

-weishaupt-

# manual

Operating instructions



End user



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# 1. General instructions

- You are holding the installation and operating manual for the Weishaupt Controller System. Please study it carefully.
- Please keep this manual with the system (use yellow folder provided).

## These installation and operating instructions

- are intended for the end user
- contain important information
- should be observed by everyone working with the equipment.

## Explanation of notes and symbols



This symbol is used to mark instructions, which, if not followed, could result in death or serious injury.



This symbol is used to mark instructions, which, if not followed, could result in life threatening electric shock.



This symbol is used to mark instructions, which, if not followed, could result in damage to, or the destruction of the equipment and environmental damage.



This symbol is used to mark procedures, which you should follow.

1. Procedures with more than one step are numbered.
- 2.
- 3.

- ☐ This symbol is used when you are required to carry out a test.

- This symbol is used to list points.

## Abbreviations

Tab.	Table
Ch.	Chapter

## Other abbreviations used:

WRS-CPU:	Central electronics of boiler
WRS-BE:	Operating unit
WRS-EM:	Mixer extension module
WTU:	Weishaupt Thermo Unit
HEL:	Heating engineer level
EU:	End user level

## Hand over and operating instructions

The contractor is responsible for passing the operating instructions to the plant operator prior to hand-over. He should also inform the plant operator that these instructions should be kept with the heating appliance. The address and telephone number of the nearest service centre should be entered on the reverse of the operating instructions. The plant operator must note that an agent of the contractor or other suitably qualified person must inspect the plant at least once a year. To ensure regular inspections, -weishaupt- recommends a service contract.

The contractor should instruct the plant operator in the use of the equipment prior to hand-over and inform him as and when necessary of any further inspections that are required before the plant can be used.

## Guarantee and liability

Weishaupt will not accept liability or meet any guarantee claims for personal injury or damage to property arising as a result of one or more of the causes below:

- Failure to use the equipment as intended.
- Improper assembly, commissioning, operating or servicing of the equipment.
- Operating the appliance with defective safety equipment, or with non-recommended or non-functioning safety and protection devices.
- Failure to follow the information in the Installation and Operating Instructions.
- Alterations made to the construction of the equipment by the plant operator.
- Fitting additional components not tested or approved for use with the equipment.
- Alterations made to the equipment by the plant operator.
- Inadequate monitoring of parts liable to wear and tear.
- Improperly executed repairs.
- Acts of God.
- Damage caused by continued use despite the occurrence of an error.
- Use of incorrect fuel.
- Obstruction or damage of the supply lines.
- Use of non-original -weishaupt- spare parts.

## 2 Safety instructions

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### For your safety

- ☞ Please observe the instructions given in this manual.
- ☞ Please also observe the instructions given in the operating instructions of the heat exchanger.
- ☞ Please ask your heating engineer to instruct you in the use of the system.

### Dangers when using the equipment

Weishaupt products are manufactured in accordance with the relevant existing standards and guidelines and the recognised safety laws. However, improper use of the equipment could endanger life of the user or a third party, or result in damage to the plant.

To avoid unnecessary danger, the equipment is only to be used:

- for its intended purpose
- under ideal safety conditions
- with reference to all the information in the installation and operating instructions
- in accordance with inspection and service work

Errors, which could affect the safe operation of the equipment, should be rectified immediately.

### Personnel training

Only competent personnel may work on the appliance. Competent personnel according to this operating manual are persons who are familiar with the installation, mounting, setting and commissioning of the product and have the necessary qualifications such as:-

- Training, instruction, certification and authorisation to switch electrical circuits and electrical devices on and off, to earth them and to mark them in accordance with the safety standards.

### Organisational measures

- Everyone working on the plant should wear the necessary protective clothing.
- All safety devices should be checked regularly.

### Informal safety measures

- In addition to the installation and operating instructions, local codes of practice should also be adhered to. Special attention should be paid to the relevant installation and safety guidelines given.
- All safety and danger notices should be kept in a legible condition.

### Safety measures in normal operation

- Only use the equipment when all the safety devices are fully functional.
- At least once a year the equipment, including the safety devices, should be checked for signs of visible damage and to ensure that the safety devices are operating correctly.
- More frequent safety checks may be required depending on plant conditions.

### Electrical safety

- Work on the electrical supply should be carried out by a qualified electrician.
- Electrical components should be checked during servicing. Loose connections and damaged cables should be dealt with immediately.
- Should it be necessary to carry out work on life parts, a second person should be present to switch off the mains supply in an emergency.

### Maintenance and error rectification

- Necessary installation, service and inspection work should be carried out at the specified time.
- Inform the operator before beginning any service work.
- For all service, inspection and repair work, electrically isolate the equipment and ensure the mains switch cannot be accidentally switched back on. Isolate the fuel supply.
- If, during servicing or testing, control seal joints have to be opened, these have to be thoroughly cleaned to ensure tight sealing when re-assembling. Damaged seals must be replaced. Carry out a soundness test
- Flame monitoring devices, limit controls, correcting elements and all other safety devices must be commissioned by, and may only be replaced by, the manufacturer or an authorised agent.
- Screwed connections, which have been loosened, must be re-tightened without cross-threading.
- Following service work, all safety devices should be tested to ensure they are functioning correctly.

### Alterations to the construction of the equipment

- No alterations to the equipment are to be made without the approval of the manufacturer. All conversions require written confirmation from Max Weishaupt GmbH.
- Any parts not in perfect working order should be replaced immediately.
- No additional components may be fitted, which have not been tested for use with the equipment.
- Use only -weishaupt- spares and accessories as replacement parts. Parts from other manufacturers are not guaranteed to be suitable to meet the necessary operational and safety requirements.

### Cleaning of the equipment and waste disposal

- All materials used should be handled and disposed of correctly, with due regard to the environment.

### 3. About the Weishaupt Controller System

The Weishaupt Controller System WRS provides easy and energy saving control of your heating system.

Some characteristics of the Weishaupt Controller System:



- ▶ Easy selection of the **type of operation** with a selection switch.



- ▶ Easy **interruption or extension of the heating program** by pressing a push button.



- ▶ Easy interrogation of **Information** about your heating system and current temperatures.



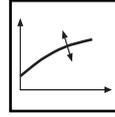
- ▶ Three **heating programs**, one **warm water program** and one **freely programmable time program** for specific operation of the heating system. Easy setting of switch times.



- ▶ **Temperature set point default** for normal temperature, warm water temperature, economy temperature, frost protection temperature, summer/winter changeover temperature.



- ▶ **Holiday function** for reduced heating during absence.



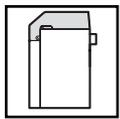
- ▶ Easy **alignment of heating control** to ambient conditions.



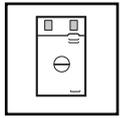
- ▶ Easy **Reset** to factory settings.

#### 3.1 System execution

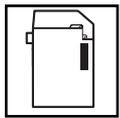
In its basic execution, the Weishaupt controller system WRS consists of



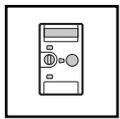
- ▶ Package Thermo Unit WTU
- ▶ Boiler body incl. cladding



- ▶ Package Boiler control
- ▶ Boiler operating panel (WRS-KF): Is used to set Manual/Automatic operation (see boiler operating instructions)



- ▶ Base module (WRS-CPU): Includes boiler controller and the control of one heating circuit.



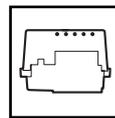
- ▶ Operating unit (WRS-BE): The setting of the control is carried out with the **Operating Unit**. The operating unit can be removed from its holder. That means settings can be made from the armchair. When the operating unit has been removed from its holder, it no longer records the temperature in the room. However, this does not restrict the operation of the heating system.

You have access to **two operating levels**:

- ▶ **Direct setting level** for easy operation of basic functions such as warmer/colder, type of operation, calling up information, interrupting or extending the heating program.
- ▶ **Extended setting level** to set additional heating functions, such as warm water temperature, heating reference line, changing heating program, holiday function, etc.

Your **heating engineer** has access to further settings to ensure your heating system can be optimised to meet your requirements.

The Weishaupt controller system can be extended with:



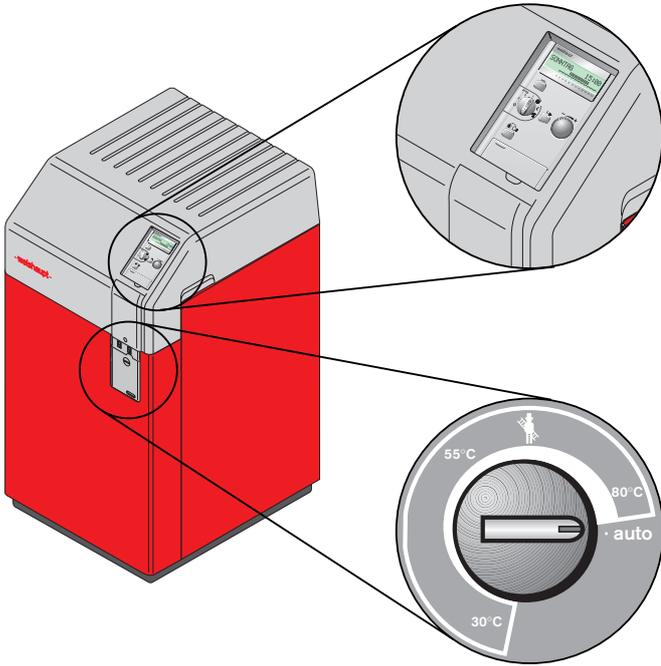
- ▶ Extension module (WRS-EM) 8 additional modules for the control of heating circuits and their associated operating units.

## 4 Operating and display elements of the direct setting level

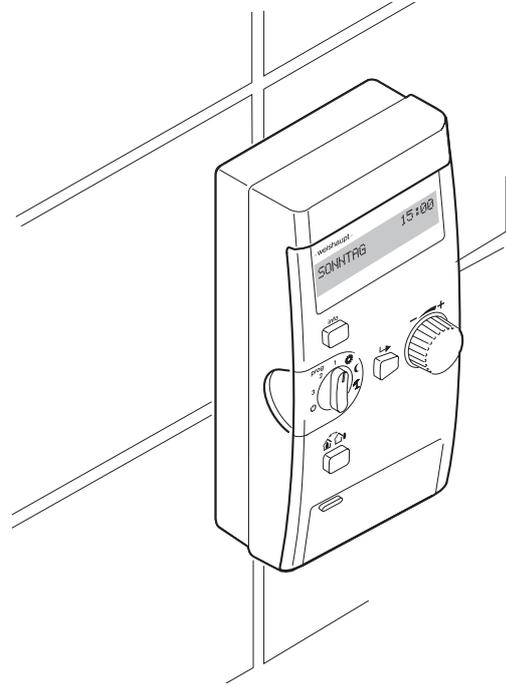
When operating the direct setting level please note:

- The operating unit must be fitted to the boiler cover or the wall bracket.
- The boiler controller on the boiler control panel must be set to "auto".  
(The cover of the boiler control panel can only be closed in this position)

Operating unit in boiler cover – boiler controller to "auto"



Operating unit in wall bracket



### Symbols on the display

- Error condition or service required
- Heating currently operating in economy mode
- Heating currently operating in normal mode

**Display**  
which address (unit) the operating unit is assigned to

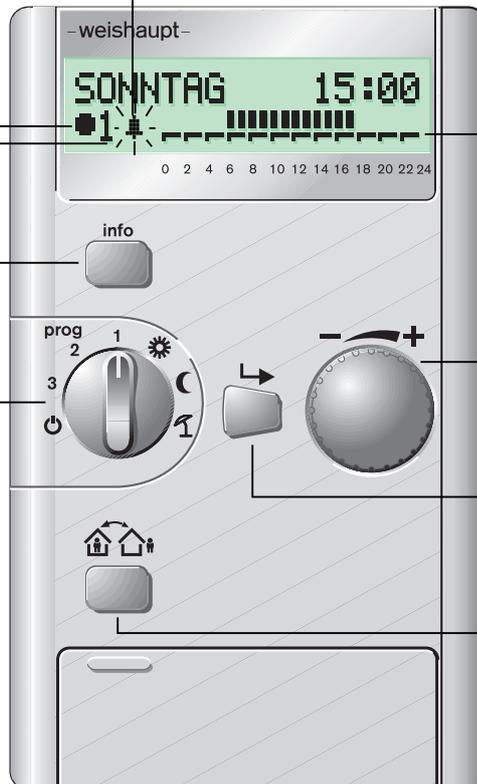
- Info key**
- Each time it is pressed a current actual value is displayed
  - Reset to basic display

**Selection switch for type of operation**  
to select types of operation:

- Summer operation
- Operation in economy mode
- Operation in normal mode

- prog 1** Heat program 1  
**prog 2** Heat program 2  
**prog 3** Heat program 3

- Standby operation



### Time indicator

Shows the time of day, during which the heating is operated in normal mode

or economy mode.

