

MH-Series water heater



MH 10/17

MH 15/23

MH 30/40

MH 10 micro

MH 20 micro L

user guide

Dear customer,

thank you for choosing to install our MH-series into your vehicle.

With your purchase of the MH-series, you ensured for yourself, to have a heating system with currently the highest technological standard and lowest fuel consumption.

The innovative and award-winning technology of our products with the "Blue Efficiency®" burner, will provide you with an especially user and maintenance friendly operation. This system will give you comfort and highly reduced emissions.

The successfully proven blue-burner-system in "Duo-Block" building technique, as well as the simple operation over the boiler control field, are very efficient and environmentally friendly.

We hope that, how to use the heating system and all of its functions are explained to you to your full satisfaction, by the installing auto shop or service station. With this user guide we would like to give you more information how to use it properly.

Please contact us for any questions or further information you need.

Your SCHEER-team

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Note:

Always carefully follow SCHEER installation and repair instruction and heed all WARNINGS.

The heaters of the MH-series are type-tested and approved in accordance with the ECE Directives ECE R22 and ECE R10.

The unit must be installed in accordance with the enclosed installation instructions.
SCHEER accepts no liability for defects and damage resulting from installation by untrained personnel.

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warning and safety signs (definition)

The following table explains the used colors, words and their meaning used in this manual.

classification of the signal word according to ANSI Z535.4	
signal word	identification of hazard
NOTICE	[this header is] preferred to address practices not related to personal injury. Used for property damage.
CAUTION!	Indicate[s] a hazardous situation which, if not avoided, could result in minor or moderate injury.
WARNING!	Indicate[s] a hazardous situation which, if not avoided, could result in death or serious injury.
DANGER!	Indicate[s] a hazardous situation which, if not avoided, will result in death or serious injury.

warning and safety signs

DANGER! Death or serious injury due to improper installation or repair.

Improper installation or improper repair can cause a fire or the leakage of deadly carbon monoxide leading to serious injury or death.

- The person to install and repair the heating system must have completed a SCHEER training course.
- Always follow all installation and repair instruction.
- Heed all warning and safety signs.
- All required technical documentations, tools, and equipment must be available for installation and repair.

DANGER! Death or serious injury by fire!

The use of the heater in areas with flammable materials can cause an explosion or a fire. This can cause serious injury or death.

- Never use the heater at fuel/gas stations or close to tanks with flammable content.
- Never use the heater at places with flammable vapors or combustible dust. (e. g. close to: fuel, coal, wood dust, or grain storages)
- Never use the heater close to flammable materials. (e. g. close to: dry grass and leaves, cardboard, paper etc.)

DANGER! Death or serious injury by suffocation!

The use of the heater in non-ventilated areas can result in serious injury or death.

- Never use the heater in closed rooms (e.g. garage, storage).
- Never use the heater in closed rooms with a timer or tele start. (e.g. garage, storage)

(see also next page)

warning and safety signs

NOTICE: Risk of malfunction or damage by heat exposure!

Surrounding temperatures higher than 110°C (230°F) can cause damage to the electronics.

- Never use or store the heater in areas of 110°C (230°F) or more.

NOTICE: Risk of malfunction or damage by frost!

If the water freezes in the heat circuit or fresh water supply system, it can cause damage to the equipment.

- Make sure to have at least 20% of antifreeze mixed into the heating circuit water.
- In risk of frost, drain the fresh water out of a heat system with plate heat exchanger.

Note: SCHEER cannot be held liable for:

- Defects and damage resulting from installation by untrained personnel.
- Non-observance of the installation instructions and the information contained therein.
- Failure to observe the warning and safety instructions.
- Installation of non-original spare parts.

general operating instructions

Please note the following general operating instructions after installing and during the use of the MH-heating system:

- The heating system **must be turned off before you get fuel** at gas stations.
- The **year of the first start-up** must be permanently marked on the identification plate.
- Make sure **all existing shut-off valves** of the fuel return line **are open** before using the system.
- **Check the openings of the combustion air supply and exhaust pipe** for dirt and **clean if necessary**.
- **After replacing the vehicles cooling fluid** make sure to **bleed the system** of air thoroughly. **Add cooling fluid** when needed.
- **After replacing the heating circuit water (solution)** make sure to **bleed the system** of air thoroughly. **Add solution** when needed. **(at least 20% antifreeze)**
- Make sure to **use the fuel and operation power indicated** on the identification plate.
- **In case of heavy smoke development, unusual burner noise, or smell of fuel, disable** the heating system by removing its fuse. Operate the system only, **after a technical inspection** by a SCHEER trained person.
- Turn on the heating system **at least once a month for 10 min.**
- **The heating system must be checked** by a SCHEER trained person, before each heating season.
- **Liability claims can only be asserted**, if the claimant can prove adherence to the installation, maintenance, and safety instructions.

general operating instructions

Disposal of old equipment

At the end of its service life the device has to be disposed of in accordance with national regulations. It is recommended to contact a company specializing in waste disposal or contacting the disposal department of your commune.



