OPERATION MANUAL

Unit for air to water heat pump system

EKCBX008BCV3
EKCBH008BCV3

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READ THIS MANUAL ATTENTIVELY BEFORE STARTING UP THE UNIT. DO NOT THROW IT AWAY. KEEP IT IN YOUR FILES FOR FUTURE REFERENCE.

The English text is the original instruction. Other languages are translations of the original instructions.

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.

WARNING

Before operating the unit, make sure the installation has been carried out correctly by a professional Daikin dealer.

If you feel unsure about operation, contact your Daikin dealer for advice and information.

1. DEFINITIONS

1.1. Meaning of warnings and symbols

Warnings in this manual are classified according to their severity and probability of occurrence.

DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTICE

Indicates situations that may result in equipment or property-damage accidents only.

INFORMATION

This symbol identifies useful tips or additional information.

Some types of danger are represented by special symbols:

Electric current.

Danger of burning and scalding.

1.2. Meaning of used terms

Installation manual:

Instruction manual specified for a certain product or application, explaining how to install, configure and maintain it.

Operation manual:

Instruction manual specified for a certain product or application, explaining how to operate it.

Maintenance instructions:

Instruction manual specified for a certain product or application, which explains (if relevant) how to install, configure, operate and/or maintain the product or application.

Dealer:

Sales distributor for products as per the subject of this manual.

Installer:

Technical skilled person who is qualified to install products as per the subject of this manual.

User:

Person who is owner of the product and/or operates the product.

Service company:

Qualified company which can perform or coordinate the required service to the unit.

Applicable legislation:

All international, European, national and local directives, laws, regulations and/or codes which are relevant and applicable for a certain product or domain.

Accessories:

Equipment which is delivered with the unit and which needs to be installed according to instructions in the documentation.

Optional equipment:

Equipment which can optionally be combined to the products as per the subject of this manual.

Field supply:

Equipment which needs to be installed according to instructions in this manual, but which are not supplied by Daikin.

2. General Safety precautions

The precautions listed here are divided into the following four types. They all cover very important topics, so be sure to follow them carefully.

DANGER: ELECTRICAL SHOCK

Switch off all power supply before removing the switch box service panel or before making any connections or touching electrical parts.

Do not touch any switch with wet fingers. Touching a switch with wet fingers can cause electrical shock. Before touching electrical parts, turn off all applicable power supply.

To avoid electric shock, be sure to disconnect the power supply 1 minute or more before servicing the electrical parts. Even after 1 minute, always measure the voltage at the terminals of main circuit capacitors or electrical parts and, before touching, be sure that those voltages are 50 V DC or less.

When service panels are removed, live parts can easily be touched by accident. Never leave the unit unattended during installation or servicing when the service panel is removed.

DANGER: DO NOT TOUCH PIPING AND INTERNAL PARTS

Do not touch the refrigerant piping, water piping or internal parts during and immediately after operation. The piping and internal parts may be hot or cold depending on the working condition of the unit.

Your hand may suffer burns or frostbite if you touch the piping or internal parts. To avoid injury, give the piping and internal parts time to return to normal temperature or, if you must touch them, be sure to wear protective gloves.

WARNING

- Never directly touch any accidental leaking refrigerant. This could result in severe wounds caused by frostbite.
- Do not touch the refrigerant pipes during and immediately after operation as the refrigerant pipes may be hot or cold, depending on the condition of the refrigerant flowing through the refrigerant piping, compressor, and other refrigerant cycle parts. Your hands may suffer burns or frostbite if you touch the refrigerant pipes. To avoid injury, give the pipes time to return to normal temperature or, if you must touch them, be sure to wear proper gloves.

CAUTION

Do not rinse the unit. This may cause electric shocks or fire.

3. Introduction

3.1. This manual

This manual describes how to start up and switch off the unit, set parameters and configure the schedule timer by means of the controller, maintain the unit and solve operational problems.

CAUTION

For "Checks before initial start-up" and "Initial start-up" procedures refer to the installation manual of this unit.

3.2. This unit

These units are used for both heating and cooling applications. The units can be combined with Daikin fan coil units, floor heating applications, low temperature radiators, domestic hot water tank (option) and solar kit (option).

Heating/cooling units and heating only units

The monoblock unit range consists of two main versions: a heating/cooling (uses EKCBX indoor unit) version and a heating only (uses EKCBH indoor unit) version.

Both versions are delivered optionally with a separate backup heater for additional heating capacity during cold outdoor temperatures. The backup heater also serves as a backup in case of malfunctioning of the unit and for freeze protection of the outside water piping during winter time.

- **Datacable** (obligatory option)

  The EKCOMCAB1 thermistor interconnection cable must be connected to allow communication between the indoor unit and outdoor unit.

- **Domestic hot water tank** (option)

  An optional EKHW* domestic hot water tank with integrated 3 kW electrical booster heater can be connected to the indoor unit. The domestic hot water tank is available in three sizes: 150, 200 and 300 litre. Refer to the domestic hot water tank installation manual for further details.

- **Solar kit for domestic hot water tank** (option)

  For information concerning the EKSOLHW solar kit, refer to the installation manual of that kit.

- **Digital I/O PCB kit** (option)

  An optional EKRP1HB digital I/O PCB can be connected to the indoor unit and allows:

  - remote alarm output
  - heating/cooling ON/OFF output
  - bivalent operation (permission signal for the auxiliary boiler)

  Refer to the operation manual of the indoor unit and to the installation manual of the digital I/O PCB for more information.

  Refer to the wiring diagram or connection diagram for connecting this PCB to the unit.

- **Bottom plate heater EKBPHT** (refer to the installation manual) (option)

- **Remote thermostat kit** (option)

  An optional room thermostat EKRTW, EKRTWA, or EKRTR can be connected to the indoor unit. Refer to the installation manual of the room thermostat for more information.

To obtain more information concerning these option kits, please refer to dedicated installation manuals of the kits.

4. Operating the unit

4.1. Introduction

The heat pump system is designed to provide you a comfortable indoor climate for many years at low energy consumption.

To get the most comfort with the lowest energy consumption out of your system, it is very important to observe the items listed below.

Defining possible schedule timer actions for each day and filling out the form at the very end of this manual can help you minimize the energy consumption. Ask your installer for support if required.

- Make sure the heat pump system works at the lowest possible hot water temperature required to heat your house.

  To optimize this, make sure the weather dependent set point is used and configured to match the installation environment. Refer to "Field settings" on page 13.
- It is advised to install a room thermostat connected to the indoor unit. This will prevent excessive space heating and will stop the unit and the circulation pump when the room temperature is above the thermostat set point.
- Next recommendations only apply to installations with an optional domestic hot water tank.
  - Make sure the domestic hot water is only heated up to the domestic hot water temperature you require.
    Start with a low domestic hot water temperature set point (e.g. 45°C), and only increase if you feel that the domestic hot water supply temperature is not sufficient.
  - Make sure the domestic water heating by booster heater only start 1 to 2 hours before you expect domestic hot water usage.
    In case you only need a lot of domestic hot water in the evening or in the morning, only allow domestic water heating by booster heater during early morning and early evening. Also keep hours with low electricity cost tariffs in mind.
    To do this, program both the domestic water heating and booster heating schedule timer. Refer to Programming in chapter "Programming and consulting the schedule timer" on page 9.

4.2. Operating the digital controller

Operating the unit comes down to operating the digital controller.

CAUTION

Never let the digital controller get wet. This may cause an electric shock or fire.

Never press the buttons of the digital controller with a hard, pointed object. This may damage the digital controller.

Never inspect or service the digital controller yourself, ask a qualified service person to do this.

Features and functions

The digital controller is a state of the art controller that offers full control over your installation. It can control a heating/cooling and a heating only installation.

Both installations are available in multiple versions which vary in capacity, electrical supply and installed equipment (with an optional domestic hot water tank with a booster heater).

- Descriptions in this manual that apply to a specific installation or that depend on the installed equipment, are marked with an asterisk (*).
- Some functions described in this manual may not be available or should not be available. Ask your installer or your local dealer for more information on permission levels.

Basic controller functions

The basic controller functions are:

- Turning the unit ON/OFF.
- Operation mode change-over:
  - space heating (refer to page 6),
  - space cooling (refer to page 6) (*),
  - domestic water heating (refer to page 6) (*).
- Selection of features:
  - quiet mode (refer to page 7),
  - weather dependent control (refer to page 7).
- Temperature set point adjustment (refer to page 7).

INFORMATION

(*) The functions 'space cooling' and 'domestic water heating' can only be selected when the corresponding equipment is installed.

The digital controller supports a power cut off of maximum 2 hours. When autorestart is enabled (see "Field settings" on page 13) this allows a power supply shut down of 2 hours without user intervention (e.g. benefit kWh rate power supply).

Clock function

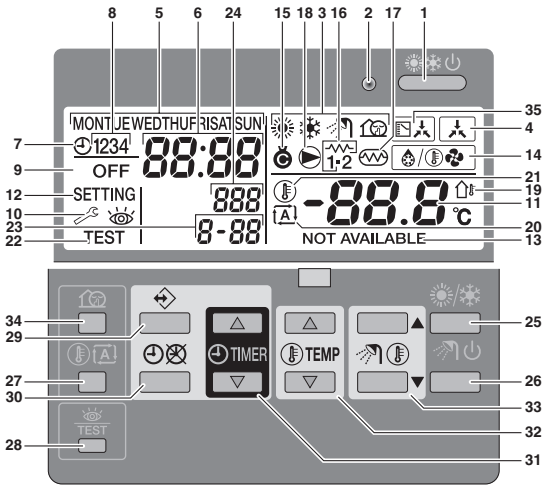
The clock functions are:

- 24 hour real time clock.
- Day of the week indicator.

