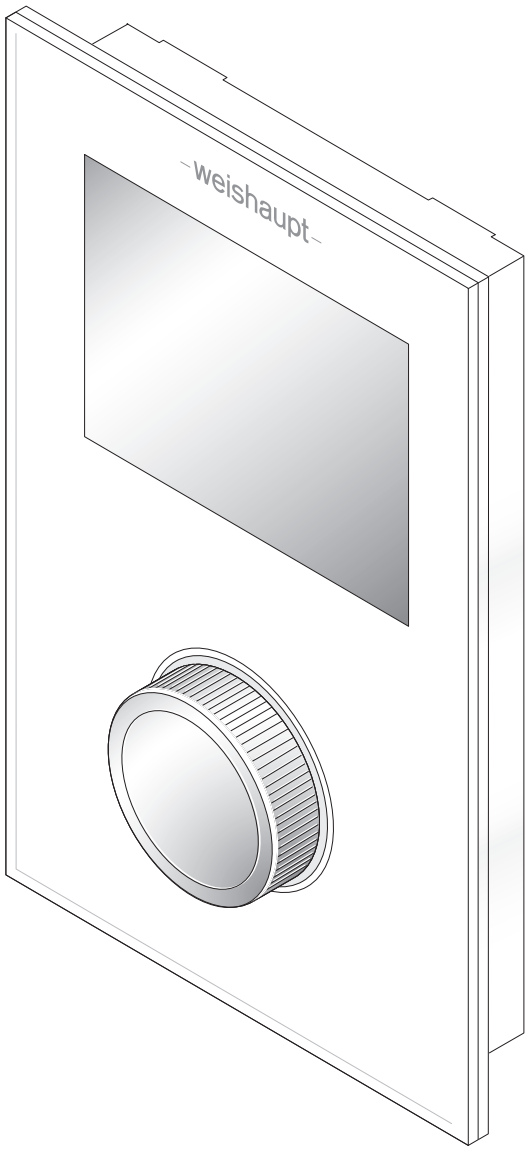
–weishaupt–

manual

Installation and operating instruction



Room device WEM-RG2

83307102 ▪ 2/2017-11

1 User instructions

Translation of original operating instructions

This manual forms part of the equipment and must be kept on site.

Carefully read the manual prior to working on the unit.

It is supplemented by the installation and operating instructions for the condensing unit.

1.1 Target group

The manual is intended for the operator and qualified personnel. They should be observed by all personnel working with the unit.

Work on the unit must only be carried out by personnel who have the relevant training and instruction.

In accordance with EN 60335-1 the following requirements apply

This appliance can be used by children 8 years and above as well as by persons with limited physical, sensory or mental capacities or lack of experience and knowledge, provided they are supervised or have been instructed regarding the safe use of the appliance and understand the resulting danger. Children must not play with the appliance. Cleaning and operator maintenance must not be carried out by children without supervision.

1.2 Symbols

 **DANGER**	Immediate danger with high risk. Non observance can lead to serious injury or death.
 **WARNING**	Danger with medium risk. Non observance can lead to environmental damage, serious injury or death.
 **CAUTION**	Danger with low risk. Non observance can cause damage to the equipment and injury to personnel.
	Important information
▸	Requires direct action
✓	Result after an action
▪	Itemisation
…	Range of values

1.3 Guarantee and Liability

Guarantee and liability claims for personal and equipment damage are excluded, if they can be attributed to one or more of the following causes:

- non approved application,
- non-observance of the manual,
- operation with faulty safety equipment,
- continual operation despite a fault,
- improper installation, commissioning, operation and service,
- repairs, which have been carried out incorrectly,
- the use of non original Weishaupt parts,
- force majeure,
- the installation of additional components, which have not been tested with the unit.

2 Safety

2.1 Designated application

The room device in conjunction with the Weishaupt Energy Management WEM is suitable for:

- the operation of up to 3 heating circuits,
- the operation of a DHW circuit.

The unit should only be used in enclosed rooms.

The installation location must comply with local regulations and must be frost-proof.

Improper use could:

- endanger the health and safety of the user or third parties,
- cause damage to the unit or other material assets.

2.2 Safety measures

Safety relevant fault conditions must be eliminated immediately.

2.3 Disposal

Dispose of all materials and components in a safe and environmentally friendly way at an authorised location. Observe local regulations.

