

# ■ Operating manual

## REMKO Smart-Control Touch For the heat pump series SQW

From software version 4.28



Handbook for the user and the experienced professional



**Read these operating instructions carefully before commissioning / using this device!**

**These instructions are an integral part of the system and must always be kept near or on the device.**

Subject to modifications; No liability accepted for errors or misprints!

**Translation of the original operating manual**

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# REMKO Smart-Control Touch

## 1 Safety and usage instructions

### 1.1 General safety notes

Carefully read the operating manual before commissioning the units for the first time. It contains useful tips and notes such as hazard warnings to prevent personal injury and material damage. Failure to follow the directions in this manual not only presents a danger to people, the environment and the system itself, but will void any claims for liability.

Keep this operating manual and the refrigerant data sheet near to the units.

### 1.2 Identification of notes

This section provides an overview of all important safety aspects for proper protection of people and safe and fault-free operation. The instructions and safety notes contained within this manual must be observed in order to prevent accidents, personal injury and material damage.

Notes attached directly to the units must be observed in their entirety and be kept in a fully legible condition.

Safety notes in this manual are indicated by symbols. Safety notes are introduced with signal words which help to highlight the magnitude of the danger in question.

#### **DANGER!**

Contact with live parts poses an immediate danger of death due to electric shock. Damage to the insulation or individual components may pose a danger of death.

#### **DANGER!**

This combination of symbol and signal word warns of a situation in which there is immediate danger, which if not avoided may be fatal or cause serious injury.

#### **WARNING!**

This combination of symbol and signal word warns of a potentially hazardous situation, which if not avoided may be fatal or cause serious injury.

#### **CAUTION!**

This combination of symbol and signal word warns of a potentially hazardous situation, which if not avoided may cause injury or material and environmental damage.

#### **NOTICE!**

This combination of symbol and signal word warns of a potentially hazardous situation, which if not avoided may cause material and environmental damage.



*This symbol highlights useful tips and recommendations as well as information for efficient and fault-free operation.*

### 1.3 Personnel qualifications

Personnel responsible for commissioning, operation, maintenance, inspection and installation must be able to demonstrate that they hold a qualification which proves their ability to undertake the work.

### 1.4 Dangers of failure to observe the safety notes

Failure to observe the safety notes may pose a risk to people, the environment and the units. Failure to observe the safety notes may void any claims for damages.

In particular, failure to observe the safety notes may pose the following risks:

- The failure of important unit functions.
- The failure of prescribed methods of maintenance and repair.
- Danger to people on account of electrical and mechanical effects.

### 1.5 Safety-conscious working

The safety notes contained in this manual, the existing national regulations concerning accident prevention as well as any internal company working, operating and safety regulations must be observed.

## 1.6 Safety notes for the operator

The operational safety of the units and components is only assured providing they are used as intended and in a fully assembled state.

- The units and components may only be set up, installed and maintained by qualified personnel.
- Protective covers (grille) over moving parts must not be removed from units that are in operation.
- Do not operate units or components with obvious defects or signs of damage.
- Contact with certain unit parts or components may lead to burns or injury.
- The units and components must not be exposed to any mechanical load, extreme levels of humidity or extreme temperature.
- Spaces in which refrigerant can leak sufficient to load and vent. Otherwise there is danger of suffocation.
- All housing parts and device openings, e.g. air inlets and outlets, must be free from foreign objects, fluids or gases.
- The units must be inspected by a service technician at least once annually. Visual inspections and cleaning may be performed by the operator when the units are disconnected from the mains.

## 1.7 Safety notes for installation, maintenance and inspection

- Appropriate hazard prevention measures must be taken to prevent risks to people when performing installation, repair, maintenance or cleaning work on the units.
- The setup, connection and operation of the units and its components must be undertaken in accordance with the usage and operating conditions stipulated in this manual and comply with all applicable regional regulations.
- Local regulations and laws such as Water Ecology Act must be observed.
- The power supply should be adapted to the requirements of the units.
- Units may only be mounted at the points provided for this purpose at the factory. The units may only be secured or mounted on stable structures, walls or floors.
- Mobile units must be set up securely on suitable surfaces and in an upright position. Stationary units must be permanently installed for operation.
- The units and components should not be operated in areas where there is a heightened risk of damage. Observe the minimum clearances.

- The units and components must be kept at an adequate distance from flammable, explosive, combustible, abrasive and dirty areas or atmospheres.
- Safety devices must not be altered or bypassed.

## 1.8 Unauthorised modification and changes

Modifications or changes to units and components are not permitted and may cause malfunctions. Safety devices may not be modified or bypassed. Original replacement parts and accessories authorised by the manufacturer ensure safety. The use of other parts may invalidate liability for resulting consequences.

## 1.9 Intended use

The units are designed depending on the model and equipment exclusively as a control unit for the heat pump and the heating system.

Any different or additional use shall be classed as non-intended use. The manufacturer/supplier assumes no liability for damages arising from such use. The user bears the sole risk in such cases. Intended use also includes working in accordance with the operating and installation instructions and complying with the maintenance requirements.

Under no circumstances should the threshold values specified in the technical data be exceeded.

## 1.10 Warranty

For warranty claims to be considered, it is essential that the ordering party or its representative complete and return the "certificate of warranty" to REMKO GmbH & Co. KG at the time when the units are purchased and commissioned.

The warranty conditions are detailed in the "General business and delivery conditions". Furthermore, only the parties to a contract can conclude special agreements beyond these conditions. In this case, contact your contractual partner in the first instance.

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## 1.11 Transport and packaging

The devices are supplied in a sturdy shipping container or inside the heat pump casing. Please check the equipment immediately upon delivery and note any damage or missing parts on the delivery and inform the shipper and your contractual partner. For later complaints can not be guaranteed.

### **WARNING!**

**Plastic films and bags etc. are dangerous toys for children!**

Why:

- Leave packaging material are not around.
- Packaging material may not be accessible to children!

## 1.12 Environmental protection and recycling

### Disposal of packaging

All products are packed for transport in environmentally friendly materials. Make a valuable contribution to reducing waste and sustaining raw materials. Only dispose of packaging at approved collection points.



### Disposal of equipment and components

Only recyclable materials are used in the manufacture of the devices and components. Help protect the environment by ensuring that the devices or components (for example batteries) are not disposed in household waste, but only in accordance with local regulations and in an environmentally safe manner, e.g. using certified firms and recycling specialists or at collection points.



## 2 Technical data

Series		Smart Control Touch
Power supply	V	+12 V DC
Enclosure class	IP	30
Power consumption	mW	< 100
Max. cable length	m	15
Recommended cable	mm <sup>2</sup>	2 x 0,5
<b>Dimensions</b>		
Height	mm	150
Width	mm	80
Depth	mm	35
<b>Environment</b>		
Ambient temperature	°C	0-70
Air humidity	% rH	0-95 (relative) non-condensing

We reserve the right to make technical changes for the purpose of technical advancement.

# REMKO Smart-Control Touch

## 3 Operation - General notes

### Overview of the controls

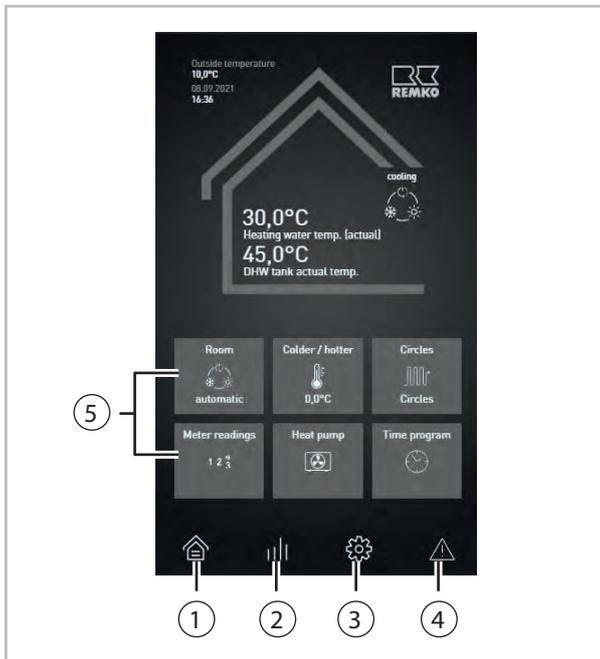


Fig. 1: Smart-Control Touch start screen

- 1: Overview (quick access)
- 2: Information (quick access)
- 3: Settings (quick access)
- 4: Messages (warnings, information notes and errors)
- 5: Widgets

### Function display

Unit operation is intuitive and self-explanatory via the plain text display on the user interface on the touch display. No buttons are required to adjust and change parameters. Instead, this takes place by touching the surface of the controller at the appropriate points. The installation of further functions such as Smart-Count or Smart-Web is possible through the installation of further supplementary software available as an accessory.

When in an idle state, the display is inactive. The basic display only starts once the display is touched and it always starts with the user level.

### Selecting user/expert mode

You can access the expert level by touching the REMKO logo in the upper right corner of the display. After entering the password (0321) using the +/- combination and then touching the "Next" and "OK" displays, the expert level is enabled.

### ! NOTICE!

The settings in expert mode may only be configured by REMKO-authorized installers!

### Basic display

The basic display shows the average outside temperature as well as the time and date. You can also find the selected operating mode and the temperatures for the heating and hot water in the overview.