Schedule timer function

The schedule timer function allows the user to schedule the operation of the installation according to a daily or a weekly program.

4.3. Name and function of buttons and icons



1. HEATING/COOLING ON/OFF BUTTON

   The ON/OFF button starts or stops the heating or cooling function of the unit.

   When the unit is connected with an external room thermostat, this button is not operable and the icon is shown.

   Pressing the ON/OFF button consecutively too many times may cause malfunction of the system (maximum 20 times per hour).

   INFORMATION

   Remark that pushing the button has no influence on the domestic water heating. Domestic water heating is only switched on or off by means of the button.

2. OPERATION LED

   The operation LED is lit during space heating or space cooling operation. The LED blinks if a malfunction occurs. When the LED is OFF, space heating or space cooling are inactive while the other operation modes can still be active.

3. OPERATION MODE ICONS

   These icons indicate the current operation mode(s): space heating, space cooling, domestic water heating or quiet mode. Within limits, different modes can be combined, e.g. space heating and domestic water heating. The corresponding mode icons will be displayed simultaneously.

   In a heating only installation, the icon will never be displayed.

   If the domestic hot water tank is not installed, the icon will never be displayed.

   If the solar option is installed and active, the icon will be blinking.

4. EXTERNAL CONTROL ICON

   This icon indicates that the room thermostat (optional) with higher priority is controlling your installation. This external room thermostat can start and stop the space heating/cooling operation and change the operation mode (heating/cooling).

   When the external room thermostat with a higher priority is connected, the schedule timer for space heating and space cooling will not function.

   When the benefit kWh power rate signal is sent, the centralised control indication will flash to indicate that benefit kWh power rate is active.

5. DAY OF THE WEEK INDICATOR MONTUEWEDTHUFRISATSUN

   This indicator shows the current weekday.

   When reading or programming the schedule timer, the indicator shows the set day.

6. CLOCK DISPLAY *88:88*

   The clock display shows the current time.

   When reading or programming the schedule timer, the clock display shows the action time.

7. SCHEDULE TIMER ICON

   This icon indicates that the schedule timer is enabled.

8. ACTION ICONS 1234

   These icons indicate the programming actions for each day of the schedule timer.

9. OFF ICON **OFF**

   This icon indicates that the OFF action is selected when programming the schedule timer.

10. INSPECTION REQUIRED and

    These icons indicate that inspection is required on the installation. Consult your dealer.

11. SET TEMPERATURE DISPLAY *-88.8*

    The display shows the current space heating/cooling set temperature of the installation.

12. SETTING SETTING

    Not used. For installation purposes only.

13. NOT AVAILABLE NOT AVAILABLE

    This icon is displayed whenever a non-installed option is addressed or a function is not available.

14. DEFROST/STARTUP MODE ICON

    This icon indicates that the defrost/startup mode is active.

15. COMPRESSOR ICON

    This icon indicates that the compressor in the outdoor unit of the installation is active.

16. BACKUP HEATER STEP ONE OR STEP TWO

    These icons indicate that the backup heater (if installed) is operating on low capacity () or on high capacity (). The backup heater provides extra heating capacity in case of low ambient outdoor temperature (high heating load).

17. BOOSTER HEATER ICON

    This icon indicates that the booster heater is active. The booster heater provides auxiliary heating for the domestic hot water tank.

    The booster heater is located in the domestic hot water tank.

    The icon is not used when the domestic hot water tank is not installed.

18. PUMP ICON

    This icon indicates that the circulation pump is active.

19. OUTDOOR TEMPERATURE DISPLAY

    When this icon is flashing, the outdoor ambient temperature is displayed.

20. WEATHER DEPENDENT SET POINT ICON

    This icon indicates that the controller will adapt the temperature set point automatically, based on the outdoor ambient temperature.

21. TEMPERATURE ICON

    This icon is displayed when the water outlet temperature of the indoor unit, the outdoor ambient temperature and the domestic hot water tank temperature are shown.

    The icon is also displayed when the temperature set point is set in schedule timer programming mode.

22. TEST OPERATION ICON TEST

    This icon indicates that the unit runs in test mode.

23. FIELD SET CODE *8-88*

    This code represents the code from the field set list. Refer to the "Field settings table" on page 18.

24. ERROR CODE *888*

    This code refers to the error code list and is for service purposes only. Refer to the error code list in the installation manual.

25. SPACE HEATING/COOLING BUTTON

This button allows manual switching between heating or cooling mode (provided the unit is not a heating only unit).

When the unit is connected with an external room thermostat, this button is not operable and the icon is shown.

26. DOMESTIC WATER HEATING BUTTON

This button enables or disables heating of the domestic water.

This button is not used when the domestic hot water tank is not installed.

INFORMATION

Remark that pushing the button has no influence on the domestic water heating. Domestic water heating is only switched on or off by means of the button.

27. WEATHER DEPENDENT SET POINT BUTTON

This button enables or disables the weather dependent set point function which is available in space heating operation only.

If the controller is set in permission level 2 or 3 (refer to "Field settings" on page 13), the weather dependent set point button will not be operable.

28. INSPECTION/TEST OPERATION BUTTON

This button is used for installation purposes and changing field settings. Refer to "Field settings" on page 13.

29. PROGRAMMING BUTTON

This multi-purpose button is used to program the controller. The function of the button depends on the actual status of the controller or on previous actions carried out by the operator.

30. SCHEDULE TIMER BUTTON

The main function of this multi-purpose button is to enable/disable the schedule timer.

The button is also used to program the controller. The function of the button depends on the actual status of the controller or on previous actions carried out by the operator.

If the controller is set in permission level 3 (refer to "Field settings" on page 13), the schedule timer button will not be operable.

31. TIME ADJUST BUTTON and

These multi-purpose buttons are used to adjust the clock, to toggle between temperatures (refer to "Displaying actual temperatures" on page 8) and in schedule timer programming mode.

32. TEMPERATURE ADJUST BUTTONS and

These multi-purpose buttons are used to adjust the current set point in normal operation mode or in schedule timer programming mode. In weather dependent set point mode the buttons are used to adjust the shift value. Finally, the buttons are also used to select the weekday while setting the clock.

33. DOMESTIC HOT WATER TEMPERATURE ADJUST BUTTONS and

These buttons are used to adjust the current set point of the domestic hot water temperature (only for [4-03]=0, 1, 2, or 3).

These buttons are used to adjust the current storage set point of the domestic hot water temperature (only for [4-03]=4).

The buttons are not used when the domestic hot water tank is not installed.

NOTICE

The setting [4-03] shall not be modified. The installer selected the proper setting for your application.

INFORMATION

The status of this setting is only mentioned to indicate which settings and functions are applicable for your application.

34. QUIET MODE BUTTON

This button enables or disables quiet mode.

If the controller is set in permission level 2 or 3 (refer to "Field settings" on page 13), the quiet mode button will not be operable.

35. BIVALENT FUNCTION ACTIVE

This icon indicates that the bivalent function permission signal is active.

4.4. Setting up the controller

After initial installation, the user can set the clock and day of the week.

The controller is equipped with a schedule timer that enables the user to schedule operations. Setting the clock and day of the week is required to be able to use the schedule timer.

Setting the clock

1 Hold down the button for 5 seconds.

The clock read-out and the day of week indicator start flashing.

2 Use the and buttons to adjust the clock.

Each time the or button is pressed, the time will increase/decrease by 1 minute. Keeping the or button pressed will increase/decrease the time by 10 minutes.

3 Use the or button to adjust the day of the week.

Each time the or button is pressed the next or previous day is displayed.

4 Press the button to confirm the current set time and day of the week.

To leave this procedure without saving, press the button.

If no button is pressed for 5 minutes the clock and day of the week will return to their previous setting.

INFORMATION

The clock needs to be set manually. Adjust the setting when switching from summertime to wintertime and vice versa.

Setting the schedule timer

To set the schedule timer, refer to chapter "Programming and consulting the schedule timer" on page 9.

4.5. Description of the operation modes

Space heating operation (☼)

In this mode, heating will be activated as required by the water temperature set point. The set point can be set manually (refer to "Manual operation" on page 7) or weather dependent (refer to "Selecting weather dependent set point operation (only in heating mode)" on page 7).

Startup (♨/◑/❄)

At the start of a heating operation, the pump is not started until a certain refrigerant heat exchanger temperature is reached. This guarantees correct startup of the heat pump. During startup, icon ♨/◑/❄ is displayed.

Defrost (♨/◑/❄)

In space heating operation or heat pump domestic water heating operation, freezing of the outdoor heat exchanger may occur due to low outdoor temperature. If this risk occurs, the system goes into defrost operation. It reverses the cycle and takes heat from the indoor system to prevent freezing of the outdoor system. After a maximum of 8 minutes of defrost operation, the system returns to space heating operation.

Space cooling operation (❄)

In this mode, cooling will be activated as required by the water temperature set point.
The set point can be set manually (refer to "Manual operation" on page 7) or weather dependent (refer to "Selecting weather dependent set point operation (only in heating mode)" on page 7).