3 Product description

3.1 Type key

WEM-RG2 …

WEM	Type: Weishaupt Energy Management
RG2	Type: room device comfort version
…	Version

3.2 Technical data

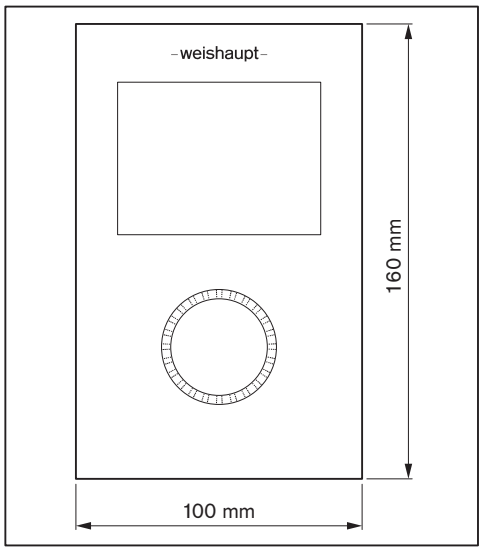
3.2.1 Electrical data

Voltage supply	DC 15 … 26 V
Consumption	max 0.7 W
Type of protection	IP 20

3.2.2 Ambient conditions

Temperature in operation	0 ... +50 °C
Temperature during transport / storage	0 ... +50 °C
relative humidity	max 85 %, no dew point