WARNING:

To prevent misuse and associated hazards, render your old appliance unusable before disposing of it. To do this, disconnect the appliance from the mains supply and remove the mains connection cable from the appliance. To dispose of the appliance, follow the regulations in force in your country and municipality.

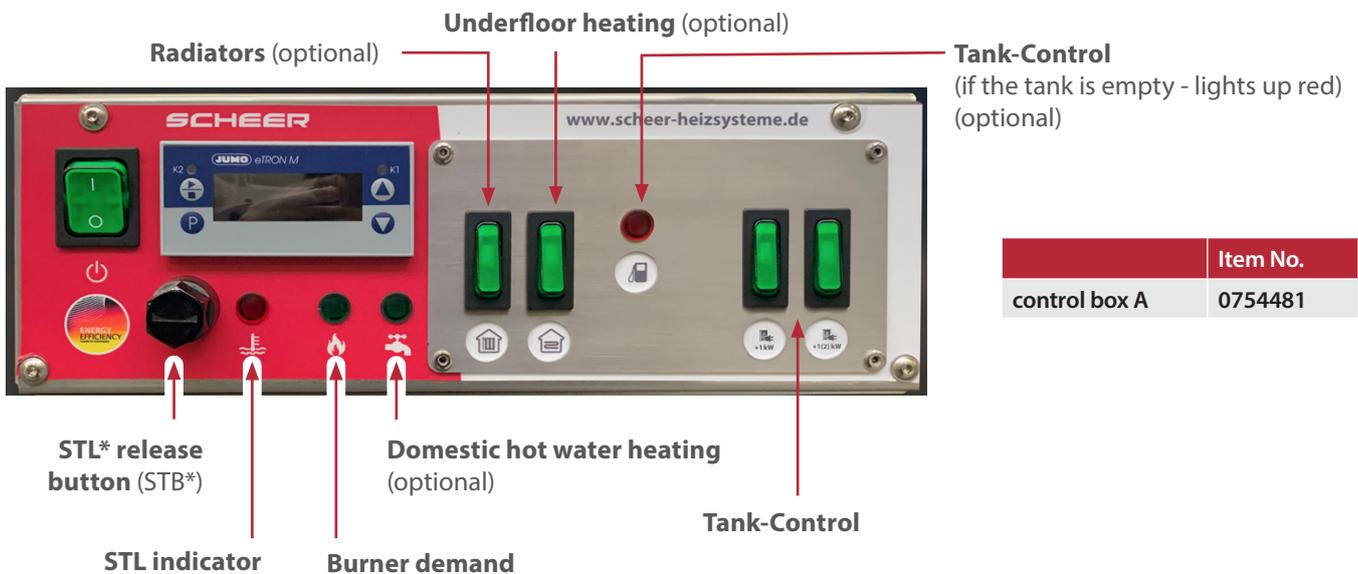
WARNUNG: Danger from electric current!

The appliance may only be operated at properly installed individual sockets with protective contact. Do not pull the mains connection cable out of the socket by the cable, always grasp the housing of the mains plug.

The MH-heating systems are approved for the use of „diesel“ and „heating oil“. Any other type of fuel for operating have to be in advance approved by the manufacturer SCHEER. The heaters are designed for 230 Volts.

The connection in the vehicle has to be fed from the battery of the vehicle via an inverter approved in road traffic within the scope of the ECE Regulation. Alternatively, the heater can also be done via a 230V direct supply (for example: direct supply of the campsite).

control box A for MH-Series

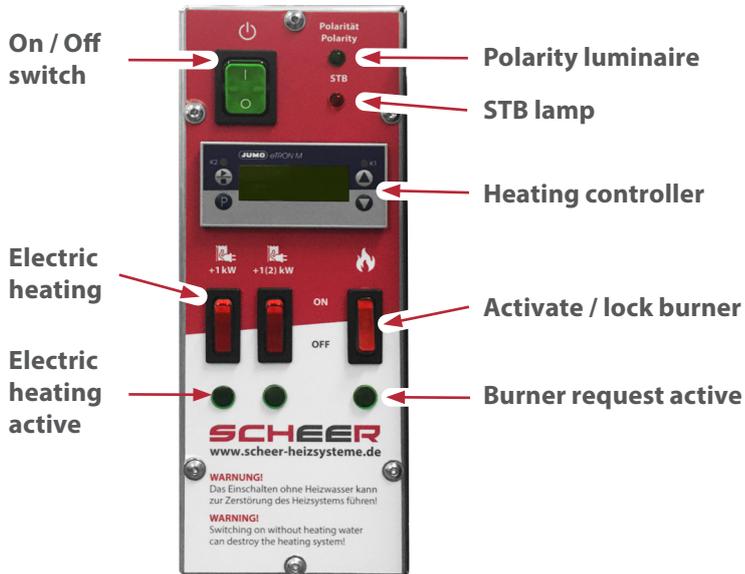


* Safety temperature limiter

	Item No.
control box A	0754481

control box M

control box MH micro



	Item No.
controlbox M (single stage)	0754486



Symbol for heat request

Actual value boiler temperature

- Use the and keys ▲ and ▼ to set the value in the specified value range.
- Confirm settings with Ⓟ