### Dial knob

By turning the current temperature setpoint can be displayed

### Enter key

Selections or changes are confirmed by pressing this key

### Attendance/absence key

Temporarily interrupts or extends the heating program

## 5.1 Tips for convenient control and economical heating

- ▶ Reducing the room temperature by just 1°C can save up to 6% fuel. Therefore avoid excessive room temperatures and set your heating system accordingly.
  - ▶ Make use of the multitude of types of operation and heating programs to ensure the heating system operates only when actually needed.
  - ▶ Air rooms for short periods only, but several times a day.
  - ▶ Seal doors and windows to stop draughts.
  - ▶ Close window and door shutters at night.
  - ▶ Ensure that heating and hot water pipes are insulated.
  - ▶ Avoid enclosed radiators. Do not cover radiators.
  - ▶ Energy can also be saved by careful use of hot water. A shower uses less energy than a bath.
  - ▶ Turn your tap fully to "cold", if you do not require warm water. If it is not fully on cold, warm water is always being added.
  - ▶ Operate circulation pump for warm water via time switch program only during operation.
- Do not forget servicing!**
- ▶ Your heating system should be checked at least once a year by a qualified heating engineer.  
*Regular servicing saves fuel and ensures continually good combustion quality.*

## 5.2 Change room temperature / direct setpoint adjustment



### Why?

If your living quarters are too warm or too cold, you can adjust the normal temperature, the economy temperature or the frost protection temperature using the turn knob.

You can also adjust the set temperatures of the other types of operation. To do this, place the selection switch to the type of operation to be changed.

Turn until display is shown

Normal temp  
50 21°C

*Display as per current type of operation*

Economy temp  
51

Frost prot temp  
52 10°C

Press

Alter temperature

Confirm alteration and return to base display

Normal temp  
50 -21°C

Cancel?

**Note:**  
The setpoint adjustment affects only that unit who's address is shown on the display.

## 5.3 Temporarily interrupting or extended the heating programme



### Why?

You have set one of your heating programmes. The heating system is operating according to the heating circuit either on normal temperature or economy temperature. However, your heating system does not match your requirements for that particular day. You can now temporarily interrupt or extend

the heating programme. An interruption will last until the next switchover in the heating programme, or until you return to the normal heating programme by pressing the button.

- ▶ Temporarily change from economy temperature to normal temperature



*Heating to normal temperature when present*

- ▶ Temporarily change from normal temperature to economy temperature



*Heating to economy temperature when not present*

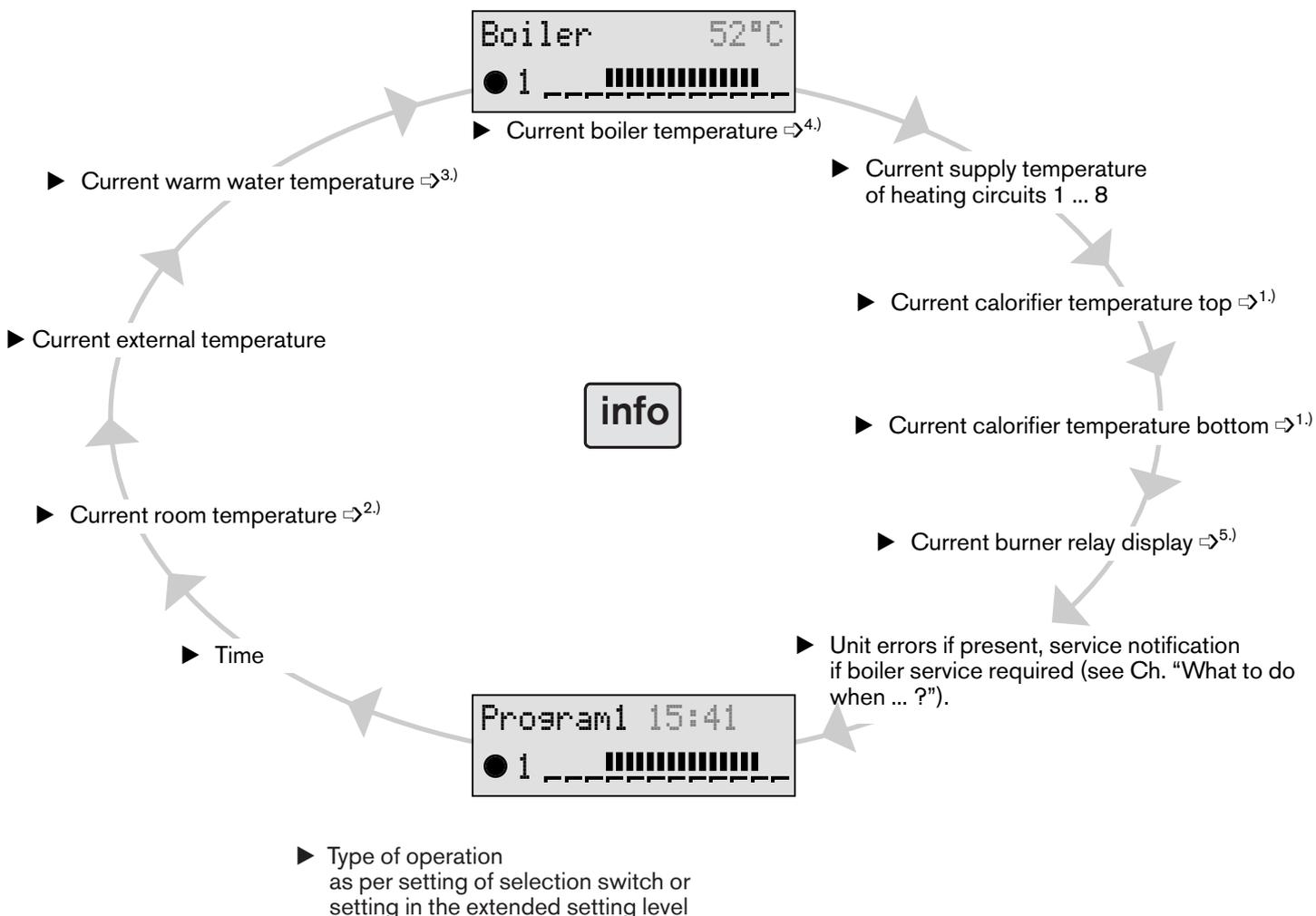
### 5.4 Call up information – Info mode



**Why?**

With every push of the Info button current values of the heating system are displayed one after the other.

The value remains as a continuous display relative to the selected information.



- ▶ Type of operation as per setting of selection switch or display of the type of operation activated in the extended setting level



- or -
- if switch on boiler operating panel not on “auto”
- if heating circuit deactivated (gradient - - -)
- if floor drying function activated (Activation in HE, parameter 180 => “Sync. heating”)
- if holiday function activated (M1 contact activated during switch-over to Standby)
- if heating off, hot water On
- if heating pump Off, boiler in frost protection operation

1.) Only shown on specific system versions

2.) Not shown on address 0, A, B, C

3.) Shown only on address 0, 1 and 2\*

Note: It can take up to 10 mins. before the hot water sensor value is displayed.

4.) Shown only on address 1

5.) Shown only on address 0, 1, A, B, C

## 5.5 Select type of operation



### Why?

You can select 7 different types of operation with the selection switch for type of operation. (On operating unit address "0.." HE, parameter 910 ⇨ "0" not possible).

### Please note

The display pictures shown only appear, when the information about the type of operation is called up by pressing the Info button. Otherwise the information last called up with the Info key remains displayed.

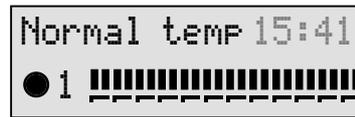
▶ **Continuous summer operation**

Heating is off, hot water is available.



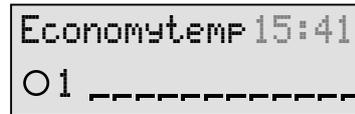
▶ **Continuous heating**

Heating maintains the room temperature set independent of external temperature, hot water is available.



▶ **Continuous economy operation**

The heating system maintains economy operation depending on the external temperature. If Economy or Summer/Winter switchover is active, the heating circuit and boiler are reduce to the frost protection level. Hot water is available.



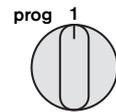
▶ **Continuous frost protection temperature**

Boiler at frost protection level, heating operation only when frost protection temperature not achieved. No hot water.



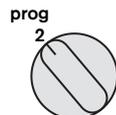
▶ **Heating program 1**

Heating and economy operation as programmed, hot water is available.



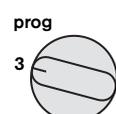
▶ **Heating program 2**

Heating and economy operation see heating program 1



▶ **Heating program 3**

Heating and economy operation see heating program 1



⇨ Read Ch. 6.5 when changing the heating programs.

⇨ If Summer is set using the selection switch for type of operation, it is possible that the display changes to "Economy". This depends on the Summer/Winter switchover temperature. However, the function continuous summer operation is carried out in any case.

**Note:**  
DHW supply is not affected, except in Standby, where DHW loading is not carried out.

### Make use of the factory preset heating programs:

#### Standard heating program 1

Mon to Fri	06:00h to 22:00h	Normal temp
Sat and Sun	07:00h to 23:00h	Normal temp

#### Standard heating program 2

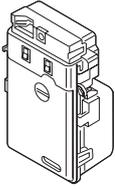
Mon to Fri	05:30h to 08:30h 12:00h to 22:00h	Normal temp Normal temp
Sat and Sun	07:00h to 23:00h	Normal temp

#### Standard heating program 3

Mon to Fri	07:00h to 22:00h	Normal temp
Sat and Sun	07:00h to 24:00h	Normal temp

Economy temperature at all other times

## 5.6 Manual operation / chimney sweep



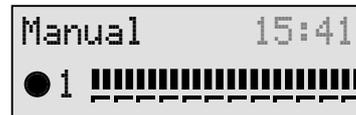
### Why?

Using the selection switch on the boiler control panel Automatic or Manual operation can be selected. Turn the selection switch to manual for the emission test (chimney sweep), for emergency operation or for commissioning.

### Please note

The display shows Manual instead of Program 1.

