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OWNER'S MANUAL

AIR-TO-WATER HEAT PUMP

Please read this manual carefully before operating your set and retain it for future reference.

THERMAV™
(Air-to-Water Heat Pump)

Original instruction

MFL69676301
Rev.01_071419

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Safety Precautions

To prevent injury to the user or other people and property damage, the following instructions must be followed.

■ Incorrect operation due to ignoring instruction will cause harm or damage. The seriousness is classified by the following indications.

⚠ **WARNING**	This symbol indicates the possibility of death or serious injury.
⚠ **CAUTION**	This symbol indicates the possibility of injury or damage.

⚠ WARNING

- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.
- Always ground the product.
  - There is a risk of electric shock.
- Do not use a defective or underrated circuit breaker. Use the correctly rated breaker and fuse.
  - There is risk of fire or electric shock.
- Do not use a multi outlet. Always use this appliance on a dedicated circuit and breaker.
  - There is risk of fire or electric shock.
- For electrical work, contact the dealer, seller, a qualified electrician, or an Authorized Service Center. Do not disassemble or repair the product by yourself.
  - There is risk of fire or electric shock.
- Always ground the product as per the wiring diagram. Do not connect the ground wire to gas or water pipes lightening rod or telephone ground wire.
  - There is risk of fire or electric shock.

- Install the panel and the cover of control box securely.
  - There is risk of fire or electric shock due to dust, water etc.
- Use the correctly rated breaker or fuse.
  - There is risk of fire or electric shock.
- Do not modify or extend the power cable. If the power cable or cord has scratches or skin peeled off or deteriorated then it must be replaced.
  - There is risk of fire or electric shock.
- For installation, removal or reinstall , always contact the dealer or an Authorized Service Center.
  - There is risk of fire, electric shock, explosion, or injury.
- Do not install the product on a defective installation stand. Be sure that the installation area does not deteriorate with age.
  - It may cause product to fall.
- Never install the unit on a moving base or a place from where it can fall down.
  - The falling unit can cause damage or injury or even death of a person.
- When the product is soaked (flooded or submerged) in water, contact an Authorized Service Center for repair before using it again.
  - There is risk of fire or electric shock.
- Be sure to check the refrigerant to be used. Please read the label on the product.
  - Incorrect refrigerant can prevent the normal operation of the unit.
- Don't use a power cord, a plug or a loose socket which is damaged.
  - Otherwise it may cause a fire or electrical shock.
- Do not touch , operate, or repair the product with wet hands.
  - There is risk of electric shock or fire.
- Do not place a heater or other heating appliances near the power cable.
  - There is risk of fire and electric shock.
- Do not allow water to run into electric parts. Install the unit away from water sources.
  - There is risk of fire, failure of the product, or electric shock.
- Do not store or use or even allow flammable gas or combustibles near the product.
  - There is risk of fire.
- Wiring connections must be secured tightly and the cable should be routed properly so that there is no force pulling the cable from the connection terminals.
  - Improper or loose connections can cause heat generation or fire.

- Safely dispose off the packing materials. Like screws, nails, batteries, broken things etc after installation or service and then tear away and throw away the plastic packaging bags.
  - Children may play with them and cause injury.
- Make sure to check that the power device is not dirty, loose or broken and then turn on the power.
  - Dirty, loose or broken power device can cause electric shock or fire.
- In unit the step-up capacitor supplies high voltage electricity to the electrical components. Be sure to discharge the capacitor completely before conducting the repair work.
  - An charged capacitor can cause electrical shock.
- When installing the unit, use the installation kit provided with the product.
  - Otherwise the unit may fall and cause severe injury.
- Be sure to use only those parts which are listed in the service parts list. Never attempt to modify the equipment.
  - The use of inappropriate parts can cause an electrical shock, excessive heat generation or fire.
- Do not use the product in a tightly closed space for a long time. Perform ventilation regularly.
  - Oxygen deficiency could occur and hence harm your health.
- Do not open the front cover or grille of the product during operation. (Do not touch the electrostatic filter, if the unit is so equipped.)
  - There is risk of physical injury, electric shock, or product failure.
- If strange sounds, smell or smoke comes from product, immediately turn the breaker off or disconnect the power supply cable.
  - There is risk of electric shock or fire.
- Ventilate the product room from time to time when operating it together with a stove, or heating element etc.
  - Oxygen deficiency can occur and hence harm your health.
- Turn the main power off when cleaning or repairing the product.
  - There is risk of electric shock.
- Take care to ensure that nobody especially kids could step on or fall onto the unit.
  - This could result in personal injury and product damage.
- Take care to ensure that power cable could not be pulled out or damaged during operation.
  - Almost the antifreeze is a toxic product.

- Do not touch any electric part with wet hands. you should be cut power before touching electric part.
  - There is risk of electric shock or fire.
- Do not touch refrigerant pipe and water pipe or any internal parts while the unit is operating or immediately after operation.
  - There is risk of burns or frostbite, personal injury.
- If you touch the pipe or internal parts, you should be wear protection or wait time to return to normal temperature.
  - Otherwise , it may cause burns or frostbite, personal injury.
- Do not touch leaked refrigerant directly.
  - There is risk of frostbite.
- Make sure to install mixing valve (field supply). The mixing valve is setting the water temperature. The hot water temperature maximum values shall be selected according to the applicable legislation.
- Do not heated to a temperature of more than provided by the product.
  - Otherwise, it may cause fire or damage of product.

⚠ CAUTION

- Two or more people must lift and transport the product.
  - Avoid personal injury.
- Do not install the product where it will be exposed to sea wind (salt spray) directly.
  - It may cause corrosion on the product.
- Keep level even when installing the product.
  - To avoid vibration or noise.
- Do not install the product where the noise or hot air from the unit could damage or disturb the neighborhoods.
  - It may cause a problem for your neighbors and hence dispute.
- Always check for gas (refrigerant) leakage after installation or repair of product.
  - Low refrigerant levels may cause failure of product.
- Do not use the product for special purposes, such as preserving foods, works of art, etc. It is a consumer AWHP, not a precision refrigeration system.
  - There is risk of damage or loss of property.
- Do not block the inlet or outlet of air flow.
  - It may cause product failure.

- Use a soft cloth to clean. Do not use harsh detergents, solvents or splashing water etc.
  - There is risk of fire, electric shock, or damage to the plastic parts of the product.
- Do not step on or put anyting on the product.
  - There is risk of personal injury and failure of product.
- Do not insert hands or other objects through the air inlet or outlet while the product is operating.
  - There are sharp and moving parts that could cause personal injury.
- Be cautious when unpacking and installing the product.
  - Sharp edges could cause injury.
- If the refrigerant gas leaks during the repair, do not touch the leakaing refrigerant gas.
  - The refrigernat gas can cause frostbite (cold burn).
- Do not tilt the unit when removing or uninstalling it.
  - The condensed water inside can spill.
- Do not mix air or gas other than the specified refrigerant used in the system.
  - If air enters the refrigerant system, an excessively high pressure results, causing equipment damage or injury.
- If the refrigerant gas leaks during the installation, ventilate the area immediately.
  - Otherwise it can be harmfull for your health.
- Dismantling the unit, treatment of the refrigerant oil and eventual parts should be done in accordance with local and national standards.
- Do not expose your skin or kids or plants to the cool or hot air draft.
  - This could harm to your health.
- Use a firm stool or ladder when cleaning, maintaining or repairing the product at an height.
  - Be careful and avoid personal injury.
- The hot water may not be available immediately, during disinfection operation or depending on the amount of hot water.
- During floor heating operation it is important to limit the minimum/maximum water temperature.

Instructions for the use of owner's manual

Before first use, read owner's manual thoroughly and learn its content. You will learn the purpose, functions and the handling procedures for the device.
In case of malfunctions of the heating system, firstly, read the sections(Disruptions in operation, alarms and troubleshooting) and consult your installer who will find the reason for the malfunction and resolve it. In case the malfunction cannot be resolved, he will contact the customer service of the manufacturer who will resolve the malfunction.

Important information

The instructions are written to give you information on all the needed activities before the first and further use. The manual describes the process of setting up and use of the device.

NOTE

If this product is handed over, ensure that you provide this manual with it.

Incorrectly set parameters of the control unit can lead to stoppage or incorrect operation of the device. To avoid risks, make note of what each symbol denotes as described below. Follow all general safety instructions and warnings associated with the operation.

Glossary of used terms and conceptions

- ALTERNATIVE SOURCE: The heat source is used for systems with solar collectors, masonry heaters and wood stoves when we either do not have a heat source on hand at any moment or an automatic switch through the signal from the controller of the device (i.e. in a wood stove) is not possible.
- AUXILIARY EXTERNAL SOURCE: The heat source (i.e. oil/gas/pellet/external heater furnace) that can be used with the device alternately-for example, for the controller of the device, the signal is alternately transmitted by the automatic switch. In case of device malfunctioning(in the anti-freeze programme), the alternative source can take over the task of heating for a short time.
- ADDITIONAL SOURCE or Backup source: The electric flow heater installed in the device and turns on in the case of device malfunctioning (in the antifreeze program). This ensures temporary operation for bridging the time until an authorized person from the service company arrives to correct the error. The additional source can also be used for bivalent heating operation. This means that in case the heat pump no longer has the heating capacity that could cover the heat losses of the building (very low ambient temperatures), the electrical heater turns on to provide additional heat. Both heat sources work in bivalent parallel operation.
- HEATING WATER: The liquid which flows inside the heating system (pipelines, floor, wall and radiator heating).
- DHW: The water intended for sanitary use (cleaning, showering, washing ...).
- HEAT PUMP (HP): The device which takes energy from the environment and supplied mechanical work and adds warmth to heating and DHW. In the text below the term 'device' will be used for the heat pump.
- AW: The device takes heat from the air.
- Parameter NORMAL: The desired temperature of heating in the Normal mode of operation.
- Parameter ECO: Lowering the desired temperature in the Eco mode of operation.
- Parameter COMFORT: Raising the desired temperature in the Comfort mode of operation.

TERMOTRONIC controller

General

TERMOTRONIC is a self-adapting controller for controlling the heat pump (DEVICE) and the heating system. It controls operation of the device to ensure the most efficient way to produce the desired temperature of the building based on the of the heating system and outside temperature.

The TERMOTRONIC controller offers controlling the device and the heating system of the building (not more than 4 heating circuits) as well as controlling the heating with an alternative heat source, active cooling with the device, heating DHW with the device and/or alternative heat source and/or backup source.

Possibility of controlling the elements of the heating system with the controller TERMOTRONIC:
- 1 x Direct circuit,
- 1 x direct or mixing circuit,
- Domestic Hot Water,
- Heat curve (based on outside temperature),
- Cooling (floor, fan coil),
- Control of additional external heat source (oil or gas boiler).

With the optional expansion module, you can expand the functionality to:
- 2 x additional direct or mixing circuits,
- DHW circulation,
- Alternative heat source (Thermo-solar Collectors or Biomass furnace) for heating only.
- Display of Buffer tank temperatur

Controlling the device and heating system

The device and heating system can be controlled with the use of 4 buttons on the controller interface TERMOTRONIC. The controller interface has a 4-line LCD screen which displays the current state of the device or controller and a LCD light indicator of malfunctions operation of the device ALARM).