Parameter	Meaning	Value range from ...factory...to
SP	Setpoint This value is used for regulation	50 ...0.0 ... 80

control box warning lamp

NOTICE

warning lamp: safety-temperature-limiter (STL)

If the lamp lights, the (STL) was triggered by a too high operating temperature.

- Let the heating system cool down.
- Push the reset (STL) button all the way in. (followed by a click sound)
- The heating system is ready to start again.

In case the (STL) is triggered again, let the system be repaired by a SCHEER trained person.



MH: warning lamp STL



MH Micro: warning lamp STL

NOTICE

warning lamp: burner

If the lamp lights, it was triggered by a malfunction of the burner.

- Press and hold the burner suppressor button briefly for about 1 second, not longer than 2 seconds.
- The warning lamp of the burner will turn off and the burner is reset.

If the burner should switch to malfunction twice, please have a repair carried out by your specialist company.



MH

Suppression button on the control unit

MH Micro

Burner fault light with reset button (additional reset button on the control unit)

NOTICE

Polarity: This light must be permanently lit green. Otherwise, connect with correct polarity.

Reverse polarity protection prevents the wrong polarity (reversal of polarity) in the DC power supply (reversal of negative and positive poles) or AC power supply (reversal of outer conductor and neutral conductor) of a device and can thus minimise possible damage.

polarity (reversed polarity) and can thus minimise possible damage.



NOTICE

Repeatedly running the unit empty of fuel can cause damage to the unit!

If the heater is operated without fuel, damage (e.g. to the oil nozzle) may occur

NOTICE

Other mains modules and control boxes may only be used in consultation with the manufacturer SCHEER.

Room thermostat - WLAN-capable (optional)



Room thermostat	art. no.
incl. WLAN connection	0170106

Please read these operating instructions for all information on the installation and operation of your thermostat. Make sure that the thermostat is installed and connected by a professionally qualified person and that it complies with all regional regulations.

In the box you will find:

- 1x thermostat
- 1x QC certificate
- 2x screws
- 1x ext. sensor (2.5 metres)

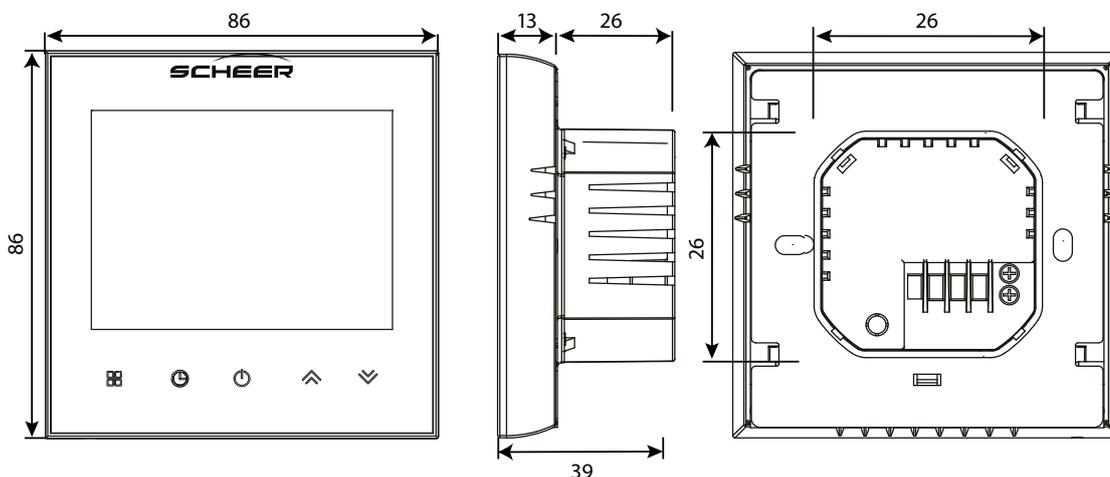
About your thermostat

The room thermostat is suitable for use in commercial, industrial, civil and domestic applications, such as the control of floor or radiator heating circuits

