the selected main menu.



Press "Display".



The fault message will then be displayed.

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

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



Turn rotary selector and scroll through the recent fault messages.



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

Fault displays

The Logamatic 4211 can display the following faults, subject to the most frequently used function module FM442 being installed as well as the ZM422.

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

22 Fault

Fault	Effects on control response	Possible causes of the fault	Remedy
Outs. temp. sensor	– The minimum outside temperature is applied instead of the actual outside temperature.	<ul style="list-style-type: none"> – The outside temperature sensor is either faulty, not connected, not plugged into the control unit network at the control unit with address 1, or is contacted at the wrong module. – Communication to control unit with address 1 is interrupted. – Central module or control unit faulty. 	<ul style="list-style-type: none"> – Check outside temperature sensor. – Check whether the outside temperature sensor is connected to the control unit with address 1 (for information regarding position of outside temperature sensor, see → Chapter 7.1). – Check communication with address 1. – Replace outside temperature sensor or central module.
Flow sensor x	– Mixer is no longer being controlled.	<ul style="list-style-type: none"> – Sensor is faulty or not connected. – An actuator (mixer) was inadvertently selected for the heating circuit. 	<ul style="list-style-type: none"> – Check sensor connection. – If the heating circuit is to be operated without an actuator, enter "no" under servomotor in the appropriate menu of the MEC2 (→ Chapter 15.20).
DHW sensor	– DHW is no longer heated.	<ul style="list-style-type: none"> – Sensor is faulty or not connected. – DHW was inadvertently selected. – Module or control unit faulty. 	<ul style="list-style-type: none"> – Check sensor connection. – Check sensor connection on DHW cylinder. – Deselect DHW in the MEC2 under parameter DHW data, if DHW heating is no longer required (→ Chapter 16). – Replace sensor or module.
DHW stays cold	– DHW is no longer heated. Current DHW temperature is below 40 °C.	<ul style="list-style-type: none"> – Primary pump faulty. – More DHW is removed than newly heated. 	<ul style="list-style-type: none"> – Check whether the thermostat is set high enough (e.g. factory setting: 90 °C) or switch set to "AUT". – Check function of sensor and primary pump. – Check sensor connection on DHW cylinder.
DHW warning	<ul style="list-style-type: none"> – There is a constant attempt to heat the DHW cylinder. – DHW priority is switched off after this fault message is displayed. 	<ul style="list-style-type: none"> – Constant drawing or system leak. – Switch not set to "AUT". – Sensor faulty or not connected. Sensor incorrectly mounted. – Primary pump incorrectly connected or faulty. – Module or control unit faulty. 	<ul style="list-style-type: none"> – Fix any leakages. – Check whether switch is set to "AUT". – Check sensor connection and values. – Check primary pump function, e.g. with a relay test (→ Chapter 19). – Replace sensor or module.
Thermal disinfection	– thermal disinfection was terminated.	<ul style="list-style-type: none"> – Too much water drawn during Thermal disinfection. – Boiler output is temporarily insufficient due to heat drawn by other consumers (e.g. heating circuits). – Sensor faulty or not connected, or primary pump faulty. – Module or control unit faulty. 	<ul style="list-style-type: none"> – Select a time for Thermal disinfection when there is no other demand for heat. – Check sensor and primary pump function, and replace if required (→ Chapter 19 and Chapter 27). – Replace module or control unit if required.