INFORMATION

- Switching between space heating and space cooling operation can only be done by pressing the ☼/❄ button or by the external room thermostat.
- Space cooling operation is not possible if the installation is a "heating only" installation.

Domestic water heating operation (◑)

Only for [4-03]=0, 1, 2, or 3

In this mode, the indoor unit will heat up the domestic hot water tank by heat pump when the space heating/space cooling operation has reached its temperature set point or heat pump domestic water heating has a higher demand request than space side (depends on dipswitch setting). When necessary and when allowed by the booster heater schedule timer (refer to "Programming quiet mode, booster heating or domestic water heating" on page 11), the booster heater provides auxiliary heating for the domestic hot water tank.

INFORMATION

- In order to provide domestic hot water throughout the day, it is advised to keep the domestic water heating operation on continuously.
- The domestic hot water water temperature set point can only be set manually (refer to "Manual operation" on page 7).
- Any domestic water heating operation is impossible when the domestic hot water tank is not installed.

When the ◑ icon is blinking, the domestic hot water is heating up by the solar kit option and not by the indoor unit. Refer to installation manual of the EKSOLHW solar kit. (only if [4-03]=4 or 5)

Only for [4-03]=4

In this mode, the indoor unit will heat up the domestic hot water tank.

There are several modes for heating up the domestic water tank:

1. Storage
   - Scheduled
     The unit will heat up the domestic water tank starting from a scheduled time and untill the domestic hot water storage set point is reached. Preferally this is done during nighttime when space heating demand is the lowest (and if applicable, electric tariffs are low).
   - Powerful
     The unit will immediately heat up the domestic water tank untill domestic hot water storage set point upon user request.
2. Reheat
   - Scheduled
     The unit will heat up the domestic water tank starting from a scheduled time and untill the reheat set point is reached. Preferally this is done during the time of day when space heating demand is lowest.
   - Continuous
     The unit will continuously heat up the domestic water tank untill the reheat set point is reached. In this case a balance with the space heating demand is made, which ever demand is higher.

INFORMATION

- For purpose and configuration refer to "Field settings" on page 13.
- The domestic hot water storage set point can only be set manually (refer to "Manual operation" on page 7).
- The domestic hot water reheat set point can only be set by the setting [6-07]. Refer to "[6] Scheduled storage and reheat domestic water heating" on page 15.
- Any domestic water heating operation is impossible when the domestic hot water tank is not installed.
- When the ◑ icon is blinking, the domestic hot water is heating up by the solar kit option and not by the indoor unit. Refer to installation manual of the EKSOLHW solar kit.

NOTICE

The setting [4-03] shall not be modified. The installer selected the proper setting for your application.

INFORMATION

The status of this setting is only mentioned to indicate which settings and functions are applicable for your application.

Powerful domestic water heating operation

In the case of urgent need of domestic hot water, the domestic hot water temperature set point can be reached quickly by using the electrical booster heater. Powerful domestic water heating operation is forcing the electrical booster heater to operate until the domestic hot water temperature set point is reached.

This function remains available in solar operation.

Quiet mode operation (🏠)

Quiet mode operation means that the outdoor unit works at reduced capacity so that the sound produced by the outdoor unit drops. This implies that the indoor heating (and cooling) capacity will also drop. Beware of this when a certain level of heating (or cooling) is required indoors.

4.6. Controller operations

Manual operation

In manual operation, the user manually controls the settings of the installation. The last setting remains active until the user changes it or until the schedule timer forces another setting (refer to "Schedule timer operation" on page 8).

As the controller can be used for a wide variety of installations, it is possible to select a function which is not available on your installation. In that case the message NOT AVAILABLE will appear.

Switching on and setting space heating (☀) and space cooling (❄)

1 Use the ☀/❄ button to select space heating (☀) or space cooling (❄).

Icon ☀ or ❄ appears on the display as well as the corresponding water temperature set point.

2 Use the ▲ and ▼ buttons to set the desired water temperature.

- Temperature range for heating: 25°C to 55°C
  The temperature for heating can be set as low as 15°C (see "Field settings" on page 13). However, the temperature for heating should only be set lower than 25°C during commissioning of the installation. When set lower than 25°C, only the backup heater will operate (in case EKMBUHBA6V3 is installed).
  In order to avoid overheating, space heating is not operable when the outdoor ambient temperature rises above a certain temperature (as set through field setting [4-02], refer to "Field settings" on page 13).
- Temperature range for cooling: 5°C to 22°C

CAUTION

The actual operation range depends on the values set on field setting [9].

These values shall be determined based on the application.

INFORMATION

In heating mode (☀) or in cooling mode (❄), the water temperature set point can also be weather dependent (icon A is shown).

This means that the controller calculates the water temperature set point based on the outdoor temperature.

In this case the controller shows the calculated controller set point. The ▲ button or ▼ button can be used to display the actual "shift value" and subsequently, to set the correct value. This shift value is the temperature difference between the temperature set point calculated by the controller and the real set point. E.g. a positive shift value means that the real temperature set point will be higher than the calculated set point.

3 Switch on the unit by pushing the ON/OFF button.

The operation LED O lights up.

INFORMATION

When the unit is connected to an external room thermostat, buttons ☀/❄ and ON/OFF are not operable and the icon is shown. In this case, the external room thermostat switches the unit on or off and determines the operation mode (space heating or space cooling).

Selection and setting of domestic water heating (🚿)

1 Use the 🚿⏻ button to activate domestic water heating (🚿).

Icon 🚿 appears on the display.

2 Use the 🚿▲ or 🚿▼ button to display the actual temperature set point and subsequently, to set the correct temperature.

The actual temperature set point only appears on the display after pressing one of the buttons 🚿▲ or 🚿▼. If no button is pressed for 5 seconds, the temperature set point will automatically disappear from the display again.

Temperature range for domestic water heating: 30°C to 78°C

INFORMATION

The domestic hot water set point set on the controller is the actual domestic hot water set point ([4-03]=0, 1, 2, or 3) or the domestic hot water storage set point ([4-03]=4). See "Domestic water heating operation (🚿)" on page 6.

3 Press the 🚿⏻ button to deactivate domestic water heating (🚿).

Icon 🚿 disappears from the display.

INFORMATION

Remark that pushing the ON/OFF button has no influence on the domestic water heating. Domestic water heating is only switched on or off by means of the 🚿⏻ button.

Selecting powerful domestic water heating operation

1 Press 🚿⏻ for 5 seconds to activate powerful domestic water heating operation.

Icons 🚿 and 〰 start flashing.

Powerful domestic water heating is deactivated automatically when the set point for the domestic hot water is reached.

Selecting quiet mode operation (🏠)

1 Use the 🏠 button to activate quiet mode operation (🏠).

Icon 🏠 appears on the display.

If the controller is set in permission level 2 or 3 (refer to "Field settings" on page 13), the 🏠 button will not be operable.

Selecting weather dependent set point operation (only in heating mode)

1 Press the A button to select weather dependent set point operation.

Icon A appears on the display as well as the calculated water temperature set point based on the outdoor temperature.

2 Use the ▲ or ▼ button to display the actual shift value and subsequently, to set the correct value.

The shift value only appears on the display after pressing one of the buttons ▲ or ▼. If no button is pressed for 5 seconds, the shift value will automatically disappear from the display again.

Range for the shift value: –5°C to +5°C

Displaying actual temperatures

1 Push the button for 5 seconds.

The icon and the outgoing water temperature are displayed. The icons and are flashing.

2 Use the and buttons to display:

Flashing icon(s)	Meaning
or	The entering water temperature
or and	The outgoing water temperature after plate heat exchanger
or and	The outgoing water temperature after backup heater (if installed)
	The liquid refrigerant temperature
	The outdoor temperature
	The domestic hot water temperature

If no button is pressed for 5 seconds, the controller leaves the display mode.

Schedule timer operation

In schedule timer operation, the installation is controlled by the schedule timer. The actions programmed in the schedule timer will be executed automatically.

The schedule timer always follows the last command until a new command is given. This means that the user can temporarily overrule the last executed programmed command by manual operation (Refer to "Manual operation" on page 7). The schedule timer will regain control over the installation as soon as the next programmed command of the schedule timer occurs.

The schedule timer is enabled (icon displayed) or disabled (icon not displayed), by pressing the button.

INFORMATION

- Only use the button to enable or disable the schedule timer. The schedule timer overrules the button. The button only overrules the schedule timer until the next programmed action.
- If the auto restart function is disabled, the schedule timer will not be activated when power returns to the unit after a power supply failure. Press the button to enable the schedule timer again.
- When power returns after a power supply failure, the auto restart function reapplies the user interface settings at the time of the power supply failure.

  It is therefore recommended to leave the auto restart function enabled.
- The programmed schedule is time driven. Therefore, it is essential to set the clock and the day of the week correctly. Refer to "Setting the clock" on page 5.
- Manually adjust the clock for summertime and wintertime. Refer to "Setting the clock" on page 5.
- A power failure exceeding 2 hours will reset the clock and the day of the week. The schedule timer will continue operation, but with a disordered clock. Refer to "Setting the clock" on page 5 to adjust the clock and the day of the week.
- The actions programmed in the schedule timer will not be lost after a power failure so that reprogramming the schedule timer is not required.