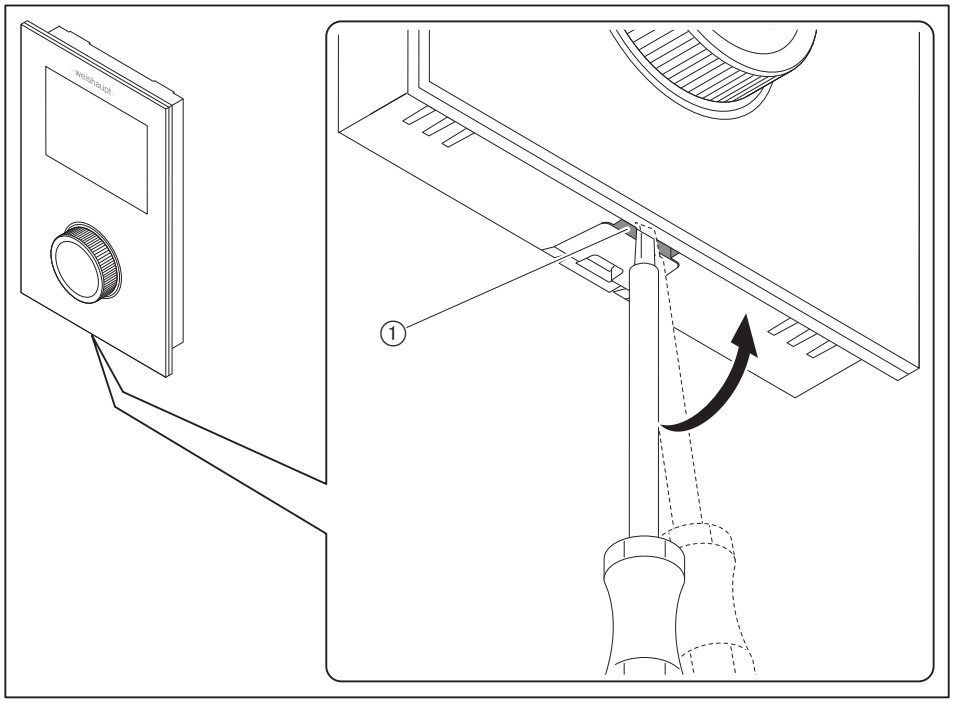
3.2.3 Dimensions



4 Installation

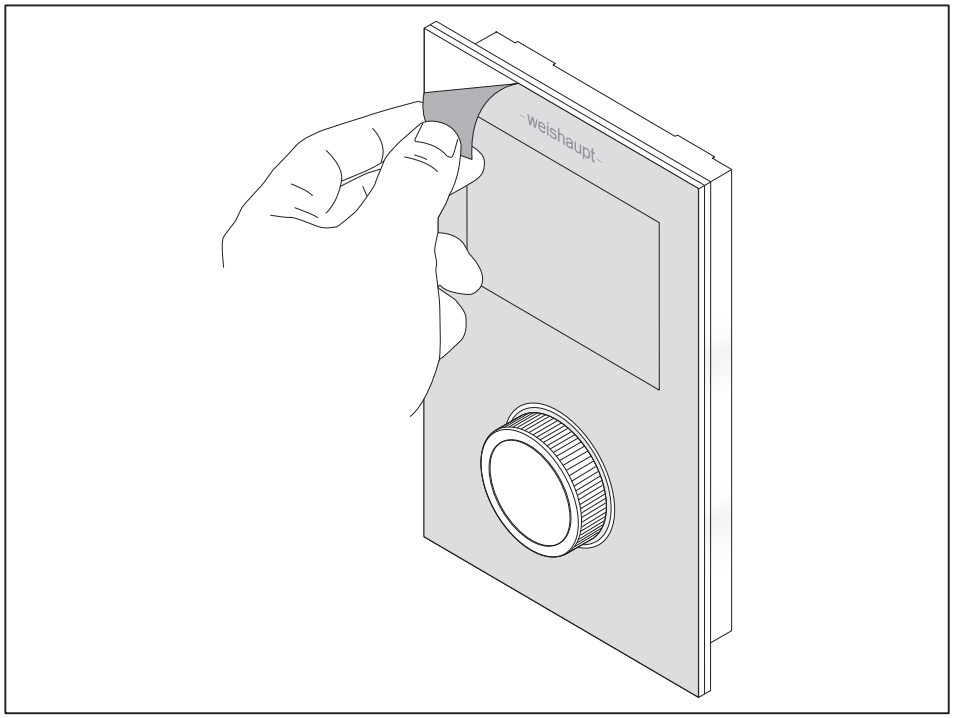
Remove room device from wall bracket

- ► Place a suitable screwdriver into the recess ① and disengage the room device in the direction of the arrow.
- ► Remove room device.



Pull off protective foil

- ► Pull off protective foil.



4 Installation

Fit wall bracket and connect

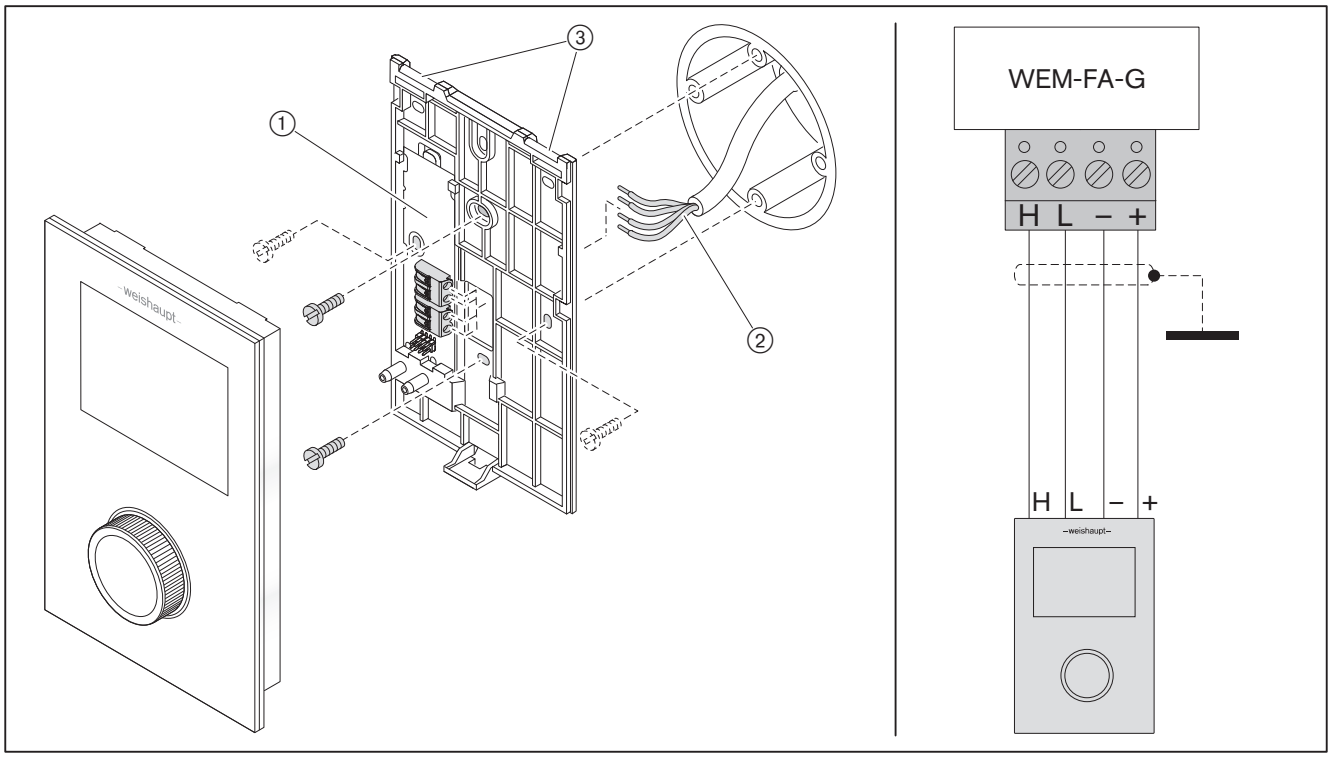
DANGER

Risk of electric shock
Working on the device when voltage is applied can lead to electric shock.
- ► Isolate the device from the power supply prior to starting any work.
- ► Safeguard against accidental restart.

The electrical connection must only be carried out by qualified electricians. Observe local regulations.