The controller interface TERMOTRONIC in devices:

BUTTON	BUTTON FUNCTION
MENU	**MENU**: Scrolls through the main menu and sub-menus.
OK	**ENTER**: On, off, accessing the menu, accessing the settings and confirming selected values.
^	»**+**«: Selects the values, by scrolling upwards the menus and sub-menus.
v	»**-**«: Selecting the values, scrolling down the menus and sub-menus.
🔔	**ALARM**: Indicates device malfunction.

Activating the device

After switching on the main switch or installation breaker, the interface screen displays the current state of the device - for the short delay time. The device is not operational yet.

```
Standby.............................
Heating                    35.5°C
Return                     35.3°C
DHW                        49.0°C
```

NOTE

- The temperature values can differ from the above.
  This also applies for all the following pictures.
- Before shutting down the device, if it is in a state of the device was in a state of HP STOP, it returns to the HP STOP mode after switching on the main switch or installation breakers. The display displays HP STOP. The device is switched ON by holding the (ENTER) key [OK] for 3 seconds - see below for more information.

Operation of the device

After the start-up delay time, the device starts operating in the selected mode (heating, cooling or heating DHW) according to present needs. The display displays the status:

```
Heating.............................
Heating►                   35.5°C
Return                     35.5°C
DHW                        49.0°C
```

In a scenario where the set temperature parameters (*Heating, Return, DHW* ...) is reached, the device displays Standby.

NOTE

The delay of the start, of the device depends on the factory settings.

Standby

The device enters standby state when the values of the selected parameters *Heating, Cooling, DHW*, device protection ... are reached. The display of the interface displays the status:

Standby.....	
Heating	**35.5°C**
Return	**35.3°C**
DHW	**49.0°C**

NOTE

The device enters the standby mode even when any operation is protected (compressor start-up delay, insufficient water flow).

Operation HP STOP

In case you want to shut down the device, press the OK (ENTER) key and hold it for 3 seconds. The operation of the device is interrupted but the device is still active.

Standby.....	
HP STOP	**35.5°C**
Return	**35.3°C**
DHW	**49.0°C**

The device can be turned on again by pressing the OK (ENTER) key and holding it for 3 seconds.

Device HP STOP

The device can be disconnected from the power supply by switching the main switch to position “0” or disconnecting the installation breaker (the electrical power supply fuses).

NOTE

Devices must not be disconnected from the power supply for a lengthy period (via the main switch or circuit breakers) as this will result in disabling the devices protection against water freezing in the system which leads to complete device malfunction. Here the requirements from the installation manual have to be considered.

Power outage

In case of a power outage, the device ceases to operate. After power is restored the device undergoes 300 seconds of protection mode and then automatically returns to the mode before the power outage. In case of a power outage, the controller retains all the settings that were set before the outage.

NOTE

In case of a power outage longer than 2 hours air-water models with a water connection, water has to be drained out from the connecting pipes between the external and the internal devices. Operate in accordance with the specifications as described in the installation manual.

Display of the state of the device

After activating the power supply, the device displays current state of the device on the display according to the operating mode and the values of basic parameters of the heating/cooling system of the building.

Standby.....
Heating 35.5°C
Return 32.3°C
DHW 49.0°C

Keys [^] and [v] allow scrolling up and down the basic display.

READING ON THE DISPLAY		DESCRIPTION
Standby		Current condition of operation.
Heating	35.5 °C	Set or calculated temperature of heating (only in winter mode).
Return	32.3 °C	Current temperature of the return.
DHW	49.0 °C	Current temperature of DHW.
T outside	7 °C	Current outside temperature.
TD60 after 12 days		Time left until the start of ***DHW*** thermal desinfection (i.e. next thermal desinfection ***will begin in 12 days***). Setting of DHW thermal desinfection is controlled by changing the parameters ***TD, TD*** every and Start at described in section 6 of the basic menu DHW.
2016/02/10 12:24 TUESDAY		Current time and day of the week.

Setting parameters

All parameter settings of the device's operation and heating/cooling system of the building are set as described below.

1 For entering the user menu press the key [MENU] (MENU) on the basic display.

```
Standby.....................
Heating              35.5°C
Return               32.3°C
DHW                  49.0°C
```

2 The currently chosen menu is marked by the symbols > < (CHOOSE).
Keys [^] or [v] select the desired menu.
To enter the selected menu, press the [OK] (ENTER) key. For exiting the menus to the basic display press the [MENU] (MENU) key. *The display shows only those menus which were actually activated during the start-up of the device.*

```
>          Heating          <
        1. Circuit
        2. Circuit
        3. Circuit
```

3 After entering the selected menu, the initial parameter is marked buy the symbols > < (CHOOSE). The key [v] selects the parameter to change. When you select the parameter, press the key [OK] (ENTER).

```
 C/W                  I
 Schedule
>Normal            35.5°C <
 Eco                -2.0°C
```

4 The signs * * along the chosen parameter indicate the "mode setting" (SET). The value of the chosen parameter can be changed to the desired value by using the key [^] or [v]. To confirm the settings, press the key [OK] (ENTER).

```
 C/W                  I
 Schedule
*Normal            35.5°C *
 Eco                -2.0°C
```

5 After confirming the settings by pressing the key [OK] (ENTER), the signs * * (SET) change back into the signs > < (CHOOSE). For changing the value of other parameters, repeat th process. After completing the settings you can return to the main menu by pressing the key [MENU] (MENU).

```
 C/W                  I
 Schedule
>Normal            39.1°C <
 Eco                -2.0°C
```

<NOTE>

MARK	DESCRIPTION
> <	The arrows on the sides indicate the presently selected parameter/menu (CHOOSE).
* *	The stars on the sides indicate the mode of setting the chosen parameter (SET).
▶	A full arrow with the name of the parameter (i.e.: DHW ▶ 50 °C) indicates the current operation of the circulation pump or the position of the switching valve (i.e. DHW). In the case of more circulation pumps of the heating system being in operation, more full arrows are displayed.

Setting the language

The controller enables setting different display languages. To set a language of your choice, follow the steps below.

1 Press key [MENU] (MENU) of the basic menu.	**Standby.....** **Heating 35.5°C** **Return 32.3°C** **DHW 49.0°C**
2 Use the key [∨] to choose the **Mode** ***(Mode, Regime, Betriebsart, Nacin).*** To confirm the settings, press the key [OK] (ENTER).	**> Mode <** **Temperatures**
3 Use the button [∨] to choose the parameter ***Langugage EN (Jezik SI, Lingua IT, Sprache DE, Jezik CRO).*** To confirm the settings, press the key [OK] (ENTER).	**C/W ALL I** **D8-PV Cooling** **Silent mode** **>Language EN <**

Quick settings

NOTE

The parameters of the TERMOTRONIC controller were set according to project documentation of the heating/cooling system, recommendations of the manufacturer for the device and your requests by the authorized contractor. At handover, the contractor practically demonstrates operation of the product and the important setting modes for each of the parameters.

The basic function of the device is switching ON the heating and DHW. The controller of the device calculates the optimal required temperature of the hot water to achieve the desired air temperature of the room by using information about the winter/summer operating mode, the chosen heating/cooling and according to the external temperature.

Setting the temperature of heating/cooling

The temperature in the heated/cooled room is controlled in two stages, by setting the temperature:

1. of the room with the spatial corrector or thermostat and
2. the heating/cooling water in the accumulator and heating/cooling circuits on the controller TERMOTRONIC.

NOTE

In a scenario where the heating/cooling circuit has been operated for a lengthy period of time (For example, floor heating has been operated for 4 days at a stretch); but the desired temperature has not yet been achieved, check the temperature settings of the water that is heated. This could occur in spite of the change in setting of the temperature via a spatial corrector or thermostat.

NOTE

- The space corrector influences the whole heating circuit and not the temperature of the individual room. The desired room temperature where the spatial corrector is located in the reference temperature for all other rooms of the heating circuit controlled by this spatial corrector. This is why it must be located in a room where the desired temperature is as close to the desired average temperature of the other rooms (halls, living room). It must not be located close to heat sources (fireplace, TV, direct sunlight, etc.).
  Before raising the temperature of heated water or the desired room temperature on the spatial corrector make sure the valves on the heat sources in the room where it is too cold for you, are completely or sufficiently opened. If the temperature of other rooms is too high or too low it is necessary to sufficiently open or close the heat sources in the rooms where the deviations from the desired temperature take place.
- For maintaining the correct operation of the heating system you have to choose a suitable operating mode - winter (heating and DHW) or summer (DHW and cooling - only in certain models).

- **Setting the room temperature with a room thermostat**
  For setting the room temperature with a room thermostat, read the manual that comes with the product or consult the installer.

NOTE

- In case the thermostat is turned on all this time and the heating system does not heat/cool the space to the desired temperature, check the settings of temperatures of the heating system on the device.
- For choosing the function of heating or cooling an appropriate thermostat has to be installed which allows both the functions.
- For maintaining the correct operation of the heating system, you have to choose a suitable operating mode - winter (heating and DHW) or summer (DHW and cooling - only in certain models).

Setting the temperature of heated water

Upon start-up, the control of the hot water temperature was set to Heating mode which ensures the most energy efficient operation for the device. In case, the automatically calculated temperature of the heated water (in accordance with the external temperature) is inadequately heated, the temperature of the heated water can quickly be raised or lowered by changing the parameter of cooler/hotter (C/W).

The values of the parameter C/W are customisable. 1. Circuit 2. Circuit 3. Circuit or 4. Circuit depending on which temperature you want to change.

NOTE

Upon start-up the heated water temperature control was set to Heating curve mode.

The authorised contractor has followed the specifications as mentioned in the the chapter 'Setings of your Heating System at Startup' and has commissioned the system accordingly.

By setting the parameter C/W you set the number of temperature steps for which you want to raise or lower the temperature of heated water. You perform the settings in the following steps:

1	Press key [MENU] (MENU) in the basic menu.	**Standby.....** **Heating 35.5°C** **Return 32.3°C** **DHW 49.0°C**
2	In the user interface, use the key [∨] and choosel menu 1. ***Circuit*** and press the key [OK] (ENTER).	**Heating** **> 1. Circuit <** **2. Circuit** **3. Circuit**
3	The first line has the parameter ***C/W*** selected. To set the parameter press key [OK] (ENTER).	**>C/W I <** **Schedule** **Normal 35.5°C** **Eco -2.0°C**
4	* * appear along the chosen parameter. The keys [∧] and [∨] change the value of the parameter ***C/W***. This raises or lowers the temperature of heated water.	***C/W I *** **Schedule** **Normal 35.5°C** **Eco -2.0°C**
5	Each pressing the key each time [∧] raises/ [∨] lowers the temperature of the heating circle one temperature step (<, >). To confirm the settings press the key [OK] (ENTER).	***C/W I>> *** **Schedule** **Normal 35.5°C** **Eco -2.0°C**
6	After conformation the controller calculates the new temperature setting for the heating circuit or heated water according to the external temperature (in case of weather control). For returning to the basic view press the key [MENU] (MENU) twice.	***C/W I>> *** **Schedule** **Normal 35.5°C** **Eco -2.0°C**

For advanced changing the temperature of the heated water control mode of the heating system refer to the Chapter(Heating setting).