To set up the SCHEDULE TIMER refer to chapter "Programming and consulting the schedule timer" on page 9.

What can the schedule timer do?

The schedule timer allows the programming of:

1. Space heating (refer to "Programming space heating or space cooling" on page 10)
   Switch on the desired mode at a scheduled time, in combination with a set point (weather dependent or manually set).
   Four actions per weekday can be programmed, totalling 28 actions.
2. Space cooling (refer to "Programming quiet mode, booster heating or domestic water heating" on page 11).
   Switch on the desired mode at a scheduled time, in combination with a set point (weather dependent or manually set). Four actions can be programmed. These actions are repeated daily.

INFORMATION

When the unit is connected to an external room thermostat, the schedule timer for space heating and space cooling is overruled by the external room thermostat.

3. Quiet mode (refer to "Programming quiet mode, booster heating or domestic water heating" on page 11)
   Switch the mode on or off at a scheduled time. Four actions can be programmed per mode. These actions are repeated daily.
4. Domestic water heating (refer to "Programming space heating or space cooling" on page 10)
   [4-03]=0, 1, 2, or 3
   Switch the mode on or off at a scheduled time. Four actions per weekday can be programmed, totalling 28 actions.
   [4-03]=4
   Switch the mode on or off at a scheduled time. The switch set to on means enabeling the programmed storage and reheat operation.

INFORMATION

- The programmed actions are not stored according to their timing but according to the time of programming. This means that the action that was programmed first gets action number 1, even though it is executed after other programmed action numbers.
- When the schedule timer switches space heating or space cooling **OFF**, the controller will also be switched off. Note that this has no influence on domestic water heating.
- [4-03]=4In case no domestic water heating actions are programmed, enabling or disabling the schedule timer will only have influence on the space heating, cooling and quite mode. In this way it is possible to separate on one hand the space heating, cooling and quite mode scheduled action as part of the schedule timer and on the other hand the storage and reheat operation of the domestic water heating.
  In this way, it is easy to disable the space heating and cooling by disabling the schedule timer with keeping the storage and reheat domestic water heating enabled (refer to "Scheduled domestic hot water storage" on page 15 and "Scheduled/continuous domestic hot water reheat" on page 16).

NOTICE

The setting [4-03] shall not be modified. The installer selected the proper setting for your application.

INFORMATION

The status of this setting is only mentioned to indicate which settings and functions are applicable for your application.

What can the schedule timer NOT do?

The schedule timer can not change the operation mode from space heating to space cooling or vice versa.

How to interpret the programmed actions

To be able to understand the behaviour of your installation when the schedule timer is enabled, it is important to keep in mind that the "last" programmed command overruled the "preceding" programmed command and will remain active until the "next" programmed command occurs.

Example: imagine the actual time is 17:30 and actions are programmed at 13:00, 16:00 and 19:00. The "last" programmed command (16:00) overruled the "previous" programmed command (13:00) and will remain active until the "next" programmed command (19:00) occurs.

So in order to know the actual setting, one should consult the last programmed command. It is clear that the "last" programmed command may date from the day before. Refer to "Consulting programmed actions" on page 12.

INFORMATION

During schedule timer operation, someone may have altered the actual settings manually (in other words, the "last" command was overruled manually). The icon ⏲, indicating the schedule timer operation, may still be displayed, giving the impression that the "last" command settings are still active. The "next" programmed command will overrule the altered settings and return to the original program.

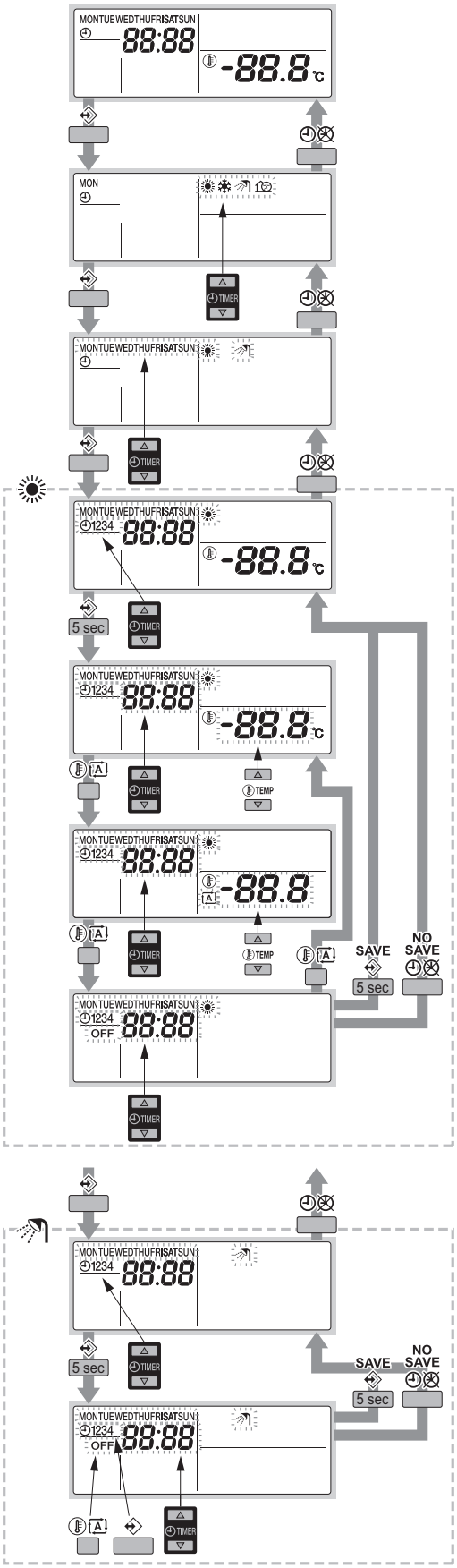
4.7. Programming and consulting the schedule timer

Getting started

Programming the schedule timer is flexible (you can add, remove or alter programmed actions whenever required) and straightforward (programming steps are limited to a minimum). However, before programming the schedule timer, remind:

- Familiarise yourself with the icons and the buttons. You will need them when programming. Refer to "Name and function of buttons and icons" on page 4.
- Fill out the form at the very end of this manual. This form can help you define the required actions for each day. Keep in mind that:
  - In the space heating and domestic water heating program, 4 actions can be programmed per weekday. The same actions are repeated on a weekly basis.
  - In the space cooling, quiet mode, and booster heater mode program, 4 actions can be programmed per mode. The same actions are repeated on a daily basis.
- Take your time to enter all data accurately.
- Try to program the actions in a chronological way: start with action 1 for the first action and end with the highest number for the last action. This is not a requirement but will simplify the interpretation of the program later.
- If 2 or more actions are programmed for the same day and at the same time, only the action with the highest action number will be executed.
- You can always alter, add or remove the programmed actions later.

Programming space heating or space cooling



Programming space heating or space cooling is carried out as follows:

INFORMATION

Returning to previous steps in the programming procedure without saving modified settings is done by pressing the ⏲⊗ button.

1 Press the ◈ button.

The actual mode is blinking.

2 Use the ⏲▲ and ⏲▼ buttons to select the mode you want to program (space heating ☼ or domestic water heating ⬀)

3 Press the ◈ button to confirm the selected mode.

The actual day is blinking.

4 Select the day you would like to consult or to program by means of the ⏲▲ and ⏲▼ buttons.

The selected day is blinking.

5 Press the ◈ button to confirm the selected day.

The first programmed action of the selected day appears.

6 Use the ⏲▲ and ⏲▼ buttons to consult the other programmed actions of that day.

This is called the readout mode. Empty program actions (e.g. 3 and 4) are not displayed.

7 Press the ◈ button for 5 seconds to enter the programming mode.

8 Use the ◈ button to select the action number you would like to program or to modify.

9 Use the 🌡🄰 button to select:

- For space heating:
  - **OFF**: switch heating and the controller off.
  - **-88.8**: set the temperature by means of the 🌡▲ and 🌡▼ buttons.
  - 🄰: to select automatic temperature calculation.
- For domestic water heating: use the 🌡🄰 button to enable or disable the **OFF** action.

10 Use the ⏲▲ and ⏲▼ buttons to set the correct action time.

11 Repeat steps 8 to 10 to program the other actions of the selected day.

When all actions have been programmed, make sure that the display shows the highest action number you would like to save.