- ▶ Selection switch on boiler control panel not in "auto"



- ▶ All 230 Volt outputs are activated, this activates all pumps.
- ▶ The temperature limits, which are given electronically by the controller, are ignored.
- ▶ The hot water temperature can become the same as the boiler temperature. This depends on the position of the selection switch on the boiler control panel.
- ▶ If the hot water temperature is  $\geq 60^{\circ}\text{C}$ , it is possible to get scalded, as any circulation pump fitted can also pump the hot water directly to the tap.

**Note:** If the selection switch is taken out of "auto" mode, it should be set to a position where the selected temperature cannot be life threatening ( $\leq 60^{\circ}\text{C}$ ).

The selection switch should normally be set to Automatic.

The control of your heating system has been factory preset. These standard settings (see Ch. 9.1) were selected in such a way that you will need to make very few changes.

However, if you want to make changes anyway, these can be made in the extended setting level. You can also carry out these settings when the operating unit has been removed. Please observe the notes in Ch. 6.3.

## 6.1 Operating and display elements of the extended setting level (flap open)

Return to the direct setting level or Info level.

**This button is used to abort the settings. Any unsaved changes will be lost.**

The dial knob has two functions:  
1. Selection of parameter groups or parameters.  
2. Alteration of setting values.

This button confirms the selection you made with the dial knob or the alterations made to the setting values.

**Extended setting level**  
To select the extended setting level.

– or –

A step back (unsaved alterations are lost).

Only for the heating engineer.

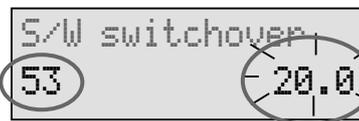
### Meaning of display

“Operator” shows that you are in the extended setting level.  
“1:” marks the selected heating circuit (here heating circuit 1)

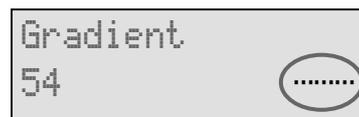


“-/+” shows that other parameter groups can be selected by turning the dial knob.

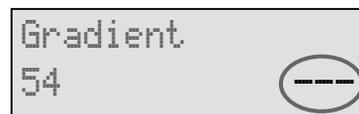
Parameter number



A flashing parameter value can be altered with the dial knob.



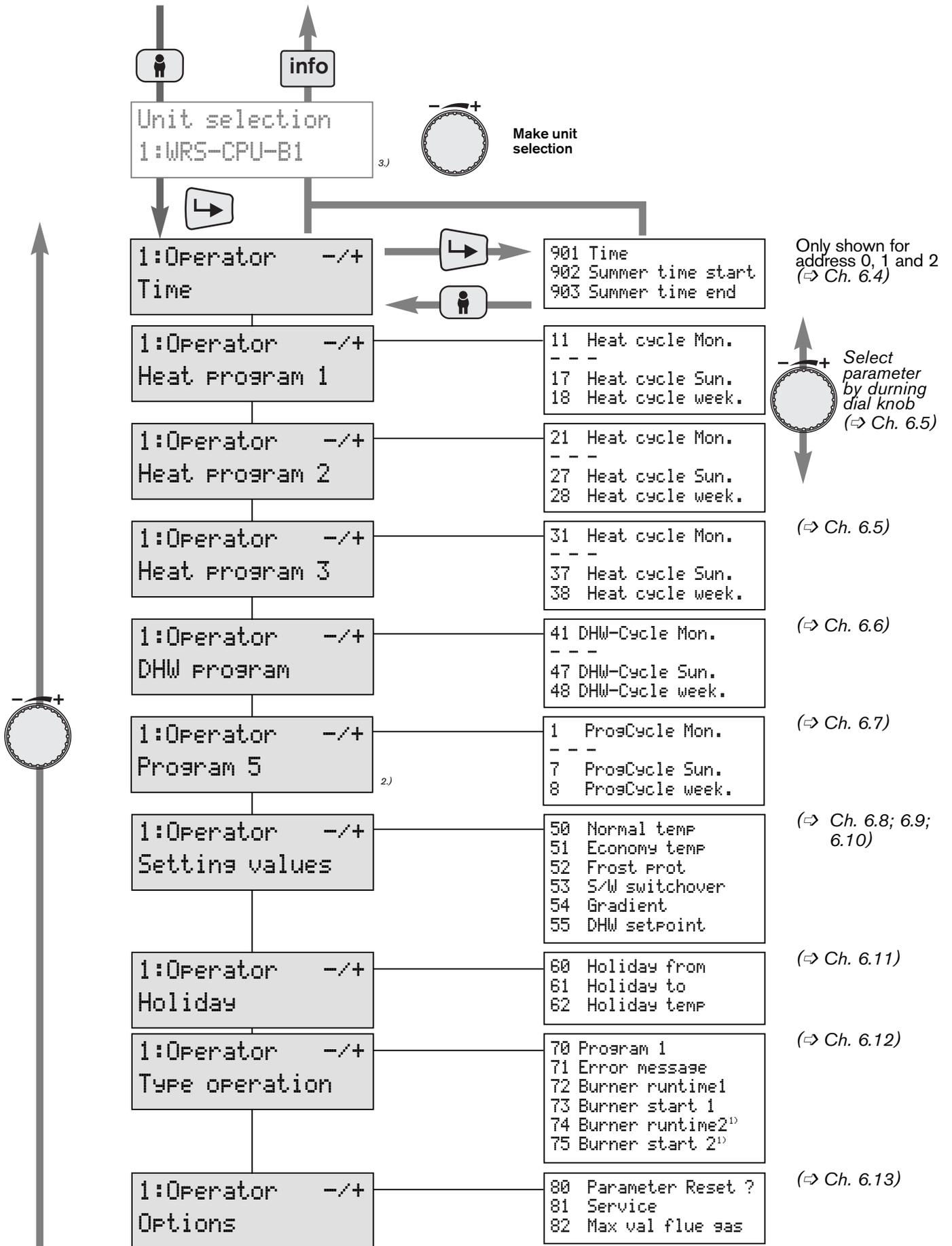
Value not yet available, searching.



Function not active, heating circuit switched off.  
Function is activated once a value has been set.

6.2 Where do I find...

Basic display in the direct setting level



<sup>1)</sup> Only displayed on WRS-CPU-B2 and WRS-CPU-B2/E

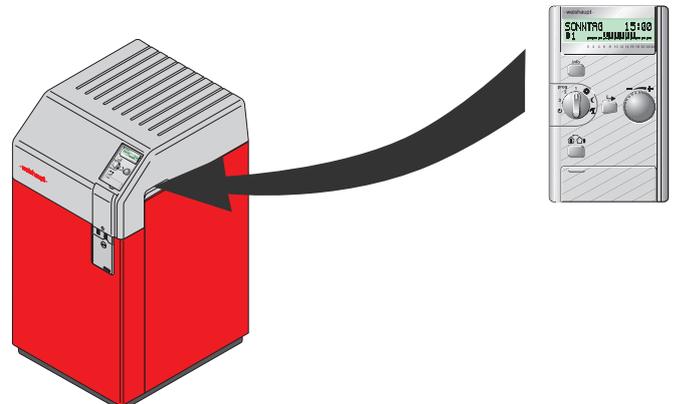
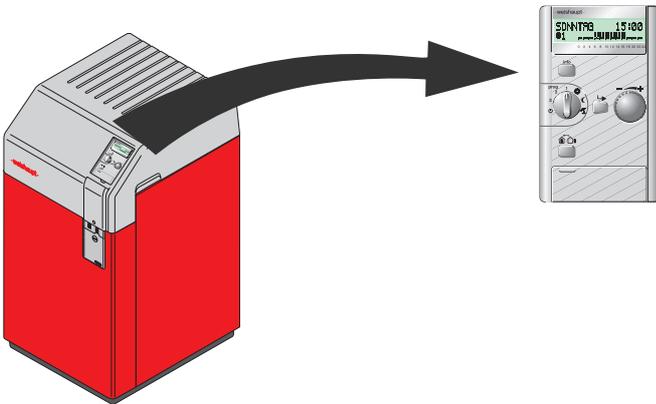
<sup>2)</sup> Only displayed on WRS-CPU-B2/E

<sup>3)</sup> Only shown for address 0, 2\* / HE: Parameter 910 ⇒ 0,2\*

### 6.3 Removing the operating unit from its holder – read/write data

► To be able to alter the settings with the operating unit removed from its holder it needs the current boiler data. This data must first be transferred from the boiler to the operating unit.

► If you have **altered** the settings with the operating unit removed from its holder, this data has to be transferred from the operating unit to the boiler.



#### Removing the operating unit from its holder

Read data?

#### Replacing the operating unit into its holder

Read data  
920  
Yes

Unit selection  
1:WRS-CPU B2

Data is transferred

Program1 15:41  
● 1

#### Remove operating unit

Read data

info

Monday 13:45  
No connection

Now the settings can be altered.

#### Replace the operating unit into its holder.

If you have altered the settings the display shows:

Write data  
930  
Yes

Unit selection  
1:WRS-CPU B2

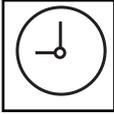
Data is transferred

Program1 15:41  
● 1

**Note:**

The Info level can only be called up (Info button) or influenced (present/absent button, selection switch for type of operation) if the operating unit has contact with the Bus system.

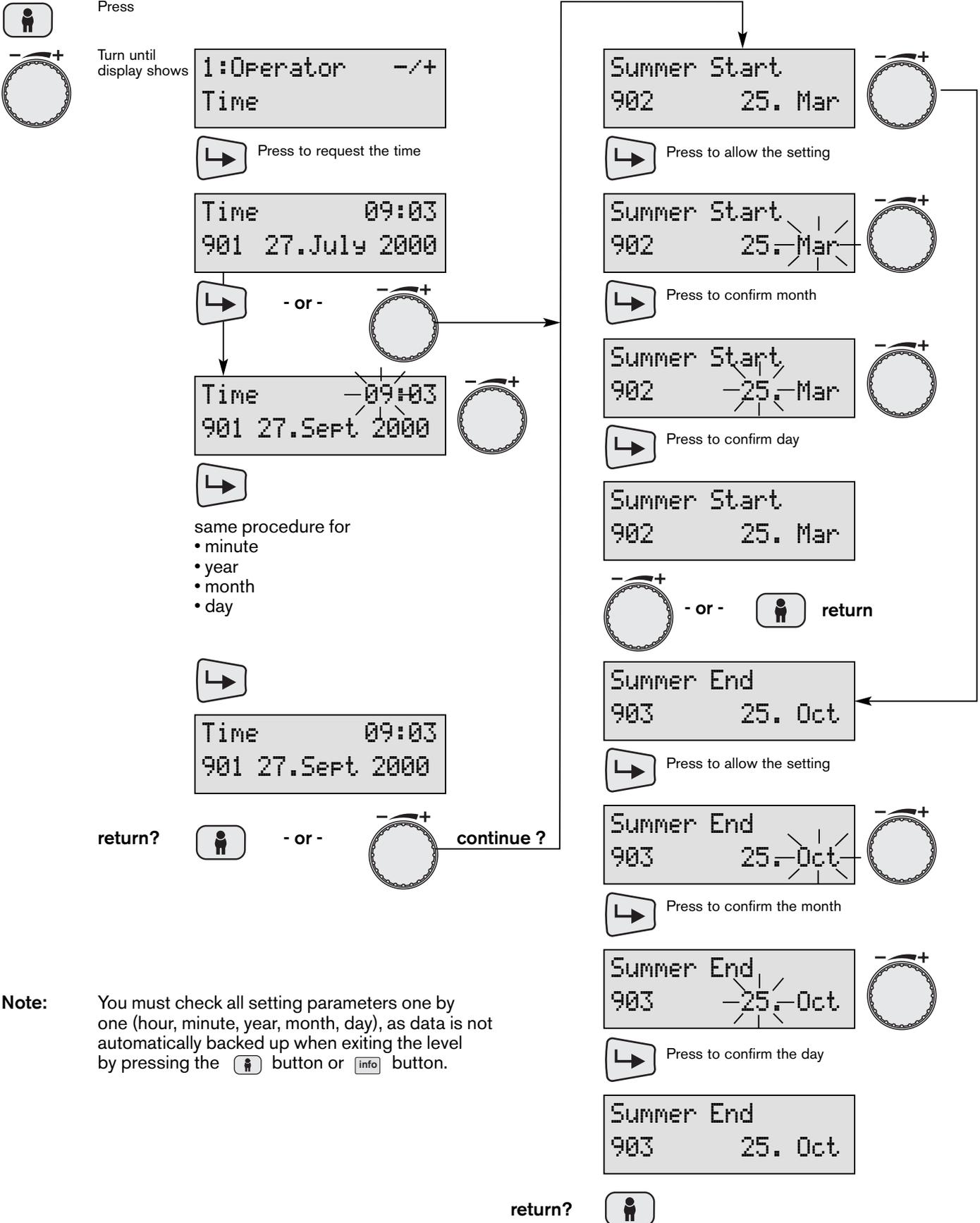
### 6.4 Correcting time and change start/end of summer time



**Why?**

To ensure the correct operation of the heating system, the controller requires the exact time. The time has been factory preset.