Fig. 2: Overview

The tiles (widgets) in the basic display can be changed individually for each operator. To change a widget, you must adjust the displays in the "Settings" level. The adjustments can be made in the level described below.

- Settings
- Basic settings
- Display
- Home Parameters
- Widget 1-6



Fig. 3: Menu items in the "Settings-Display" level

## Menu Home Parameters

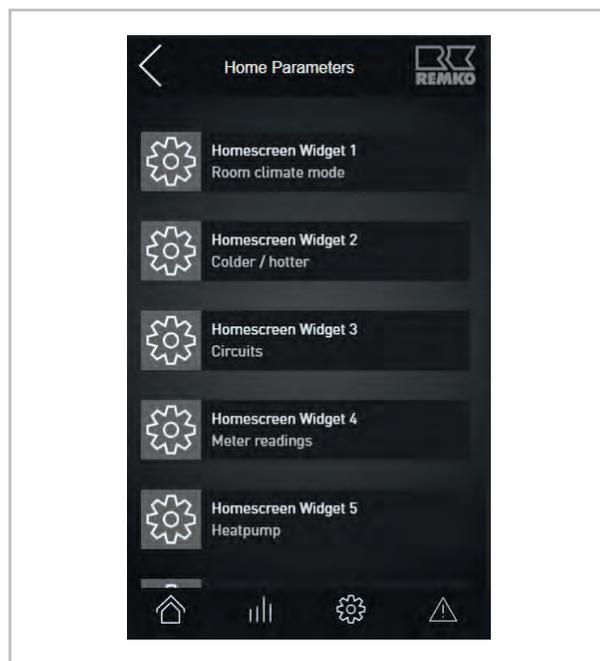


Fig. 4: "Home Parameters" menu item

The individual widgets can be adjusted with the following parameters:

- Heat pump
- Meter readings
- Chimney sweep (only in bivalent operation)
- Weather (only with Smart-Web)
- Circuits
- Drinking water mode
- Time program
- Storage tank target temperature
- Room climate mode
- Emergency-heat operation
- Away mode
- Party mode
- User profile
- Colder/warmer

# REMKO Smart-Control Touch

## 4 Operation - User level

### 4.1 Menu structure

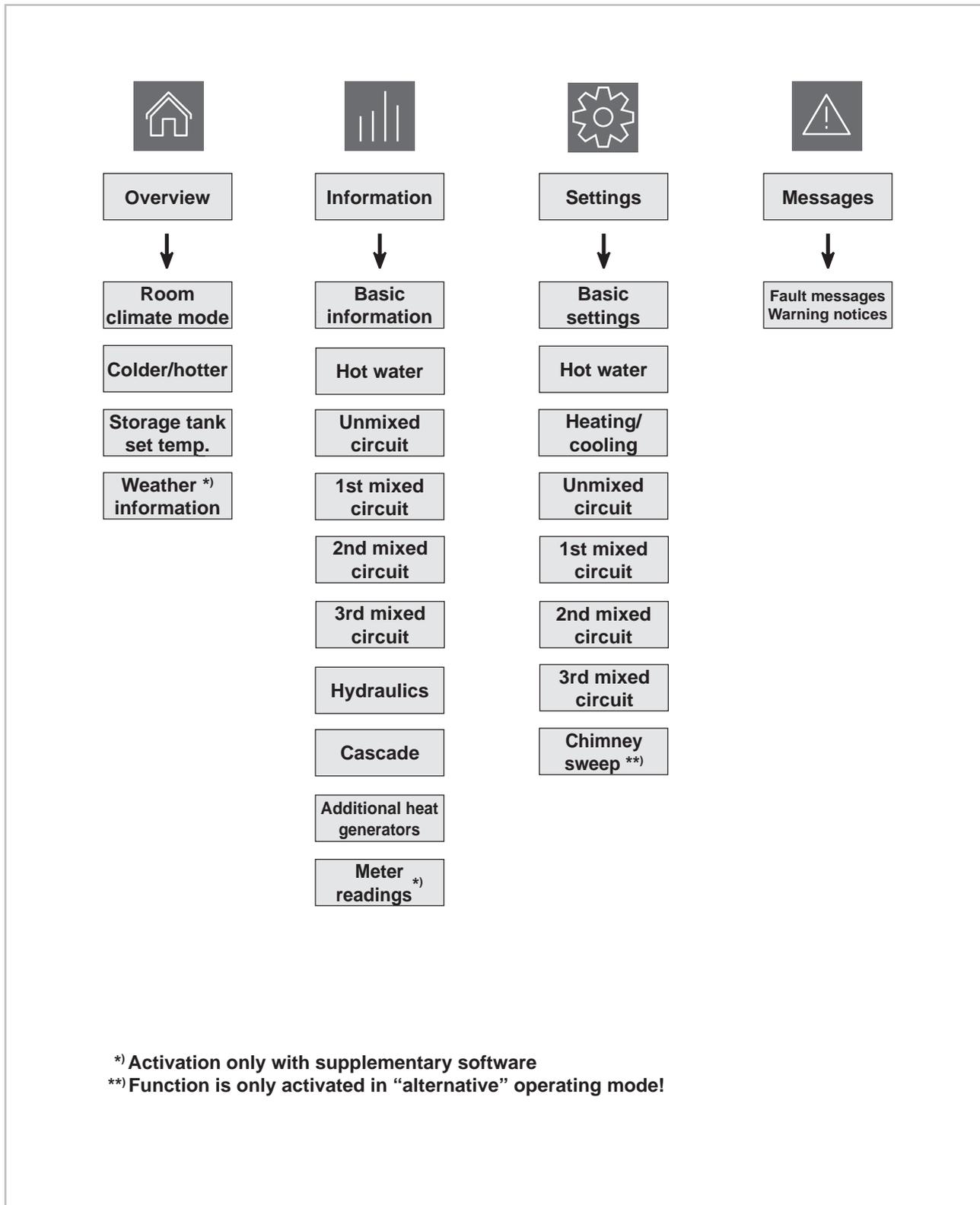


Fig. 5: User level menu structure overview

## User level structure

In the "User" level, you have access to the following submenus:

- Overview
- Information
- Settings
- Messages

These first level menus can be operated by users and experts alike. Some menu items and parameters are only visible in expert mode. They may only be adjusted by specialists!

### Overview

The indicators on the overview are the parameters that are often used.

### Information

You can obtain basic information about the complete system here.

Here, you will also find corresponding information on the respective parameters enabled, such as hot water, heating circuits or the hydraulics and their operating statuses.

### Settings

In the settings menu item it is possible to adjust parameters for the enabled components. Here, you have the option of adjusting e.g. heating curves in accordance with the requirements the REMKO heat pump user. Relevant points that affect the safety of the complete system are only to be changed by a specialist. These are only enabled in the expert level following entry of the password.

### Messages

The "messages" level displays warnings, faults and malfunctions.

In the following, you will find tables containing the respective parameters for the available settings.

You can find numerous info texts about the individual level menu items on your Smart-Control Touch controller.



*The following diagrams and explanations relate to the full menu structure, which may differ from the menu structure of your own controller. Only the relevant menu items and parameters are displayed by the Smart Control, depending upon which heat generators and functions you have activated. For example, if no heating cycle has been activated, the corresponding menu items and parameters are not displayed.*

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## "Information" menu item - User

This menu contains information about the current operating status of the system.

Level 2 menu item	Level 3 menu item	Level 4 menu item
Basic information	Status	Detected unit
		Current operating mode
		Previous operating mode
		Room climate
		Party mode
		Away mode
		Anti-freeze protection
		IP address
		Subnet
		Gateway
		Smart Count *)
		Smart Web *)
		Smart Com *)
		Activation code
	Date/Time	Time
		Date
		Time zone
	Version number	Software
	Network (USB)	USB interface
		IP address
		Subnet
		Gateway
		MAC address
		WLAN status
	Licence information	Signal quality

\*) These functions are only possible with the requisite supplementary software, available to purchase.

"Information" menu item  (continued) - User

Level 2 menu item	Level 3 menu item
Hot water	HW request
	HW storage tank set temp.
	Hygiene function
	Circulation request S05
	Circulation pump A11
Unmixed circuit	Operating mode
	Set temp.
	Actual temp.
	Room target temperature
	Room actual temperature
	Room humidity
	Dew point
	Mixed outside temperature
1st, 2nd and 3rd mixed circuit	Operating mode
	Set temp.
	Actual temp.
	Room target temperature
	Room actual temperature
	Room humidity
	Dew point
	Mixed outside temperature
Hydraulics	Request
	Heating water temp. (setpoint)
	Heating water temp. (actual value)
	Outside temperature S06
	Buffer tank temp. S07
	Buffer tank temp. cooling S08
	Therm.output
	Heating energy
	Cooling energy

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"Information" menu item  (continued) - User

Level 2 menu item	Level 3 menu item	Level 4 menu item	
Cascade	1. Heat pump	Heat pump status	
		Remaining idle time	
		Compressor status	
		Defrost status	
		Fault status	
		Enable signal	
		Disable compressor	
		Heat pump mode	
		Disable signal S40	
		Enable hot water	
		Enable electric heater	
		2. Heat pump	Heat pump status
	Remaining idle time		
	Compressor status		
	Defrost status		
	Fault status		
	Enable signal		
	Disable compressor		
	Heat pump mode		
	Disable signal S40		
	Enable hot water		
	Enable electric heater		
	3. - 10. Heat pump		Up to 10 heat pumps are possible. The parameters are the same as with HP 1-2.
	Auxiliary heat generator		Heat generator status
			Potential-free output A32

"Information" menu item  (continued) - User

Level 2 menu item	Level 3 menu item	Level 4 menu item
Meter readings	Heat pump	Thermal power, heat pump
		Thermal energy, heat pump
		Electrical power, heat pump
		Electrical energy, heat pump
		Output, environment
		Environmental energy
	Household	Current household output
		Household energy
	Photovoltaic	Photovoltaic output
		Photovoltaic yield
		Feed-in power
		Feed-in
		Private consumption power
		Energy consumption
	Heating and Hot water	Heating energy
		Hot water energy
		Cooling energy
		Hot water meter
	CO <sub>2</sub> savings	CO <sub>2</sub> savings
		Equivalent in trees
KNXnet/IP	IP of the KNX interface	
	MAC for the KNX interface	
	Adress for the interface	
	Physical adress	
	KNX connection status	
	Programming mode	
	Programming mode (interface)	
	Application version	

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## "Settings" menu item - User

In this menu you can configure the settings. For example, you can adjust hot water and heating temperatures or change time settings.