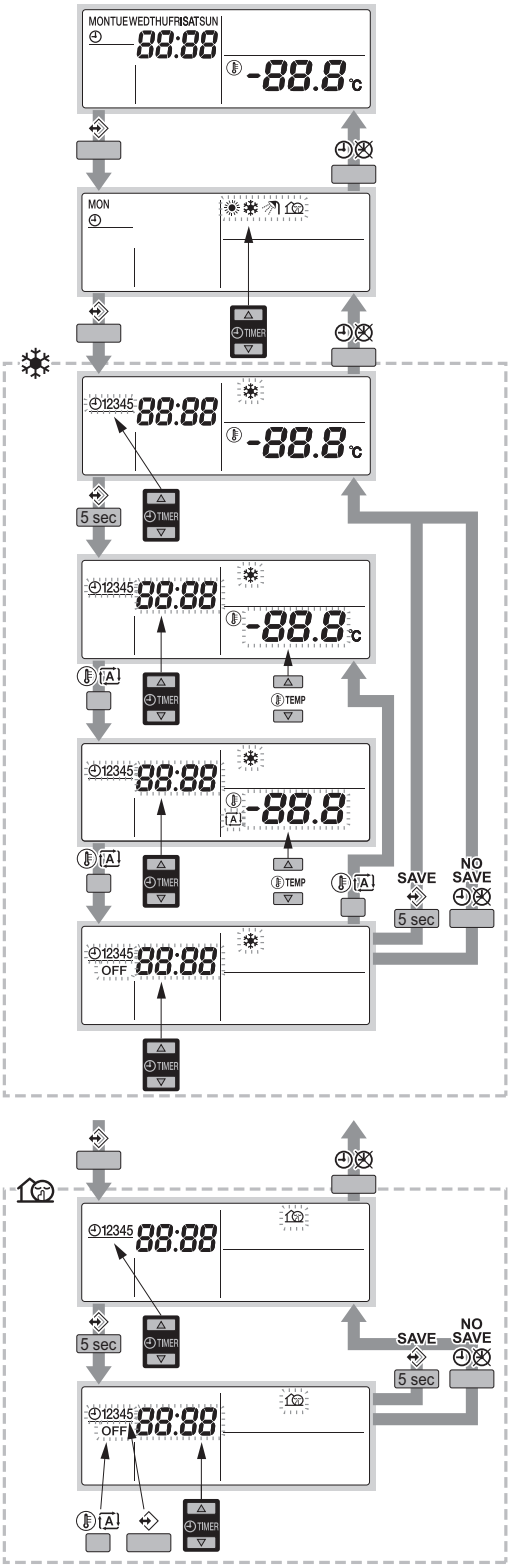
12 Press the ◈ button for 5 seconds to store the programmed actions.

If the ◈ button is pressed when action number 3 is displayed, actions 1, 2 and 3 are stored but 4 is deleted.

You automatically return to step 6.

By pressing the ⏲⊗ button several times, you return to previous steps in this procedure and finally return to normal operation.

Programming quiet mode, booster heating or domestic water heating



Programming space cooling, quiet mode, or booster heater mode is carried out as follows:

INFORMATION

Returning to previous steps in the programming procedure without saving modified settings is done by pressing the ⏲⊗ button.

1 Press the ⇳ button.

The actual mode is blinking.

2 Use the ⏲▲ and ⏲▼ buttons to select the mode you want to program (space cooling ❄, quiet mode, or booster heating).

The selected mode is blinking.

3 Press the ⇳ button to confirm the selected mode.

The first programmed action is displayed.

4 Use the ⏲▲ and ⏲▼ buttons to consult the programmed actions.

This is called the readout mode. Empty program actions (e.g. 3 and 4) are not displayed.

5 Press the ⇳ button for 5 seconds to enter the programming mode.

6 Use the ⇳ button to select the action number you would like to program or to modify.

7 Use the ⏲▲ and ⏲▼ buttons to set the correct action time.

8 Use the 🌡Ⓐ button to select:

- For space cooling:
  - **OFF**: switch cooling and the controller off.
  - *-88.8*: set the temperature by means of the 🌡▲ and 🌡▼ buttons.
  - Ⓐ: to select automatic temperature calculation.
- For quiet mode and booster heater mode use the 🌡Ⓐ button to enable or disable the **OFF** action.

9 Repeat steps 6 to 8 to program the other actions of the selected mode.

When all actions have been programmed, make sure that the display shows the highest action number you would like to save.

10 Press the ⇳ button for 5 seconds to store the programmed actions.

If the ⇳ button is pressed when action number 3 is displayed, actions 1, 2 and 3 are stored but 4 is deleted.
You automatically return to step 4. By pressing the ⏲⊗ button several times, you return to previous steps in this procedure and finally return to normal operation.

INFORMATION

Programming the booster heater operationtime is only valid if field setting [4-03]=1, 2, or 3.

Consulting programmed actions

Consulting space heating or domestic water heating actions

Consulting space heating or domestic water heating is carried out as follows.

INFORMATION

Returning to previous steps in this procedure is done by pressing the ⏲⊗ button.

1 Press the ◈ button.
The actual mode is blinking.

2 Use the ⏲▲ and ⏲▼ buttons to select the mode you want to program (space heating ✺ or domestic water heating ♨)

3 Press the ◈ button to confirm the selected mode.
The actual day is blinking.

4 Select the day you would like to consult by means of the ⏲▲ and ⏲▼ buttons.
The selected day is blinking.

5 Press the ◈ button to confirm the selected day.
The first programmed action of the selected day appears.

6 Use the ⏲▲ and ⏲▼ buttons to consult the other programmed actions of that day.
This is called the readout mode. Empty program actions (e.g. 3 and 4) are not displayed.
By pressing the ⏲⊗ button several times, you return to previous steps in this procedure and finally return to normal operation.

Consulting space cooling, quiet mode, or booster heater mode

Consulting space cooling, quiet mode, or booster heater modeis carried out as follows.

INFORMATION

Returning to previous steps in this procedure is done by pressing the ⏲⊗ button.

1 Press the ◈ button.
The actual mode is blinking.

2 Use the ⏲▲ and ⏲▼ buttons to select the mode you want to consult (space cooling ❄, quiet mode 🏠, or booster heater mode ♨).
The selected mode is blinking.

3 Press the ◈ button to confirm the selected mode.
The first programmed action is displayed.

4 Use the ⏲▲ and ⏲▼ buttons to consult the programmed actions.
This is called the readout mode. Empty program actions (e.g. 3 and 4) are not displayed.
By pressing the ⏲⊗ button several times, you return to previous steps in this procedure and finally return to normal operation.

Tips and tricks

Programming the next day(s)

After confirming the programmed actions of a specific day (i.e. after pressing the ◈ button for 5 seconds), press the ⏲⊗ button once. You can now select another day by using the ⏲▲ and ⏲▼ buttons and restart consulting and programming.

Copying programmed actions to next day

In heating/domestic water heating program it is possible to copy all programmed actions of a specific day to the next day (e.g. copy all programmed actions from "MON" to "TUE").

To copy programmed actions to the next day, proceed as follows:

1 Press the ◈ button.
The actual mode is blinking.

2 Use the ⏲▲ and ⏲▼ buttons to select the mode you want to program.
The selected mode is blinking.
You can leave programming by pressing the ⏲⊗ button.

3 Press the ◈ button to confirm the selected mode.
The actual day is blinking.

4 Select the day you would like to copy to the next day by means of the ⏲▲ and ⏲▼ buttons.
The selected day is blinking.
You can return to step 2 by pressing the ⏲⊗ button.

5 Press the ◈ and ⏲⊗ buttons simultaneously for 5 seconds.
After 5 seconds the display will show the next day (e.g. "TUE" if "MON" was selected first). This indicates that the day has been copied.
You can return to step 2 by pressing the ⏲⊗ button.

Deleting one or more programmed actions

Deleting one or more programmed actions is done at the same time as storing the programmed actions.

When all actions for one day have been programmed, make sure that the display shows the highest action number you would like to save. By pressing the ◈ button for 5 seconds, you store all actions except those with a higher action number than the one that is displayed.

E.g. when the ◈ button is pressed when action number 3 is displayed, actions 1, 2 and 3 are stored but 4 is deleted.

Deleting a mode

1 Press the ◈ button.
The actual mode is blinking.

2 Use the ⏲▲ and ⏲▼ buttons to select the mode you want to delete (space cooling ❄, quiet mode 🏠, or booster heating mode ♨).
The selected mode is blinking.

3 Press the ◈ and 🌡A button simultaneously for 5 seconds to delete the selected mode.

Deleting a day of the week (space heating or domestic water heating mode)

1 Press the ◈ button.
The actual mode is blinking.

2 Use the ⏲▲ and ⏲▼ buttons to select the mode you want to delete (space heating ✺ or domestic water heating ♨).
The selected mode is blinking.

3 Press the ◈ button to confirm the selected mode.
The actual day is blinking.

4 Select the day you would like to delete by means of the ⏲▲ and ⏲▼ buttons.
The selected day is blinking.

5 Press the ◈ and 🌡A button simultaneously for 5 seconds to delete the selected day.

5. FIELD SETTINGS

NOTICE

The default values mentioned in "Field settings table" on page 18 are the values from factory. The actual initial values shall be selected according to your application. These values shall be confirmed by your installer.

CAUTION

- The field settings [2] depends on the applicable legislation.
- The field settings [9] depends on the application.
- Before changing these settings, the new values shall be confirmed by the installer and/or shall be according to the applicable legislation.

The indoor unit shall be configured by the installer to match the installation environment (outdoor climate, installed options, etc.) and user demand. However, the field settings mentioned in "Field settings table" on page 18 can be modified to customer preferences. Thereto, a number of so called field settings are available. These field settings are accessible and programmable through the user interface on the indoor unit.