If the mandatory time for summer time start/end is different, you can enter these changes here.



**Note:** You must check all setting parameters one by one (hour, minute, year, month, day), as data is not automatically backed up when exiting the level by pressing the button or button.

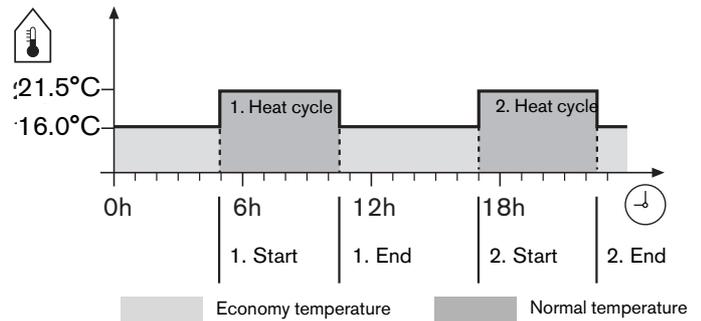
### 6.5 Call up and change heating programs



**Why ?**

- ▶ You can adjust the heating times to meet your daily routine.
- ▶ There are three independently operating heating programs available for each heating circuit.
- ▶ Up to three heat cycles per week day can be entered for each heating program.
- ▶ A standard program has been factory pre-set (see Ch. 9.1). You can reset this standard program with your heating programs at any time (see Ch. 6.13).

Example for 2 heat cycles on one day



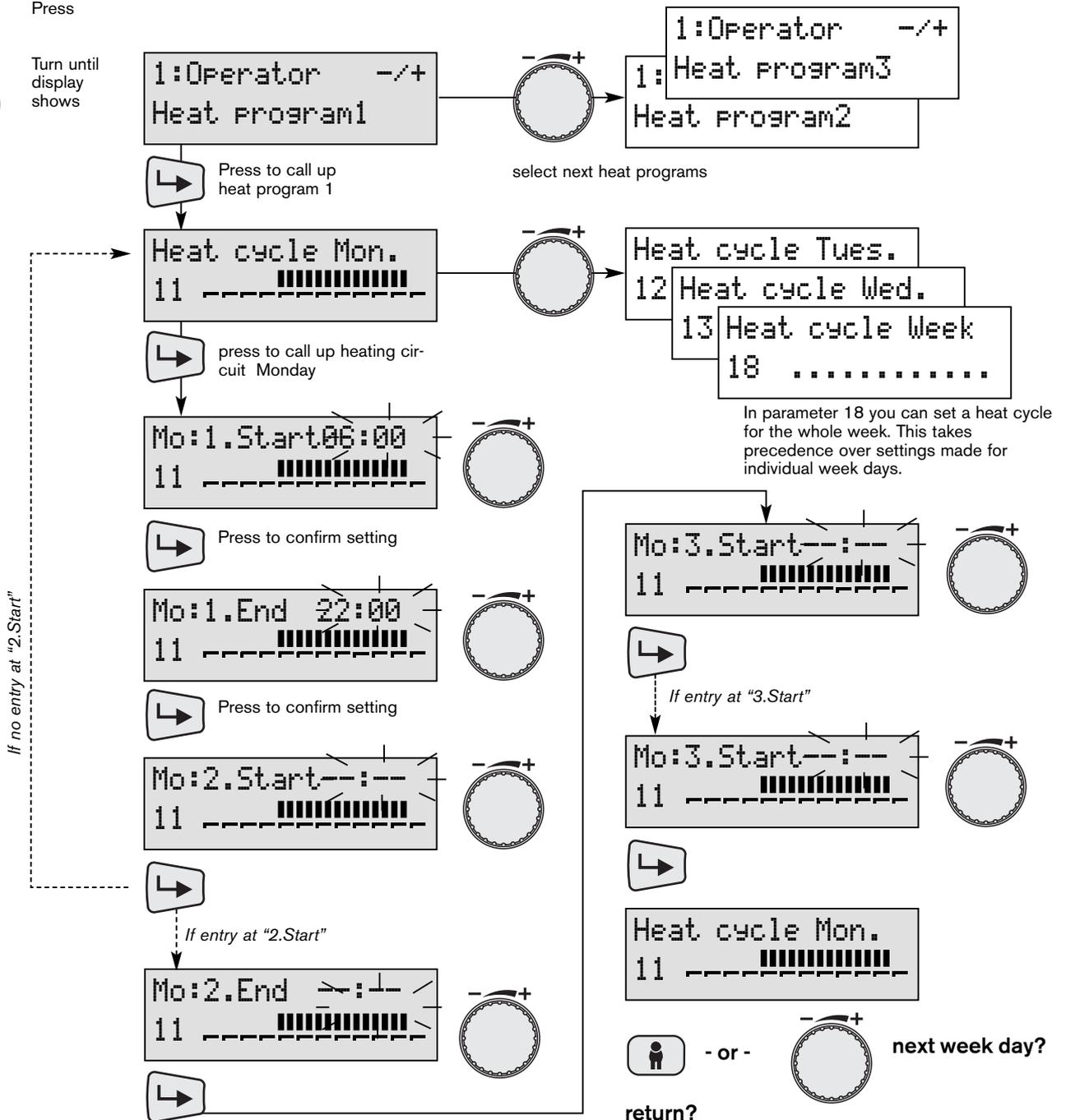
**Note:** The time program should be selected in such a way that one heat cycle is programmed until 20.00 hrs. so that the heating pump remains switched off during night setback without frost protection until the next heat cycle.



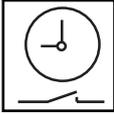
Press



Turn until display shows



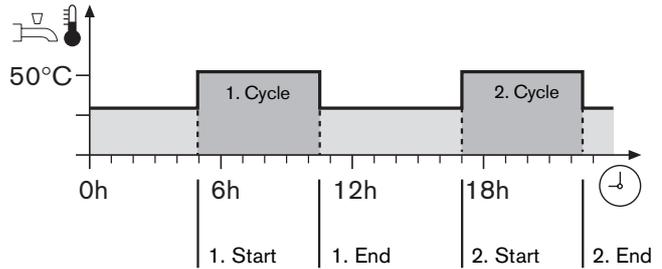
## 6.6 Call up and change D H W program



### Why?

- ▶ You can adjust the heat-up times to meet your daily routine.
- ▶ A maximum of three cycles per week day can be set in the hot water (DHW) program.
- ▶ A standard program has been factory pre-set (see Ch. 9.1). You can reset this standard program with your DHW program at any time (see Ch. 6.13)

Example for 2 D H W cycles on one day



Economy temperature  
 Normal temperature

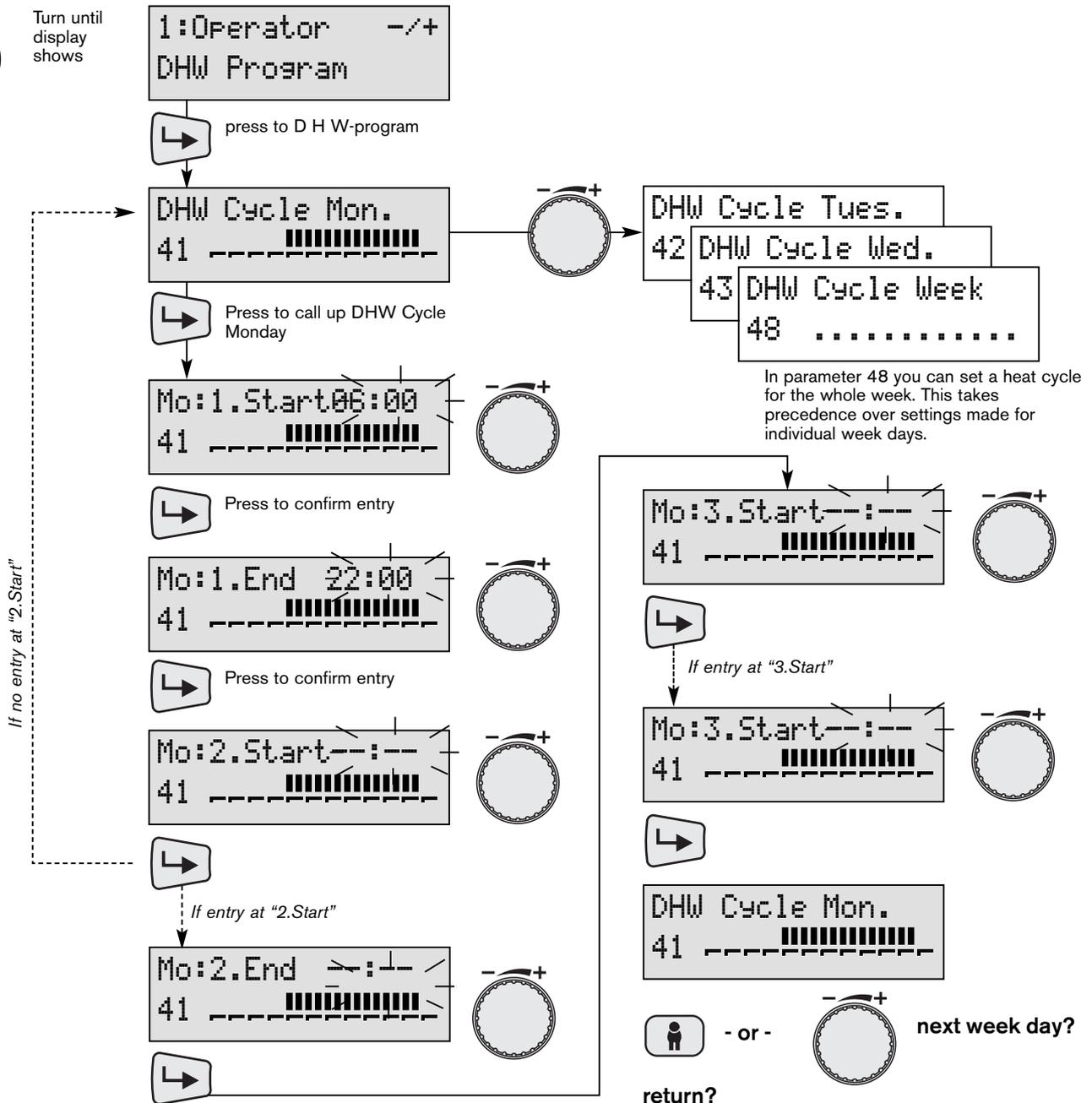
**Note:** D H W loading is provided depending on the settings made in parameter 160 of the heating engineer level. It is therefore possible that DHW loading is not provided in line with the DHW program, but dependant on the the heating program.