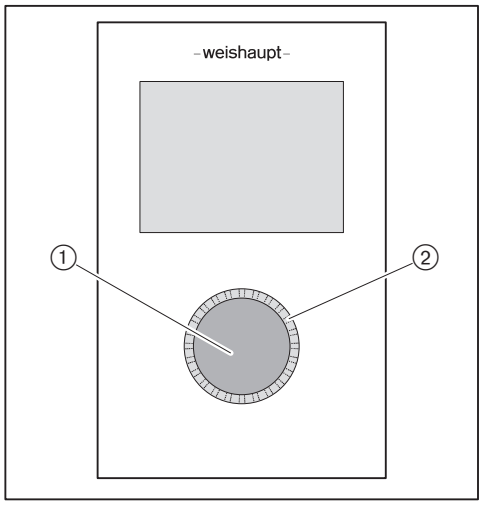
If only 2 wires are available on site, the connection can be made using the adapter set WEM-CAN 2 wire (RG2) (accessory).

- ► Secure wall bracket ① to the wall using the screws supplied.
- ► Feed the wires ② through and connect to wiring diagram.
- ► Hook in the room device at the top of the wall bracket ③ and push to engage.



5 Operation

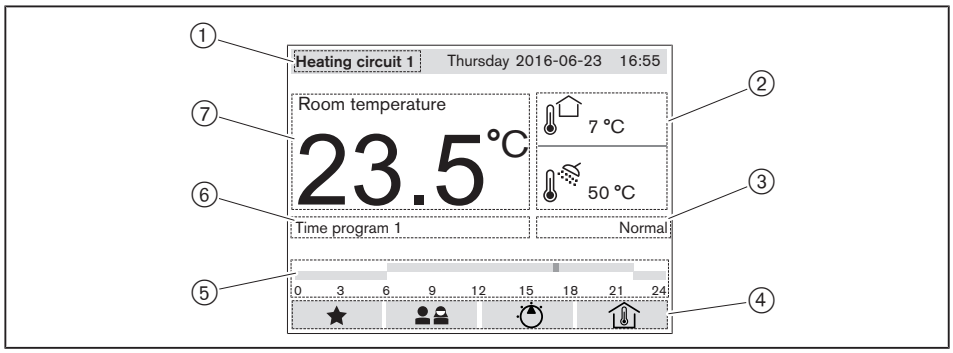
5.1 Display and operating unit



①	Dial knob	turn	navigation through parameter structure; changing values
		press	briefly: confirm or save values approx. 3 seconds: exit value without saving approx. 5 seconds: return to the start screen
②	Light ring	Status	OFF: display not activated white: display activated blue: change value activated yellow: warning message rot: fault message

5.2 Display

Start screen



①	Current heating circuit being accessed (heating circuit assigned to `HC operating access 1`).
②	Information: Information from menu `Info` in the user level. The 2 fields can be assigned as required [ch. 5.4.1].
③	Current status of the operating mode of the heating circuit shown.
④	Level selection: ▪ Favourites level ▪ User level ▪ Operating mode ▪ Room setpoint temperature The dial knob is used to select the level.
⑤	Current time program of the heating circuit shown.
⑥	Current operating mode of heating circuit shown.
⑦	Current room temperature.

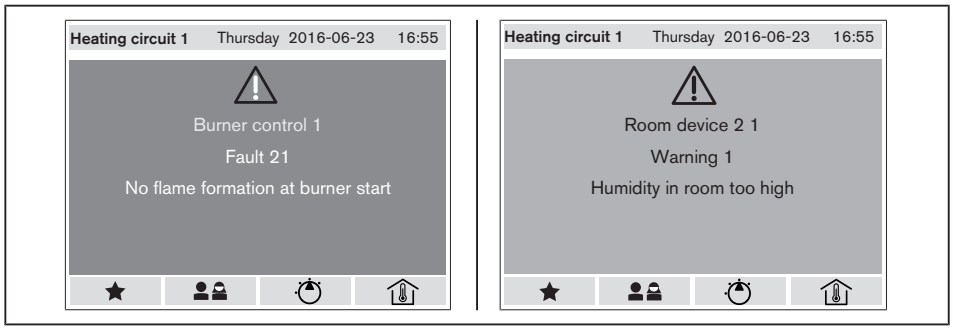
Symbols

★	Favourites level / Create favourite
	User level
	Operating mode
	Room setpoint temperature
	Exit display
?	Information /Help text

Lockout

The room device detects irregularities in the system and displays them.

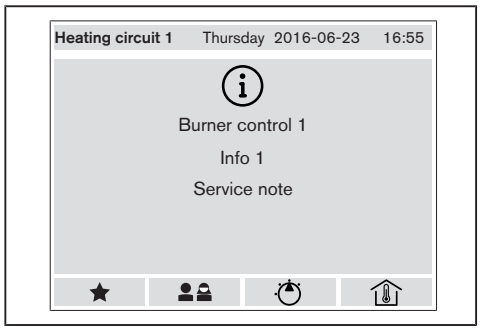
Example



► Note down display and inform your heating engineer or Weishaupt's customer service.