Level 2 menu item	Level 3 menu item	Level 4 menu item
Basic settings	Language/Time	Time synchronisation
		Date
		Time
		Date format
		Time format
		Language
		Time zone
	Display	Display brightness
		Display off
		Default screen
		Home Parameters
	Interfaces/ Network (USB)	Network
		DHCP via input
		DHCP using
		Lokal IP Address
		Subnet mask
		Gateway Address
		Network (USB)
		USB-Ethernet
		Authentication
		SSID
		Password
		Status
		DHCP using
		Lokal IP Address
		Subnet mask
		Gateway Address
		Interfaces/KNXnet/IP
	Programming mode	

**"Settings" menu item  (continued) - User**

In this menu you can configure the settings. For example, you can adjust hot water and heating temperatures or change time settings.

Level 2 menu item	Level 3 menu item	Level 4 menu item	
Hot water	Domestic hot-water heating	Storage tank set temperature	
		Mode	
		Time program A	
		Time program B	
		Time program C	
		Tolerance during ECO operation	
		1 x hot water heating	
	Circulation	Circulation set temperature	
	Heating/cooling	Mode	Time program
			Room climate mode
User profile			
Away mode			
Party mode			
Difference from cooling limit			
Difference from heating limit			
Building adaptation		Standard outside temperature (heating)	
	Standard outside temperature (cooling)		
Source storage tank	Operating mode		
	Fixed value		

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## "Settings" menu item (continued) - User

Level 2 menu item	Level 3 menu item
Unmixed circuit	Operating mode
	Heating circuit mode
	Fixed value
	Heating curve adjustment
	Cooling circuit mode
	Fixed value
	Cooling curve adjustment
	Time program A
	Time program B
	Time program C
	Time program function
	Room temp. reduction
	Room temp. Increase
	Room unit
	Room temperature influence
1st, 2nd and 3rd mixed circuit	Operating mode
	Heating circuit mode
	Fixed value
	Heating curve adjustment
	Cooling circuit mode
	Fixed value
	Cooling curve adjustment
	Time program A
	Time program B
	Time program C
	Time program function
	Room temp. reduction
	Room temp. Increase
	Room unit
	Room temperature influence

**"Settings" menu item  (continued) - User**

Level 2 menu item	Level 3 menu item	Level 4 menu item
Chimney sweep	Mode	
	HW valve	
	Run-time in minutes	

**"Messages" menu item   **

This menu displays warnings, faults, operating statuses or messages.

If this "Messages" symbol should light up in red or yellow in the basic display, it is necessary to check what type of message is displayed in the message level. In order to call up the message level, it is only necessary to touch the symbol.

Possible messages can be found in the chapter "Error messages on the Smart Control".

Differentiation is made here between numbers that start with 6000, which are to be considered pure operating messages and do not constitute a fault.

Numbers that start with 7000 are relevant faults, which require the heat pump to be switched off.

Numbers that start with 8000 are warnings and indicate that the heat pump must be checked!

# REMKO Smart-Control Touch

## 4.2 Setting the heating/cooling operating mode

### Heating curve heating circuit mode

The heating curve can be adjusted in three points, according to the structure and location-related conditions of the building:

#### Base point:

The base point corresponds to the minimum set temperature of the heating water at an outside temperature of 20 °C. If the heating is too cold at relatively high outside temperatures (trans-seasonal period), the base point should be set higher.

#### Standard inlet temperature:

The standard inlet temperature corresponds to the set temperature of the heating water at the standard outside temperature in the building location. If the heating is not warm enough at low outside temperatures, the standard inlet temperature should be increased.

#### Standard outside temperature:

The standard outside temperature is dependent on the regional location of the building and must be set according to the region.

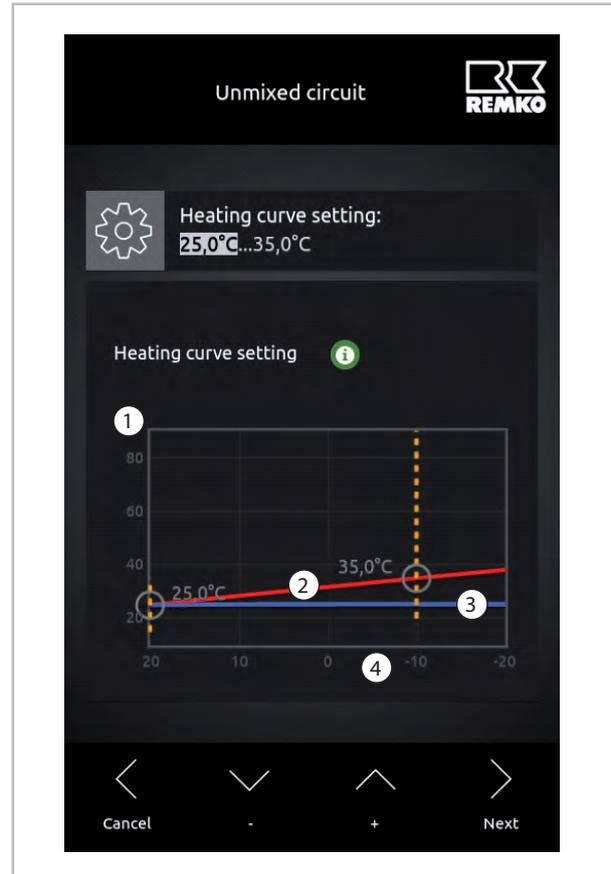


Fig. 6: Heating curve adjustment

- 1: Temperature of the heating water in °C
- 2: Inlet temperature heating curve
- 3: Return flow heating curve
- 4: Outside temperature in °C

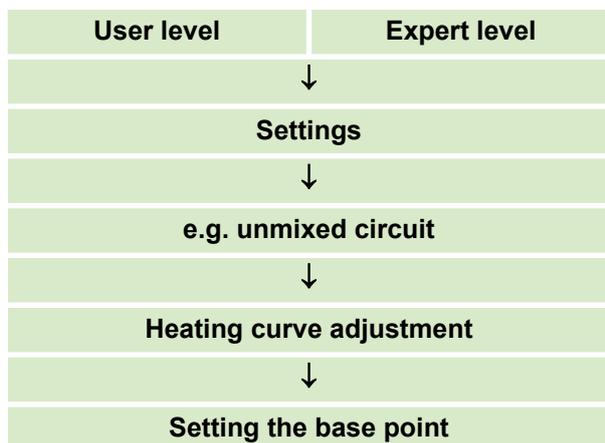
For optimal configuration of the heating curve parameters, the heating load calculation and/or energy consumption must be taken into account.

Differences between the installed parameters and the design of the actual building can cause the heat pump to run inefficiently.

### Setting the heating curve:

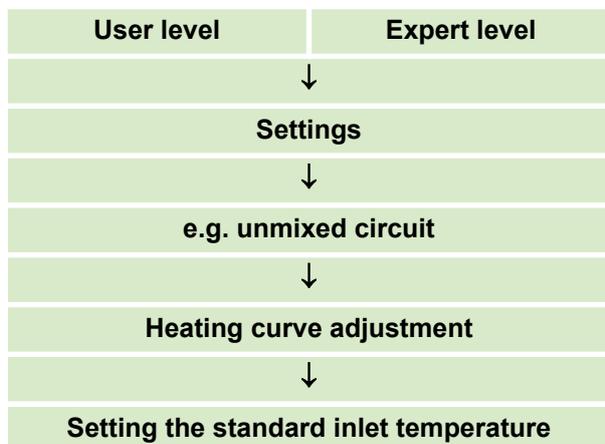
#### 1. Base point

In this level, select the circuit to be changed and select the parameter "Heating curve settings". Change the value with "+/-" under the heating curve schematic and select the next value with "Next". Then confirm with "OK".



#### 2. Standard inlet temperature

The standard inlet temperature is set using the same procedure.



#### 3. Set the standard outside temperature

The standard outside temperature can be changed in the user and expert level.