NOTE

- The temperature of heated water can be raised or lowered for no more than four temperature steps.
- The heating and individual circuits settings are separated from the cooling, this is why all settings for heating remain unchanged with the change of the mode into cooling. The same is true for parameter settings in the menu Cooling, 1. Circuit, 2. Circuit, 3. Circuit, 4. Circuit and Heating, which are separated so as to maintain all settings when changing the heating Mode (winter/summer).
- For heating curve you can choose various temperature modes of operation with setting daily and weekly schedules.
- In case of radiator heating for a significant change, change the parameter C/W for 2 or 3 temperature steps at once but only for 1 temperature step in case of floor heating.
  Please note that the responsiveness of the heating system in the case of radiator heating is quicker than in the case of floor heating. By changing the parameter C/W several hours can pass (in the case of floor heating) before the heating system responds properly and you can feel the change of the adjustment.

Setting the temperature of DHW

The device heats the water in a DHW via heat exchanger. In case the DHW requires to be heated, the controller switches the device from heating the building to heating the DHW. Heating DHW has priority over other modes of operation.

Setting the temperature of DHW is performed in the following steps:

1	Press key [MENU] (MENU) on the Home screen.	**Standby.....** **Heating 35.5°C** **Return 32.3°C** **DHW 49.0°C**
2	In the user menu, choose the menu DHW using the key [∨] and press the key [OK] (ENTER).	**> DHW <** **Additional source** **Mode** **Temperatures**
3	In the DHW menu, in the first line the parameter DHW is chosen. To set the parameter press key [OK] (ENTER).	**>DHW 50.0°C<** **Hysteresis 5.0°C** **Schedule** **Circulation Sched.**
4	The chosen parameter is displayed within * *. Scroll the keys [∧] and [∨] change the value of the parameter ***DHW***. This raises or lowers the temperature of DHW. To confirm the settings press key [OK] (ENTER).	***DHW 50.0°C*** **Hysteresis 5.0°C** **Schedule** **Circulation Sched.**
5	The set parameter is displayed within > <. For returning to the home screen, press the key [OK] (ENTER) twice.	**>DHW 50.0°C<** **Hysteresis 5.0°C** **Schedule** **Circulation Sched.**

NOTE

- For controlling the temperature settings of in the DHW, you can set different modes of operation (ECO, Comfort), daily and weekly schedules.

Changing the operational mode - winter/summer mode

The mode of operation - winter or summer, is chosen according to season. When you prefer to have cool air indoors, switch to the summer operating mode. When you prefer warm air indoors, switch to the winter mode. The choice can be automatic or manual.

NOTE

- If you do not operate the summer mode during summer season, this can result in higher energy consumption. The operational costs will be increased for two reasons:
  - ▶ The main circulation pump will switch on from time to time to check whether the need for heating has arisen.
  - ▶ The additional source could also be turned on (for the protection of the heating system) if the temperature falls below a certain point (18 °C depending on the start-up settings).
- The cooling function is only provided by reversible devices and the passive models of the devices.

The function of the device according to the chosen mode of operation:

Mode	OPERATION		
	Heating	DHW	Cooling
Winter	YES	YES	NO
Summer	NO	YES	YES

NOTE

In the winter mode (heating and DHW) the heating system works only for heating the water in the dedicated circuits and DHW. By using the built-in external switch, we can manually switch on/off the cooling mode of the device.

• **Changing the operating mode**
Changing the operation from winter to summer mode is performed in the following steps:

1 Press key [MENU] (MENU) in the basic menu.	**Standby.....** **Heating 35.5°C** **Return 32.3°C** **DHW 49.0°C**
2 In the user interface, use the key [∨] and choose the menu Mode.	**> Heating <** **1. Circuit** **2. Circuit** **3. Circuit**
3 To choose the menu Mode press the key [OK] (ENTER).	**> Mode <** **Temperatures**
4 In the first line, the parameter Mode is selected as Winter. To set the parameter press the key [OK] (ENTER).	**>Mode Winter<** **Screed drying NO** **Initial** **Maximum**
5 The chosen parameter is displayed within * *. Scroll the keys [∧] or [∨] to change the value of the parameter into: ***Mode summer*** for cooling and heating of DHW or Mode winter for heating and cooling of DHW or ***Mode AUTO*** for automatic switch between winter and summer mode of operation. To confirm the settings, press the key [OK] (ENTER).	***Mode Winter*** **Screed drying NE** **Initial** **Maximum**
6 For returning to the home screen, press the key [OK] (MENU) twice.	**>Mode Summer<** **Screed drying NO** **Initial** **Maximum**

NOTE

Setting the ***AUTO*** mode allows an automatic switch of the operating mode after the external temperature at 9 PM is higher or lower than the temperature of the switch (12 °C) for 3 days. This setting can be changed with the parameter ***Temp. mode*** in the menu ***Mode***

Setting the cooling temperature

In the operating mode (Summer, AUTO) which enables cooling, you can adjust the temperature of cold water for the cooling circuits. The controller only enables the mode of controlling the temperature of cold water while maintaining constant temperature.

NOTE

For setting the cooling of the building the Summer or AUTO Mode must be chosen.

Setting the temperature of cold water is performed in the following steps:

1	Press key [MENU] (MENU) in the basic menu.	**Standby.....** **Cooling 13.5°C** **Return 14.3°C** **DHW 49.0°C**
2	Choose the menu Cooling or use the key [∨] to choose the desired Circuit in the first menu. To set the parameter press the key [OK] (ENTER).	**> Cooling <** **1. Circuit** **2. Circuit** **3. Circuit**
3	In the menu Cooling (or Circuit) use the key [∨] to choose the parameter Normal and press the key [OK] (ENTER).	**Schedule** **>Normal 13.5°C<** **Eco -2.0°C** **Comfort 0.0°C**
4	The chosen parameter is displayed within * *. Use the key [∧] or [∨] to change the value of the parameter Normal; either to raise or lower the temperature of the accumulator (or circuit). To confirm the settings press key [OK] (ENTER).	**Schedule** ***Normal 12.5°C*** **Eco -2.0°C** **Comfort 0.0°C**
5	For returning to the home screen, press the key [MENU] (MENU) twice.	**Schedule** **>Normal 12.5°C<** **Eco -2.0°C** **Comfort 0.0°C**

NOTE

- The cooling and individual circuits settings are separated from the heating, hence the settings that have been configured for the cooling mode remain unchanged while operating in the heating mode.
- In the case of floor, ceiling or wall cooling appropriate settings and protection to prevent causing surface condensation.
- For controlling the temperature settings of cooling water, you can set different temperature modes, daily and weekly schedules.
- The response of the cooling system in a condenser is quicker than in floor, ceiling or wall cooling.

Switching on the additional heat source

In case the heating capacity of the device is not sufficient for covering thermal losses of the building under given weather conditions, you can increase the capacity by switching on the ***Additional source***.

The device has a Backup source, a flow electric water heater fitted as standard which can function as an additional heat source by activating the parameter Additional source. Basically, the controller is set to activate the additional source which operates parallel to the device if the external air temperature falls below -5 °C. This setting is set according to the building at commissioning and can be changed later. Before setting the parameter, we advise consulting the contractor for commissioning.

NOTE

In case you would like to use an oil/gas/pellet furnace or external electric heater as auxiliary heat source, you have to ask the contractor for commissions to perform the setting.

Activating the additional source manually is performed in the following steps:

1 Press key [MENU] (MENU) in the basic menu.	**Standby.....** **Heating 35.5°C** **Return 32.3°C** **DHW 49.0°C**
2 In the user menu choose the menu Additional source using the key [∨] and press the key [OK] (ENTER).	**> Additional source <** **Mode** **Temperatures**
3 In the first line choose the parameter bold and press the key [OK] (ENTER).	**>Switch o Need<** **Bi-point -5.0°C** **Delay 30 min** **Mode PARALLEL**

4 The chosen parameter is displayed within * *. The keys [∧] and [∨] change the value of the parameter bold constant. The auxiliary source will operate together with the heat pump. To confirm the settings press key [OK] ENTER.	**>Switch o constant<** **Bi-point -5.0°C** **Delay 30 min** **Mode PARALLEL**
5 For returning to the basic view press the key [MENU] (MENU) twice.	**>Activate constant <** **Bi-point -5.0°C** **Delay 30 min** **Mode PARALLEL**
6 In the first row, after switching on the Backup source, the main display will display the information about the status of the device ***Heating+AdHeater***.	**Heating + add. source** **Heating ► 40°C** **Return 32.3°C** **DHW 49.0°C**

NOTE

When additional heat power is not required, it is recommended to switch from the auxiliary heat source back to the normal operation.

Manual activation of the additional heat source

In case the device does not operate as required, we recommend activating the additional source- the flow electrical water heater which will take over the heating of the dedicated circuits and DHW.

Activating the backup source manually is performed in the following steps:

1 Press key [MENU] (MENU) in the basic menu.	**Standby.....** **Heating 35.5°C** **Return 32.3°C** **DHW 49.0°C**
2 In the user menu choose the menu Additional source using the key [∨] and press the key [OK] (ENTER).	**> Additional source <** **Mode** **Temperatures**

3 In the menu Additional source choose AddSourceOnly as NO using the key and [V] press the key [OK] (ENTER).	**Delay OFF** **Mode PARALLEL** **Rise for 5.0°C** **>AddSourceOnly NO<**
4 The chosen parameter is displayed within * *. Use the key [V] to change the value of the parameter to add. source only as YES. This ensures that the source runs. To confirm the settings, press key [OK] (ENTER).	**Delay OFF** **Mode PARALLEL** **Rise for 5.0°C** *** AddSourceOnly YES***
5 For returning to the home screen, press the key [MENU] (MENU) twice.	**Delay OFF** **Mode PARALLEL** **Rise for 5.0°C** **>AddSourceOnly YES<**
6 In the first row, after switching on the Backup source, the main display displays the information about the status of the device Heating - AddSourceOnly -.	**Heating - AddSourceOnly -** **Heating ► 40 °C** **Return 32.3°C** **DHW 49.0°C**

NOTE

The device in this mode can heat the circuit and DHW.

- The heating water will heat to the temperature set in the basic menu Heating, 1. Circuit, 2. Circuit, 3. Circuit, and 4. Circuit. In the case of a FP error the temperature of heating water will heat up to the set temperature with the parameter AntiFreeze in the menu AddSourceOnly.
- The DHW will heat up to the temperature set as DHW in the menu Backup source.