Tab. 4 Fault table

Fault	Effects on control response	Possible causes of the fault	Remedy
Remote control x	<ul style="list-style-type: none"> – Because no actual room temperature is available, the effect of the following features is disabled: Room influence, start and stop optimisation and automatic adaptation. 	<ul style="list-style-type: none"> – Remote control incorrectly connected or faulty. – Incorrect address allocated to remote control. – Remote control cable damaged by a drill or broken. 	<ul style="list-style-type: none"> – Check remote control function and connection. Replace remote control or module. – Check address of BFU remote control. – Check connecting cables.
Communication HKx	<ul style="list-style-type: none"> – Because no actual room temperature is available, the effect of the following features is disabled: Room influence, start and stop optimisation and automatic adaptation. 	<ul style="list-style-type: none"> – Remote control incorrectly connected or faulty. – By mistake, neither a BFU remote control nor an MEC2 was selected for this heating circuit in the MEC2. – Incorrect address allocated to remote control. – Remote control or associated module is faulty. 	<ul style="list-style-type: none"> – Check remote control function and connection. – Select the correct remote control in the MEC2 under "Remote control" (→ Chapter 15.7). – Check remote control address (→ see BFU remote control documentation). – Replace remote control or module.
ECOCAN-BUS Reception	<ul style="list-style-type: none"> – No effect on control characteristics. 	<ul style="list-style-type: none"> – The rotary encoder on the CM431 (behind the MEC2 or boiler display) has incorrect address. – Gravity switch on NM482 is incorrectly positioned. 	<ul style="list-style-type: none"> – Check setting of rotary encoder (→ Chapter 7.1). – Check gravity switch (→ Chapter 7.2).
No master	<ul style="list-style-type: none"> – System operates with minimum outside temperature. 	<ul style="list-style-type: none"> – By mistake, there is no master control unit (address 1) in the network. – Connecting cable to master control unit broken. – Master control unit (address 1) is switched off or faulty. 	<ul style="list-style-type: none"> – Check addresses of all networked control units. On the master control unit, CM431 must be set to address 1 (→ Chapter 7.1). – Check function of connecting cable. – Check master control unit and replace if required.
Conflicting BUS addresses	<ul style="list-style-type: none"> – BUS communication is impossible. – All control functions requiring data exchange via the ECOCAN-BUS can no longer be implemented. 	<ul style="list-style-type: none"> – Multiple identical addresses are present. Each address must only be assigned once in the ECOCAN-BUS network. 	<ul style="list-style-type: none"> – Check addresses of all BUS subscribers (address settings → Chapter 7.1).
Address conflict X	<ul style="list-style-type: none"> – Functions of module with address conflict can no longer be implemented. All other modules in control unit and ECOCAN-BUS continue to function normally. 	<ul style="list-style-type: none"> – Module must not be installed in this control unit (e.g. FM447 in Logamatic 4211). 	<ul style="list-style-type: none"> – Using chapter 4, table 1, check whether the module may be used for this type of control unit.

Tab. 4 Fault table

Fault	Effects on control response	Possible causes of the fault	Remedy
Incorrect Module x	– Module switches all outputs off and corresponding fault LED illuminates.	<ul style="list-style-type: none"> – Different module installed in one slot of control unit (e.g. FM442 was replaced with FM441). – By mistake, an incorrect module was selected for this MEC2 slot. – The MEC2 programming unit, corresponding module or control unit is faulty. 	<ul style="list-style-type: none"> – Insert new module into MEC2 (→ Chapter 13). – Check module selected in the MEC2 (→ Chapter 13). – Replace components if required.
Unknown module x	– Module switches all outputs off and corresponding fault LED on.	<ul style="list-style-type: none"> – This is a later module type, not recognised by the older control software. – Module or control unit is faulty. 	<ul style="list-style-type: none"> – Check control unit version in MEC2 (→ Chapter 24). Replace CM431 and MEC if required. – Replace module or control unit if required.
Inert anode	– No effects on control characteristics.	<ul style="list-style-type: none"> – Inert anode incorrectly connected or faulty. – Module is faulty. 	<ul style="list-style-type: none"> – Check inert anode and replace if required. – Replace module.
External fault input		<ul style="list-style-type: none"> – External components incorrectly connected or faulty. – Module is faulty. 	<ul style="list-style-type: none"> – Check connection and function of external components (cylinder primary and DHW circulation pumps). – Replace module if required.
Manual mode XX	– Control unit operates in manual mode.	– A switch on a function module may not have been set to "AUT".	– Set 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

23 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 and the most commonly used module FM442.

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

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

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

23.1 Boiler monitor data

The monitoring screens are subject to the settings made.

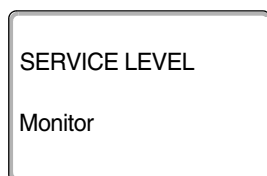
Using the "Boiler" monitor menu you can display the boiler data.



Call up the service level. "General param." is shown as the first main menu.



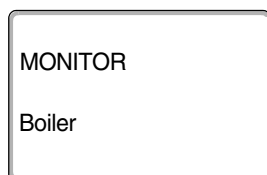
Turn the rotary selector until main menu "Monitor" appears.