Service

If the service interval of the condensing unit is exceeded, a message appears in the display.



► Notify your heating contractor or Weishaupt Customer Service.

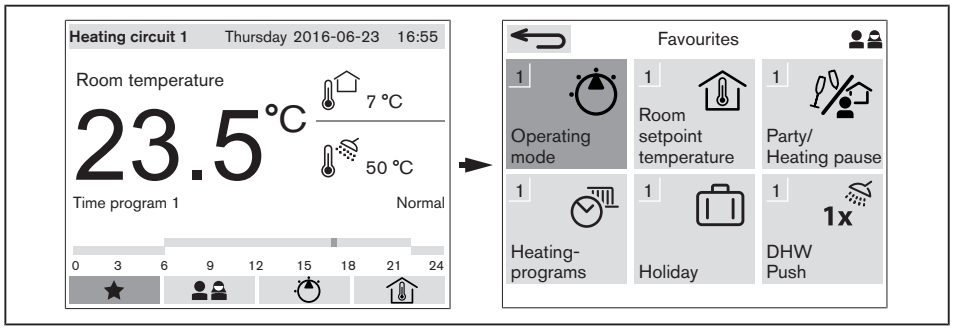
5.3 Favourites level

Frequently used user level parameters can be assigned as favourites.

It is possible to assign a maximum of 6 favourites. Factory pre-assigned favourites can be replaced by parameters from the user level.

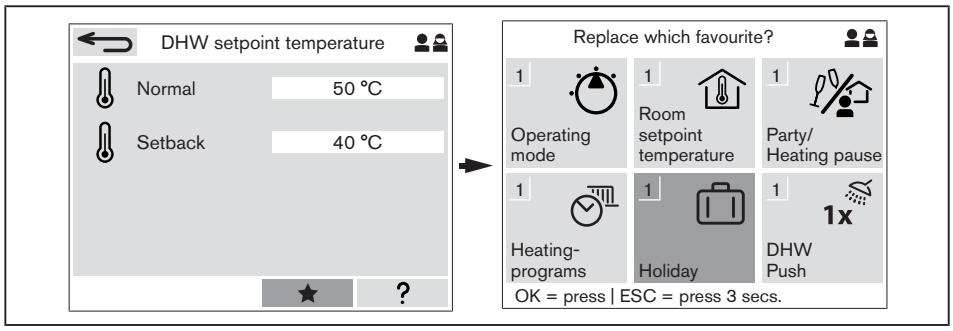
Display favourites

► Select Favourites level using dial knob and confirm.
✓ Display changes to Favourites level.



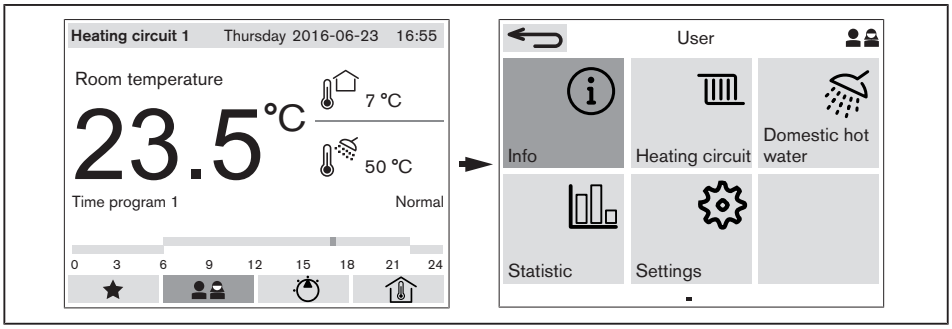
Assigning favourites

► Select the desired parameter in the user level .
► Select ★ and confirm.
► Turn the knob to select an existing favourite and replace by confirming.
✓ A new favourite has been assigned.



5.4 User level

► Select User level using dial knob and confirm.
✓ Display changes to the User level.



Depending on the execution, hydraulics and control variations, certain information and parameters are hidden.

5.4.1 Info

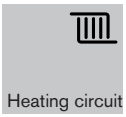
In menu Info, the information is read only.

Information		Description
	External temperature	Current temperature at the external sensor.
	DHW temperature	Current temperature at the DHW sensor.
	DHW Actual outlet temperature	Current temperature at the DHW outlet sensor (version C).
	DHW Flow rate	Current DHW flow rate at the water flow sensor of the condensing unit (version C).
	Return flow temperature Circulation	Current temperature at the return flow sensor of the circulation line.
	Room temperature	Current temperature at the room device.
	Room humidity	Current room humidity at the room device.
	Flow temperature	Current temperature at the flow sensor of the corresponding heating circuit.
	Collector output	Current heat output of the solar system.
	Collector temperature	Current temperature at the collector sensor.
	Storage tank temperature bottom	Current temperature at the bottom of the storage tank.
kw	Rating	Current heating capacity of the condensing unit.
	Boiler temperature	Current temperature at the flow sensor of the condensing unit.
	System pressure	Current system pressure.
	Buffer storage temperature top	Current temperature at the buffer sensor at the top.
	Buffer storage temperature bottom	Current temperature at the buffer sensor at the bottom.
	De-couple temperature	Current temperature at de-couple sensor.
	Plate heat exchanger temperature	Current temperature at the plate heat exchanger.
	Device information	Current device information (Software version, etc.).
	Assignment RG2	Current assignment of room device.