Functions

- Networking through Modbus and WLAN
- 0.5°C accuracy
- Short-term memory in case of power failure
- 5+1+1 weekly programme with 6 periods comprehensive time programme
- Controllable by Amazon Echo, Google Home, Tmall Genie

dimensions



Technical Data			
Power Supply	95~240VAC, 50~60Hz	Timing error	<1%
Current Load max	5A	Shell Material	PC + ABS (fire proof)
Sensor	NTC3950, 10k	Installation Box	86x86mm square/ Europ. 60mm round
Accuracy	±0,5°C	Wire Terminals	2*1,5mm ² / 1x2,5mm ²
Set Temp. Range:	5-35°C	Protection Class	IP20
Display Temp. Range	5~99°C	Storage Temp	-5~45°C
Ambient Temp.:	0~45°C	Power Consumption	<1,5W
Ambient Humidity:	5~95% RH (not condensing)		

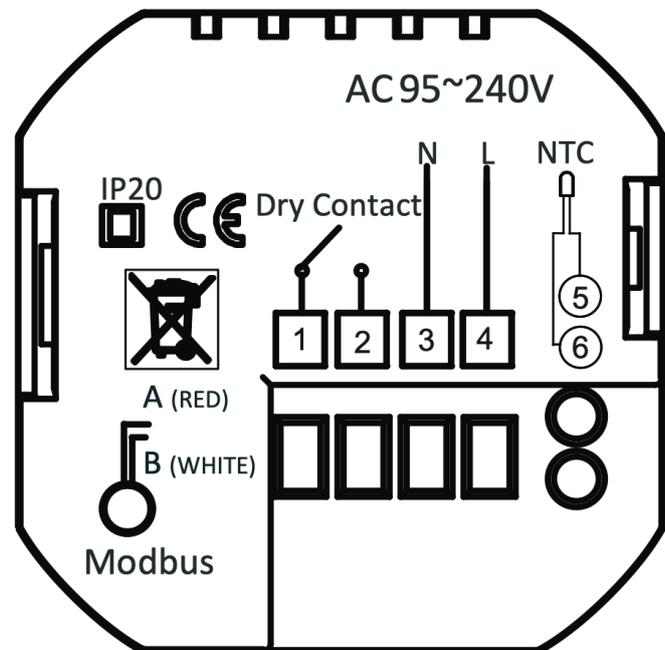
Before installing the thermostat

1. Read this instruction manual carefully. If you do not follow these instructions, you may damage the product or cause dangerous situations.
2. Make sure that the thermostat is suitable for the intended use.
3. The installer must be trained in the connection of electrical products (especially 230V) and have sufficient experience in connecting electrical equipment.
4. After installation, check for correct operation according to these instructions.

CAUTION:

Risk of electric shock or damage to tools and product during connection. There is a possibility of persons experiencing an electric shock or a short circuit causing damage to equipment or the product.

Before installation, make sure that the power supply and all other connection lines are de-energised!



Installation

Your thermostat is suitable for installation inside a standard 86 mm junction box or a European 60 mm junction box.

Step 1

De-energise all connecting cables (Fig. 1).

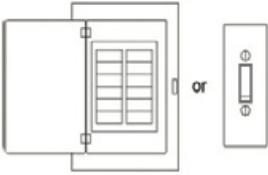


Fig. 1

Step 2

Remove the mounting plate by rotating the LCD part (Fig. 2).

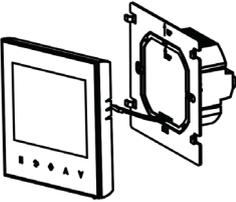


Fig. 2

Step 3

Connect the power supply to the corresponding terminals of the thermostat (L - phase; N - neutral); connect the switching contacts to terminals 1 and 2. (Fig. 3)

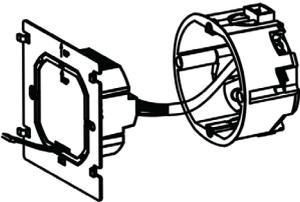


Fig. 3

Step 4

Fix the mounting plate to the wall using the screws supplied (Fig. 4).

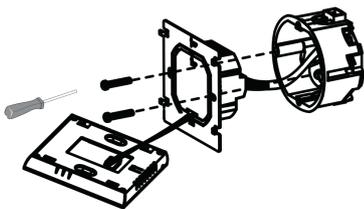


Fig. 4

Step 5

Fix the LCD part of the thermostat to the fixing plate by rotating it. Installation complete.