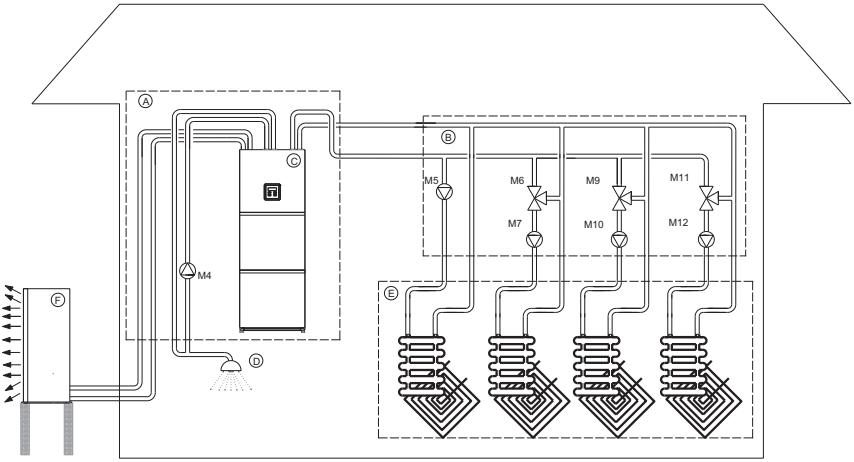
As soon as heating with the device is resumed, set the parameter to AddSourceOnly NO.

Advanced settings

In this chapter you will find:

- How to set the parameters of the device in case the system has no controller or thermostat built in or the settings for the temperature of heated water does suffice the heating needs.
- How to set the control mode of the heating water.
- How to set the mode of operation for heating water/cooling water, heating/cooling circuits and heating of DHW.
- How to set working schedules ...

For easier understanding of the chapter, you can find a general scheme of the heating (cooling) system below.



ELEMENTS	MARK	CHARACTERISTICS
	A	Utility room
	B	Heating circuits
	C	Hydro module
	D	Domestic hot water
	E	Heat consumers (floor heating / radiators)
	F	Heat pump
M4		Circulating pump for DHW
M5		Circulation pump of direct heating circle 1
M6		Circulation pump of mixing-heating circle 2
M7		Mixing valve of mixing-heating circle 2
M9		Circulation pump of mixing-heating circle 3
M10		Mixing valve of mixing-heating circle 3
M11		Circulation pump of mixing-heating circle 4
M12		Mixing valve of mixing-heating circle 4

NOTE

- Heating circle 1 (M5) can only be a direct heating circle (without mixing valve).
  For this circuit we always choose the heating circle which requires the highest temperature (i.e. radiators).
- Heating circuits 2, 3 and 4 (M6, M9, M11) can be direct (without a mixing valve) or mixing circuits. In case of direct circuits, temperature settings of the heated water can be adjusted in the menu Heating.

Heating settings

NOTE

While setting, or changing the desired temperature of the heated water ensure that in case when the contractor for commissioning, set the parameter (371) Buff.tank to constant (noted in chapter 11) the values set as Normal and Correction in the menus Heating have to be higher than the setting of desired values in the mixing circuits (1. Circuit, 2. Circuit, 3. Circuit, and 4. Circuit) if they are active.

• **Heating water control mode**

The controller of the device enables two ways of controlling the temperature of heated water at the exit of the device or the entry into individual heating circuits:

a) Heating Curve: Setting the desired temperature of heated water according to the external temperature.

b) Constant: The temperature of heating water is kept constant regardless of the external temperature.

The control mode of the heating water suitable for individual buildings depends on various factors such as the type of building, its size, make of the heater ...; this is why the control mode for heating water temperature is set by a Commissioning Engineer. Nevertheless, you can change the setting later.

For a comfortable environment, it is recommended to set the default control mode as Heating Curve - the setting set at commission. Heating curve means a more effective operation of the heating system because by raising external temperature the desired temperature of heated water is lowered.

Control modes for heating water have to be set separately by type in menus:

- ▶ Heating……
- ▶ 1. Circuit,
- ▶ 2. Circuit,
- ▶ 3. Circuit,
- ▶ 4. Circuit,

It is important to note that the method of adjustment is the same in all cases and is described as a heating curve example for the section 'Weather controlled heating' and as control at constant temperature example for the section 'Heating based..' in Section(Heating based on constant temperature).

• **The change in heating control heating curve - constant temperature**
You can switch the heating control from heating curve to a constant temperature, follow the below steps:

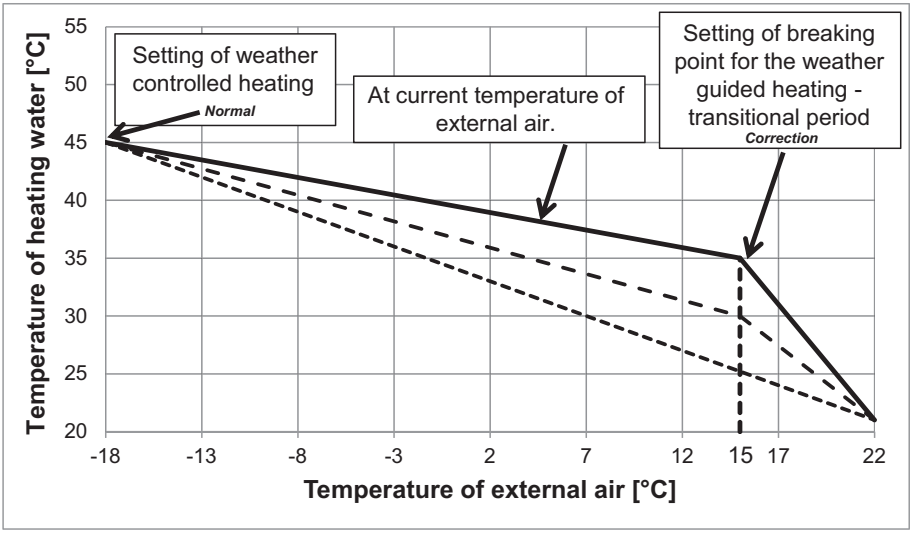
1	Press key [MENU] (MENU) on the home screen.	**Standby.....** **Heating 35.5°C** **Return 32.3°C** **DHW 49.0°C**
2	Choose the menu Heating or use the key [∨] to choose the desired Circuit. To set the parameter press key [OK] (ENTER).	**> Heating <** **1. Circuit** **2. Circuit** **3. Circuit**
3	Choose the Heating curve parameter by pressing [∨] and [OK] press the (ENTER) key.	**Normal 35.5°C** **Eco -2.0°C** **Standby 3.0°C** **>Heating curve .....<**
4	The chosen parameter is displayed within * *. By pressing the key [∨] adjust the value of the Heating curve parameter as Const. temperature and confirm the settings by pressing the key [OK] (ENTER).	**Normal 35.5°C** **Eco -2.0°C** **Standby 3.0°C** ***Const. temperature.....***
5	For returning to the home screen press the key [MENU] (MENU) twice.	**Normal 35.5°C** **Eco -2.0°C** **Standby 3.0°C** ***Const. temperature.....***

- **Weather controlled heating**
  Weather controlled heating means water temperature in the heater is adjusted to the current air temperature. The lower the external temperature, the higher the heat loss and as a result a higher temperature of water is required for the heating bodies (floor, wall or radiator heating...) to compensate for the loss in heat.
  The opposite is true in case of higher external temperatures. In this case the heat losses are lower and a low temperature is required to compensate for the losses.
  The weather controlled heating curve shows that the value for 'Return' depends on the temperature of air outside the building. The lower the external air temperature, the higher the calculated needed value for 'Return'.

In weather controlled heating you can set two parameters:
- Normal: With this parameter, you set the desired value for the parameter 'Return' while the external temperature is -18 °C
- Correction: With this parameter you can set the heating curve temperature while the external temperature is 15 °C. It is mainly important for transitional periods because the weather controlled heating curve temperature can be too low at this time, depending on the building and desired comfort.

The parameters Normal, Standby and Correction can be changed to the desired values using the keys ^ or v .

The weather controlled heating curve



The appropriate heating temperature setting is essential for ensuring the desired comfort. It depends on the characteristics of the house and heating objects as well as the project temperature.
The table below lists the recommended settings which can help you decide on the appropriate parameters of the weather controlled heating.

TYPE OF HOUSE	PARAMETER	HEATING (weather controlled)			
	Heating, 1. Circuit, 2. Circuit, 3. Circuit, and 4. Circuit	Floor, wall [°C]	Convector heating [°C]	Radiation heating 55 °C	Radiation heating 65 °C
Noninsulated house	Normal	-	55	65	70
	Standby	3	5	5	7
	Correction - Correction of breaking point (+15 °C)	-	10	13	15
Insulated house	Normal	35	50	55	65
	Standby	2	5	5	6
	Correction - Correction of breaking point (+15 °C)	5	5	10	12
Wellinsulated house	Normal	30	40	55	55
	Standby	2	5	5	5
	Correction - Correction of breaking point (+15 °C)	3	3	5	10

NOTE

In mixing heating circuits, you set the temperature of the supply water (outlet water temperature – parameter Flow), in direct heating circuits and on the device, we adjust the temperature of the return (inlet water temperature – parameter Return).

- **Setting the temperature correction of heating water**

  By changing the value of the parameter Correction you can adjust the temperature of heated water in transitional periods and thus adjust the desired comfort in the heated building. Follow the below steps:

1	Press key [MENU] (MENU) in the basic menu.	**Standby.....** **Heating 35.5°C** **Return 32.3°C** **DHW 49.0°C**
2	The first line has the parameter Heating selected. To set the parameter press key [OK] (ENTER).	**> Heating <** **1. Circuit** **2. Circuit** **3. Circuit**
3	Choose the Correction parameter by pressing [∨] and press the [OK] (ENTER) key.	**Comfort 2.0°C** **Hysteresis 3.0°C** **Heating Curve** **>Correction 5.0°C<**
4	The chosen parameter is displayed within * *. The keys [∧] and [∨] change the value of the parameter Correction. The temperature can be raised for no more than 15 K (°C). For returning to the basic view press the key [MENU] (MENU) twice.	**Comfort 2.0°C** **Hysteresis 3.0°C** **Heating Curve** ***Correction 5.0°C***

- **Setting the heating curve temperature - Normal**

  By using the parameter Normal, you can set the maximal heating temperature while the external temperature is -18 °C.

NOTE

After start-up of the device, it is not advisable to alter the value for the parameter 'Normal' unless the heating system is subjected to mechanical changes.

You perform the settings in the following steps:

1	Press key [MENU] (MENU) in the basic menu.	**Standby.....** **Heating 35.5°C** **Return 32.3°C** **DHW 49.0°C**
2	The first line has the parameter Heating selected. To set the parameter press key [OK] (ENTER).	**> Heating <** **1. Circuit** **2. Circuit** **3. Circuit**
3	Choose the parameter Normal by pressing [∨] and press the [OK] (ENTER) key.	**C/W I** **Schedule** **>Normal 35.5°C <** **Eco -2.0°C**
4	The chosen parameter is displayed within * *. The keys [∧] and [∨] change the value of the parameter Normal. This way you raise or lower the maximal temperature of heating water while the external temperature is -18 °C. To confirm the settings press key [OK] (ENTER). The recommended values of the maximal temperature for individual types of heating are mentioned in chapter(Heating setting)	**C/W I** **Schedule** ***Normal 45.0°C*** **Eco -2.0°C**
5	After confirming the settings the controller calculates the new temperature setting of the heating water according to external temperature (weather control); if the external temperature is higher than -18 °C, this temperature is different from the set temperature. For returning to the basic view press the key [MENU] (MENU) twice	**C/W I** **Schedule** **>Normal 45°C <** **Eco -2.0°C**

NOTE

- In case when contractor for commissioning in chapter 11, set the parameter (371) Buff.tank to constant, the values of the parameter Normal in the menus 1. Circuit, 2. Circuit, 3. Circuit or 4. Circuit must always be set to an equal or lower value than the value of the parameter Normal in the menu Heating.
- For economical use of heating we recommend the use of heating curve mode.
- For heating curve you can choose various temperature modes of operation with setting daily and weekly schedules.