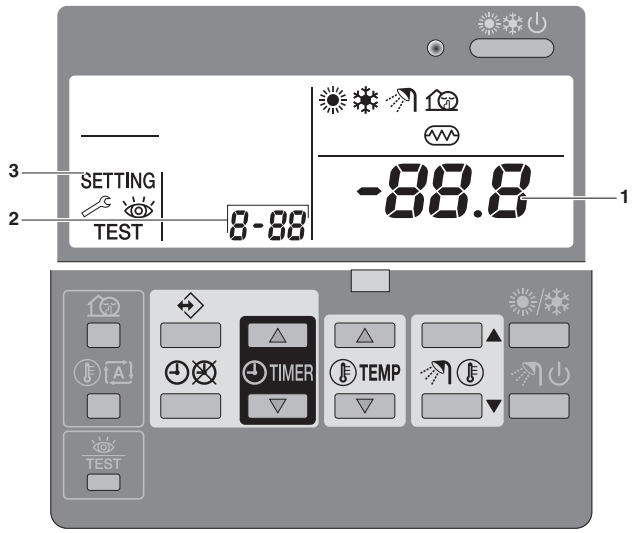
Each field setting is assigned a 3-digit number or code, for example [1-03], which is indicated on the user interface display. The first digit [1] indicates the 'first code' or field setting group. The second and third digit [03] together indicate the 'second code'.

A list of all field settings and default values is given under "Field settings table" on page 18. In this same list, we provided for 2 columns to register the date and value of altered field settings at variance with the default value.

A detailed description of each field setting is given under "Detailed description" on page 14.

5.1. Procedure

To change one or more field settings, proceed as follows.



1 Press the TEST button for a minimum of 5 seconds to enter FIELD SET MODE.
The SETTING icon (3) will be displayed. The current selected field setting code is indicated *8-88* (2), with the set value displayed to the right *-88.8* (1).

2 Press the TEMP▲ button to select the appropriate field setting first code.

3 Press the TEMP▼ button to select the appropriate field setting second code.

4 Press the TIMER▲ button and TIMER▼ button to change the set value of the select field setting.

5 Save the new value by pressing the ⊗ button.

6 Repeat step 2 through 4 to change other field settings as required.

7 When finished, press the TEST button to exit FIELD SET MODE.

NOTICE

Changes made to a specific field setting are only stored when the ⊗ button is pressed. Navigating to a new field setting code or pressing the TEST button will discard the change made.

INFORMATION

- Before shipping, the set values have been set as shown under "Field settings table" on page 18.
- When exiting FIELD SET MODE, "88" may be displayed on the user interface LCD while the unit initialises itself.

[0] User permission level

If required, certain user interface buttons can be made unavailable for the user.

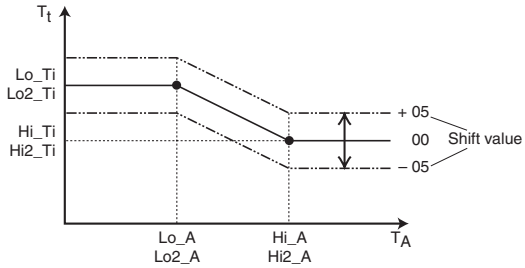
Three permission levels are defined (see the table below). Switching between level 1 and level 2/3 is done by simultaneously pressing buttons TIMER ▲ and TIMER ▼ immediately followed by simultaneously pressing buttons and , and keeping all 4 buttons pressed for at least 5 seconds (in normal mode). Note that no indication on the user interface is given. When level 2/3 is selected, the actual permission level – either level 2 or level 3 – is determined by the field setting [0-00].

Button		Permission level 1	2	3
Quiet mode button		operable	—	—
Weather dependent set point button		operable	—	—
Schedule timer enable/disable button		operable	operable	—
Programming button		operable	—	—
Time adjust buttons	TIMER ▲ TIMER ▼	operable	—	—
Inspection/test operation button		operable	—	—

[1] Weather dependent set point

The weather dependent set point field settings define the parameters for the weather dependent operation of the unit. When weather dependent operation is active the water temperature is determined automatically depending on the outdoor temperature: low outdoor temperatures will result in warmer water and vice versa. During weather dependent operation, the user has the possibility to shift up or down the target water temperature by a maximum of 5°C.

- Field settings for heating operation
  - [1-00] Low ambient temperature (Lo_A): low outdoor temperature.
  - [1-01] High ambient temperature (Hi_A): high outdoor temperature.
  - [1-02] Set point at low ambient temperature (Lo_Ti): the target outgoing water temperature when the outdoor temperature equals or drops below the low ambient temperature (Lo_A).
    Note that the Lo_Ti value should be higher than Hi_Ti, as for low outdoor temperatures (i.e. Lo_A) warmer water is required.
  - [1-03] Set point at high ambient temperature (Hi_Ti): the target outgoing water temperature when the outdoor temperature equals or rises above the high ambient temperature (Hi_A).
    Note that the Hi_Ti value should be lower than Lo_Ti, as for warmer outdoor temperatures (i.e. Hi_A) less warm water suffices.
- Field settings for cooling operation
  - [1-05] Weather dependent for cooling function enable (1)/ disable (0)
  - [1-06] Low ambient temperature (Lo2_A): low outdoor temperature.
  - [1-07] High ambient temperature (Hi2_A): high outdoor temperature.
  - [1-08] Set point at low ambient temperature (Lo2_Ti): the target outgoing water temperature when the outdoor temperature equals or drops below the low ambient temperature (Lo2_A).
    Note that the Lo2_Ti value should be higher than Hi2_Ti, as for low outdoor temperatures (i.e. Lo2_A) less cold water suffices.
  - [1-09] Set point at high ambient temperature (Hi2_Ti): the target outgoing water temperature when the outdoor temperature equals or rises above the high ambient temperature (Hi2_A).
    Note that the Hi2_Ti value should be lower than Lo2_Ti, as for warmer outdoor temperatures (i.e. Hi2_A) colder water is required.



T_t Target water temperature
T_A Ambient (outdoor) temperature
Shift value Shift value

[2] Disinfection function

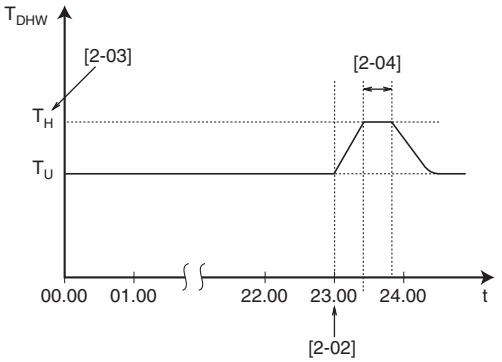
Applies only to installations with a domestic hot water tank.

The disinfection function disinfects the domestic hot water tank by periodically heating the domestic hot water to a specific temperature.

CAUTION

The disinfection function field settings must be configured by the installer according to the applicable legislation.

- [2-00] Operation interval: day(s) of the week at which the domestic hot water should be heated.
- [2-01] Status: defines whether the disinfection function is turned on (1) or off (0).
- [2-02] Start time: time of the day at which the domestic hot water should be heated.
- [2-03] Set point: high water temperature to be reached.
- [2-04] Interval: time period defining how long the set point temperature should be maintained.



T_{DHW} Domestic hot water temperature
T_U User set point temperature (as set on the user interface)
T_H High set point temperature [2-03]
t Time

WARNING

Be aware that the domestic hot water temperature at the hot water tap will be equal to the value selected in field setting [2-03] after a disinfection operation.

When the high domestic hot water temperature can be a potential risk for human injuries, a mixing valve (field supply) shall be installed at the hot water outlet connection of the domestic hot water tank. This mixing valve shall secure that the hot water temperature at the hot water tap never rises above a set maximum value. This maximum allowable hot water temperature shall be selected according to the applicable legislation.

CAUTION

Make sure that the disinfection function start time [2-02] with defined duration [2-04] is not interrupted by possible domestic hot water demand.

[3] Auto restart

When power returns after a power supply failure, the auto restart function reapplies the user interface settings at the time of the power supply failure.

NOTICE

It is therefore recommended to leave the auto restart function enabled.

Note that with the function disabled the schedule timer will not be activated when power returns to the unit after a power supply failure. Press the ⏲⊗ button to enable the schedule timer again.

- [3-00] Status: defines whether the auto restart function is turned **ON (0)** or **OFF (1)**.

NOTICE

If the benefit kWh rate power supply is of the type that power supply is interrupted, then always allow the auto restart function.

If you feel unsure about this topic, contact your installer for advice and information.

[4] Space heating off temperature

Space heating off temperature

- [4-02] Space heating off temperature: outdoor temperature above which space heating is turned off to avoid overheating.

[6] Scheduled storage and reheat domestic water heating

INFORMATION

The scheduled storage and reheat domestic water heating will only be carried out when [4-03]=4 and the domestic water heating mode is enabled by the 🚿 button.

Scheduled domestic hot water storage

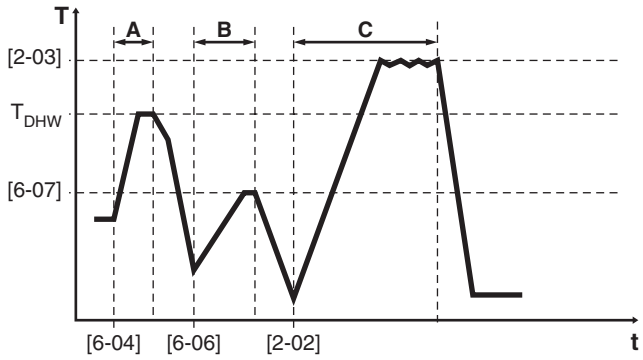
The storage set point can be accessed directly using the 🚿▲ and 🚿▼ buttons.

- [6-03] Scheduled storage: defines whether the scheduled domestic water heating storage during night is enabled (1) or not (0).
- [6-04] Scheduled storage start time: time of the night at which the domestic water should be heated.