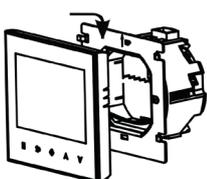


Fig. 5

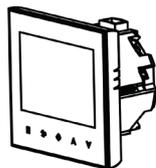
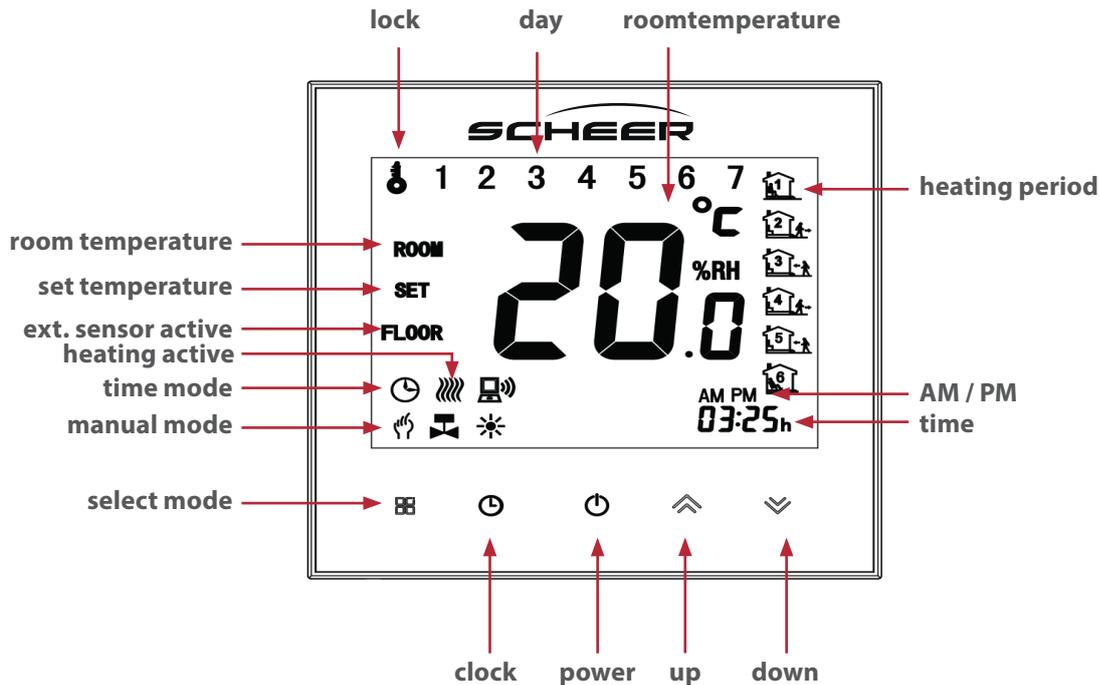


Fig. 6

Homescreen quick reference



operation

- Power on/off:** Press to turn the thermostat on/off.
- Manual/ Time program mode:** Touch to change between manual mode and program mode. In manual mode, will show in the bottom left of the screen. In programmable mode, the period icon will show on the right side.
- Setting Temperature:** In the time program mode the temperature can only be controlled by the set heating program. In the manual mode, press to set the desired temperature.
- Adjusting/Setting the Clock:** Touch the to set minute, hour and weekday (1 = Monday, 2 = Tuesday etc.) by using the arrows. Press once more to confirm and exit.
- Locking your Thermostat:** Press and hold the for 5 seconds to lock/unlock your thermostat. In item 3 of the device parameters, you can select full lock (included).
- Adjusting/setting the Program Schedules:** When Wi-Fi connection is made, your thermostat will automatically accept the program schedule made via the APP on your device (see below for detailed instructions) To set the program schedules through your thermostat (NOT via your smartphone/tablet) simply follow the instructions as below:

Please note: Setting the programme schedule through your thermostat can only be carried out if there is no Wi-Fi connection between your thermostat and smartphone/tablet
- Setting / adapting the time program on the thermostat:** The time program can only be set on the device if there is no active WLAN connection and time program mode is activated. Touch to change between manual/ time program mode. In program mode, touch and hold the icon until the weekday schedule settings appear (1 2 3 4 5 will show along the top of the screen). Use the arrows to adjust the „on“ time.

Press the icon and use the arrows to set the off time (2nd period).

Press the icon and use the arrows to set the temp. Repeat this process for periods 3 - 6.

Press the icon once more to enter the Saturday schedule settings (6 will show along the top of the screen). Repeat the above process to set the periods as well as temp. as well as Sunday schedule. Press once more to confirm and exit.

Default settings for program schedule

heating periode	weekday (Monday-Friday) (1 2 3 4 5)		Weekend (Saturday) 6		Weekend (Sunday) 7	
	time	temperature	time	temperatur	time	temperatur
period 1	06:00 AM	20°C	06:00 AM	20°C	06:00 AM	20°C
period 2	08:00 AM	15°C	08:00 AM	20°C	08:00 AM	20°C
period 3	11:30 AM	15°C	11:30 AM	20°C	11:30 AM	20°C
period 4	01:30 PM	15°C	01:30 PM	20°C	01:30 PM	20°C
period 5	05:00 PM	22°C	05:00 PM	20°C	05:00 PM	20°C
period 6	10:00 PM	15°C	10:00 PM	15°C	10:00 PM	15°C

A separate schedule may be set for weekdays (Mon - Fri) and for weekends (Sat or Sun).

Change the system settings

Turn off the device.