Press



Turn until display shows



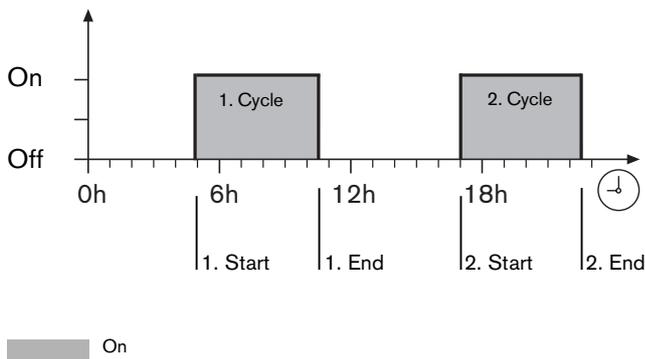
### 6.7 Call up and change timer program (only possible on the WRS-CPU-B2/E)



**Why?**

- ▶ Independent time program, freely programmable timer, i.e. circulation pump.
- ▶ In program 5, up to three cycles can be entered for each week day.
- ▶ A standard program has been factory preset (see Ch. 9.1). You can reset this standard program with your program 5 at any time (see Ch. 6.13)
- ▶ Program 5 can be assigned to MFA relay output (230 V, plug No. 3) and burner stage 2 (potential free contact, plug No. 20) of the CPU (see heating engineer level, parameter 174 ⇨ "Prog 5").

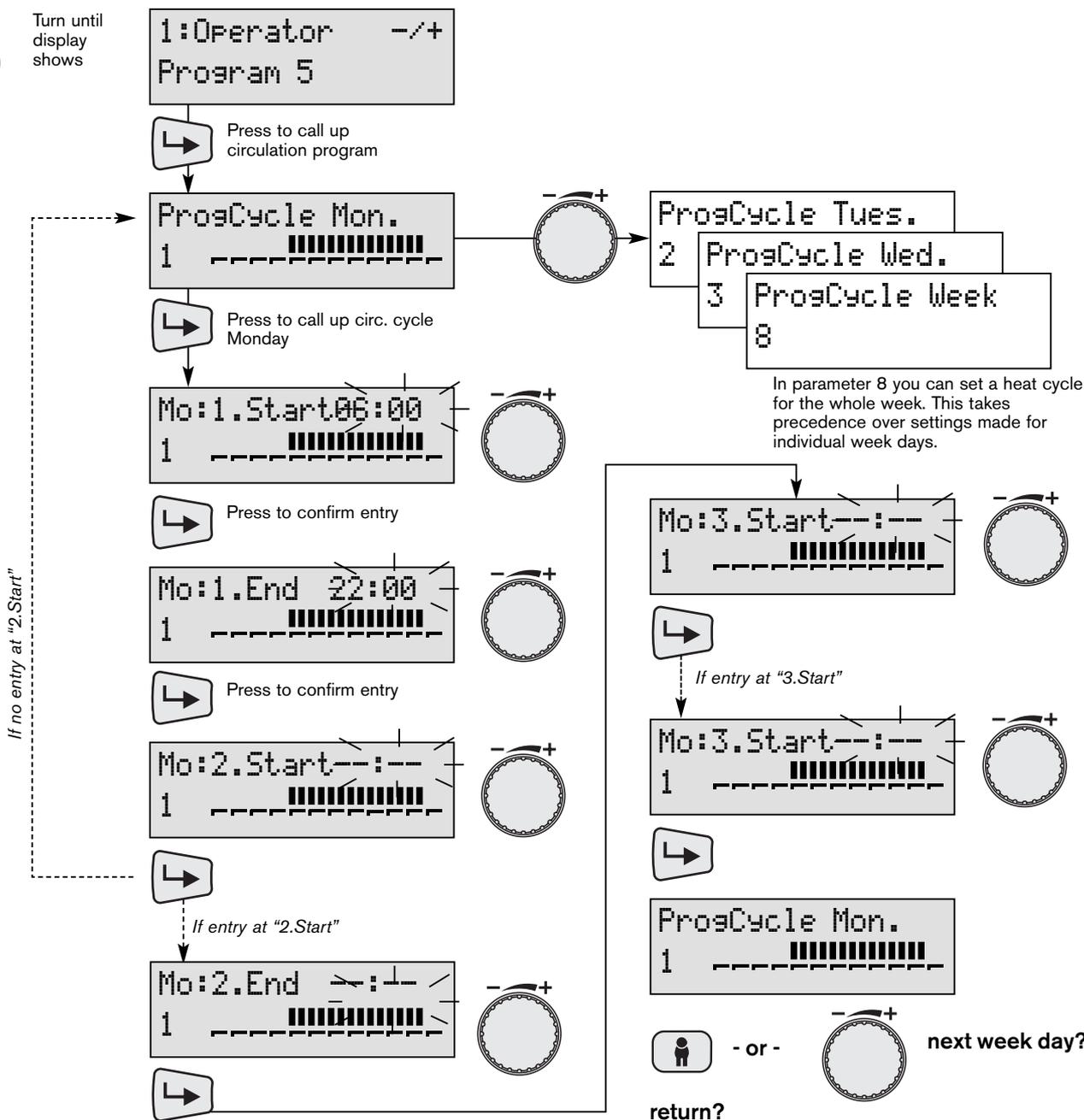
Example for 2 program cycles on one day



Press



Turn until display shows



## 6.8 Call up and change temperature setpoints



**Why?**

Your heating control operates to different temperature setpoints, stipulated by you.

**Normal temperature setpoint:**

- ▶ Your selected room temperature.

**Economy temperature setpoint:**

- ▶ Your selected room temperature outside of operating times, for example during the night.

**Frost protection temperature setpoint:**

- ▶ Protects the building from frost damage. Please note: Frost protection is only ensured if the heating system functions correctly.

**Note:** The frost protection temperature only has an effect if the room factor is activated.

**Summer/Winter switchover temperature:**

- ▶ Operation without intervention for a whole year is possible.
- ▶ The heating system does not start during short cold snaps.
- ▶ Summer/Winter switchover is not carried out depending on the current external temperature, but depending on an average external temperature determined over time (External dampened). With this the heating is switched off when the dampened external temperature is 2° C above the switchover temperature. If the dampened external temperature is 1° C below the switchover temperature, the heating circuit is re-activated. The dampened external temperature can be called up in the heating engineer level parameter ⇒ 111.

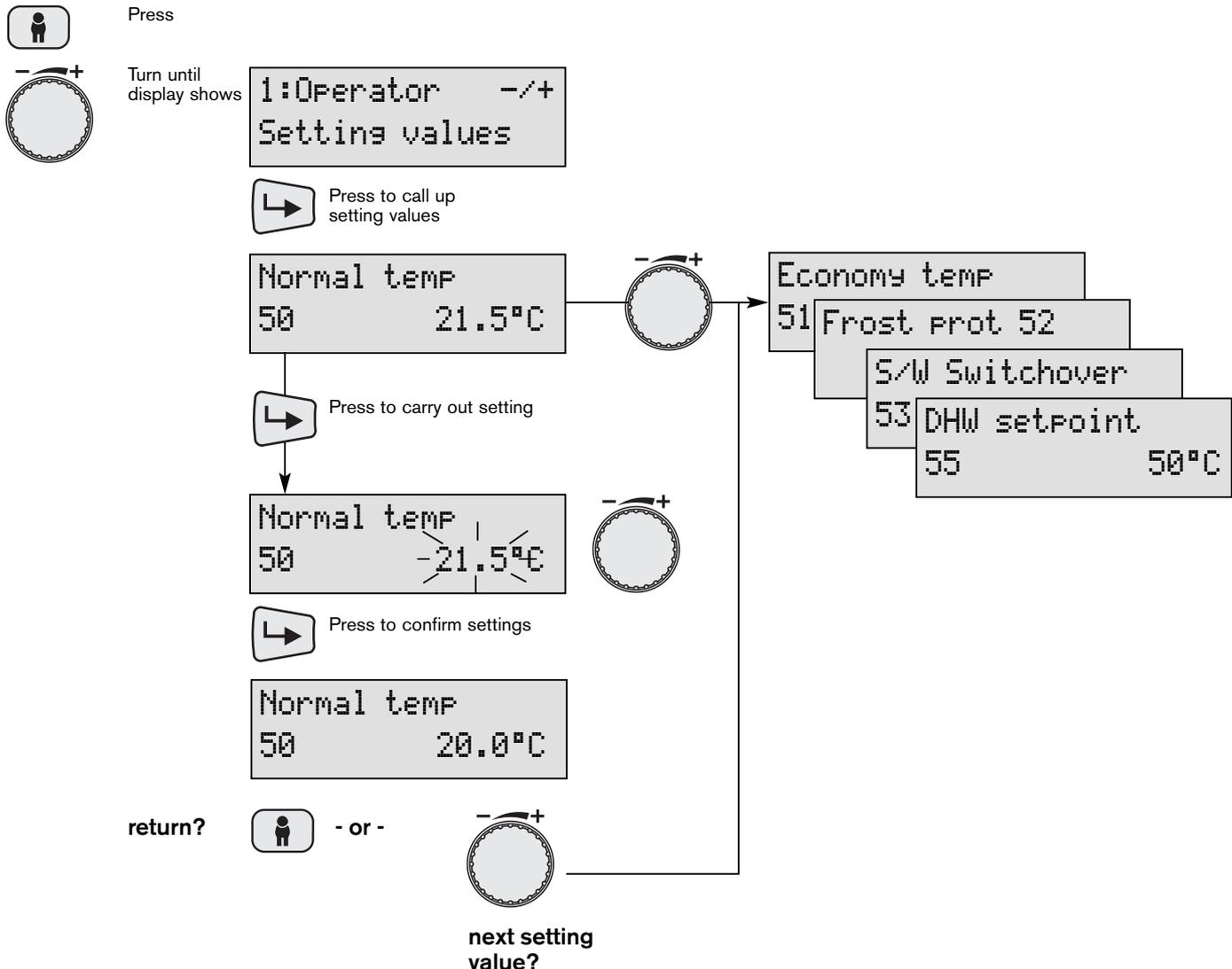
**DHW temperature setpoint:**

You program the required hot water temperature into your heating control.

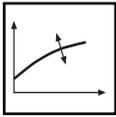


**Danger of scalding!**

Excessively high hot water temperatures can lead to scalding.



### 6.9 Call up heating reference line (weather compensated)



The current flow temperature is determined depending on the external temperature and the gradient set. Additionally, the room temperature adjustable in the end user level is taken into consideration. The external temperature used for the flow temperature calculation is influenced not only by the current external temperature, but also by an average value determined over time (External mixed) as well as the building construction.

**About the diagram**

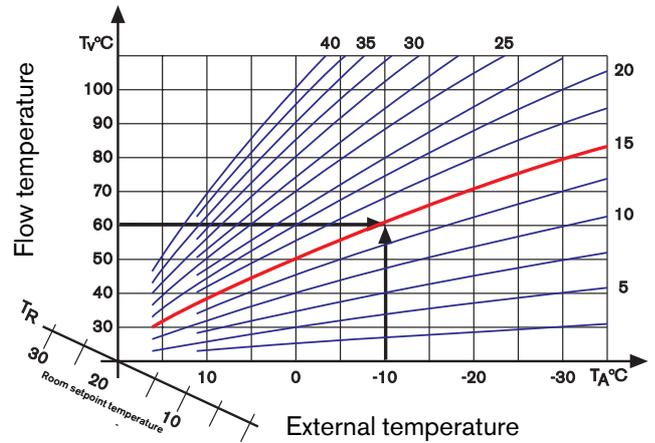
The lines in the diagram show the gradient of the supply temperature dependent on the external temperature. The steeper the heating reference line the more the flow temperature rises when the external temperature falls.