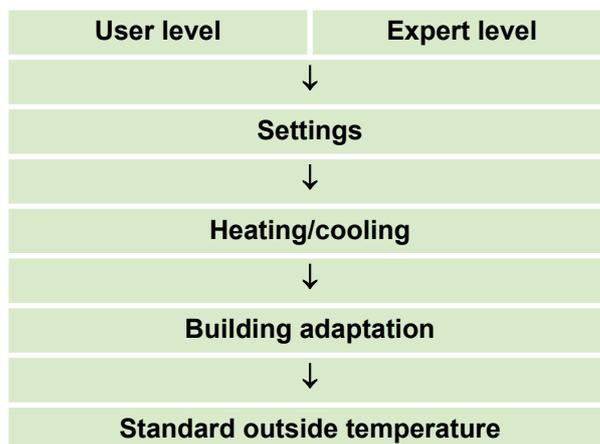
Here, it is possible to set the standard outside temperature to the respective value for heating and cooling mode.

The standard outside temperature is only changed once here for each active heating circuit. After changing this parameter, the value is automatically accepted with all active heating circuits.

For optimal configuration of the heating curve parameters, the heating load calculation and/or energy consumption must be taken into account.

Differences between the installed parameters and the design of the actual building can cause the heat pump to run inefficiently.

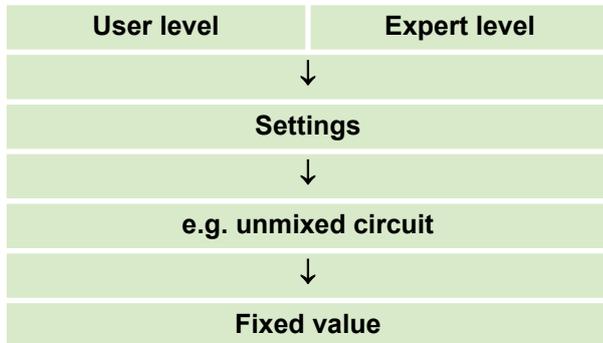
Access this parameter as follows:



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## Fixed-value-control heating circuit mode

Specify the set temperature for fixed value control. The heating circuit is kept permanently at this temperature in fixed value control. When doing so, a tolerance of approx. 2 Kelvin is possible.



 *Operating the heating cycle with a fixed value is not recommended, as it will cause the heat pump to operate inefficiently.*

The mixed heating circuits each require a supply and return probe! These probes are included in the scope of supply of the mixed REMKO heating circuit groups.

## Activation of the cooling function via the unmixed circuit

This is where you can select between the different **cooling circuit modes**. The choice is between control according to the set **"cooling curve"** and **"fixed value regulation"**.

Activation of the cooling function can take place in every heating circuit via the operating mode.

Menu item	Parameter	Factory setting
Cooling circuit mode with underfloor system active	Cooling curve	According to design
	Fixed value	8 °C - 35 °C

## Cooling curve cooling circuit mode

The cooling curve can be set at three points, depending on the structural and location-related conditions of the building:

Base point:

The base point corresponds to the minimum set temperature of the cooling water at an outside temperature of 20 °C. If the cooling is too cold at relatively high outside temperatures (trans-seasonal period), the base point should be set higher.

Standard inlet temperature:

The inlet temperature corresponds to the set temperature of the cooling water at the standard outside temperature in the building location. If the cooling is not warm enough at low outside temperatures, the inlet temperature should be increased.

Standard outside temperature:

The standard outside temperature is dependent on the regional location of the building and must be set according to the region.

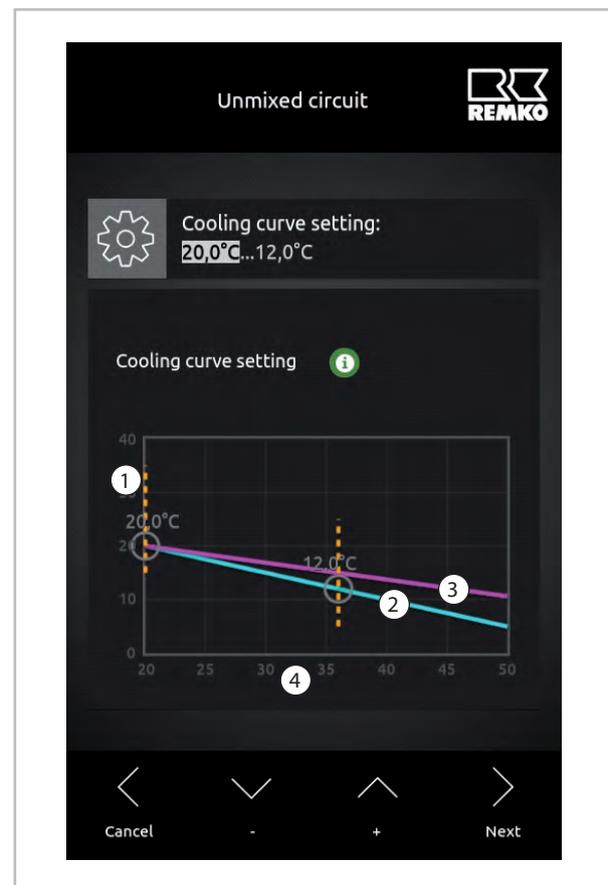


Fig. 7: Cooling curve adjustment

- 1: Temperature of the cooling water in °C
- 2: Cooling curve, inlet temperature
- 3: Cooling curve, return flow
- 4: Outside temperature in °C

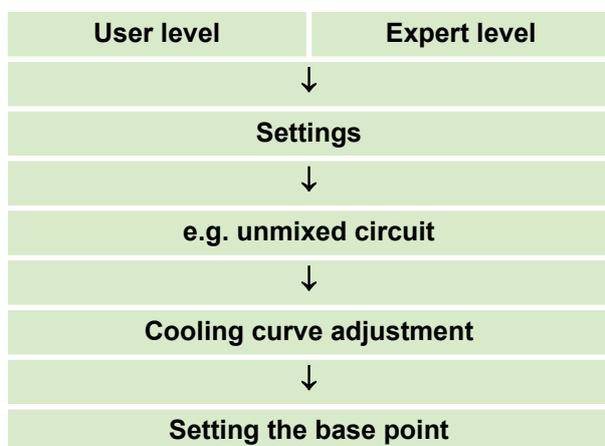
For optimal configuration of the cooling curve parameters, the cooling load calculation and/or energy consumption must be taken into account.

Differences between the installed parameters and the design of the actual building can cause the heat pump to run inefficiently.

### Setting cooling curve:

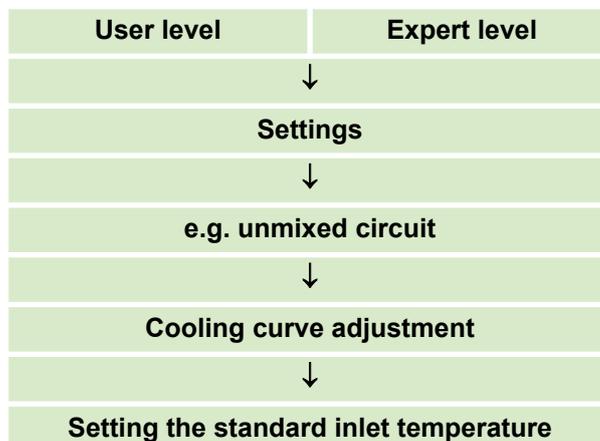
#### 1. Base point

In the "Settings" level, select the circuit to be changed and the parameter "Cooling curve setting". Change the value with "+/-" under the cooling curve schematic and select the next value with "Next". Then confirm with "OK".



#### 2. Standard inlet temperature

Change the value of the setting of the inlet temperature and the outside temperature with "+/-" and select the next value with "Next". Then confirm with "OK".



**A cooling function via the cooling curve setting is only enabled by REMKO if the corresponding humidity probe is installed!**

#### **! NOTICE!**

At least one dew point monitor with corresponding probes should be installed to protect the system in the case of panel heating.

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## 3. Set the standard outside temperature

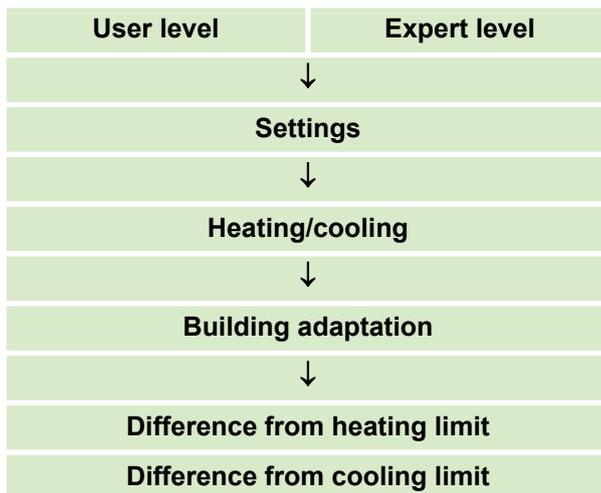
The standard outside temperature can be changed in the user and expert level.

Here, it is possible to set the outside temperature to the respective value for heating and cooling mode.

Cooling is active if the stored cooling limit is exceeded by the set value.

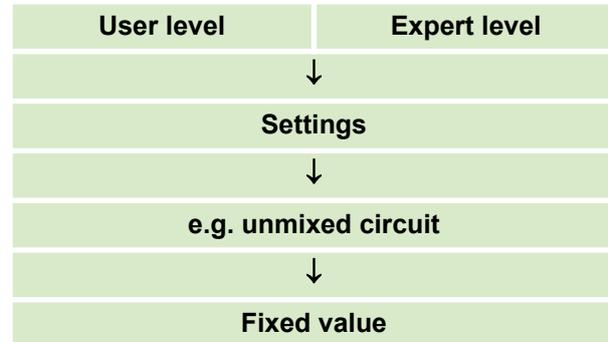
Example: The room target temperature is 20 °C and the set cooling limit is 4 K. If a temperature of over 24 °C is now measured at the external probe, cooling will be active. The inlet temperature falls as the outside temperature rises, up to the value assigned for the outside temperature. When setting the cooling curve, make sure that the dew point is not undershot with panel heating (e.g. if the underfloor system is to be cooled). REMKO recommends protecting the system with dew point monitors in the case of panel heating.