Press  and  at the same time for 5 seconds to get to the system settings. Then press  to cycle through the available settings and use   to change the parameter values. All changes will be saved automatically.

code	function	setting an options	default
1	temperature compensation	-7 bis +9°C {for internal sensor}	-1
2	deadzone temperature	1-5°C	1
3	button locking	00: all buttons locked except on/off 01: all buttons locked	01
4	sensor types	In: Internal Sensor (to control the temp.) Ou: External Sensor (to control the temp.) AL: Internal/ External Sensor (Internal sensor to control the temp., external sensor to limit the floor temp.)	AL
5	min. set tempature	5-15°C	05
6	max. set temperature	15-45 °C	35
7	display mode	00: display of set temp. and room temp. 01: display of only set temp.	00
8	low temperature protection setting	0-10°C	00
9	high temprature protection setting	25-70°C	45
A	economy mode	00: non-energy saving mode 01: energy saving mode	0
B	economy temprature	0-30°C	20
C	standby brightness	3-99	20

Wifi - connection

Before using your WLAN thermostat for the first time, you must configure the WLAN connection and the settings on the smartphone once. This enables communication between your connected devices.

Step 1: Download the „Smart Life“ APP



Fig. 1-1



Fig. 1-2 iOS



Fig. 1-3 Android

For IOS devices, search for „Smart Life“ in the Apple Store, for Android devices in the Google Play Store and download it. Alternatively, scan the corresponding QR code (Fig. 1-2).

Step 2: Create a user account

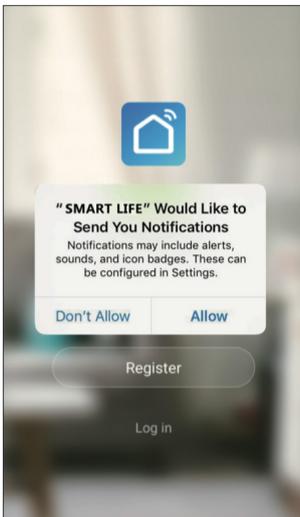


Fig. 2-1

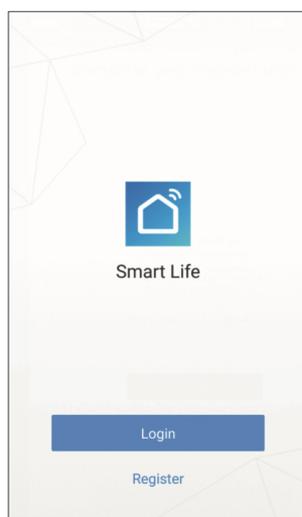


Fig. 2-2

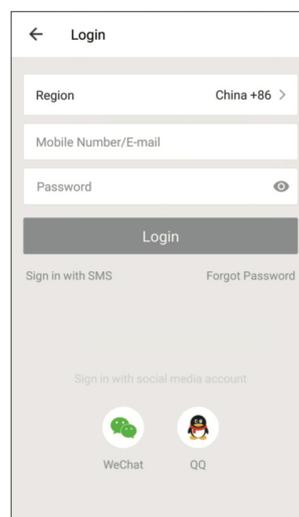


Fig. 2-3

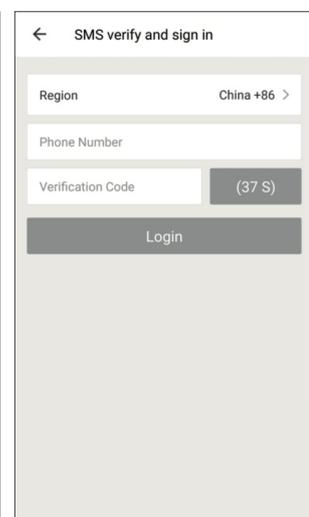


Fig. 2-4

Open the „Smart Life“ app and agree to the notification that appears (Fig. 2-1). The registration screen appears (Fig. 2-2). Press „Register“ and enter your mobile phone number or e-mail address (Fig. 2-3). You will receive a confirmation code by e-mail or SMS and can set a password after entering the code (Fig. 2-4). This completes the registration and you can log in.

Step 3: Establish the WLAN connection

Try connecting using EZ mode. If your router does not support this or your Wi-Fi signal is weak so you cannot connect to the thermostat, try AP mode.

EZ-Modus On your thermostat

Hold  for eight (8) seconds. While the thermostat is switched off the backlight will be on and the icon  will flash one time per second.