**Influence of room temperature setpoint**

By changing the room temperature set, the supply temperature is influenced at higher external temperatures. The reference line is not shifted parallel.

**Note:** If the heating reference line adaptation is enabled in the heating engineer level parameter 133 ⇨ "On", the gradient is altered by this function, the value set no longer corresponds to the one which was set.

Heating reference line



**Determining the gradient of the heating reference line:**

- ▶ Enter lowest possible external temperature on diagram by climate zone (e.g. vertical line at -10°C).
- ▶ Enter required flow temperature according to the heating calculation into the diagram (e.g. horizontal line at 70°C).
- ▶ The intersection of both lines results in the gradient of the heating reference line to be set (e.g. 15).

For tips on setting see Ch. "What to do when...?"

**Indicative values for different heating systems:**

- ▶ Underfloor heating: 4...10
- ▶ Low temperature heating: 10...18

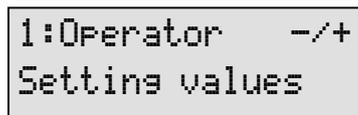
To deactivate heating circuit 1: set "----".



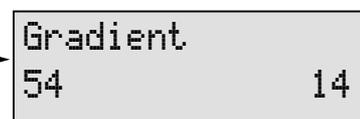
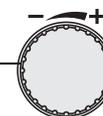
Press



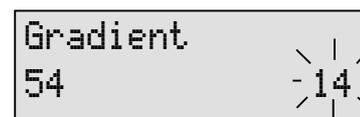
Turn until display shows



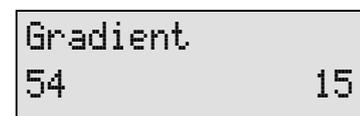
Press to call up setting values



Press to carry out setting



Press to confirm settings

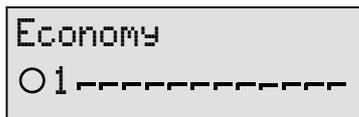


return?



## 6.10 Energy saving function (weather compensated)

Display:



The energy saving function (Economy) is a fast acting mechanism which turns off the heating system as soon as heat is no longer required. This allows economical operation throughout the year, as the heating system does not need to be turned off manually, particularly during the switchover periods.

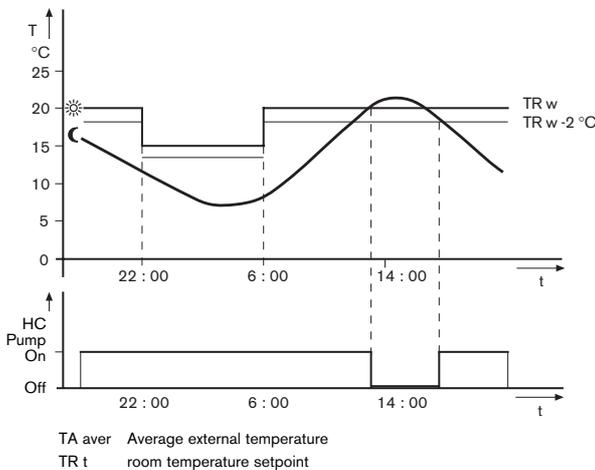
The basis for this process are the values of the average external temperature and the current room temperature setpoint.

If the average external temperature increases above the current room temperature setpoint the heating system is turned off.

Turn off point of heating system:  $TE_{aver} = TR_t$

If the average external temperature falls by more than  $2^\circ\text{C}$  below the current room temperature setpoint the heating system is turned on.

Turn on point of heating system:  $TE_{aver} = TR_t - 2^\circ\text{C}$



With an active daily automatic heating limit (DHL), the heating is automatically turned off or reduced.

### Energy saving function (room compensated)

By activating the room sensor in the heating engineer's level, parameter 130  $\Rightarrow$  "On" the integral temperature sensor is used as guide value for the heating circuit. The thermostat function activates or deactivates the heating circuit. If the current room temperature exceeds the normal set temperature by the temperature set at the thermostat, the heating circuit is switched off and the display shows "Economy". If the room temperature is lower than the temperature set at the thermostat,

When "Summer" is selected with the selection switch for type of operation, the display can show either "Economy" or "Summer" depending on the dampened external temperature and the Summer/Winter switchover temperature.

"Economy" and "Summer" operation function in the same way.

The "Economy" function is a short-term measure, the "Summer" function is a long-term measure, as the dampened external temperature is used for this function. The Summer/Winter switchover temperature (parameter 53) is the criteria for automatic switchover of the heating system between Summer and Winter operation, exclusively for the heating circuit.

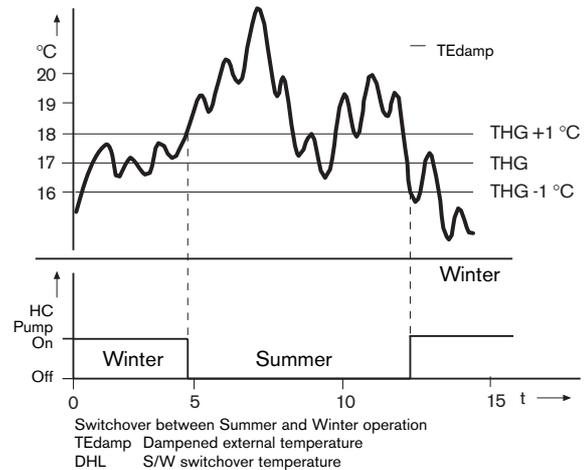
By altering the switchover temperature the relevant annual phases are either shortened or lengthened. This conversion only affects the heating circuit.

Switchover temperature:

Increase: Switchover to Winter operation *earlier*  
Switchover to Summer operation *later*

Decrease: Switchover to Winter operation *later*  
Switchover to Summer operation *earlier*

Heating OFF (Winter to Summer)  $TE_{damp} > DHL + 1^\circ\text{C}$   
Heating ON (Summer to Winter)  $TE_{damp} < DHL - 1^\circ\text{C}$



the heating circuit is reactivated and the type of operation changes from "Economy" to the type of operation set.

**Note:** Pump protection function  
If the Summer/Winter switchover or Standby function is activated, the heating circuit and hot water pumps will be activated one by one for 30 seconds every Friday from 10.00 hrs.

### 6.11 Set holiday start/end



**Why?**

When your dwelling is empty while you are on holiday, your heating system can be operated on Economy temperature or frost protection temperature saving energy costs. You will need to enter the start and end of your holiday. You will also need to decide whether the heating should operate only on Economy temperature, or if it should operate only when frost protection temperature is not achieved.

If you are a janitor, you can temporarily heat empty living quarters in Economy temperature mode. The relevant address of the heating circuit must be selected.

**Note:** Each heating circuit has to be set to holiday mode separately. By switching contact H1- M the whole system can be reduced.



Press



Turn until display shows

1:Operator -/+  
Holiday

Press to call up the holiday program

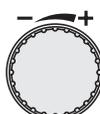
Holiday from  
60 ---.---

Press to carry out settings

Holiday from  
60 ---.---



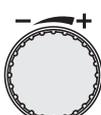
Holiday from  
60 17.Sep



Press to confirm the month

Holiday from  
60 17.Oct

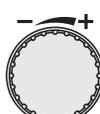
Press to confirm the day



Holiday to  
61 17.Oct

Press to carry out settings

Holiday to  
61 17.Oct

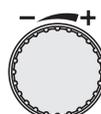


Press to confirm the month

Holiday  
61 17.Oct



Press to confirm the day



Holiday temp  
62 Economy temp

Press to show temperature level

Holiday temp  
62 Economy temp



Press to confirm settings

Holiday temp  
62 Frost



#### Cancel holiday program

Set parameter as follows:

Holiday from  
60 ---.---

-or-

Holiday to  
61 ---.---

## 6.12 Type of operation

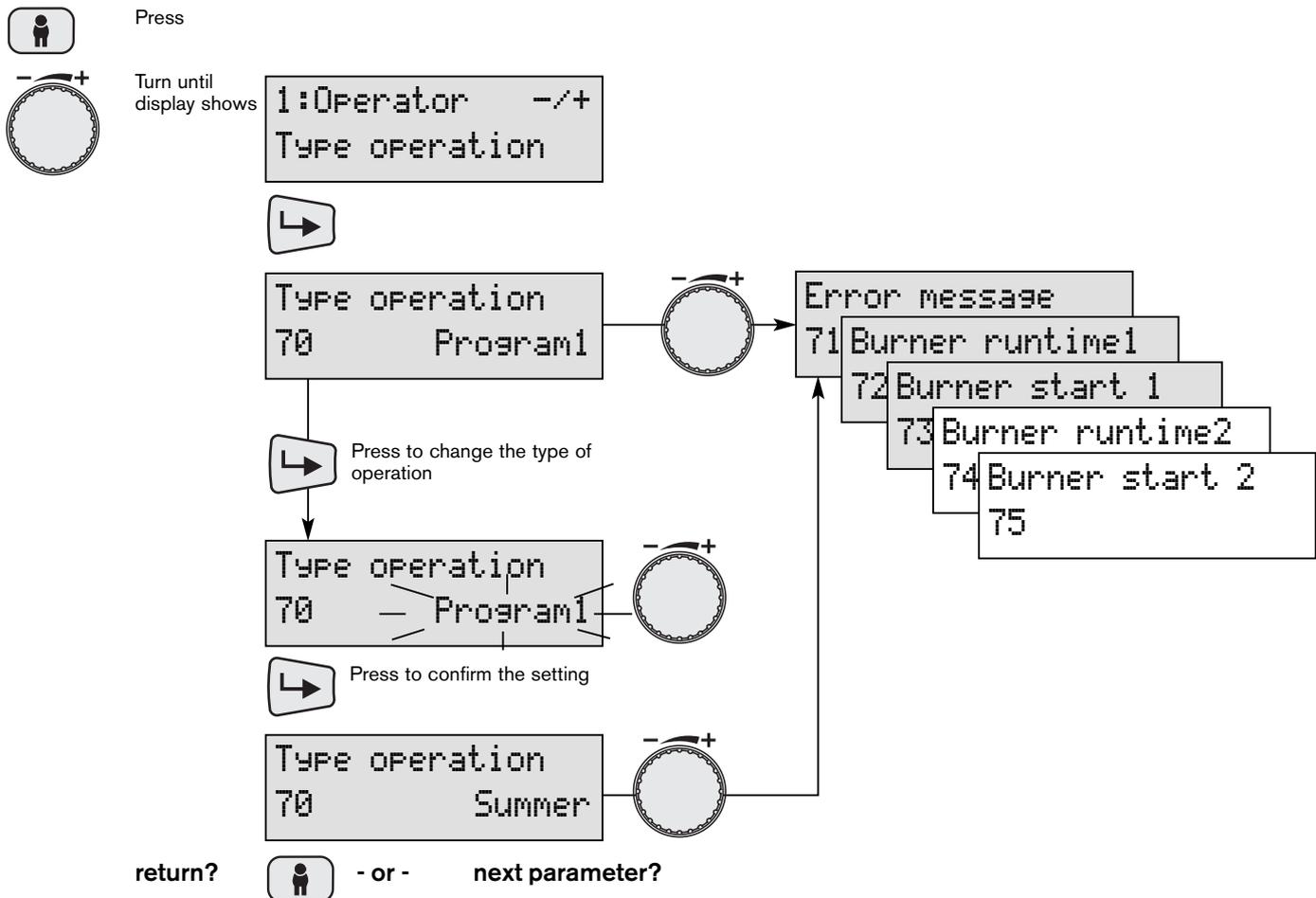
### 6.12.1 Set type of operation / display error messages / display burner run time

#### Why?

- ▶ Setting types of operation for additional heating circuits with the central operating unit at address 0 and 2\*, see Ch. 7.1.
- ▶ Display error conditions in the selected heating circuits.
- ▶ Display burner operating hours and starts for burner stage 1 or 2.