- **Heating based on constant temperature**

  For ensuring economic feasibility of the whole system, it is advisable to set the default setting to 'Heating Curve'. If you prefer to set a constant temperature for the indoors, follow the below settings:

TYPE OF HOUSE	PARAMETER	HEATING (with constant temperature)		
	Heating, 1. Circuit, 2. Circuit, 3. Circuit, and 4. Circuit	Floor, wall [°C]	Convector heating [°C]	Radiation heating 55 °C
Noninsulated house	Normal	38	50	50
Insulated house	Normal	35	45	47
Wellinsulated house	Normal	30	40	45

NOTE

In mixing heating circuits, you set the temperature of the supply water (water leaving the device in to the heating bodies (floor, wall or radiator heating), in direct heating circuit and on the device, we adjust the temperature of the return (water entering the device from the heating bodies (floor, wall or radiator heating)).

- **Setting the temperature of heated water**

  You can set a value for the parameter Normal irrespective of the external temperature.

NOTE

After start-up of the device, it is not advisable to alter the value for the parameter 'Normal' unless the heating system is subjected to mechanical changes.

You perform the settings in the following steps:

1	Press key [MENU] (MENU) in the basic menu.	**Standby.....** **Heating 35.5°C** **Return 32.3°C** **DHW 49.0°C**
2	The first line has the parameter Heating selected. To set the parameter press key [OK] (ENTER).	**Heating** **> 1. Circuit <** **2. Circuit** **3. Circuit**
3	Choose the parameter Normal by pressing [∨] and press the [OK] (ENTER) key.	**C/W I** **Schedule** **>Normal 35.5°C <** **Eco -2.0°C**
4	The chosen parameter is displayed within * *. The keys [∧] and [∨] change the value of the parameter Normal. To confirm the settings press key [OK] (ENTER). The recommended values of the maximal temperature for individual types of heating are given in chapter(Heating setting)	**C/W I** **Schedule** ***Normal 45.0°C*** **Eco -2.0°C**
5	After confirming the settings, the device will heat the water to the set temperature regardless of the outside air temperature. For returning to the basic view press the key [MENU] (MENU) twice.	**C/W I** **Schedule** **>Normal 45°C<** **Eco -2.0°C**

NOTE

- In case when contractor for commissioning in chapter 11, set the parameter (371) Buff.tank to constant, the values of the parameter Normal in the menus 1. Circuit, 2. Circuit, 3. Circuit or 4. Circuit must always be set to an equal or lower value than the value of the parameter Normal in the menu Heating.
- For economical use of heating we recommend the use of heating curve mode.
- For heating curve you can choose various temperature modes of operation with setting daily and weekly schedules.

Operating mode

The controller of the device enables heating of the heating water/ cooling of the cooling water, heating/cooling of the circuits and DHW in four different operational modes:

▶ Normal applies to heating/cooling.
▶ DHW applies to the heating of DHW.
▶ ECO.
▶ COMFORT.

These different ways of operation can later be used for setting timetables.
The parameter ECO is used for the economic feasibility which implies lowering/raising the desired temperature as set for the heating/cooling mode respectively.
The parameter COMFORT is used for the operation which means greater comfort by raising/lowering the temperature of water that has been set for the heating/cooling mode respectively.
In case you want to change the entire system to ECO or COMFORT, you can intend to change the mode of operation from AUTO to Operation ECO or Operation COMFORT.

Setting the cooling system

You turn on the cooling mode by entering the menu mode and changing the parameter mode Winter to mode Summer.

- To turn on the cooling according to schedule you have to set the operating schedule for cooling in the menu Cooling. The display and settings of the Cooling menu are enabled only if the conditions of the mode's operation listed in the Section(Changing the operational mode-winter/summer mode) are met (chosen mode + reversible heat pump).

• **Active cooling**
Cooling can be set for every parameter described in the table below separately.

In case of active cooling we recommend the following cooling settings:

PARAMETER	COOLING	
Cooling, 1. Circuit, 2. Circuit, 3. Circuit, and 4. Circuit	Floor, wall, ceiling [°C]	Convector heating [°C]
Normal	19-20	12-15

NOTE

- In mixing heating circuits the temperature of the supply pipe can be set in direct heating circuits and set the Return temperature.
- Active cooling works in the area set in the menu Cooling with the parameters T.out.max.- external temperature above which the active cooling can operate actively and the parameter Min - external temperature until which the active cooling can operate.

Schedules

• **Operating mode**

Every function (heating, cooling, 1. Circuit, 2. Circuit, 3. Circuit, 4. Circuit, DHW, pool, silent operation and circulation) can operate in several ways. Setting the operation mode for individual functions are performed in the schedule for this function.

In heating, cooling, mixing circuits, heating of DHW and swimming pool heating there can be 4 different types of operation:

- OFF: Heating/cooling is disabled.
- HEA of COL: Operation in the heating or cooling mode (parameter Normal).
- ECO: In this mode the controller maintains the temperature which is lower by the value of the ECO parameter than the set temperature in the parameter Normal. In case of cooling the temperature set in this mode is higher by the value of the ECO parameter than the set temperature in the parameter Normal. In this mode operation is more economical.
- COM: In this mode the controller maintains the temperature which is higher by the value of the COM parameter than the set temperature in the parameter Normal. In case of cooling the temperature set in this mode is lower by the value of the COM parameter than the set temperature in the parameter Normal. In this mode operation is less economical, depending on the setting it can also be more comfortable.

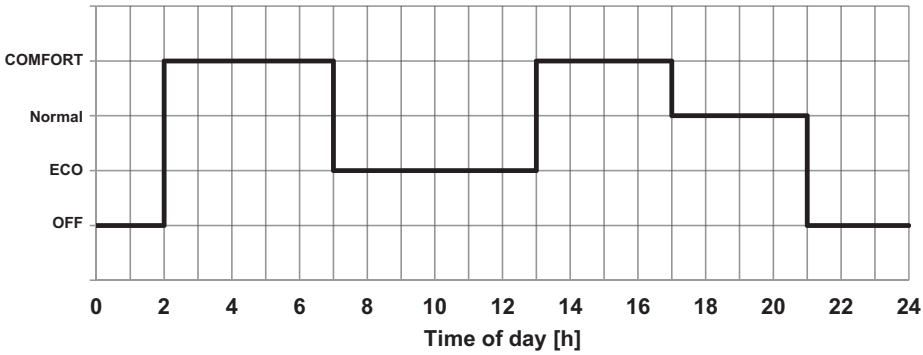
In circulation of DHW two operation settings are possible:

- OFF: Circulation pump is disabled.
- CIR: Circulation pump is truned on.

These units enable two additional operation modes set in the menu Mode with the parameter Silent mode

- NRM: Normal operation in the heating or cooling mode.
- LOW: Lowered operation mode in the heating or cooling mode.

The schedule enables daily settings of 6 operation mode switches. Below is a description of heating with an example of a daily schedule.



Heating is turned off (OFF) from 00:00 to 02:00.

The heating is turned on at 02:00 in the COMFORT mode (in this mode the temperature is higher than the temperature set in the parameter Normal by the COM parameter).
The heating is turned on at 07:00 in the ECO mode (in this mode the temperature is lower than the temperature set in the parameter Normal by the ECO parameter).
At 1:00 PM the operating mode switches to COMFORT.
AT 5:00 MP the operating mode switches to Normal (the temperature set or calculated in the parameter Normal). At 9:00 PM the heating turns off (OFF).

You perform the settings in the following steps:

In the menus Heating, Cooling, Circuits, choose the parameter Schedule using the [∨] key. When the symbols > < appear next to the parameter Schedule, press the key [OK] (ENTER).	C/W I >Schedule < Normal 35.5°C Eco -2.0°C
Choose the day you would like to set the schedule by using keys [∧] or [∨]. When you choose the day press the key [OK] (ENTER).	MON Copy DELETE 00:00 HEA --:-- HEA --:-- HEA --:-- HEA --:-- HEA --:-- HEA
The time when the switch-over blinks. By pressing the key [OK] (ENTER) confirm that you wish to set the time. Symbols ***XXXXX*** start blinking as an indication to enter the time. Set the desired time using the key of the switch-over [∧] (in 15 min). To confirm the set time press key [OK] (ENTER). The symbols ***XXXXX*** cease to blink after the time has been set.	MON Copy DELETE 00:00 HEA --:-- HEA --:-- HEA --:-- HEA --:-- HEA --:-- HEA

By pressing [∨] you can access the field for choosing the mode of operation. This field starts blinking. By pressing the key [OK] (ENTER) confirm you want to set the mode of operation. Symbols ***XXX*** start blinking over the operating mode. Use keys [∨] or [∨] to choose the suitable mode of operation along the set time. To confirm the operating mode press key [OK] (ENTER). Symbols ***XXX*** cease to blink after the operating mode has been set.

MON	Copy	DELETE
00:00	OFF	--:-- OFF
--:--	OFF	--:-- OFF
--:--	OFF	--:-- OFF

NOTE

Once you have set the operating mode it continues to be used until a new one is set.
I.e. if you set the heating to OFF on Monday and you do not set anything for the following days, the heating will be OFF for all the following days as well because there was no change of operation mode.

Use the key [∨] to navigate to the time set for the next switch-over of the operating mode. Perform the settings the same as for the first switch-over.

MON	Copy	DELETE
00:00	HEA	--:-- HEA
--:--	HEA	--:-- HEA
--:--	HEA	--:-- HEA

To switch the heating to the COMFORT mode, choose COM. To switch the heating to the ECO mode, choose ECO. To switch to the Normal mode, choose HEA or COL. To switch off the heating, choose OFF.

MON	Copy	DELETE
00:00	HEA	--:-- COM
02:00	COM	--:-- COM
--:--	COM	--:-- COM

When you set the schedule you can use the key [MENU] (MENU) to return to the menu.
The set schedule can be copied to the following day by using the following steps:

Use the key [∨] to navigate to Copy which starts blinking. Press the key [OK] (ENTER).

MON	Copy	DELETE
00:00	OFF	13:00 COM
02:00	COM	17:00 HEA
07:00	ECO	21:00 OFF

The controller displays the question whether you would like to copy the currently chosen schedule to the following day. To confirm, press key [OK] (ENTER). If you do not want to confirm, press key [MENU] (MENU).

```
***************************
*        ? COPY ?         *
*        TUESDAY          *
***************************
```

Use this method to copy the schedule for all days of the week.