In the App



Fig. 3-1.1

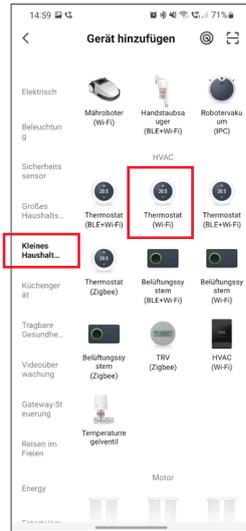


Fig. 3-1.2

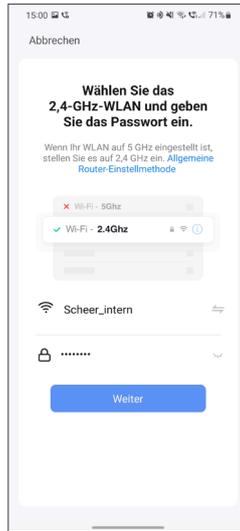


Fig. 3-2



Fig. 3-3

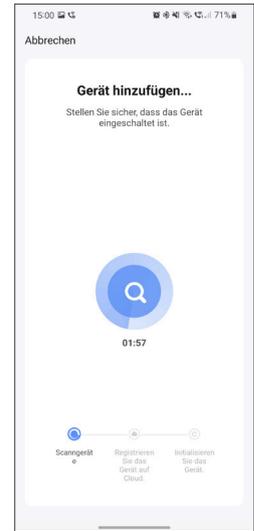


Fig. 3-4

Press „Add device“ on the app’s home screen (Fig. 3-1.1). Select „Small household appliances“ on the left and scroll down so that you can select „Thermostat (Wi-Fi)“ (Fig. 3-1.2). In the next step, select your WLAN and enter the network key. Confirm with „Next“ (Fig. 3-2). In the next step, make sure that the WLAN symbol on the thermostat is flashing (when the thermostat is switched off). Then tick the item „Confirm that the display flashes quickly“ and confirm with „Next“ (Fig. 3-3). The thermostat is then automatically connected to the WLAN and added to your user account (Fig. 3-4). The thermostat is now permanently connected to your account so that you can also access your thermostat outside the WLAN with your smartphone. Repeat the process for further devices.

AP-Modus

On you thermostat

With the device turned off, press  for 8 seconds. The backlight turns on and the icon  flashes once per second. Press and hold  again for 8 seconds. The symbol  flashes every 3 seconds.

In the app

Press „Add device“ on the app’s home screen (Fig. 3-1.1). Select „Small household appliances“ on the left and scroll down so that you can select „Thermostat (Wi-Fi)“ (Fig. 3-1.2). In the next step, select your WLAN and enter the network key. Confirm with „Next“ (Fig. 3-2). Switch from EZ mode to AP mode in the top right corner, the thermostat will create a WLAN hotspot. In the next step, make sure that the WLAN symbol on the thermostat is flashing (when the thermostat is switched off). Then tick the item „Confirm that the display flashes quickly“ and confirm with „Next“ (Fig. 3-3). The thermostat creates a WLAN hotspot to which you must connect your smartphone. To do this, go to „Connect now“ (Fig. 4-2). You will be directed to your system settings, select the WLAN network „SmartLife-XXXX“ there and connect your smartphone to it. Return to the SmartLife App, where the thermostat will be connected automatically. Once the connection has been successfully established, the thermostat will exit the hotspot and your smartphone will reconnect to the local Wi-Fi network.



Abb. 4-1

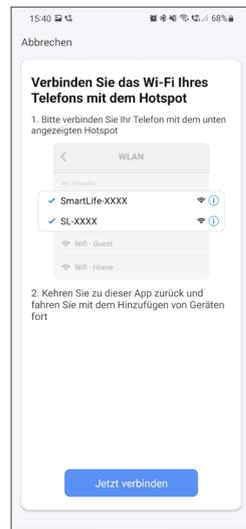


Abb. 4-2

Programming the thermostat via APP

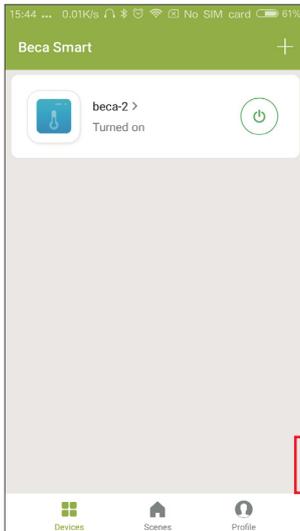


Fig. 5-1



Fig. 5-2

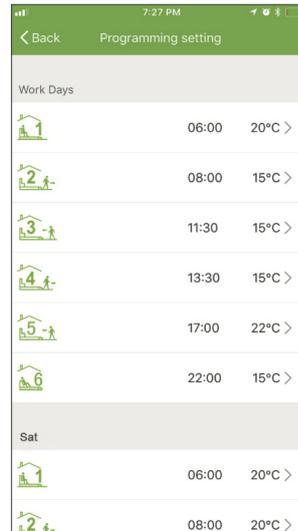


Fig. 5-3

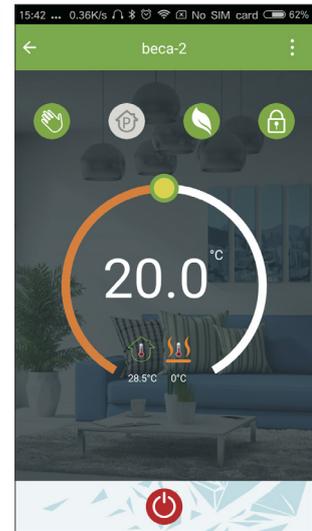


Fig. 5-4

When your room thermostat has been successfully set up, it is displayed on the start screen of the app (Fig. 5-1). The round button is used to switch your thermostat on and off. Click on the three dots in the upper right corner to start programming.