#### Types of operation (see Ch. 5.4)

Program1  
 Program2  
 Program3  
 Normal temp  
 Economy temp  
 Summer  
 Standby



**Note:** Burner run time and burner starts cannot be reset. The type of operation can only be altered at addresses "0" and "2\*", if the heating circuit has not been assigned with a separate operating unit. Address setting see Ch. 7.1.

### 6.13 Reset “Service” and Flue Gas Limit” message to factory settings



**Why?**

- ▶ Reset entered data to factory settings (see Ch. 9.1). Useful if you are not sure if data you have entered is correct. All data previously programmed will be overwritten.



Press



Turn until display shows

1:Operator -/+  
Options



Press to call up options

Parameter reset?  
80 No



Press to carry out settings

Parameter reset? -/+  
80 -Yes



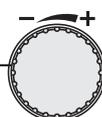
Press to confirm settings

Parameter reset?  
80 No

return?



▶ Resetting the service message when service is due.



Service  
81 Boiler



Press for 3 seconds

Reset value

Service  
81 none

▶ Resetting the message “Flue gas limit” following boiler cleaning.

Max val flue gas  
82 205°C



Press for 3 seconds

Reset value

Max val flue gas  
82 145°C

Note: The “Max val flue gas” is reset to the current value.



## 7.4 Special features: Address 2 (address setting heating engineer level of WRS-BE)

### Unit selection

This makes it possible to trigger addresses 1 and 2 with one WRS-BE. Depending on the presetting (adjustable in the heating engineer level of the WRS-BE) the switch for type of operation acts either on address 1 or on both.

Prior to every alteration of the parameter sets the relevant unit has to be selected using the unit selection (that means CPU or EM). The direct setpoint adjustment only acts only on the heating circuit with address 2, on the other heating circuit, the setpoint default must be changed via parameter 50, 51 or 52.

The room influence can be set depending on the heating circuit via parameter 130 ⇒ "On" in the heating engineer level.

### Setting types of operation

If the WRS-BE is configured in such a way that the selection switch only acts on one unit (e.g. EM), adjustable in the heating engineer level parameter 915 ⇒ "EM" (see Ch. 7.1), you can set the type of operation for the other heating circuit here.

Please proceed as follows:

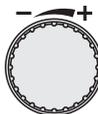
### Unit selection

#### Open flap



If you have access to several heating circuits the display shows:

Unit selection  
1:WRS-CPU B1



Select heating circuit



press to confirm selection

Search Unit

1:Operator -/+  
Time



return?

Now the settings in the extended setting level can be altered.

In the first line of the display the number of the heating circuit selected is shown (here "1:" = heating circuit 1).

### Set type of operation at address 2\*

#### Open flap



Unit selection  
1:WRS-CPU B1



press to confirm selection

1:Operator -/+  
Type operation



press to carry out setting

Type operation  
70 - Program1



press to confirm settings

Type operation  
70 Summer



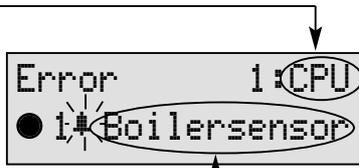
return?

# 8 What to do if ... ?

## 8.1 Error and service messages on the display

If an error message is displayed, note down message and contact customer service.

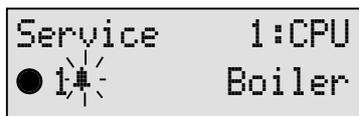
Unit, which caused the error message with the relevant unit address



### Display: Error

Press Info key. Error message disappears. The default display is shown. The "Bell" symbol flashes until the error has been rectified.

Cause of error



### Display: Service

#### Boiler service required!

The service cycle set has expired.

Contact customer service.

Reset display to Info mode see Ch. 6.13

**Note:** Plant operation is not affected by the service message.

### Possible error message:

Display	Cause	Rectification
<b>External sensor</b> (all units)	<ul style="list-style-type: none"> <li>⇒ No external sensor connected to plug slot No. 6</li> <li>⇒ No external sensor value on the Bus</li> <li>⇒ Sensor short circuit or open circuit after sensor recognition</li> </ul>	<ul style="list-style-type: none"> <li>⇒ Connect external sensor, if necessary set parameter 141 Service level to "On".</li> <li>⇒ Connect external sensor to WRS-EM, apply voltage to CPU as external sensor is connected to the CPU.</li> <li>⇒ Call up external temperature value in Info level. If the value 0.0° C is displayed, the controller uses this 0.0° C as external sensor value and carries out all functions (frost protection, supply temperature etc.) to this value, until the sensor is replaced.</li> </ul>
<b>Boiler sensor</b> (only on address 0, 1, 2*)	<ul style="list-style-type: none"> <li>⇒ No boiler sensor connected to plug slot No. 7</li> <li>⇒ Boiler sensor short circuit or open circuit</li> </ul>	<ul style="list-style-type: none"> <li>⇒ Connect boiler sensor</li> <li>⇒ Call up the boiler temperature in the Info level. If "□ □ □" is displayed, the sensor has a short circuit. If the display shows "- -", the sensor is open circuit. The heating circuits continue to operate (frost protection function). If the heating circuit is in economy mode, this is carried out. Replace sensor, check contacts.</li> </ul>
<b>Boiler temp</b>	<ul style="list-style-type: none"> <li>⇒ The boiler temperature (switch on Min HE, parameter 190 ⇒ 45°C) is not achieved within one hour</li> <li>⇒ Burner rating too low, heating circuit via gravity principle</li> <li>⇒ Burner control circuit open (T1/T2)</li> </ul>	<ul style="list-style-type: none"> <li>⇒ The burner release contact (T1/T2) remains open despite demand from the CPU.</li> <li>⇒ Switch on the gravity circulation via valve.</li> <li>⇒ Auxiliary air system defective, replace.</li> </ul>
<b>Flow sensor</b> (for cascade flow sensor, mixing valve sensor)	<ul style="list-style-type: none"> <li>⇒ Sensor short circuit or open circuit after sensor recognition</li> </ul>	<ul style="list-style-type: none"> <li>⇒ Call up flow temperature in the Info level. If "□ □ □" is displayed, the sensor has a short circuit. If the display shows "- -", the sensor is open circuit. The heating circuit pump is switched off, the mixing valve runs "Open". replace sensor, check contacts.</li> </ul>

Display	Cause	Rectification
<b>DHW sensor</b>	⇒ Sensor short circuit or open circuit after sensor recognition	⇒ No hot water temperature is displayed in the Info level. Replace sensor, check contacts.
		 <p><b>Note:</b> On initial commissioning the display can last for up to 10 minutes. This depends on the Bus enquiry. By activating the sensor reset, HE, parameter 129 ⇒ “Yes” the input can be speeded up.</p>
<b>DHW loading</b>	⇒ The hot water temperature set (parameter 55) is not achieved within 2.5 hrs.	⇒ Sensor not plugged in to its plug slot No. 3, use correct plug slot. ⇒ The hot water circulation pump has seized, loosen or replace pump. ⇒ Ball valve in connection set is closed, open ball valve. ⇒ Pump not installed as per instructions, change pump location.
	<p><b>Note:</b> After 2.5 hours the system repeats DHW loading if DHW demand still exists.</p>	<p><b>Note:</b> The error message can be reset via “Sensor Reset” parameter 129 ⇒ “Yes” heating engineer level. The error is reset by switching on or off.</p>
<b>Room sensor</b>	⇒ Sensor short circuit or open circuit	⇒ Call up the room temperature in the Info level. If “- -” is displayed, the sensor is open circuit. The operating unit must be replaced.
<b>Flue gas sensor</b>	⇒ Sensor short circuit or open circuit after activation of the relevant input or after sensor recognition	⇒ Sensor not plugged into its plug slot No. 12, use correct plug slot, check contacts. ⇒ Replace sensor.
<b>Flue gas limit</b>	⇒ The flue gas temperature exceeds the set value (HE, parameter 212 ⇒ 220°C). This indicates a dirty boiler.	⇒ Carry out boiler cleaning. ⇒ Once boiler has been cleaned, reset display, see Ch. 6.13.
<b>Return sensor</b>	⇒ Sensor short circuit or open circuit after sensor recognition	⇒ Sensor not plugged into its plug slot No. 12, use correct plug slot, check contacts. ⇒ Replace sensor.
<b>Burner lockout</b>	⇒ Heat exchanger / burner in lockout	⇒ Press reset button on boiler control panel, maximum 3 times, then call customer service.
<b>ConfigInstall <sup>1)</sup>*</b>	⇒ Parameter 54 not set as typical for the installation.	⇒ Set parameter 54 to “_ _ _” or ⇒ Set parameter <b>215</b> to “none”

\* The boiler sensor is called on as regulating size, replace sensor.

<sup>1)</sup> only with WRS-CPU-B2/E

Display	Cause	Rectification
<b>CalorifierSenTop</b> <sup>1) *</sup>	<ul style="list-style-type: none"> <li>⇒ Sensor short circuit or open circuit after sensor recognition by parameter <b>215</b> to sensor B10.</li> <li>⇒ Parameter <b>210</b> "Flue gas sensor" set to terminal B10/B7.</li> </ul>	<ul style="list-style-type: none"> <li>⇒ Connect calorifier sensor B10.</li> <li>⇒ Call up Top calorifiers in the Info level. If "□ □ □" is displayed, the sensor has a short circuit. If the display shows "___", the sensor is open circuit. The heating circuits continue to operate.</li> <li>⇒ Connect sensor to its plug slot 11/12.</li> <li>⇒ Set parameter <b>210</b> to "none" or to "terminal B9/B7".</li> </ul>
<b>CalorifierSenBo</b> <sup>1)</sup>	<ul style="list-style-type: none"> <li>⇒ Sensor short circuit or open circuit after sensor recognition by parameter <b>215</b> to "Sensor B10 +B11"</li> <li>⇒ Parameter <b>210</b> "Flue gas sensor" set to "Terminal B9/B7".</li> </ul>	<ul style="list-style-type: none"> <li>⇒ Connect calorifier sensor B11.</li> <li>⇒ Call up the Bottom calorifiers in the Info level. If "□ □ □" is displayed, the sensor has a short circuit. If the display shows "___", the sensor is open circuit. The heating circuits continue to operate, the sensor B10 is used as a control value, replace sensor.</li> <li>⇒ Connect sensor to its plug slot 10/12.</li> <li>⇒ Set parameter <b>210</b> to "none".</li> </ul>

\* The boiler sensor is used as a control value, replace sensor.