Access this parameter as follows:



## Fixed value control cooling circuit mode

Specify the set temperature for fixed value control. With this, the cooling circuit regulates to an averaged temperature. The value is calculated from the inlet temperature plus the return temperature divided by two.



*Operating the cooling cycle with a fixed value is not recommended, as it will cause the heat pump to operate inefficiently and there is a risk that the dew point will be undershot.*

Cooling is active if the set cooling limit is exceeded by the set value. Example: The room target temperature is 20 °C and the set cooling limit is 4 K. If a temperature of over 24 °C is now measured at the external probe, cooling will be active. The cooling function is immediately active if the operating mode is set from "Automatic" to "Cooling".

## Hydraulic circuit diagram

Functions: Heating

The sample hydraulic schematic shown below is only to be used as a planning aid, and does not replace an installation drawing! Technical modifications reserved!

The design and planning of customer-provided hydraulic systems must be performed by a specialist installer!

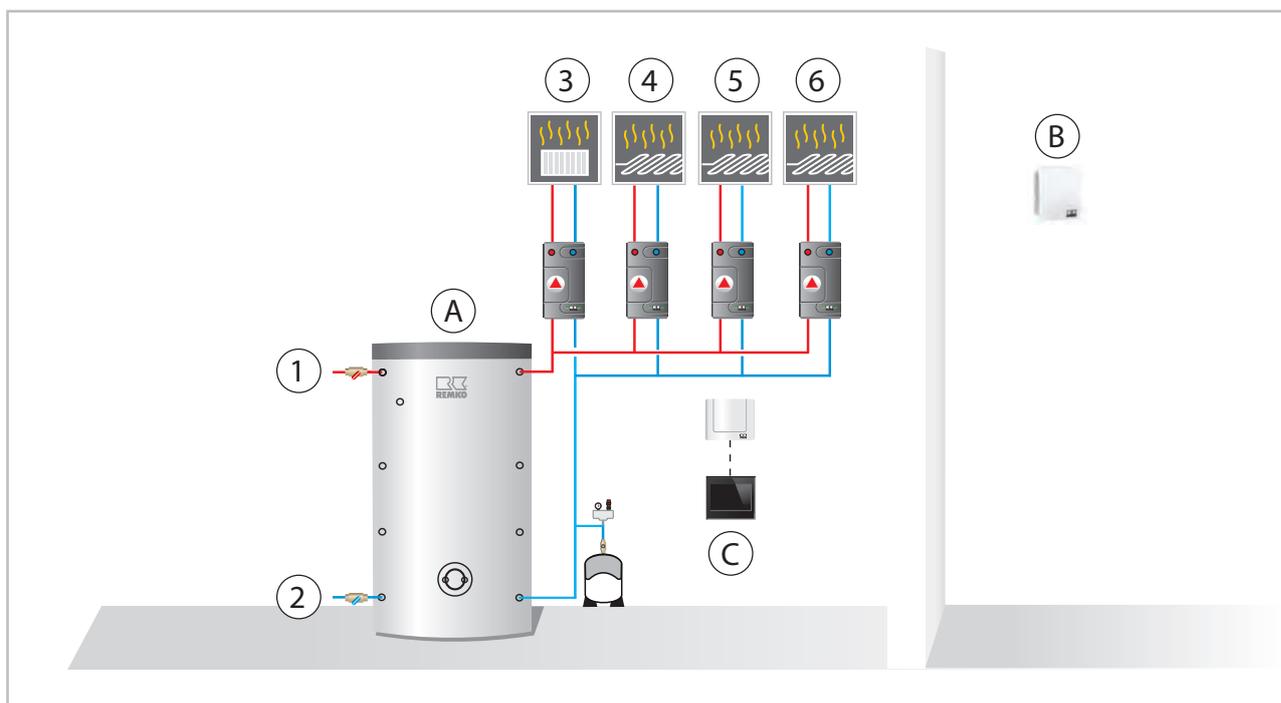


Fig. 8: Example hydraulic diagram

- |                                    |                      |
|------------------------------------|----------------------|
| A: Storage tank                    | 3: Unmixed circuit   |
| B: Room temperature/humidity probe | 4: 1st mixed circuit |
| C: Smart Control Touch             | 5: 2nd mixed circuit |
| 1: Heat pump inlet line            | 6: 3rd mixed circuit |
| 2: Heat pump return flow           |                      |

### CAUTION

During cooling mode via the underfloor/panel heating system, make sure that the dew point is not undershot. REMKO recommends installing dew point probes in conjunction with one (max. five probes for dew point monitoring) or more dew point monitors.

**Cooling via an underfloor/panel heating system is technically only released in conjunction with a room temperature/moisture probe from REMKO.**

# REMKO Smart-Control Touch

## 4.3 Changeover summer/winter mode

During the usual heating period (from around October to the start of May of the following year), the REMKO heat pump must provide constant heat for the heating operation.

The heat pump, circulation pumps and heating surfaces are constantly in operation, in order to keep all rooms at the desired temperature. However, during the summertime warming up the heating surfaces is not necessary.

So-called summer mode exists to prevent the heat pump continuing to produce heat to warm the building during the warmer months. With this mode, the heat pump is controlled such that the heating operation and circulation pumps for the heating surfaces only go into operation if a certain temperature limit is undershot at the external probe.

The basic setting of the REMKO Smart-Control Touch controller is 16 degrees if no adjustment has been made to the desired room set temperature. The adjustment of this summer/winter changeover is described in the following steps.

### Heating limit

The heating limit of the Smart-Control Touch controller is coupled with the room set temperature via the parameter "Difference from heating limit".

In the following diagram, the possible value setting for the different building types is to be determined. The information in the diagram pertains to a room set temperature of 20 °C.

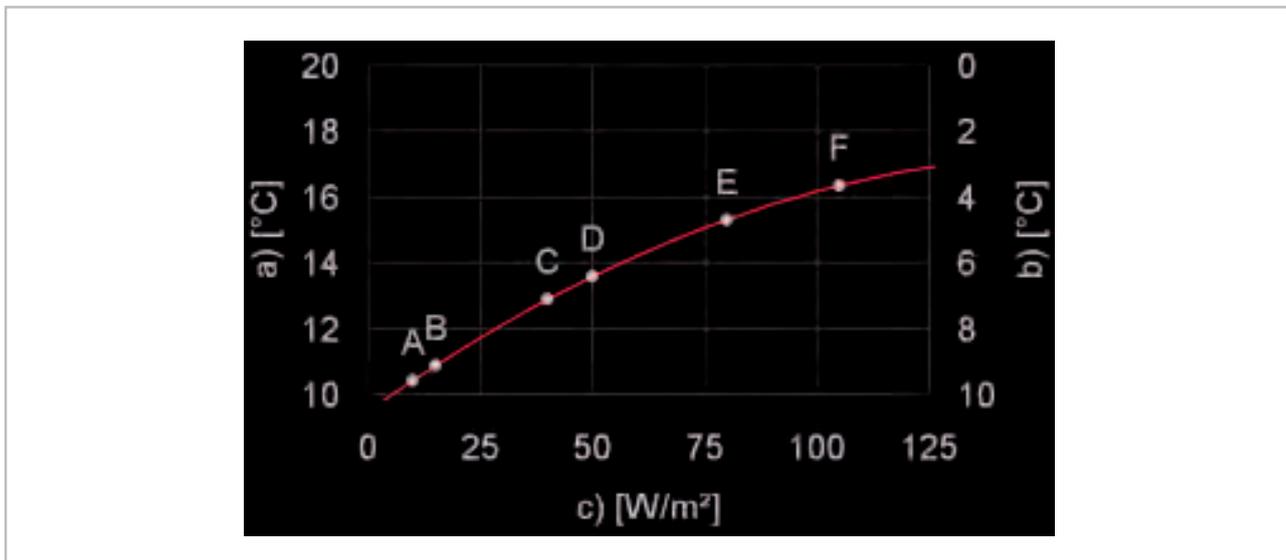


Fig. 9: Setting the heating limit

- a: Heating limit temperature
- b: Difference from heating limit
- c: Energy requirement of the building
- A: Zero-energy house
- B: 3-litre house

- C: Low-energy house
- D: ENEV-WSchV 1995 [German Heat Protection Ordinance]
- E: Year of construction 1977 to 1995
- F: Before 1977

### Room target temperature

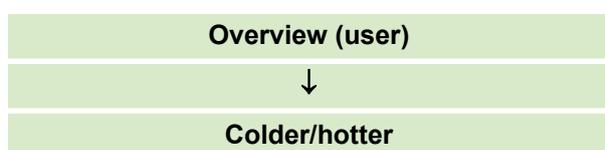
In order to specify the point of the summer/winter changeover, you must first determine the value "colder/hotter" because this is coupled with the heating limit temperature (see "Example setting").

This parameter is used to calculate the desired target room temperature.