The following information can be displayed on the start screen [ch. 5.2].

► Select information required and confirm.
► Select and confirm `Info on start screen?`.
► Select information, which is to be replaced and confirm.
✓ Information on start screen is replaced.

5.4.2 Heating circuit



If operating access was assigned to multiple heating circuits, a separate menu appears for each heating circuit.

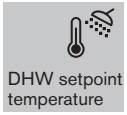
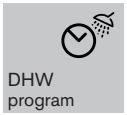
Parameters	Setting
 Operating mode	determines the type of operation of the heating circuit. If functions (heating, DHW) are deactivated in menu `System operating mode` , the setting has no effect. `Standby`: ▪ Frost protection on ▪ Heating off ▪ DHW off `Time program 1 … 3`: ▪ Frost protection on ▪ Heating on Temperature level according to selected time program. Time programs can be set in parameter `Heating program` . ▪ DHW on (Factory setting: `Time program 1`) `Summer`: ▪ Frost protection on ▪ Heating off ▪ DHW on `Comfort, Normal, Setback`: ▪ Frost protection on ▪ Heating on Temperature level according to the operating mode set, independent of the time program. ▪ DHW on
 Heating-programs	The heating program is used to stipulate the times of the day when comfort, normal or setback heating is used. ▪ `Time program 1 … 3` The preset time programs can be customised. Changing a time program: ► Select time program using the knob and confirm. ✓ Time bars are displayed. ► Select week day(s) using the knob and confirm. ✓ Time program can be edited. The temperature of the level can be set using parameter `Room setpoint temperature`. Set time program required in parameter `Operating mode` .
 Party/ Heating pause	The temperature level of the heating program can be temporarily changed (maximum 23:45 hours). After this time the current heating program will be reactivated. ► Select `Function` and set `Party/Heating pause` . ► Set level required in `Room setpoint temperature` . ► Enter `Start` and `End`. If the parameter is set to `Off`, the current heating program is activated.

(1 Factory setting and setting range depending on heating circuit set, see installation and operating manual for condensing unit.

Parameters	Setting
 Room setpoint temperature	Room setpoint temperature for the temperature level selected. ▪ `Comfort` (factory setting: `22.0 °C`) ▪ `Normal` (factory setting: `21.0 °C`) ▪ `Setback` (factory setting: `16.0 °C`) The levels can be assigned to specific times of the day using parameter `Heating program` .
 Flow setpoint-temperature	Flow setpoint temperature for the temperature level selected. ▪ `Comfort`(1 ▪ `Normal`(1 ▪ `Setback`(1 The levels can be assigned to specific times of the day using parameter `Heating program` . Only if control variation `Constant flow temperature` has been set on the system device [ch. 6.1.1].
 Special level	Defines the flow temperature set at special level. The heating program is not effective. When input H1 is closed, the system heats up to the special flow level set. Only if input H1 of the system device has been configured to `Heating circuit 1: Special level` .
 Holiday	Interrupt heating program for a certain period of time. The level can be set to `Setback` or `Frost` during this time. ▶ Set `Function` to `On`. ▶ Set `Room setpoint temperature` to `Setback` or `Frost`. ▶ Enter `Start date` and `End date`. If the parameter is set to `Off`, the current heating program is activated.
 Heating curve	Flow setpoint temperature dependent on external temperature [ch. 6.1.2]. The display refers to the room setpoint temperature `Normal`. The heating curve gradient can be changed and / or it can be moved in parallel. ▪ Gradient (1 ▪ Parallel movement (1 Adapting the heating curve [ch. 6.1.2]: ▪ cold external temperature: change gradient ▪ mild external temperature: change parallel movement Only if control variation `Weather compensated control` or `Weather compensated / room control` has been set on the system device.
 Su/Wi change-over	`On` (factory setting): If the damped external temperature (tendentious course) exceeds the value set (factory setting: `19 °C`), the `operating mode` changes to `Summer`. `Off`: The operating mode set remains activated, independent of the external temperature.

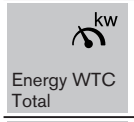
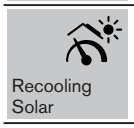
(1 Factory setting and setting range depending on heating circuit set, see installation and operating manual for condensing unit.