The display shows the selected main menu.



Press "Display".



The display first shows submenu "Boiler".



Turn the rotary selector until the required submenu appears (here: "Flow 60/59").

MONITOR	
Flow	60/59
Boiler	62



The display shows the selected submenu.

BOILER MONITOR	
Outside	10
Adjusted	12
Flue gas 0	Max 0



Press "Display".

Boiler data is shown on the display.

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

Turn the rotary selector to scroll through additional boiler monitor data.

The displays are subject to the burner type selected under "Boiler param.".

The following are displayed:

- Burner ON/OFF
- Stage 2
- Modulation
- Burner 1
- Burner 2

Example: Modulating burner

The modulation data is displayed.

Meaning of the display "Modulation...%"

- 0 % = no control
- 20 % = Servomotor of modulating burner is regulated in a cycle of 40 seconds for 8 seconds towards ▲ (modulation output is increased).
- 50 % = Servomotor of modulating burner is regulated in a cycle of 40 seconds for 20 seconds towards ▼ (modulation output is decreased).

BOILER MONITOR	
Burner	off
Modulation	0%

BOILER MONITOR	
Boiler pump off	

BOILER MONITOR	
maint. message	
after	6000h
expired	2100h

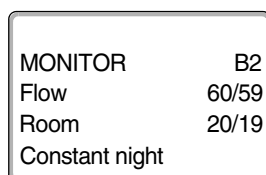
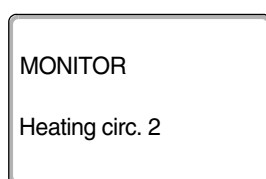
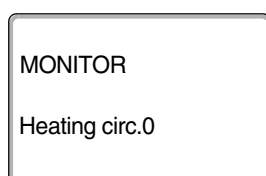
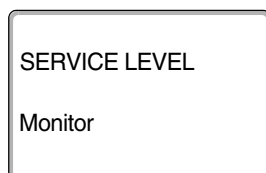


Example: Maintenance message according to Hours run (or according to Date)

The maintenance message appears on the display.

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

23.2 Heating circuit monitor data



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

Call up the service level. "General param." is shown as the first main menu.

Turn the rotary selector until 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".

The set and 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 regulated in a cycle of 10 seconds for 5 seconds towards ▲ "Mixer closes" (hotter).
- 100 % = Servomotor is constantly regulated in a cycle of 10 seconds for 10 seconds towards ▼ "Mixer closes" (colder).

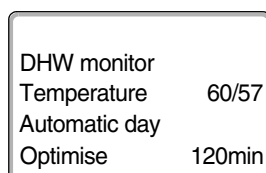
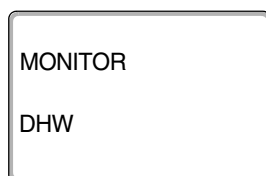
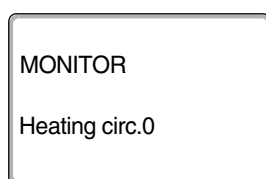
Circulation pump

Indicates the operating condition of the circulation pump.



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

23.3 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. "General param." is shown as the first main menu.

Turn the rotary selector until 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
- Const. 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

Prim. heating

Indicates the operating condition of the cylinder primary pump.

DHW circulation

Indicates the operating condition of the DHW circulation pump.



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



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

24 Display version

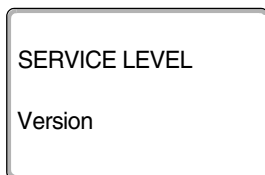
Using the "Version" menu you can display the MEC2 programming unit version as well as that of the selected control unit.



Call up the service level. "General param." is shown as the first main menu.



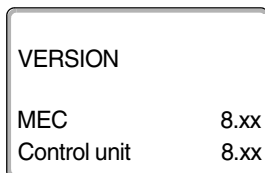
Turn the rotary selector until main menu "Version" appears.



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.

25 Selecting the control unit

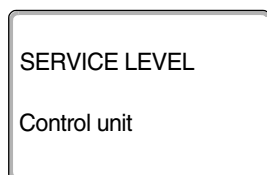
With the "Control unit" menu you can select a control unit, if the **MEC2** is operated "**offline**", i.e. without a connected control unit or with a separate power supply.