The value 0.0 °C gives a desired room temperature of 20 °C.

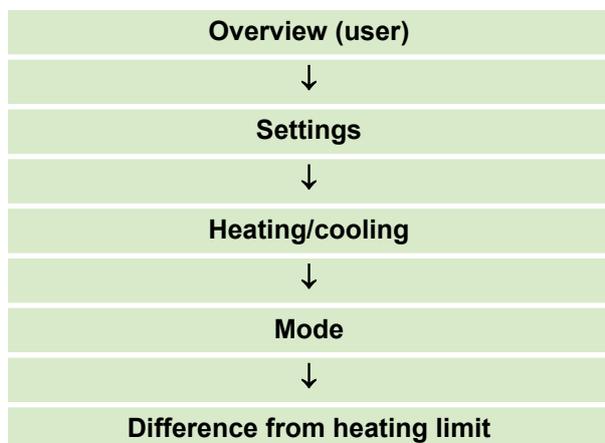
This value can be changed from -10 °C (room target temperature +10 °C) to +10 °C (room target temperature +30 °C).

upon



### Heating limit (summer mode)

The value required to switch off heating operation of the heat pump can be set in the parameter "Difference from heating limit".



The value 0.0 K means that the heat pump only switches to summer mode if the room set temperature, e.g. 20 °C, is reached at the external probe. Please note the diagram in Fig. 9 for information on which value should be set here.

### Example setting:

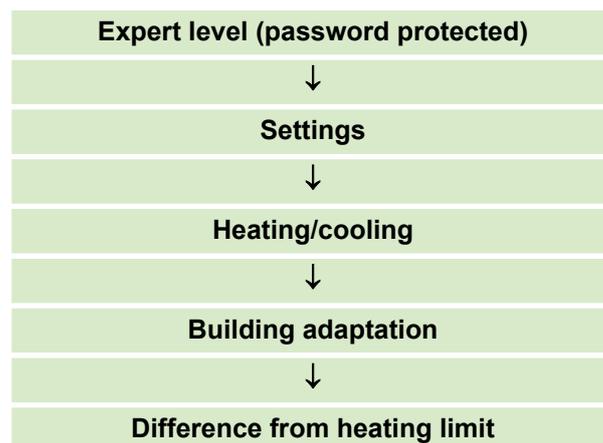
The "colder/hotter" parameter (room target temperature) of +2 °C means a desired room temperature of +22 °C.

The "Difference from heating limit" parameter (summer/winter changeover) of 7.0 K means heating operation of the heat pump up to an outside temperature of +15 °C

(+22 °C room target temperature - 7.0 K "colder/hotter" = +15 °C).

The heating operation is interrupted when the desired heating limit is exceeded and after the time stored for the building time constant has passed. Only the hot water supply is still active.

The building time constant is preset by REMKO in the factory at 10 hours. Setting the building time constant should prevent the heat pump from cycling. The better the building standard, the longer the possible setting of the building time constant. This value can only be changed in the expert level and must generally only be saved once.



# REMKO Smart-Control Touch

## 4.4 WLAN function

### Installation and setup of the WLAN function

#### System requirements

The following system requirements are necessary to complete the WLAN function installation successfully:

- REMKO Smart Control Touch controller with software version 4.25 or higher
- JavaScript/HTML5-capable web browser (version not more than two years old)
- Broadband internet connection of at least 10 mbit/s
- The WLAN router must support the WPA 2 encryption/security standard

#### Installation in house

The central controller for the REMKO heat pump via a smart phone or other mobile devices can be installed virtually anywhere in the building.

The connection requires a router which is connected directly to the control unit of the heat pump via WLAN.

#### ! NOTICE!

The router must be set up by a specialist



*The WLAN function is limited to the in-house WLAN network of the operator only. Outside the WLAN network of the in-house router, access to the heat pump parameters is not possible.*



Fig. 10: External access

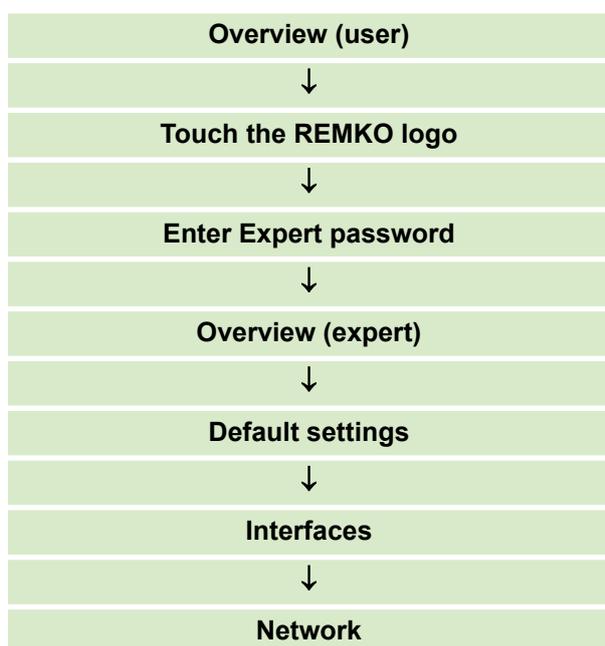
1: Router (example)

2: REMKO Smart-Control Touch

## Installation on mobile devices

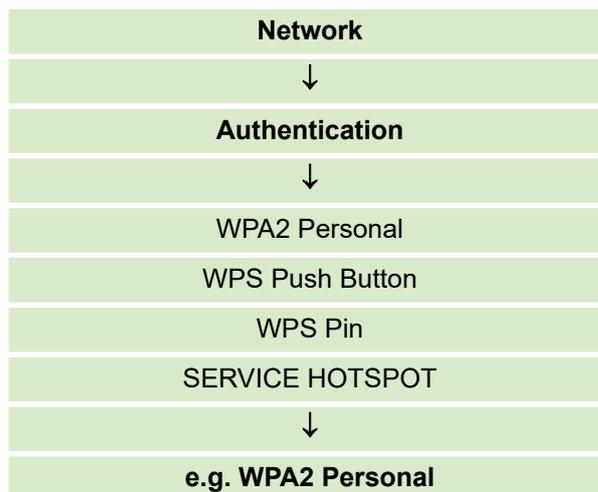
To be able to use the WLAN function of the REMKO heat pump, a connection must be established with the WLAN-capable in-house router. This is only possible at the expert level. To do so, touch the REMKO logo in the upper right corner of the display.

After activating the expert level by touching the corresponding REMKO logo, a password is required. To enter the password at this level, use "+/-" and then proceed to the next item with "Next". Once you have finished entering the REMKO default password "0321", confirm the input with "OK".



## Setting up the network

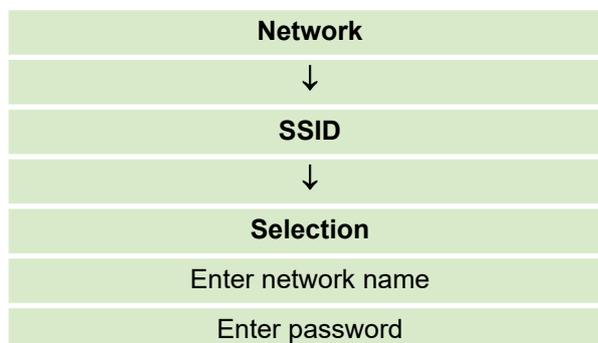
In the authentication parameter, now select the appropriate parameter for your WLAN network. Note that the REMKO Smart-Control Touch only supports the WPA 2 encryption/security standard. For this purpose you must know the name of your WLAN network and the corresponding password. Once you have selected, for example "WPA2 personal", you must then enter the SSID (name of the WLAN network).



For authentication via the "WPS Push Button" the internal house router must have a push button function.

To select the "SSID" parameter, scroll down the screen in the "Network" level.

Then enter the name of your network and the password. When doing so you can choose between upper and lower case letters, numbers or special characters such as ?/&/%. To do so, press the "Selection" icon multiple times. Select "Next" to proceed to the next letter or number for entry. The "Delete" icon removes incorrectly stored entries.

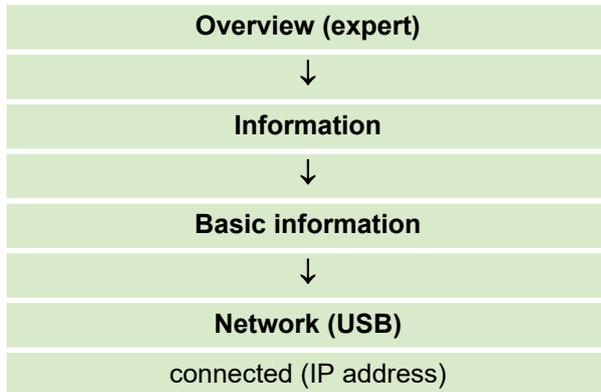


Once you have entered the network name or password correctly, confirm the input with the "OK" icon.

Touching the "Cancel" icon completely cancels the entry.

# REMKO Smart-Control Touch

Once all parameters for your WLAN network have been correctly saved, the heat pump will connect with your network. You can check this via the "Network USB" parameter. "Connect" must be displayed here (if all data is correct). To view the heat pump data on a smartphone, tablet or laptop, make a note of the IP address that comes after the identifier "connected".



## WLAN function

After the parameters described above have been set, activation is complete. To return to the basic display, exit the parameter level via the arrow at the top left or touch the "Overview" symbol.