TUE	Copy	DELETE
00:00	OFF	13:00 COM
02:00	COM	17:00 HEA
07:00	ECO	21:00 OFF

To delete the schedule for a chosen day, follow the below steps:

Use the key [∨] to navigate to delete, which starts blinking. Press the key [OK] (ENTER).	TUE Copy DELETE 00:00 HEA --:-- HEA --:-- HEA --:-- HEA --:-- HEA --:-- HEA
The controller displays the question whether you would like to delete the currently chosen schedule. To confirm, press key [OK] (ENTER). If you do not want to confirm, press key [MENU] (MENU).	********** * ? DELETE ? * **********
You have now deleted all the settings for the chosen d The chosen day displays settings of the previous day.	TUE Copy DELETE 00:00 OFF 13:00 COM 02:00 COM 17:00 HEA 07:00 ECO 21:00 OFF

After performing the setting you can use the key [MENU] (MENU) to return to the menu.

Alternative source

NOTE

For this function and to display the menu Alternative source on the TERMOTRONIC controller you need the extension regulation with the input-output module TT3003.

The alternative source function uses the heat from the solar collectors (SSE) or for using heat from the biomass DHWs. Settings related to this function can be set in the Alternative Source menu. Heating the DHW initiates when temperature of the alternative source reaches the value for parameter Dif.Min. Heating the DHW continues until the SetTemp. value is reached.
When heating initiates, the setting of the parameter Prior.DHW is enabled. When the Set.Temp has been reached, the buffer tank starts heating. After the water attains the maximum temperature in the buffer tank, the heating of the DHW resumes until it reaches the Set.Temp. However, if the temperature of the alternative source is higher than that of the buffer tank, the heating continues until it reaches the Max.Temp.
When the buffer tank and DHW reach the maximal temperature, heating with the alternative source stops.
In case the temperature of the alternative source reaches the temperature of protection (parameter protection), a signal turns on which can control the users to lower the temperature of the alternative source.

NOTE

We recommend keeping the settings set by the authorized contractor.

1 Press key [MENU] (MENU) in the basic menu. In the user menu choose the menu Alternative source with the key [∨] and press the key [OK] (ENTER).

> **Alternative source** <
Backup source
Mode
Temperatures

Programme for drying screeds

The controller has a built in function of gradual drying of screeds which is especially important for new buildings and before installing flooring.
Before using the programme for drying screeds you have to consult the contractor for screeds. According to his requirements you can use the standard programme or adjust it.
The programme for drying screeds is located in the menu mode.

- **Standard programme**
  This programme consists of 8 steps and is normally adjusted for all systems of floor heating. Before activating this programme you have to set the maximal allowed temperature of the return water, i.e. 30 °C.

Steps 1-4: Heating
Step 5: Maintaining the reached temperature
Steps 6-8: Cooling

Steps 1 to 4 perform the heating operation which last 24 hours each (parameter 'Step') totaling up to 96 hours.
The value that has been set for the parameter ‘Maximal’ can be attained in 4 steps provided the initial temperature for each step is set at 20 °C (parameter ‘Initial’). If the temperature of each step reaches the Maximal value before the time limit of 24 hours, the device maintains this temperature for the remaining time.
In Step 5, the value for the parameter 'Maximal' is maintained for additional 264 hours (parameter Duration). After this time, the remaining steps can be performed.
Steps 6 to 8 perform the cooling operation exactly in the reverse direction of the Heating operation. Each step lasts 24 hours totaling up to 72 hours. During this time, the temperature of the return water decreases from the set Max.Temp of 20 °C (parameter Final).

Example:
The maximal temperature of return water is 30 °C.
Steps 1 to 4: 20/23,3/26,6/30 °C – in 96 hours
Step 5: 30 °C - constant temperature for 264 hours
Steps 6 to 8: 26,6/23,3/20 °C – in 96 hours

1 In the user menu choose the menu Mode using the key [∨] and press the key [OK] (ENTER).	> Mode < Temperatures
2 Choose the Screed drying parameter by pressing [∨] and [OK] (ENTER) key.	Mode AUTO >Screed drying NO< Initial 20°C Maximum.....30°C

3 The chosen parameter is displayed within * *. Choose the parameter Yes by pressing [∨] and confirming by pressing the [OK] (ENTER) key. You have thus turned on the operation of the mode Screed drying.

```
 Mode                AUTO
*Screed drying       YES *
 Initial             20°C
 Maximum.....................30°C
```

4 Other parameters of the programme for Screed drying can be changed with the same procedure. For returning to the basic view press the key [MENU] (MENU) twice.

```
 Maximum.....................30°C
 Step........................... 24 h
 Maintaining         264 h
>Final               20°C <
```

Meters for operating hours

To view the operating hours for individual components go to the main menu and press the key under [∨] consecutive no.1 in the table below. If you would like to view other parameters listed in the table below use the key [∨] to navigate to it.

Cons. No.	Parameters of operating hours view	Parameter description
1	**Comp.HEAT.[h]: 0** **Comp.COOL.[h]: 0** **Comp.DHW [h]: 0** **D: 0 D-1: 0**	Operating hours for compressor in heating. Operating hours for compressor in cooling. Operating hours for compressor in heating DHW. D: Operating minutes of the current day. D-1: Operating minutes of the previous day.
2	**HeatSource [h]: 0** **AdHeater 1[h]: 0** **AdHeater 2[h]: 0** **MainPump.[h]: 0**	Operating hours of the heat source (ventilator, submersible pump). Operating hours of the auxiliary source 1 (flow electric heater). Operating hours of the auxiliary source 2 (external backup source). Operating hours of the main circulation pump.
3	**Passive [h]: 0** **Alt.Sourc [h]: 0** **Comp.Heata.[s/d]: 0** **Comp.CooL. [s/d]: 0**	Operating hours of passive cooling. Operating hours of backup source. Number of daily power-on of the compressor in heating. Number of daily power-on of the compressor in cooling.
4	**Comp.DHW [s/d]: 0** **Defrost [s/d]: 0**	Number of daily turn-on for compressor in heating DHW. Number of daily power-on of the compressor in defrost.

Setting the date, hour and day of the week

In case of incorrect time and date on the TERMOTRONIC controller, follow the steps below:

1 Press key [∨] in the basic menu.	**Standby.....** **Heating.....35.5°C** **Return 32.3°C** **DHW 49.0°C**
2 Press key [∨] until the display shows the following: To change the year press key [OK] (ENTER).	**DHW OFF** **T outside 10°C** **HT60 OFF** **2017/03/03 13:45 Mon**
3 The selected value 2017 starts blinking. Now use key [∧] or [∨] to choose the proper value and press key [OK] (ENTER). Now you can adjust the month 03, day 01, name of the day using the same procedure as you did by setting the year. For returning to the home screen press the key [MENU] (MENU) twice.	**DHW OFF** **T outside 10 °C** **HT60 OFF** **2017/03/03 13:45 Mon**

Remote turn on/off

The basic regulation enables remote turn off via an external signal. After a new external signal the device operates in the state before shut down.

NOTE

External turn off can be performed only in case the device was fitted with an externally controlled switch upon installation.

PV signal

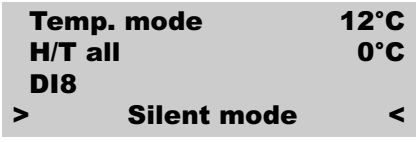
The PV signal can be turned on in the menu mode with the parameter D8-PV. It allows factory and user settings:

- The factory control setting enables the control of the temperature operating mode. This means that in the case of the winter mode (heating) you can turn on cooling. The parameter is set to D8-PV Cooling. It is most often used in combination with photovoltaic systems.
- The user control setting with parameters D8-PV Rise 1, 2, 3 ... enables the parameters listed below to raise various operating modes and with it to change the temperature of the mode:
  a) Rise 1: Comfort mode for the buffer tank.
  b) Rise 2: Comfort mode for the DHW.
  c) Rise 3: Comfort mode for the circuits.
  d) Rise 4: Comfort mode for the buffer tank and circuits.
  e) Rise 5: Comfort mode for the DHW and circuits.
  f) Rise 6: Comfort mode for the buffer tank and DHW.
  g) Rise 7: Comfort mode for the buffer tank, DHW and circuits.

Silent operation mode

Devices enable two additional operation modes set in the menu Mode with the parameter Silent mode: The setting NRM switches the mode of operation into normal heating or cooling mode. The setting LOW lowers the parameters of power and noise of the device in the heating or cooling mode. The time and day of operation for these two parameters can be adjusted in a similar manner as the schedule. The lowered frequency of operation of the device means that the compressor and ventilators will operate with a lower power .Consequently, this results in operating the device with a low noise and less power consumption.

1 In the menu mode use the key [∨] to choose the parameter Silent mode. When the symbols > < appear next to the parameter Silent mode, press the key [OK] (ENTER).



2 The day blinks which the schedule refers to. Choose the day you would like to set the schedule by using keys [∧] or [∨] . When you choose the day press the key [OK] (ENTER).

User menus and parameters

NOTE

The display of the TERMOTRONIC controller interface shows only those menus dependent on the type of device that were actually activated during the start-up of the device.

Menu structure

Basic menu	Parameter name	Adjustable value	Scope [°C]	Parameter description
HEATING				
	C/W	I		By setting this parameter, we can raise/lower the temperature for up to 4 temperature steps. Example: I>> means that the currently set temperature of the circuit (the setting in the parameter Normal) is raised for 2 temperature steps.
	Schedule			For settings, see chapter(schedules)
	Normal	19.9	19.9…max.	The desired temperature of heating in the Normal mode of operation.
	Eco	-2.0	-10.0…0.0	Lowering the desired temperature in the Eco mode of operation.
	Comfort	2.0	0.0…10.0	Raising the desired temperature in the Comfort mode of operation.
	Standby	3.0	0.0…10.0	By setting this parameter, we change the desired temperature of the restarted device with the parameter Hysteresis from 0 °C to 10 °C. Example: The parameter Heating is 56 °C. The device will be in standby from 53 °C to 56 °C.
	Const. Temperature	50		Heating with constant temperature “Const. Temperature” or optimised heating according to external temperature “Heating Curve” OG. MK.
	Correction	5.0	0.0…15.0	The correction of the breaking point of the weather curve at +15 °C.
COOLING	**Parameter name**	**Adjustable value**	**Scope [°C]**	**Parameter description**
	Schedule			For settings see chapter(schedules)

	Normal	19.9	10.0…19.9	The desired temperature of cooling in the Normal mode of operation.
	Eco	-2.0	0.0…10.0	Lowering the desired temperature in the Eco mode of operation.
	Comfort	2.0	-10.0…0.0	Raising the desired temperature in the Comfort mode of operation.
	Standby	3.0	0.0…10.0	By setting this parameter we change the desired temperature of the restarted device with the parameter Standby from 0 °C to 10 °C. Example: The parameter Cooling is set to 23 °C. The device will be in standby from 20 °C to 23 °C.
The parameters are adjusted only in case of active cooling.				
	T.outside min	20	0.0…55.0	Setting the external temperature above which the cooling will activate.
	Max	40	0.0…55.0	Setting the external temperature at which the cooling will deactivate.
1. CIRCUIT/ 2. CIRCUIT/ 3. CIRCUIT/ 4. CIRCUIT	**Parameter name**	**Adjustable value**	**Scope [°C]**	**Parameter description**
	C/W	I		By setting this parameter we lower the temperature for up to 4 °C or raise it for up to 4 °C. Example: I>> means that the currently set temperature of the circuit (the setting in the parameter Normal) is raised for 2 °C.
	Schedule			For settings see chapter (Schedules)
	Normal	19.9	19.9…max.	By setting this parameter we change the desired temperature in the Normal operating mode of the HP.
	Eco	-2.0	-10.0…0.0	By setting this parameter we change the desired temperature in the ECO operating mode of the HP.
	Comfort	2.0	0.0…10.0	By setting this parameter we change the desired temperature in the Comfort operating mode of the HP.
	Hysteresis	2.0	0.0…10.0	By setting this parameter we change the desired temperature of the Hysteresis parameter of the mixing valve from 0 °C to 10 °C. Example: The parameter Hysteresis is 50 °C. The mixing valve will be in standby from 48 °C to 52 °C.
	Const. temperatur	50		Heating with constant temperature Const. Temperature or optimised heating according to external temperature Heating Curve.