Call up the service level. "General param." is shown as the first main menu.



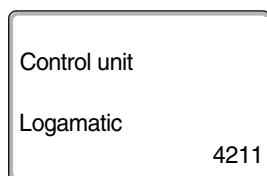
Turn the rotary selector until main menu "Control unit" appears.



The display shows the selected main menu.



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



The display shows the selected submenu.

26 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.

26.1 Resetting all control unit parameter settings.

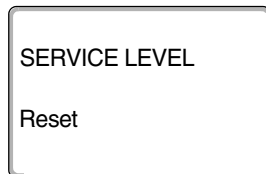
All values are automatically reset.



Call up the service level. "General param." is shown as the first main menu.



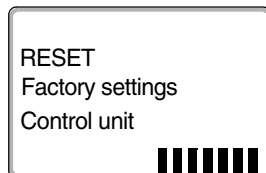
Turn the rotary selector until main menu "Reset" appears.



The display shows the selected main menu.



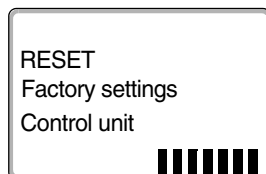
Briefly press "Display" to call up a submenu (here: "Factory settings Control unit"). All settings may be lost if you press for too long.



The display shows the selected submenu.



Press and hold "Display".



The blocks in the last line disappear one after the other. The settings are 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.

Possible resets:

- Control unit setting
- Burner hours run
- Fault log
- Maximum flue gas temperature
- Heat yield
- Maint. message



USER INFORMATION

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

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

27 Specification

27.1 Logamatic 4211 control unit

Dimensions W/H/L	mm	460/240/230
Operating voltage (at 50 Hz ± 4 %)	V	230 ± 10 %
Power consumption	VA	5
Control unit fuse	A	10
Maximum switching current	A	8
Burner output		5
Boiler or heating circuit pump output		
Boiler circuit servomotor control	V	230
Servomotor runtime, burner modulating	s	12 (adjustable 5 – 60)
Type of controller - burner and heating circuit actuator		Three-point stepper controller (PI characteristics)
Ambient temperatures		
Operation	°C	+5...+50
Handling	°C	-20...+55

Tab. 5 Specification - Logamatic 4211 control unit

Sensor measuring range

Sensor	lower fault limit in °C	smallest display value in °C	highest display value in °C	upper fault limit in °C
FA	-50	-40	50	> 70
FK	< -5	0	99	> 125
FB	< -5	0	99	> 125

Tab. 6 Measuring range

27.2 FM442 function module

Operating voltage (at 50 Hz ± 4 %)	V	230 ± 10 %
Power consumption	VA	2
Maximum switching current - heating circuit circulation pump output	A	5
Heating circuit actuator control	V	230
Servomotor runtime	s	120 (adjustable 10 – 600)
Type of controller		Three-point stepper controller (PI characteristics)

Tab. 7 FM442 specification

Sensor measuring range

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

Tab. 8 Measuring range

28 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 lead ends using an ohmmeter.
- Check the sensor temperature with a thermometer.



USER INFORMATION

The sensor tolerance for all curves is $\pm 3\%/25\text{ }^{\circ}\text{C}$.