*To connect the REMKO Smart-Control Touch with your router, the WLAN network must be received by the controller with sufficient signal strength!*

When you enter the IP address provided in your web browser, you access the basic display of your heat pump controller. You now have the option of controlling the relevant operating parameters for the user and expert level of your REMKO heat pump via a PC, laptop or smartphone.

This function is available to you constantly whilst connected to the WLAN network of your router. Outside of your network, you have no further access to the parameters of your controller.

If you require the option of accessing the parameters of your controller outside of the actual WLAN network, this is only possible with the REMKO Smart-Web function.

This supplementary software can be additionally ordered and installed on the Smart-Control Touch controller.

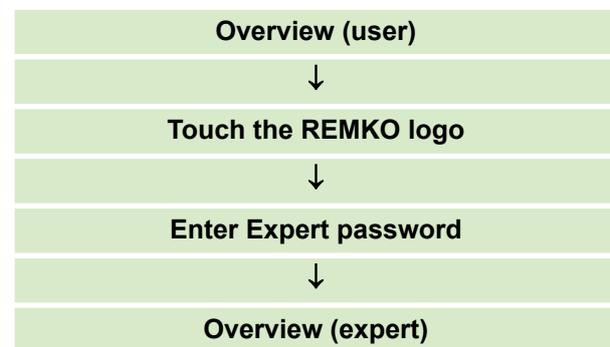
Please observe the separate operating instructions for the REMKO Smart-Web function in this regard.

## 4.5 Emergency-heat operation

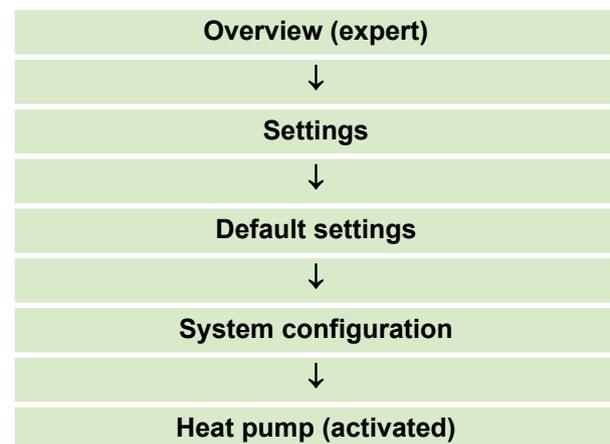
To activate Emergency-heat operation, the parameter "Heat pump" must be changed from "activated" to "deactivated". This is only possible at the expert level. To do so, touch the REMKO logo in the upper right corner of the display.

After activating the expert level by touching the corresponding REMKO logo, a password is required. To enter the password at this level, use "+/-" and then proceed to the next item with "Next". Once you have finished entering the REMKO default password "0321", confirm the input with "OK".

Now the expert level is enabled.

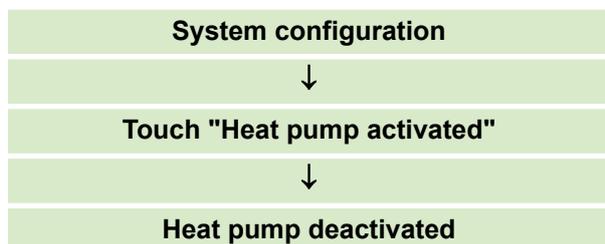


In the expert level, the parameter "Heat pump" can be accessed as follows:



Then deactivate the heat pump by touching the parameter "Heat pump" and changing from "activated" to "deactivated" via the indicators "V and Λ".

Then confirm the change with "OK".



With the deactivation of the heat pump, the Emergency-heat operation via the auxiliary heating is active.

To return to the basic display, touch the REMKO logo.



*From software version 4.28 it is possible to save the emergency-heat operation as a widget in the start menu. You will find a description of this in the chapter "Operation - General information".*

# REMKO Smart-Control Touch

## 5 Operation - Expert level

### 5.1 Menu structure of the controller

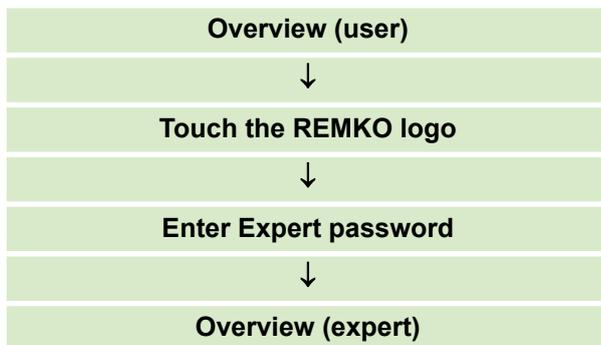
#### Structure of the expert level

The following information is primarily directed at specialist personnel.

You can access the expert level by touching the REMKO logo in the upper right corner of the display.

After activating the expert level, a password is required. To enter the password at this level, use "+/-" and then proceed to the next item with "Next". Once you have finished entering the REMKO default password "0321", confirm the input with "OK".

This password is only valid if it has not already been changed!



In the "Expert" level, you have access to the following submenus:

- Overview
- Information
- Settings
- Messages

These first level menus can only be operated by experts.

#### Overview

The indicators on the overview are the parameters that are often used.

#### Information

You can obtain basic information about the complete system here.

Here, you will also find corresponding information on the respective parameters enabled, such as hot water, heating circuits or the hydraulics and their operating statuses.

#### Settings

In the settings menu item it is possible to adjust parameters for the enabled components. Here, you have the option of adjusting e.g. heating curves in accordance with the requirements the REMKO heat pump user. Relevant points that affect the safety of the complete system are only to be changed by a specialist. These are only enabled in the expert level following entry of the password.

#### Messages

The "messages" level displays warnings, faults and malfunctions.

In the following, you will find tables containing the respective parameters for the available settings.

You can find numerous info texts about the individual level menu items on your Smart-Control Touch controller.



*The following diagrams and explanations relate to the full menu structure, which may differ from the menu structure of your own controller. Only the relevant menu items and parameters are displayed by the Smart Control, depending upon which heat generators and functions you have activated. For example, if no heating cycle has been activated, the corresponding menu items and parameters are not displayed.*

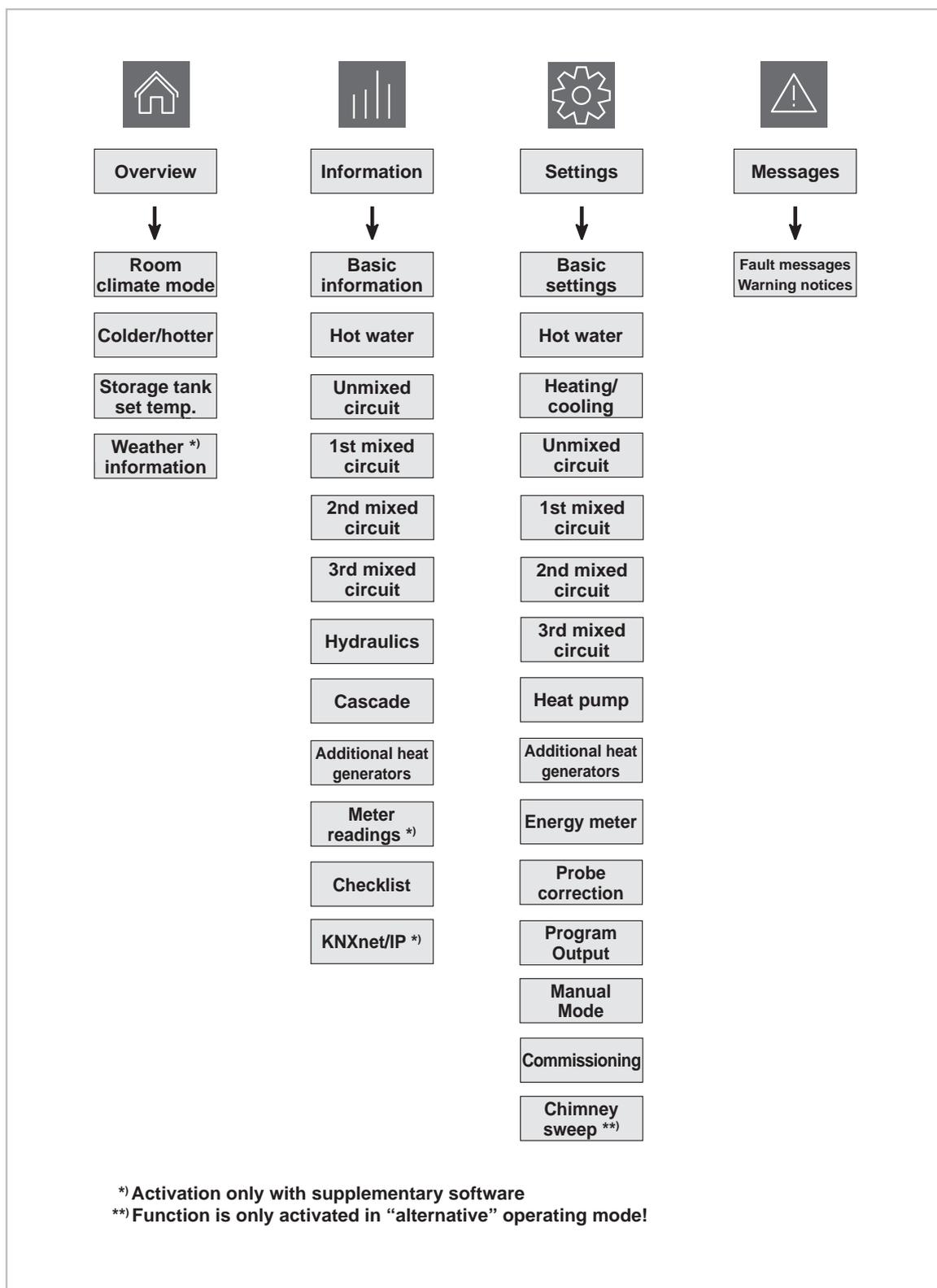


Fig. 11: Expert level menu structure overview

# REMKO Smart-Control Touch

## "Information" menu item - Expert

This menu contains information about the current operating status of the system.