	Correction	5.0	0.0…10.0	The correction of the breaking point of the weather curve at +15 °C. By setting this parameter you change the desired temperature of Correction.
	In space	22.0		Desired room temperature which can be set from 17 to 27 °C.
	Stan.space	0.5	0.1…2.0	Standby with regulation of the room temperature.
DHW	**Parameter name**	**Adjustable value**	**Scope [°C]**	**Parameter description**
	DHW	OFF	25.0…55.0	By changing the parameter OFF to the selected temperature i.e. of 40 °C you turn on the DHW.
	Hysteresis	7.0	0.0…10.0	By setting this parameter we change the desired temperature Hysteresis of the device which means again turning on the heating of DHW in the DHW. Example: The parameter Hysteresis is 7 °C. The water temperature in the DHW falls from 40 °C to 32 °C and heating of the DHW turns on again.
	Schedule			For settings seechapter(schedules)
	Circulation Sched.			By setting this parameter we enable the circulation of the water. See chapter (Schedules) for settings, the settings are similar to the ones for the schedule.
	TD	60		The heating temperature for preventing the development of legionella.
	TD Every	OFF		By changing the parameter OFF to 1...99 days we turn on the thermal disinfection of water performed every 1...99 days.
	Start at	0:00		Setting the start of thermal disinfection (from 00:00 to 21:59). If the electrical heater is integrated we recommend the use of this function during the night so as not to interfere with the heating.
	Maximum	2		Maximal allowed time of DHW heating [1…4 hours]. In case of an internal flow electric heater the max. time is 12 h, in case of a heater installed in the DHW, the heating can continue simultaneously.
	Eco	-2.0	-10.0…0.0	By setting this parameter we change the desired temperature in the ECO operating mode of the HP
	Comfort	2.0	0.0…10.0	By setting this parameter we change the desired temperature in the Comfort operating mode of the HP.
	Alarm unde	30,0	25,0…50,0	Set an alarm for minimum temperature of water in DHW The controller reports failure if the temperature od DHW does not reach the set temperature three times in a row.

	Max ope.	600	0…999	The maximum operating time of DHW
	Time sta.	30	0…999	The standby state of DHW
ALTERNATIVE SOURCE	Setting heating and DHW support with the alternative source (solar collectors, solid fuel DHW ...). Display and configuration options if the alternative source is active (an expansion module is necessary).			
	Parameter name	**Adjustable value**	**Scope [°C]**	**Parameter description**
	---Heating---			Setting heating support. Additional sensor in the buffer tank.
	Set. Temp.	60	7.0…20.0	Setting the desired temperature in the buffer tank.
	Dif. Temp.	15	7.0…20.0	Min. difference between the temp. of the buffer tank and temp. of the alternative source to turn on the HP-AOG of the alternative source.
	Max. Temp.	80	60.0…90.0	Max. allowed temperature in the buffer tank up to which heating will be performed if the alternative source will have a high enough temperature.
	Min. temp.	40	20.0…70.0	The minimal temperature up to which the alternative source will heat the buffer tank.
	---Water heater ---			Settings for heating support for DHW. The DHW sensor is used (basic module).
	Set. Temp.	60	20.0…80.0	Setting the desired temperature in the DHW.
	Dif. Temp.	15	7.0…20.0	Min. difference between the temp. of the DHW and temp. of the alternative source to turn on the HP-AOG of the alternative source.
	Max. Temp.	70	60.0…90.0	Max. allowed temperature in the buffer tank up to which heating will be performed if the alternative source will have a high enough temperature.
	Min. Temp.	40	20.0…70.0	The minimal temperature up to which the alternative source will heat the DHW.
	---Common---			
	Prior. DWH	YES	100.0...120.0	By choosing the parameter YES heating of the DHW will begin first, followed by heating.
	Cooling	100	1.0…5.0	Temp. of the alternative source above which cooling is performed.
	Cooled for	5		By how many °C to cool the backup source.
	Dif. Min.	5		The min. difference between the temperature of the alternative source and the temp. of the buffer tank or temp. of the DHW for heating to continue.

	Protection	100	100.0...130.0	Setting the temperature for activating the signal which the users lowering the temperature of the alternative source can be connected to.
	DHW from alternat.	ALT		Heating the DHW directly from the alternative source or the buffer tank [ALT,CON].
ADDITIONAL SOURCE	**Parameter name**	**Adjustable value**	**Scope [°C]**	**Parameter description**
	Switch o	Need		Mode of turning on the alternative source [Never, Need or constant].
	Bi-Point	-7.0	-30.0…40.0	Bivalent point. Set outside temperature at which the additional source is activated.
	Delay	30		[0…180] Start-up delay for the additional source despite reached bivalent point.
	Mode	Parallel		[parallel, alternative] Mode of additional source operation.
	Raise for	5.0	0.0…20.0	Raising the heating temperature with auxiliary operation.
	AddSourceOnly	NO		By changing the parameter from NO to YES you can turn on the operation of the backup source (flow el. Heater) in case of a malfunction of the cooling part of the device.
	DHW	45.0	20.0…50	Turn on/off and temperature settings of DHW heating with the backup source.
	AntiFreeze	25	10.0…60.0	The antifreeze program maintains the temperature in the system using the backup source in case of a malfunction of the device. This is not true for the TZ malfunction (this temperature is adjustable).
	Remote switch	OFF		Turning on the additional source with remote turn-off.
	-Prot.w. AddSource-			**Protection the heating system with a backup source.**
	AS-on under	18.0	10.0…50.0	Turning on under 18 °C of the return.
	AS-off above	20.0	10.0…50.0	Turning off above 20 °C of the return.
	Delay	300		Delay of the turning on of the supply pipe.
	Immt. under	-10.0		Direct turn on of additional source under this temperature.
	AS at DHW	NO		In the event of a fault on external unit, the selected additional source is activated to ensure the DHW temperature.
MODE	**Parameter name**	**Adjustable value**	**Scope [°C]**	**Parameter description**
	Mode	Winter		Changing the operating mode [Summer, AUTO, Winter].

	Screed drying	NO		Turning on the programme for Screed drying [YES, NO].
	Initial	20.0	10.0…50.0	Changing the initial temperature.
	Maximum	30.0	10.0…50.0	Setting the highest temperature up to which the screeds can be heated.
	Step	24		Setting the operating hours for the step [10…24] h
	Duration	264		Maintaining the maximal temperature reached [100…264..1000h].
	Final	20.0	10.0…50.0	End temperature.
	1. Circ.	Thermostat		Choosing the regulation for 1. Circuit, turned on via the set value of the thermostat [Thermostat], the spatial corrector [KT-1/KT-2] or constantly on [ON] or off [OFF].
	2. Circ.	Thermostat		Choosing the regulation for 2. Circuit, turned on via the set value of the thermostat [Thermostat], the spatial corrector [KT-1/KT-2] or constantly on [ON] or off [OFF].
	3. Circ.	Thermostat		Choosing the regulation for 3. Circuit, turned on via the set value of the thermostat [Thermostat], the spatial corrector [KT-1/KT-2] or constantly on [ON] or off [OFF].
	4. Circ.	Thermostat		Choosing the regulation for 4. Circuit, turned on via the set value of the thermostat [Thermostat], the spatial corrector [KT-1/KT-2] or constantly on [ON] or off [OFF].
	Reduced	NO		I case the change of the parameter to YES the device will operate in a lowered ECO mode during heating/cooling.
	Operation	AUTO		The change of the mode for the whole system [AUTO, ECO, COMFORT].
	Mode HP	ON		Turn on [ON], off [OFF] and [AUTO] modes of setting the parameters. Only when choosing AUTO operation mode you can set the schedule for individual parameters. In case the parameters are set to ON the parameter will be turned on but you will be unable to change the schedule.
	Mode DHW	AUTO		
	Mode 1. Circ.	AUTO		
	Mode 2. Circ.	AUTO		
	Mode 3. Circ.	AUTO		
	Mode 4. Circ.	AUTO		
	Mode Temp.	12		The temperature at which the mode changes 3x in a row in case of the AUTO mode at 21:00
	C/W ALL	0		The correction of the current desired temperature of the device and all circuits in the step towards + or -.

	D8-PV	Rise 1		The buffer tank will switch to the Comfort mode upon the signal from outside.
	Silent mode	NRM		The device operates in the normal mode. In case of the NRM parameter the power of heating and cooling lowers.
	Language	EN		This parameter sets the desired language Of the controller.
	Model	124		This parameter sets which model of ODU is installed. Choose 124 for 9 kW model and 125 for the 14 kW model.
Temperatures	**Parameter name**	**Adjustable value**	**Scope [°C]**	**Parameter description**
	Flow	28.0 °C		The current temperatures of individual sensors are shown. The number of sensors depends on your heating system.
	Return	36.1 °C		
	DHW	48.0 °C		
	Compressor	11.5 °C		
	Evaporator	16.5 °C		
	T outside	-5.0 °C		
	2. Circuit	27.0 °C		
	3. Circuit	29.0 °C		
	4. Circuit	27.0 °C		
	Alt. Buff t.	45.2 °C		
	Alt. Source	16.7 °C		
	Gas	59.4 °C		
	Liquid	25.1 °C		

Information display of operation

The controller interface TERMOTRONIC displays information about the device on its main display at any time. The information is described in Line 2 and Line 2. The information about the device can also be displayed in the DIAGNOSTICS DISPLAY.