5.4.3 Domestic hot water

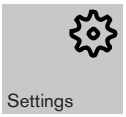
Parameters	Setting
	DHW temperature for normal and setback operation. ▪ `Normal` (factory setting: `50 °C`) ▪ `Setback` (factory setting: `40 °C`) Normal and setback operation can be assigned to specific times of the day using the DHW program. With version C only the DHW setpoint temperature for normal operation is displayed.
	DHW Push is used to cover increased hot water demand, e. g. during setback operation. The DHW tank is heated once to the DHW setpoint temperature set for normal operation.
	The DHW program is used to stipulate the times of the day when the DHW tanks is heated to normal temperature or setback temperature. For version C, the plate heat exchanger is brought to and maintained at the `DHW setpoint temperature` during normal operation (comfort mode). As a result, hot water is available immediately. Change a time program: ► Select week day(s) using the knob and confirm. ✓ Time program can be edited.
	The circulation program is used to stipulate the time of day when the circulation pump is switched on. The time program can be adapted individually. Change a time program: ► Select week day(s) using the knob and confirm. ✓ Time program can be edited.
	Deactivate DHW preparation. `On` (factory setting): DHW preparation activated. `Off`: DHW preparation deactivated.

5.4.4 Statistic

In the `Statistic` menu, daily, monthly and annual values relating to the energy generated are displayed.

Information	Description
	Total amount of heat generated by the condensing unit.
	Solar system yield.
	Yield for re-cooling via collector circuit.

5.4.5 Settings



Parameters	Setting
 Language	Set language.
 Brightness	Adjust the brightness of the display. `Automatic` (factory setting): The brightness of the display is regulated depending on the brightness of the room. `Manually`: The brightness can be adjusted from 10 … 100 %.
 Night mode	`Off` (factory setting): If the display is in standby, the current room temperature, date and time are displayed. `On`: The display is completely switched off in standby mode during the time set.
 Humidity in the room	Monitors the humidity in the room. ▪ `Min. value` ▪ `Max. value` If the humidity in the room exceeds the limits, a warning message appears. Note: The optimum humidity in living areas is 40 ... 60%.
 Light ring	Configuring the light ring on the room device. `Off`: Light ring is always off. `Operation` (factory setting): light ring is only illuminated, when the display is activated. `On`: light ring is illuminated, when the display is activated or a fault message is present.
 Correction room sensor	Correction of the current room temperature. If no optimal placement of the room sensor is possible or a measurement error is to be compensated, the measured room temperature can be corrected.

5.5 Operating mode

Determines the operating mode of the heating circuit.

The heating circuit assigned is shown in the display above with the corresponding number. The assignment can be changed on the system device in menu `Commissioning → device list`.

If functions (frost protection, heating, DHW) are deactivated at the system device in menu `System operating mode`, the setting has no effect.

`Standby`:
- Frost protection on
- Heating off
- DHW off

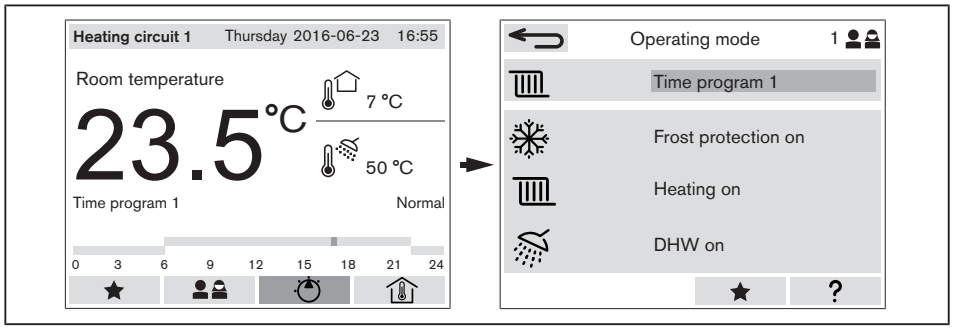
`Time program 1 … 3`:
- Frost protection on
- Heating on
  Heating level according to the time program selected. Time programs can be set in parameter `Heating program .`
- DHW on

(Factory setting: `Time program 1`)

`Summer`:
- Frost protection on
- Heating off
- DHW on

`Comfort, Normal, Setback`:
- Frost protection on
- Heating on
  Heating level according to the operating mode set, independent of the time program.
- DHW on

▶ Select the operating mode with the knob and confirm.
✓ Display changes to the setting of the operating mode.