- **On/off switch** : switches the unit on and off again.
- Locking / unlocking the buttons : when the button is green, the screen is locked, when the symbol is grey, it is unlocked.
- **Economy mode** : in this mode, the temperature 20°C is maintained. This temperature cannot be changed.
- **Manual mode** : In this mode, the room temperature can be set manually (time programme deactivated)
- **Time programme mode**: In this mode, the room temperature can be set manually (time programme deactivated).
- The yellow slider can be used to adjust the room temperature in manual mode. The current room temperature is displayed a few seconds after adjustment.
- In schedule mode, click on the schedule setting (at the bottom of the page) to go to the schedule page (see Fig. 5-2), where you can simply click on the working days (Mon. - Fri.) and then on the time/temp to adjust it to your preferred schedule.
- You can set time and temp. for 6 periods (Fig. 5-3).
- Repeat the steps after clicking on the „Weekend (Saturday - Sunday)“ settings at the top of the page.
- Once your schedule has been set, click SAVE and the app will send the time programme to the thermostat and report that the schedule has been saved.

Further functions and troubleshooting

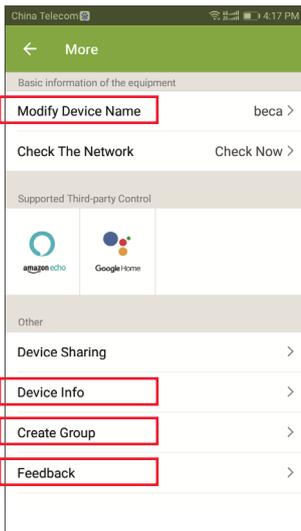


Fig. 6-1

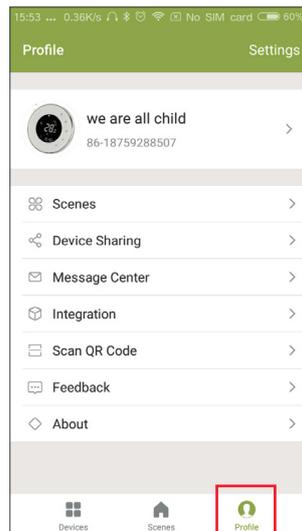


Fig. 6-2

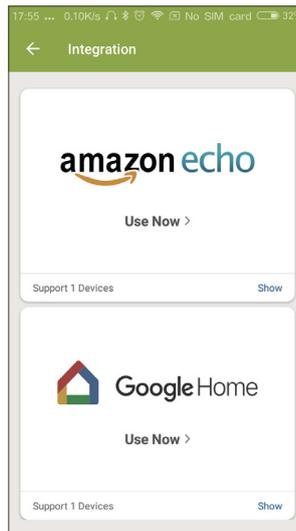


Fig. 7-1

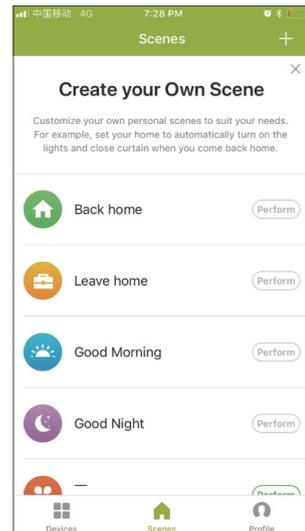


Fig. 7-2

If you use several room thermostats, you have the option in the app to combine these room thermostats into a group so that you can set the temperature of all three devices simultaneously.

To do this, press the three dots in the top right corner of the app (Fig. 5-2) and then „Create group“ (Fig. 6-1). Then select all the desired units and confirm.

In addition to creating groups, you can also change the device name, share your device and obtain information about your device in the menu.

How do I release a unit?

Option 1: Follow the steps in the previous section, but press „Share Device“ in the menu.

Option 2: On the app home page, click on your profile at the bottom right (Fig. 6-2). Select Device Sharing and add the account you want to share a device with. You can then see which account you have shared with and which device you have shared. You can share as many devices as you want.

How do I connect my device to Amazon Echo or Google Home?

Go to the menu and press Amazon Echo or Google Home. Follow the instructions on the screen.

Simple troubleshooting

Nr.	Occurring error	Troubleshooting
1	The power supply is switched on, but the indicator is not illuminated	Check whether the connections between the LCD panel and the thermostat body have come loose
2	The display lights up but shows nothing	Use a new LCD panel or new Power Unit Box to replace the old one.
3	The measured room temperature deviates from the actual temperature	Perform the temperature calibration in item 1 of the upper power range options

user guide

MH-Series water heater

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