<sup>1)</sup> only with WRS-CPU-B2/E

## 8.2 Additional displays

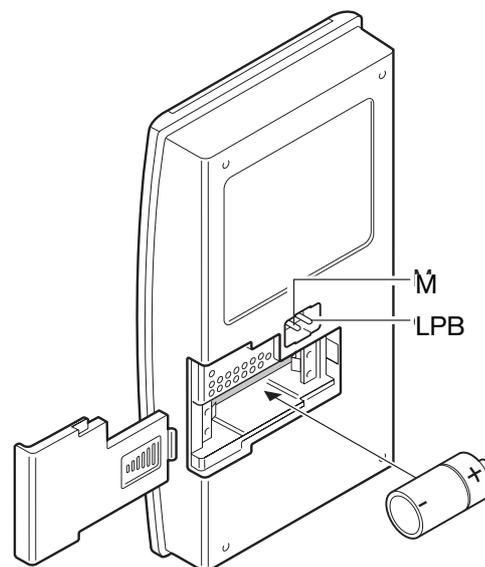
Change  
battery

### Battery is empty.

Fit new battery. The battery compartment is on the rear of the WRS-BE. Battery type CR123A 3V.

When replacing batteries the date and time have to be reset. (⇒ Ch. 6.4)

### Changing the battery



Display illegible,  
background too dark

Program1 15:42  
● 1 ██████████

### Adjusting the contrast



Keep button pressed.  
Using the **dial knob** adjust the contrast.

Data Error  
occurred

An error occurred during reading/writing data.  
Repeat reading/writing data (see Ch. 6.3)

Economy 15:41  
○ 1 ██████████

### Economy mode

Heating is switched off if no heat demand is present  
(see Ch. 6.10)

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### 8.3 Dwelling to cold or too warm

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- |  |  |
|--|--|
| ▶ Your home is too cold or too warm during the change-over periods.  | Change room temperature (see Ch. 5.1).   |
| ▶ Your home is too cold during the cold time of the year, but during Switchover period it is comfortably warm. | Adjust gradient of heating reference line (see Ch. 6.9).<br>Set next higher value. |
| ▶ Your home is too warm during the cold time of the year, but during Switchover period it is comfortably warm. | Adjust gradient of heating reference line (see Ch. 6.9).<br>Set next lower value.  |

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### 8.4 Deactivate heating circuit

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Parameter 54 must be set to "- - -".

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### 8.5 Pump run on time

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If the heating circuit or circuits are operating in an economy function (Summer/Winter Switchover, day heating limit automatic ), the pump will be switched off 3 minutes after the condition (temperature) has been reached.

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### 8.6 Sensor recognition

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The connected sensors are stored, once the control unit has had voltage applied for more than 2 hours and a changeover from 24:00 hours to 0:00 hours has taken place. The sensors connected are now monitored for short circuits and open circuits.

If additional sensor are fitted, these are stored in the same principle. If a sensor is to be removed permanently, this should be carried out via sensor reset, HE, parameter 129 ⇨ "Yes".

## 9 Parameter setting for your heating system

### 9.1 Parameter setting following commissioning

Please ask the heating engineer to complete this table.  
Personal heating times can be entered by you on the intended page.

Parameter group	No.	Parameter	Setting range	Factory setting	Setting during commissioning Heat circuit 1	Heat circuit 2
Settings value	50	Normal temp	<i>Economy temp...35°C</i>	<b>21.5</b>	_____	_____
	51	Economy temp	<i>Frost...Normal temp</i>	<b>16</b>	_____	_____
	52	Frost protect	<i>4...Economy temp</i>	<b>10</b>	_____	_____
	53	S/W switchover	<i>8...30°C</i>	<b>20</b>	_____	_____
	54	Gradient	<i>--- 3...40</i>	<b>15/*</b>	_____	_____
	55	DHW setpoint	<i>DHW set temperature</i>	<b>50</b>	_____	_____
Type operation (for other heat circuits HC)	70	Type operation	Standby Program3 Program2 Program1 Normaltemp Economy temp Summer	<b>Program1</b>	HC1: _____	HC2: _____ HC3: _____ HC4: _____ HC5: _____ HC6: _____ HC7: _____ HC8: _____ HC9: _____
	71	Error message	-	-		

Parameter group	No.	Parameter	Factory setting		
Heat program 1	11	Heat cycle Mon	Mon to Fri	<b>06:00h to 22:00h</b>	<b>Normal temperature</b>
	12	Heat cycle Tue			
	13	Heat cycle Wed			
	14	Heat cycle Thur			
	15	Heat cycle Fri			
	16	Heat cycle Sat	Sat and Sun	<b>07:00h to 23:00h</b>	<b>Normal temperature</b>
	17	Heat cycle Sun			
	18	Heat cycle Week			
Heat program 2	21	Heat cycle Mon	Mon to Fri	<b>05:30h to 08:30h</b>	<b>Normal temperature</b>
	22	Heat cycle Tue		<b>12:00h to 22:00h</b>	<b>Normal temperature</b>
	23	Heat cycle Wed etc.			
	28	Heat cycle Week	Sat and Sun	<b>07:00h to 23:00h</b>	<b>Normal temperature</b>
Heat program 3	31	Heat cycle Mon	Mon to Fri	<b>07:00h to 22:00h</b>	<b>Normal temperature</b>
	32	Heat cycle Tue etc.			
	38	Heat cycle Week	Sat and Sun	<b>07:00h to 24:00h</b>	<b>Normal temperature</b>
DHW Program	41	DHW cycle Mon	Mon to Fri	<b>06:00h to 22:00h</b>	<b>Normal temperature</b>
	42	DHW cycle Tue etc.			
	48	DHW cycle Week	Sat and Sun	<b>07:00h to 23:00h</b>	<b>Normal temperature</b>
Program 5	1	Prog cycle Mon	Mon to Fri	<b>06:00h to 06:30h</b>	<b>Contact closed</b>
	2	Prog cycle Tue etc.	Mon to Fri	<b>11:00h to 11:30h</b> <b>17:00h to 17:30h</b>	
			Sat and Sun	<b>07:00h to 07:30h</b> <b>11:00h to 11:30h</b> <b>17:00h to 17:30h</b>	<b>Contact closed</b>
	8	Prog cycle Week			

\* WRS-CPU-B2/E

**Heating circuit 1 (WRS-CPU)**

*Personal heating program 1*

Day	Heat cycle 1		Heat cycle 2		Heat cycle 3	
	from	to	from	to	from	to
Mon						
Tue						
Wed						
Thur						
Fri						
Sat						
Sun						

*Personal heating program 2*

Day	Heat cycle 1		Heat cycle 2		Heat cycle 3	
	from	to	from	to	from	to
Mon						
Tue						
Wed						
Thur						
Fri						
Sat						
Sun						

*Personal heating program 3*

Day	Heat cycle 1		Heat cycle 2		Heat cycle 3	
	from	to	from	to	from	to
Mon						
Tue						
Wed						
Thur						
Fri						
Sat						
Sun						

*Personal DHW program*

Day	DHW cycle 1		DHW cycle 2		DHW cycle 3	
	from	to	from	to	from	to
Mon						
Tue						
Wed						
Thur						
Fri						
Sat						
Sun						

*Personal program 5*

Day	Prog cycle 1		Prog cycle 2		Prog cycle 3	
	from	to	from	to	from	to
Mon						
Tue						
Wed						
Thur						
Fri						
Sat						
Sun						

**Heating circuit 2 (WRS EM)**

*Personal heating program 1*

Day	Heat cycle 1		Heat cycle 2		Heat cycle 3	
	from	to	from	to	from	to
Mon						
Tue						
Wed						
Thur						
Fri						
Sat						
Sun						

*Personal heating program 2*

Day	Heat cycle 1		Heat cycle 2		Heat cycle 3	
	from	to	from	to	from	to
Mon						
Tue						
Wed						
Thur						
Fri						
Sat						
Sun						

*Personal heating program 3*

Day	Heat cycle 1		Heat cycle 2		Heat cycle 3	
	from	to	from	to	from	to
Mon						
Tue						
Wed						
Thur						
Fri						
Sat						
Sun						

**9.2 Equipment and assignment**

To be completed by the heating engineer

			Assignment (e.g. ground floor)	Access via central operating unit to:
<b>Base module</b>	CPU-B1 for heat circuit 1	<input type="checkbox"/>	_____	<input type="checkbox"/>
	CPU-B2 for heat circuit 1	<input type="checkbox"/>		
	CPU-B3 for heat circuit 1	<input type="checkbox"/>		
<b>Extension module</b>	EM#2 for heat circuit 2	<input type="checkbox"/>	_____	<input type="checkbox"/>
	EM#3 for heat circuit 3	<input type="checkbox"/>	_____	<input type="checkbox"/>
	EM#4 for heat circuit 4	<input type="checkbox"/>	_____	<input type="checkbox"/>
	EM#5 for heat circuit 5	<input type="checkbox"/>	_____	<input type="checkbox"/>
	EM#6 for heat circuit 6	<input type="checkbox"/>	_____	<input type="checkbox"/>
	EM#7 for heat circuit 7	<input type="checkbox"/>	_____	<input type="checkbox"/>
	EM#8 for heat circuit 8	<input type="checkbox"/>	_____	<input type="checkbox"/>
	EM#9 for heat circuit 9	<input type="checkbox"/>	_____	<input type="checkbox"/>
	<b>Room influence</b>	active	<input type="checkbox"/>	<b>Reference room:</b> _____
not active		<input type="checkbox"/>		
<b>External temperature sensor</b>	available	<input type="checkbox"/>		
	not available	<input type="checkbox"/>		
<b>Separate D H W program</b>	active	<input type="checkbox"/>		
	not active (i.e. D H W loading release with pre-set designation to the selected heating program)	<input type="checkbox"/>		

**9.3 Hand-over to the customer**

The customer was informed about the operation of the system and all documents have been handed over

Date \_\_\_\_\_

Signature  
Heating engineer \_\_\_\_\_

**Your customer service**

\_\_\_\_\_

\_\_\_\_\_



Product		Description	Performance
	<b>W-Burners</b>	The compact series, proven millions of times over: Economical, reliable, fully automatic. Gas, oil and dual fuel burners for domestic and commercial applications. The purflam burner gives almost soot-free combustion of oil with greatly reduced NO <sub>x</sub> emissions.	Up to 570 kW
	<b>Monarch and industrial burners</b>	The legendary industrial burner: Tried and tested, long lived, clear construction. Gas, oil and dual fuel burners for district heat provision.	Up to 10,900 kW
	<b>multiflam® burners</b>	Innovative Weishaupt technology for large burners: Minimal emission values particularly at ratings over one megawatt. Oil, gas and dual fuel burners with patented fuel distribution system.	Up to 12,000 kW
	<b>WK industrial burners</b>	Modular powerhouses: Adaptable, robust, powerful. Oil, gas and dual fuel burners for industrial plant.	Up to 18,000 kW
	<b>Thermo Unit</b>	The Thermo Unit heating systems from cast iron or steel: Modern, economic, reliable. For environmentally friendly heating. Fuel: Gas or oil as desired.	Up to 55 kW
	<b>Thermo Condens</b>	The innovative condensing boilers with the SCOT system: Efficient, low in emissions, versatile. Ideal for domestic heating. Floor standing gas condensing boiler with ratings of up to 1200 kW(cascade), for higher heat demands.	Up to 1,200 kW
	<b>Heat pumps</b>	The heat pump programme offers solutions for utilisation of heat from air, soil and ground water. The systems are suitable for refurbishment or new builds.	Up to 130 kW
	<b>Solar systems</b>	Free energy from the sun: Perfectly coordinated components, innovative, proven. Pleasantly shaped flat roof collectors to support heating and of domestic water	
	<b>Water heater / energy reservoir</b>	The attractive domestic water heating range includes classic water heaters which are supplied through a heating system and energy reservoirs which can be fed through solar systems.	
	<b>Control technology / building management</b>	From control panels to complete building management systems – at Weishaupt you can find the entire spectrum of modern control technology. Future oriented, economical and flexible.	