Line 1	
Line 2	
Return	**32.3°C**
DHW	**49.0°C**

The following information is displayed in Line 1:

Status of the device		
--- ALARM DHW ----	DHW-Res.source.....	--MODULE 1 - ALARM--
-> Checking:	ERROR**NO WATER*	--MODULE 2 - ALARM--
-- ALARM RTC-FAIL --	ERROR ..Sensor..... 1	--MODULE INV ALARM--
Caution flow :	ERROR..Thermostat... 1	----Overheating-----
Cooling + DHW	Heating + DHW	--REMOTE--SHUT-OFF--
Cooling.....	Heating - Biv.Alt.	-- RESET MODUL 1 ---
DEFROST	Heating + Add.source	-- RESET MODUL 2 ---
Defrost T.Flow ALARM	Heating.....	Screed drying.....
DHW - Biv.Alt.	Heating-Res.source..	ScreedDry+Add.source
DHW + Add.source	HP STOP.....	Standby.....
DHW.....	INV Error	

The following information is displayed in Line 2:

Line 2	**Description**
Cooling [OFF / 22.0 °C]	The device is operating in the cooling mode; set point of cooling water is written right.
Heating [OFF / 45.0 °C]	The device is operating in the heating mode; set point of heating water is written right.
Heating FP PROG	The device is operating in the anti-freeze programme (back-up operation) which is activated in case of alarm on the device. The device maintains the temperature set with the parameter Antifreeze.

Diagnostic displays

If you would like to check the current status of the device or check why it is malfunctioning, follow these steps:

1 For accessing diagnostics on the home screen, press key [∨] until the display on the left is displayed. Press the key [OK] (ENTER) to enter the menu SERVICE DISPLAY.

```
 - DIAGNOSTIC - DISPLAY -
I              IN          I
I              IN          I
------------------ IN ------------------
```

Depending on the current operation the display shows you various parameters.

2 Com: Delayed start-up of the ODU.

BDV: Max. temp. of the outlet water.

AT: For service technician, only.

AI5: For service technician, only.

Info. line 1: Display of blockages (here all possible blockages are displayed for protection the HP listed in the table below).

Info. line 2: Display of warnings (here light alarms of the HP listed in the table below).

```
Com: 0s                AT:0s
BDV: 0s                AI5:0'
Information line 1
Information line 2
```

Display of the state of the device

NOTE

Some of the state of the device that are displayed in the information line 1 can also be displayed in the information line 2.

INFORMATION LINE 1	Parameter description
--- ALARM DHW ----	The device was unable to heat the water higher than the min. set value for 3 times.
-- ALARM RTC-FAIL --	Real time clock error.
Comp. start in	Delayed start-up of compressor.
CompProtection	Compressor blockage - protection against too frequent start-ups.
Cooling + DHW	The device operates in the cooling mode parallel to heating of DHW.
Cooling.....	The device operates in the cooling mode (only in summer mode).
Defrost T.Flow ALARM	Alarm; the water temperature of the return during defrost was too low.
DHW - Biv.Alt.	The device operates simultaneously with the heat source (the compressor and additional source simultaneously). Switching on the additional source is described in the section Switching on the additional heat source.
DHW + Add.source	The device operates simultaneously with the heat source (the compressor and additional source simultaneously). Switching on the additional source is described in the section Switching on the additional heat source.
DHW.....	The device heats DHW.
DHW-Res.source.....	The device operates in service mode. The DHW is heated in auxiliary mode with the help of the auxiliary flow electric heater source.
ERROR **NO WATER*	The warning pops up if there was no water at start-up for 3 times.
ERROR ..Sensor.....	Alarm; one of the sensors is not connected or is damaged.
ERROR..Thermostat...	Alarm; one of the thermostat is not connected or is damaged.
Heating + DHW	The device operates in the heating mode parallel to the electric heater which is installed into the IDU for heating DHW.
Heating - Biv.Alt.	The device operates simultaneously with the heat source (the compressor and additional source simultaneously). Switching on the additional source is described in the section Switching on the additional heat source.
Heating + Add.source	The device operates simultaneously with the heat source (the compressor and additional source simultaneously). Switching on the additional source is described in the section Switching on the additional heat source.
Heating.....	The device operates in the heating mode (only in winter mode).
Heating-Res.source..	The device operates in service mode. The heated water is heated in auxiliary mode with the help of the auxiliary flow electric heater source.
HP STOP.....	The operation of the device is shut down (including circuit control).

INV Error	Number of external device error.
--MODULE 1 - ALARM--	Communication disruption module 1.
--MODULE 2 - ALARM--	Communication disruption module 2.
--MODULE INV ALARM--	Communication disruption outdoor unit.
--REMOTE--SHUT-OFF--	HP STOP via digital input D5.
-- RESET MODUL 1 ---	Reset of the module 1.
-- RESET MODUL 2 ---	Reset of the module 2.
Screed drying.....	The program for drying screeds is activated.
ScreedDry+Add.source	The device operates simultaneously with the heat source (the compressor and additional source simultaneously). Switching on the additional source is described in the section Switching on the additional heat source.
Standby.....	The device is in standby mode because there is no need for heating/cooling or it is in protection mode.

INFORMATION 2	Parameter description
..Shutdown at.	Minimal time of compressor operation. After this time in case the conditions for the shut down are met, it is enabled.
Caution ! Flow!....	There is no or not enough water flow through heat pump. If there is no or not enough water flow through HP for 120 s, the HP goes in Stand-by for 10 min. After 10 min the HP will try again, if this problem occurs three times in a row, the HP goes into Alarm.
Caution flow :	There is no or not enough water flow through heat pump. If there is no or not enough water flow through HP for 120 s, the HP goes in Stand-by for 10 min. After 10 min the HP will try again, if this problem occurs three times in a row, the HP goes into Alarm.
CAUTION.....Min Flow	The outlet water temperature has fallen below the minimum factory setting.
DEFROST	The device is in the evaporator defrost mode.
Defrost T.Flow ALARM	Alarm; the water temperature of the return during defrost was too low.
INV Error	Number of external device error.
----Overheating-----	A thermal disinfection of DHW is being conducted (reheating).
Temp.check Ret	The main circulation pump is activated, it checks the temperature of the return.
Estrih timer :	The screed drying mode is activated, the timer shows the time of the program's operation.

Disruptions in operation, alarms and troubleshooting

After instalment and successful commissioning the device is ready for regular operation.
The operation of the device is protected by multiple protection mechanisms:

In case of disruptions in the operation, firstly check whether the display displays an error message. Search for the description of the malfunction in the table below and try to resolve it in accordance with the instructions in chapter 'Troubleshooting'. In case you cannot resolve the malfunction by yourself or you are forbidden from doing so, act according to the instructions 1., 2., and 3., to resolve the malfunction listed in the warranty. Contact the installer who installed your device to resolve the malfunction. In case the malfunction cannot be resolved, the installer will escalate it to the respective personnel.

NOTE

In case of a malfunction the display displays a red alarm light (ALARM).

Troubleshooting

If you encounter any errors as described in the table below, follow the procedure to resolve it.

NOTE

In case you cannot resolve the malfunction by yourself or you are forbidden from doing so, act according to the instructions 1., 2., and 3., to resolve the malfunction listed in the warranty.

Error	Description of error	Reason for the error	Procedure to resolve the error	Check, resolve the error
NO WATER	There is insufficient flow of medium (water) between HP and the heating system.	Insufficient water flow through the condenser/evaporator.	1. Check the heating system if the circulation pump is working or if all valves and flaps are correctly opened/closed,	The user
			2. Clean the strainer,	The user
			3. Fill out the system (1.5–2 bar),	The user
			4. Vent the system.	The user
SENSORS.	Error on one of the sensors.	Error in data acquisition.	1. Disconnect the device from the power source and reconnect it in 10 minutes.	The user

Defrost T.Flow ALARM	The HP does not have enough energy to defrost.	The outlet water temperature (Flow)during defrost was too low.	1. Heat the buffer tank with the backup source (at least to 20 °C),	The user
			2. Turn on the buffer tank heating together with the heat pump and backup source,	The user
			3. Gradually turns on the heat extractors from the buffer tank (1 circuit at a time).	The user
ALARM DHW	The HP could not heat the DHW above the minimal value.	Insufficient water flow through the condenser. The sensor is not in its right place.	1. Check the heating system if the circulation pump is working or if all valves and flaps are correctly opened/closed,	The user
			2. Clean the strainer,	The user
			3. Fill out the system (1.5–2 bar),	The user
			4. Vent the system,	The user
			5. Check if the sensor is in its designated place.	Installer
ALARM RTC-FAIL	There is an error on the frequency oscillator on the PLC.	The frequency oscillator on the HP electronics is damaged.	1. A reset of the error is possible by pressing and holding ENTER for 3 seconds.	The user
			2. In case the reset does not correct the error an authorized service must be contacted.	Authorized maintenance worker

Maintenance and Service

Maintenance Activities

In order to ensure optimal availability of the unit, a number of checks and inspections on the unit and the field wiring have to be carried out at regular intervals, preferably yearly. This maintenance should be carried out by your local agreed technician.

When the unit is not Operating

⚠ CAUTION

- If the product is not used for long time, we strongly recommend NOT TO SWITCH OFF THE POWER SUPPLY to the product.
- If power is not supplied, some special product-protecting actions (such as water pump anti-locking) will not performed.

Call the service immediately in the following situations

1. In case anything unusual such as burning smell, loud noise etc. is detected, stop the unit and and turn OFF the breaker. Never try to repair by yourself or restart the system in such cases.
2. Main power cord is too hot or damaged.
3. Error code is generated by self diagnosis.
4. Water leaks from unit.
5. Any switch, breaker (safety, earth) or fuse fails to work properly.

User must carry routine checkup & cleaning to avoid unit's poor performance.
In case of special situation, only a Service Technician should be allowed to repair it.

Settings of your heating system at start-up

In case you need help from the installer who performed the installation or an authorized service, record the below info in the tables.

- Your designations of rooms you control with the parameters of the control interface TERMOTRONIC.
- The values of the parameters Normal and Correction which you have set for your heating system.
- The setting for the parameter (371) Buff.tank

The parameter in the heating mode

Type of circuit (circle it)	The set heating mode (circle it)	Conception of the circuits of the control interface TERMOTRONIC	Recommended set temperature			Your designations of rooms
			Normal	Correction	Hysteresis	
	Weather control/ maintaining constant temperature	Heating				
direct		1. Circuit				
direct/mixing		2. Circuit				
direct/mixing		3. Circuit				
direct/mixing		4. Circuit				

The parameter in the cooling mode:

Type of circuit (circle it)	Conception of the circuits of the control interface TERMOTRONIC	Recommended set temperature		Your designations of rooms
		Normal	Hysteresis	
	Heating			
direct	1. Circuit			
direct/mixing	2. Circuit			
direct/mixing	3. Circuit			
direct/mixing	4. Circuit			

Parameters for DHW:

Conception of the parameters of the control interface TERMOTRONIC	Recommended set temperature		Your designations of rooms
	Normal	Standby	
DHW			

Filled out by the authorized contractor for commissions:

Setting the parameter (371) Buff.tank at start-up (circle it)	
Buff.const	Buff.if needed
Designation of hydraulic wiring diagram (Catalogue of hydraulic wiring diagrams of the device manufacturer) according to which the wiring of the DHW room is implemented	

Search the Manual Using Your Mobile

1. After running a QR Code reader app in your Smartphone, red the QR Code below.

※ When installed, enter the model name and send it to the customer.

Sales Model Name (Indoor) :_____

Sales Model Name (Outdoor) :_____

2. Select the desired region.

3. Press the " 🔍 " on the top right and enter the model name.

4. Press "Support".

5. Press "Manual & Documents".

6. Select the manual that you want to see.

LG

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