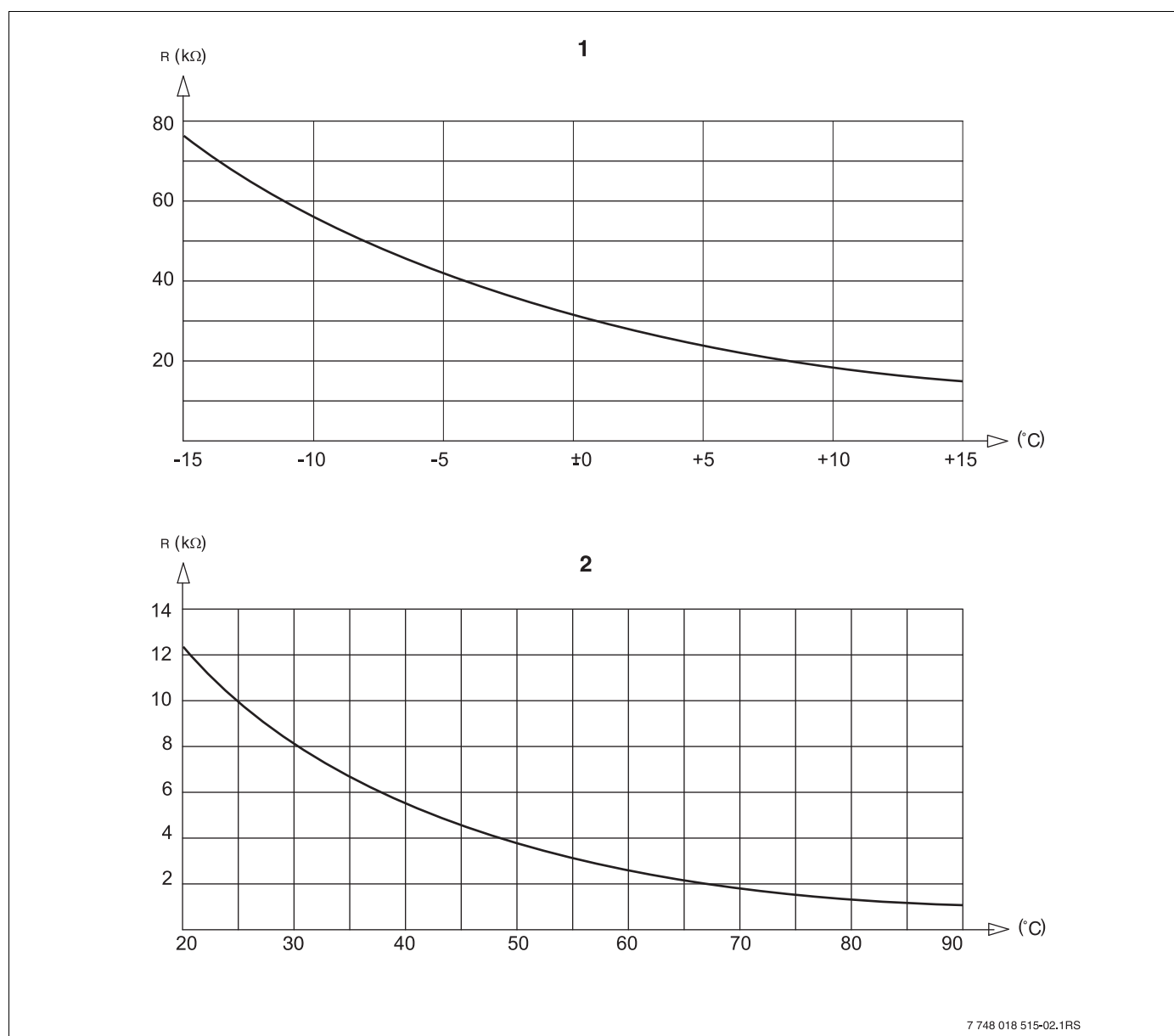
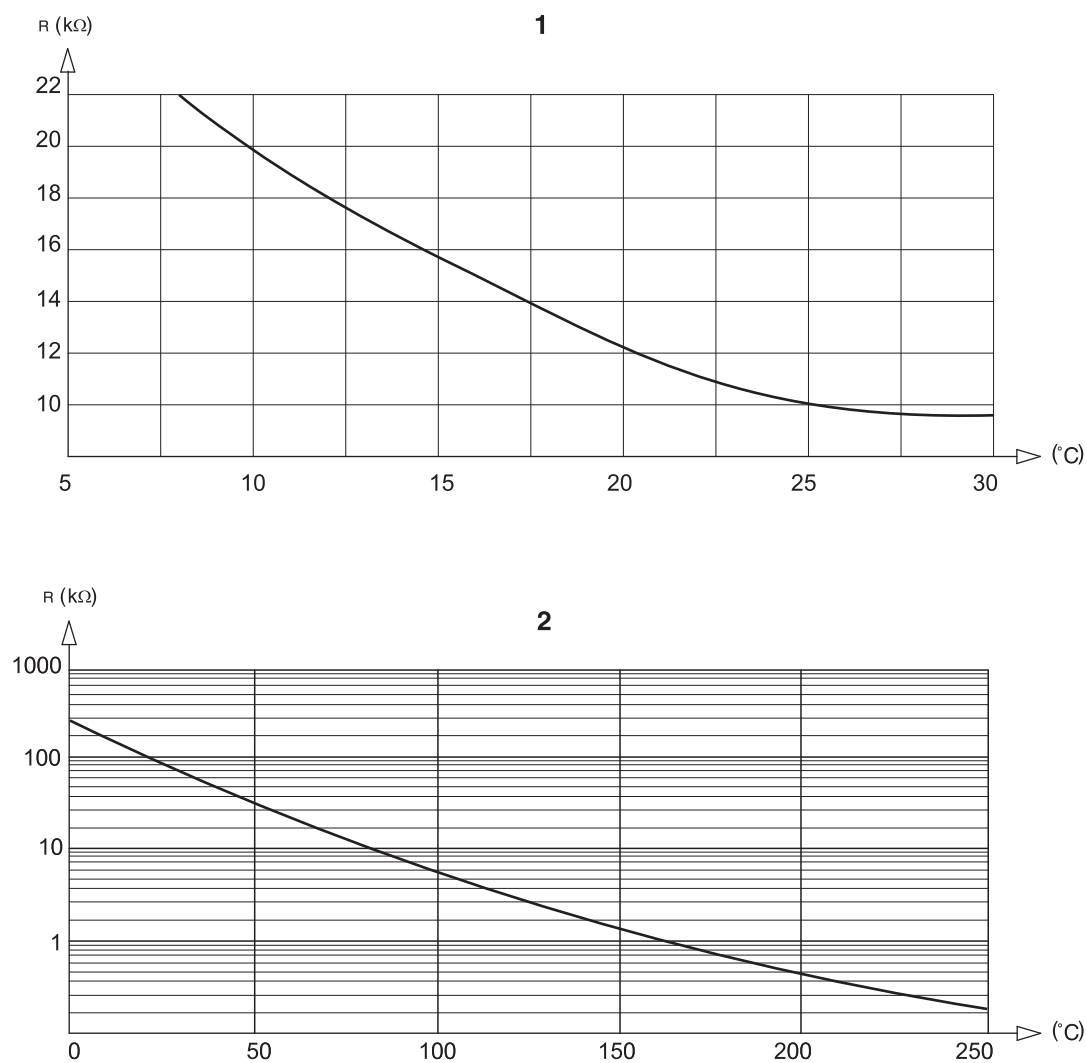