Scheduled/continuous domestic hot water reheat

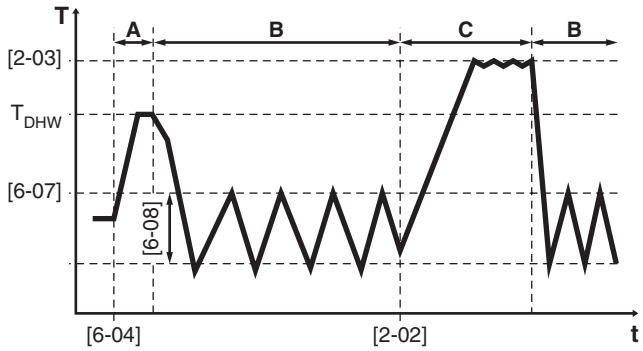
- [6-05] Reheat: defines whether the scheduled domestic water reheat during daytime is enabled (1) or continuous reheat is enabled (2) or reheat is disabled (0)
- [6-06] Scheduled reheat start time: time of the day at which the domestic water should be heated.
- [6-07] Domestic hot water reheat set point
- [6-08] Domestic hot water reheat set point hysteresis

Example 1: Scheduled storage [6-03]=1, scheduled reheat [6-05]=1, disinfection function [2-01]=1 activated.



A **Scheduled storage operation:** activated at [6-04], heat up domestic hot water untill domestic hot water user interface set point T_{DHW} (e.g 55°C) is reached.
B **Scheduled reheat operation**: activated at [6-06], heat up domestic hot water untill domestic hot water reheat set point [6-07] (e.g 45°C) is reached.
C **Disinfection operation** (if activated): activated at [2-02], heat up domestic hot water untill domestic hot water disinfection set point [2-03] (e.g 60°C) is reached. Refer to "[2] Disinfection function" on page 15.
t Time
T Domestic hot water temperature
T_{DHW} Domestic hot water user interface set point

Example 2: Scheduled storage [6-03]=1, continuous reheat [6-05]=2, disinfection function [2-01]=1 activated.



A **Scheduled storage operation:** activated at [6-04], heat up domestic hot water untill domestic hot water user interface set point T_{DHW} (e.g 55°C) is reached.
B **Continuous reheat operation**: continues activated heat up domestic water till domestic hot water reheat set point [6-07] (e.g 45°C) is reached with a hysteresis of [6-08].
C **Disinfection operation** (if activated): activated at [2-02], heat up domestic hot water untill domestic hot water disinfection set point [2-03] (e.g 60°C) is reached. Refer to "[2] Disinfection function" on page 15.
t Time
T Domestic hot water temperature
T_{DHW} Domestic hot water user interface set point

INFORMATION

- Make sure the domestic water is only heated up to the domestic hot water temperature you require.
  Start with a low domestic hot water storage temperature set point, and only increase if you feel that the domestic hot water supply temperature is not sufficient for your needs (this depends on your water using pattern).
- Make sure the domestic water is not heated unnecessary. Start with activating automatic storage during night (default setting). If it seems that the domestic hot water night storage operation is not sufficient for your needs, an additional scheduled reheat during daytime can be set.

NOTICE

The setting [4-03] shall not be modified. The installer selected the proper setting for your application.

INFORMATION

The status of this setting is only mentioned to indicate which settings and functions are applicable for your application.

[9] Heating and cooling set point ranges

The purpose of this field setting is to prevent the user from selecting a wrong (i.e., too hot or too cold) leaving water temperature. Thereto the heating temperature set point range and the cooling temperature set point range available to the user can be configured.

CAUTION

- In case of a floor heating application, it is important to limit the maximum leaving water temperature at heating operation according to the specifications of the floor heating installation.
- In case of a floor cooling application, it is important to limit the minimum leaving water temperature at cooling operation (field setting of parameter [9-03]) to 16~18°C to prevent condensation on the floor.

- [9-00] Heating set point upper limit: maximum leaving water temperature for heating operation.
- [9-01] Heating set point lower limit: minimum leaving water temperature for heating operation.
- [9-02] Cooling set point upper limit: maximum leaving water temperature for cooling operation.
- [9-03] Cooling set point lower limit: minimum leaving water temperature for cooling operation.

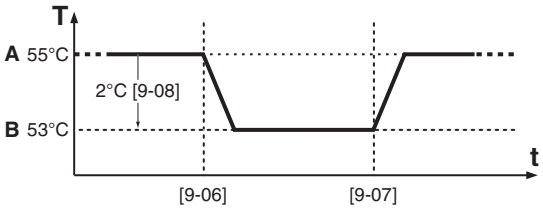
[9-05~9-08] Automatic setback function

Setback function provides the possibility to lower the water temperature during space heating. The setback function can for instance be activated during the night because the temperature demands during night and day are not the same.

INFORMATION

- Remark that the ⓕ icon will be flashing during setback operation. The calculated leaving water setback set point is **not** shown during setback operation.
- By default the setback function is disabled.
- The setback function can be combined with the automatic weather dependent set point operation.
- Setback function is an automatic daily scheduled function.
- The setback function can be combined with the schedule timer. When setback is active, the scheduled space heating set point will be lowered with the [9-08] leaving water setback value.

- [9-05] Status: defines whether the setback function is turned ON (1) or OFF (0)
- [9-06] Start time: time at which setback is started
- [9-07] Stop time: time at which setback is stopped
- [9-08] Leaving water setback value



A Normal leaving water temperature set point or calculated weather depended set point
B Calculated leaving water setback temperature set point
t Time
T Temperature

INFORMATION

Only applicable if [4-03]=4!

It is advised to set the start time of automatic storage during night [6-04] on the moment that the setback function starts [9-06].

INFORMATION

Pay attention not to set the setback value too low, especially during colder periods (e.g. winter time). It is possible that the room temperature can not be reached (or it will take a much longer time) because of the big temperature difference.

[C] Setup on solar kit

Solar priority mode

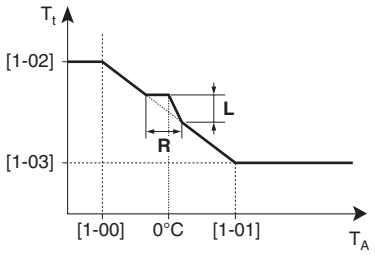
- [C-00] Solar priority mode setting: for information concerning the EKSOLHW solar kit, refer to the installation manual of that kit.

[d] Local shift value weather dependent

Local shift value weather dependent

The local shift value weather dependent field setting is only relevant in case weather dependent set point (see field setting "[1] Weather dependent set point" on page 14) is selected.

- [d-03] Local shift value weather dependent: determines the shift value of the weather dependent set point around outdoor temperature of 0°C.



T_t Target water temperature
T_A Outdoor temperature
R Range
L Local shift value
[1-00]~[1-04] Applicable field settings of the weather dependent set point [1].

[d-03]	Outdoor temperature range (T_A)	Local shift value
0	—	—
1	–2°C~2°C	2
2		4
3	–4°C~4°C	2
4		4

[E] Unit information readout

- [E-00] Readout of the software version (example: 23)
- [E-01] Readout of the EEPROM version (example: 23)
- [E-02] Readout of the unit model identification (example: 11)
- [E-03] Readout of the liquid refrigerant temperature
- [E-04] Readout of the inlet water temperature

INFORMATION

[E-03] and [E-04] readouts are not permanently refreshed. Temperature readouts are updated after looping through the field setting first codes again only.

First code	Second code	Setting name	Installer setting at variance with default value				Default value	Range	Step	Unit
			Date	Value	Date	Value				
0	**User permission level**									
	00	User permission level					3	2/3	1	—
1	**Weather dependent set point**									
	00	Low ambient temperature (Lo_A)					–10	–20~5	1	°C
	01	High ambient temperature (Hi_A)					15	10~20	1	°C
	02	Set point at low ambient temperature (Lo_Ti)					40	25~55	1	°C
	03	Set point at high ambient temperature (Hi_Ti)					25	25~55	1	°C
	05	Weather dependent for cooling function enable/disable					0 (OFF)	0/1	—	—
	06	Low ambient temperature (Lo2_A)					20	10~25	1	°C
	07	High ambient temperature (Hi2_A)					35	25~43	1	°C
	08	Set point at low ambient temperature (Lo2_Ti)					22	5~22	1	°C
	09	Set point at high ambient temperature (Hi2_Ti)					18	5~22	1	°C
2	**Disinfection function**									
	00	Operation interval					Fri	Mon~Sun, All	—	—
	01	Status					1 (ON)	0/1	—	—
	02	Start time					23:00	0:00~23:00	1:00	hour
	03	Set point					70	55~80	5	°C
	04	Interval					10	5~60	5	min
3	**Auto restart**									
	00	Status					0 (ON)	0/1	—	—
4	**Space heating off temperature**									
	00	Installation related setting								
	01	Installation related setting								
	02	Space heating off temperature					25	14~25	1	°C
	03	Installation related setting								
	04	Not applicable. Do not change the default value.					—	—	—	—
	05	Not applicable. Do not change the default value.					—	—	—	—
	06	Installation related setting								
	07	Installation related setting								
5	**Installation related setting**									
	00	Installation related setting								
	01	Installation related setting								
	02	Installation related setting								
	03	Installation related setting								
	04	Installation related setting								
6	**Installation related setting**									
	00	Installation related setting								
	01	Installation related setting								
	02	Not applicable. Do not change the default value.					—	—	—	—
	Scheduled storage and reheat domestic water heating									
	03	Scheduled time storage					1 (ON)	0/1	1	—
	04	Scheduled time storage start time					1:00	0:00~23:00	1:00	hour
	05	Scheduled time reheat or continuous reheat					0 (OFF)	0/1/2	1	—
	06	Scheduled time reheat start time					15:00	0:00~23:00	1:00	hour
	07	Domestic hot water reheat set point					45	30~50	1	°C
	08	Domestic hot water reheat set point hysteresis					10	2~20	1	°C
7	**Installation related setting**									
	00	Installation related setting								
	01	Installation related setting								
	02	Installation related setting								
	03	Installation related setting								
	04	Installation related setting								