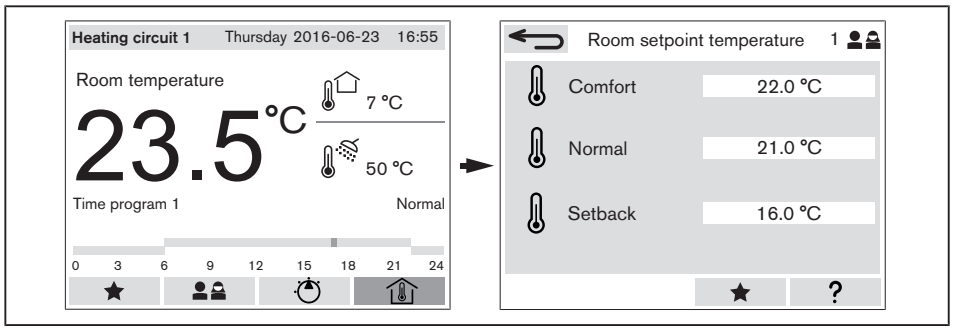


5.6 Room setpoint temperature

Stipulates the room setpoint temperature for the temperature level selected.

- `Comfort` (factory setting: `22.0 °C`)
- `Normal` (factory setting: `21.0 °C`)
- `Setback` (factory setting: `16.0 °C`)

► Select the room setpoint temperature with the knob and confirm.
✓ Display changes to the the setting of the room setpoint temperature.



The levels can be assigned to specific times of the day using parameter `Heating program` .

If the `Room setpoint temperature` is changed, the heating curve is automatically adapted.

6 Technical documentation

6.1 Control options

6.1.1 Constant flow temperature

No additional sensors or thermostats are required for this control.

The flow temperature from the heating circuit is controlled to the flow setpoint temperature set in the user level, see [ch. 5.4.2].

Room frost protection and setting optimisation are not active.

6.1.2 Weather compensated control

The flow temperature is controlled depending on the external temperature.

An external sensor is required for weather compensated control.

► Mount the external sensor to the north side or the north-west side of the building, half way up (min 2.5 m).

Avoid direct solar radiation and heat up by external heat sources at the external sensor.

The current flow temperature setpoint is calculated from:
- external temperature,
- Heating curve:
  - Gradient,
  - Parallel movement,
- Room setpoint temperature.

A higher flow temperature is required to achieve the desired room temperature, when external temperatures are lower. The gradient determines how much the change in external temperature affects the flow setpoint temperature and adjusts the heating curve to the building.

The heating curve can be moved vertically using the parallel movement.

	Room temperature too cold	**Room temperature too warm**
Cold external temperature	► Increase gradient.	► Decrease gradient.
Mild external temperature	► Increase room setpoint temperature – or – increase parallel movement.	► Decrease room setpoint temperature – or – decrease parallel movement.

The heating curve and the room setpoint temperature can be set in the user level [ch. 5.4.2].

6.1.3 Room temperature dependent control

The flow temperature is controlled depending on the room temperature.

A room device or room sensor are required for room temperature dependent control.

Avoid direct solar radiation and heat up by external heat sources at the room sensor.

The current flow temperature setpoint is calculated from:
- room setpoint temperature,
- current room temperature,
- room sensor influence.

The room setpoint temperature can be set in the user level [ch. 5.4.2].

The room sensor influence can be set in the Engineer level.

6.1.4 Weather compensated/Room control

The flow temperature of the heating circuit is controlled depending on the external temperature and the room temperature.

An external sensor and room device or room sensor are required for weather compensated control and room temperature dependent control.

► Mount the external sensor to the north side or the north-west side of the building, half way up (min 2.5 m).

Avoid direct solar radiation and heat up by external heat sources at the external sensor and the room sensor.

The current flow temperature setpoint is calculated from:
- external temperature,
- Heating curve:
  - Gradient ,
  - Parallel movement ,
- room setpoint temperature,
- current room temperature,
- room sensor influence.

The heating curve and the room setpoint temperature can be set in the user level [ch. 5.4.2].

The room sensor influence can be set in the Engineer level.

7 Notes

8 Key word index

–weishaupt–

Max Weishaupt GmbH · 88475 Schwendi

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Floor standing condensing boiler for oil and gas **up to 1,200 kW**

The floor-standing boilers WTC-GB and WTC-OB are efficient, low in emissions and versatile. Higher capacities are achieved by cascading up to four gas-fired condensing boilers.

Solar systems

The stylish flat-plate collectors are the ideal complement for any Weishaupt heating system. They are suitable for solar water heating and for combined heating support. With versions for on-roof, in-roof and flat roof installations, solar energy can be utilised on almost any roof.

Water heaters / energy storage tanks

This attractive program for domestic water heating includes classic water heaters, solar storage tanks, heat pump storage tanks and energy storage tanks.

Heat pumps **up to 180 kW**

The heat pump range offers solutions for the utilisation of heat from the air, the soil or ground water.
Some systems are also suitable for cooling buildings.

Geothermal probe drilling

With its daughter company, BauGrund Süd, Weishaupt also offers geothermal probe and well drilling. With the experience of more than 10,000 systems and more than 2 million meters of drilling, BauGrund Süd offers a comprehensive service program.