Fig. 17 Outside temperature sensor and boiler water, flow, and DHW temperature sensors

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



7 747 012 074-05.1RS

Fig. 18 Room temperature and flue gas temperature sensors

- 1 Room temperature sensor curve
- 2 Flue gas temperature sensor (FG) curve

29 Setting specific boiler data

Assignment of boiler type to the corresponding Buderus boiler. You can select the boiler type at the service level under boiler parameters (→ Chapter 14.1).

- **Low temperature:**

to be enabled for boiler series:

Logano G125 ECO, S125 ECO, G144 ECO, G215

Logano G234, G334

Logano S325

- **Condensing:**

to be enabled for boiler series:

Logano plus SB315, SB615, SB735

- **Ecostream:**

to be enabled for boiler series:

Logano GE315 ^{1) 3)}, GE515 ¹⁾, GE615 ¹⁾

Logano SE425 ^{1) 3)}, SE635 ¹⁾, SE735 ¹⁾

Logano GE434 ²⁾



USER INFORMATION

The same control unit configuration applies to gas fired condensing boilers with an external condensing heat exchanger.

Logano plus GE315 ^{1) 3)}, GE515 ¹⁾, GE615 ¹⁾

Logano plus SE635 ¹⁾, SE735 ¹⁾

Logano plus GB434 ²⁾

- **LT/low end temperature:**

to be enabled for boiler series:

Logano SK425 ⁴⁾, SK635 ⁴⁾, SK735 ⁴⁾

for raised minimum boiler water temperatures.

¹⁾ Operating flow temperature control via heating circuit actuators.

²⁾ Operating flow temperature control via external control unit.

³⁾ Subject to hydraulic connection.

⁴⁾ Minimum boiler water temperature control via heating circuit actuators.

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