First code	Second code	Setting name	Installer setting at variance with default value				Default value	Range	Step	Unit
			Date	Value	Date	Value				
8	**Installation related setting**									
	00	Installation related setting								
	01	Installation related setting								
	02	Installation related setting								
	03	Installation related setting								
	04	Installation related setting								
9	**Heating and cooling set point ranges**									
	00	Heating set point upper limit					55	37~55	1	°C
	01	Heating set point lower limit					25	15~37	1	°C
	02	Cooling set point upper limit					22	18~22	1	°C
	03	Cooling set point lower limit					5	5~18	1	°C
	04	Installation related setting								
	Automatic set back function									
	05	Set back operation					0 (OFF)	0/1	1	—
	06	Set back operation start time					23:00	0:00~23:00	1:00	hour
	07	Set back operation stop time					5:00	0:00~23:00	1:00	hour
	08	Leaving water set back value					2	0~10	1	°C
C	**Solar kit**									
	00	Solar priority mode setting					0	0/1	1	—
	01	Installation related setting								
	02	Installation related setting								
	03	Installation related setting								
	04	Installation related setting								
	05	Not applicable. Do not change the default setting.					—	—	—	—
d	**Local shift value weather dependent**									
	00	Installation related setting								
	01	Installation related setting								
	02	Installation related setting								
	03	Local shift value weather dependent					0 (OFF)	0/1/2/3/4	1	—
	04	Not applicable. Do not change the default value.					—	—	—	—
	05	Installation related setting								
	06	Not applicable. Do not change the default value.					—	—	—	—
E	**Unit information readout**									
	00	Software version					Read only	—	—	—
	01	EEPROM version					Read only	—	—	—
	02	Unit model identification.					depending on model	—	—	—
	03	Liquid refrigerant temperature					Read only	—	1	°C
	04	Inlet water temperature					Read only	—	1	°C
F	**Installation related setting**									
	00	Installation related setting								
	01	Installation related setting								
	02	Installation related setting								
	03	Installation related setting								
	04	Installation related setting								
	Installation related setting									
	05	Installation related setting								
	06	Installation related setting								
	07	Installation related setting								
	08	Installation related setting								
	09	Installation related setting								

6. MAINTENANCE

6.1. Important information regarding the refrigerant used

This product contains fluorinated greenhouse gases covered by the Kyoto Protocol.

Refrigerant type: R410A
GWP(1) value: 1975

(1) GWP = global warming potential

Periodical inspections for refrigerant leaks may be required depending on European or local legislation. Please contact your local dealer for more information.

6.2. Maintenance activities

DANGER

- Do not touch water pipes during and immediately after operation as the pipes may be hot. Your hand may suffer burns. To avoid injury, give the piping time to return to normal temperature or be sure to wear proper gloves.
- Do not touch any switch with wet fingers. Touching a switch with wet fingers can cause electrical shock.

WARNING

Do not touch the refrigerant pipes during and immediately after operation as the refrigerant pipes may be hot or cold, depending on the condition of the refrigerant flowing through the refrigerant piping, compressor, and other refrigerant cycle parts. Your hands may suffer burns or frostbite if you touch the refrigerant pipes. To avoid injury, give the pipes time to return to normal temperature or, if you must touch them, be sure to wear proper gloves.

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 must be carried out by your local Daikin technician (see installation manual).

The only maintenance which may be required by the operator is:

- keeping the remote controller clean by means of a soft damp cloth,
- checking if the water pressure indicated on the manometer is above 1 bar.

Only for the optional domestic hot water tank:

- A check for correct operation of the pressure relief valve installed on your domestic hot water tank, has to be carried out at least every 6 months: it is important that the lever on the valve is actuated to prevent accumulation of mineral deposits that may impair valve operation and to confirm that the valve and discharge pipe are not blocked. The lever should be operated slowly and smoothly to avoid a sudden rush of hot water from the discharge pipe.
  Failure to operate the relief valve actuating lever may result in the water heater exploding.
- Continuous leakage of water from the discharge pipe may indicate a problem with the water heater.
- If a discharge pipe is connected to the pressure relief device it must be installed in a continuously downward direction and in a frost-free environment. It must be left open to the atmosphere.

CAUTION

If the supply cord is damaged, it must be replaced by the manufacturer, its agent or similar qualified persons in order to avoid hazards.

6.3. Standstill

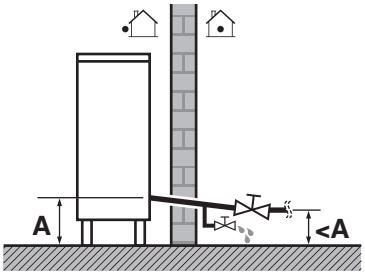
CAUTION

During longer periods of standstill, e.g. during summer with a heating only application or during longer periods when there is no need of an operating unit, it is very important NOT TO SWITCH OFF THE POWER SUPPLY towards the unit.

Switching off the power supply stops the automatic repetitive movement of the motor in order to prevent it from getting jammed.

CAUTION

If no glycol is in the system in case of a power supply failure or pump operating failure, drain the system (as suggested in the figure below).



When water is at standstill inside the system, freezing up is very likely to happen and damaging the system in the process.

7. TROUBLESHOOTING

The guidelines below might help to solve your problem. If you cannot solve the problem, consult your installer.

POSSIBLE CAUSES	CORRECTIVE ACTIONS
No readings on the remote controller (blank display)	• Check if the mains power is still connected to your installation. • The benefit kWh rate power supply is active (see installation manual).
One of the error codes appears	Consult your local dealer. Refer to the installation manual for a detailed list of error codes.
The schedule timer does work but the programmed actions are executed at the wrong time (e.g. 1 hour too late or too early)	Check if the clock and the day of the week are set correctly, correct if necessary.
The schedule timer is programmed but does not work.	In case the ⏲⊗ icon is not displayed, push the ⏲⊗ button to enable the schedule timer.
Capacity shortage	Consult your local dealer.

8. DISPOSAL REQUIREMENTS

Dismantling of the unit, treatment of the refrigerant, of oil and of other parts must be done in accordance with relevant local and national legislation.



Your product is marked with this symbol. This means that electrical and electronic products shall not be mixed with unsorted household waste.

Do not try to dismantle the system yourself: the dismantling of the system, treatment of the refrigerant, of oil and other parts must be done by a qualified installer in accordance with relevant local and national legislation.

Units must be treated at a specialized treatment facility for re-use, recycling and recovery. By ensuring this product is disposed off correctly, you will help to prevent potential negative consequences for the environment and human health. Please contact the installer or local authority for more information.

NOTES



	[hh:mm]	[°C]	OFF [☑]
MON			
1	:		❑
2	:		❑
3	:		❑
4	:		❑
TUE			
1	:		❑
2	:		❑
3	:		❑
4	:		❑
WED			
1	:		❑
2	:		❑
3	:		❑
4	:		❑
THU			
1	:		❑
2	:		❑
3	:		❑
4	:		❑
FRI			
1	:		❑
2	:		❑
3	:		❑
4	:		❑
SAT			
1	:		❑
2	:		❑
3	:		❑
4	:		❑
SUN			
1	:		❑
2	:		❑
3	:		❑
4	:		❑



	[hh:mm]	ON [☑]	OFF [☑]
MON			
1	:	❑	❑
2	:	❑	❑
3	:	❑	❑
4	:	❑	❑
TUE			
1	:	❑	❑
2	:	❑	❑
3	:	❑	❑
4	:	❑	❑
WED			
1	:	❑	❑
2	:	❑	❑
3	:	❑	❑
4	:	❑	❑
THU			
1	:	❑	❑
2	:	❑	❑
3	:	❑	❑
4	:	❑	❑
FRI			
1	:	❑	❑
2	:	❑	❑
3	:	❑	❑
4	:	❑	❑
SAT			
1	:	❑	❑
2	:	❑	❑
3	:	❑	❑
4	:	❑	❑
SUN			
1	:	❑	❑
2	:	❑	❑
3	:	❑	❑
4	:	❑	❑



	[hh:mm]	ON [☑]	OFF [☑]
1	:	❑	❑
2	:	❑	❑
3	:	❑	❑
4	:	❑	❑



	[hh:mm]	ON [☑]	OFF [☑]
1	:	❑	❑
2	:	❑	❑
3	:	❑	❑
4	:	❑	❑



	[hh:mm]	ON [☑]	OFF [☑]
1	:	❑	❑
2	:	❑	❑
3	:	❑	❑
4	:	❑	❑

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