Depending on the heat pump installed and the design, individual parameters may vary from version to version.

Level 2 menu item	Level 3 menu item	Level 4 menu item
Basic information	Status	Detected unit
		Control algorithm
		Current operating mode
		Previous operating mode
		Room climate
		Party mode
		Away mode
		Anti-freeze protection
		Power consumption L
		Mains frequency
		Cascade
		Smart-Count *)
		Smart-Web *)
		Smart-Com *)
		Activation code
		Serial number
		I/O module status
		SG-Ready operating state
		Date/Time
	Date	
Time zone		

\*) These functions are only possible with the requisite supplementary software, available to purchase

"Information" menu item  (continued) - Expert

Level 2 menu item	Level 3 menu item	Level 4 menu item
Basic information (continued)	Version number	Hardware control panel
		Hardware
		Software control panel
		Software
		Software (I/O 2) *)
		Linux Kernel Control Panel
		Linux Kernel
		HP edition *)
		µPC software date *)
		µPC version 2 *)
		µPC software date 2 *)
		EEPROM edition
		Revision
		Inverter model
		Revision
	Inverter model	
	Network	DHCP mode
		IP address
		Subnet
		Gateway
		MAC address
	Network (USB)	USB interface
		IP address
		Subnet
		Gateway
		MAC address
		WLAN status
		Signal quality
		Network (BSSID)
	Licence information	---

\*) This menu item may differ from your display depending on the type and model of the heat pump.

# REMKO Smart-Control Touch

"Information" menu item  (continued) - Expert

Level 2 menu item	Level 3 menu item
Hot water	Hot water demand
	Hot water storage tank target temperature
	Hot water storage tank actual temperature S08
	Changeover valve A10
	Hot water energy
	Hygiene function
	Medium flow rate S27
	Tap volume
	Circulation request S05
	Circulation set temperature
	Circulation actual temperature S05
	Circulation pump A04
Sources Buffer tank	Operating mode
	Set temperature
	Actual temperature
	Temperature of buffer tank

"Information" menu item  (continued) - Expert

Level 2 menu item	Level 3 menu item
Unmixed circuit	Operating mode
	Set temp.
	Actual temp.
	Inlet temp. S09
	Return temp. S10
	Room target temperature
	Room actual temperature
	Room humidity
	Dew point
	Outside temperature S06
	Subdued outside temperature
	Pump requirement A01
	Absolute pump speed A40
	Pump speed rel. A40
	Current output
	Heating energy
	Cooling energy
	KNX status
KNX setpoint adjustment	

# REMKO Smart-Control Touch

## "Information" menu item (continued) - Expert

Level 2 menu item	Level 3 menu item
1st, 2nd and 3rd mixed circuit	Operating mode
	Set temp.
	Actual temp.
	Inlet temp. (1st Circuit S11, 2. Circuit S13, 3. Circuit S15)
	Return temp. (1st Circuit S12, 2. Circuit S14, 3. Circuit S16)
	Room target temperature
	Room actual temperature
	Room humidity
	Dew point
	Outside temperature S06
	Mixed outside temperature
	Subdued outside temperature
	Pump requirement A02
	Absolute Pump speed (Circuit 1-3)
	Pump speed rel. (1st Circuit A41, 2. Circuit A42, 3. Circuit A43)
	Mixing valve heating cycle status A20/A21
	Mixing valve position (1. Circuit A20/A21, 2. Circuit A22/A23, 3. Circuit A24/A25)
	Medium flow rate (1st Circuit S22, 2. Circuit S23, 3. Circuit S24)
	Current output
	Heating energy
Cooling energy	
KNX status	
KNX setpoint adjustment	

"Information" menu item  (continued) - Expert

Level 2 menu item	Level 3 menu item
Screed drying function	Screed drying mode
	Momentary set temperature
	Remaining time
	Elapsed time
Hydraulics	Demand
	Hot water temperature (setpoint)
	Hot water temperature (actual value)
	Outside temperature S06
	Buffer tank temp. S07
	Buffer tank temp. cooling S08
	Changeover valve cooling A14
	Therm.output
	Heating energy
	Cooling energy
Trace heating A31	

# REMKO Smart-Control Touch

"Information" menu item  (continued) - Expert

Level 2 menu item	Level 3 menu item	Level 4 menu item
Cascade	1. Heat pump	Heat pump status
		Remaining idle time
		Compressor status
		Defrost status
		Fault status
		Enable signal
		Disable compressor
		Heat pump mode
		Disable signal S40
		Current output
		Compressor starts
		Run-time (hours)
		Comm-Kit status A2/B2
		Last malfunction uPC
		2. Heat pump
	Remaining idle time	
	Compressor status	
	Defrost status	
	Fault status	
	Enable signal	
	Disable compressor	
	Heat pump mode	
	Disable signal S40	
	Current output	
	Compressor starts	
	Run-time (hours)	
	Comm-Kit status A2/B2	
	Last malfunction uPC	
	3. - 10. Heat pump	

"Information" menu item  (continued) - Expert

Level 2 menu item	Level 3 menu item	Level 4 menu item
Cascade (continued)	Cooling circuit	Heat pump
		Air temperature AM
		Water inlet temperature
		Water outlet temperature
		Suction gas temperature
		Heat gas temperature
		Evaporation temperature
		Evaporation pressure
		Condenser temperature
		Condenser pressure
		Fan speed
		Degree of opening of the expansion valve
		Overheating
		Pump speed
	Medium flow rate	
	EVI circuit	Heat pump
		Hot steam injection
		Hot steam temperature
		Injection pressure
		Equivalent temperature
		Degree of opening of the expansion valve
		EVI overheating

# REMKO Smart-Control Touch

## "Information" menu item (continued) - Expert

Level 2 menu item	Level 3 menu item	Level 4 menu item
Auxiliary heat generator	Heat generator status	
	Potential-free output A32	
	Enable	
	Enable time (hours)	
Meter readings	Heat pump	Therm. energy (hours)
		Therm. energy (day)
		Therm. energy (week)
		Therm. energy (month)
		Therm. energy (year)
		Therm. energy, heat pump
		Output, environment
		Environmental energy (day)
		Environmental energy (week)
		Environmental energy (month)
		Environmental energy (year)
		Environmental energy
		Electrical power, heat pump
		Electr. energy (hours)
		Electr. energy (day)
Electr. energy (week)		
Electr. energy (month)		
Electr. energy (year)		

"Information" menu item  (continued) - Expert

Level 2 menu item	Level 3 menu item	Level 4 menu item
Meter readings (continued)	Household	Current household output
		Household energy (day)
		Household energy (week)
		Household energy (month)
		Household energy (year)
	Photovoltaic	Household energy
		Photovoltaic output
		PV yield (day)
		PV yield (week)
		PV yield (month)
		PV yield (year)
		Photovoltaic yield
		Feed-in power
		Feed-in (day)
		Feed-in (week)
		Feed-in (month)
		Feed-in (year)
		Feed-in
		Private consumption power
		Private consumption (day)
		Private consumption (week)
		Private consumption (month)
		Private consumption (year)
	Heating & hot water	Energy consumption
		Heating energy
		Cooling energy
		Hot water energy
	CO <sub>2</sub> savings	Hot water meter
		CO <sub>2</sub> savings
		Equivalent in trees

# REMKO Smart-Control Touch

## "Information" menu item (continued) - Expert

Level 2 menu item	Level 3 menu item
Checklist	Circulation request S05
	Circ. actual temp. S05
	Outside temperature S06
	Buffer tank temp. S07
	Buffer tank temp. cooling S08
	Inlet temp. S09
	Return temp. S10
	Inlet temp. S11
	Return temp. S12
	Inlet temp. S13
	Return temp. S14
	Inlet temp. S15
	Return temp. S16
	Medium flow rate S21
	Medium flow rate S22
	Medium flow rate S23
	Medium flow rate S24
	Impulse counter reading S26
	Medium flow rate S27
	Impulse counter reading S28
	Impulse counter reading S29
	Disable signal S40
	Enabling contact (GLT) S41
	Switch over heating/cooling (GLT) S42
Photovoltaics status (GLT) S43	
KNXnet/IP	IP of the KNX interface
	MAC for the KNX interface
	Address of the interface
	Physical address
	KNX connection status
	Programming mode
	Programming mode interface
	Application version

## "Settings" menu item - Expert

In this menu you can configure the settings. For example, you can adjust hot water and heating temperatures or change time settings.

Level 2 menu item	Level 3 menu item	Level 4 menu item
Default settings	Language/Time	Time synchronisation
		Date
		Time
		Date format
		Time format
		Language
		Temperature unit
		Decimal separator
		Time zone
		Mains frequency
		Display
	Display off	
	Default screen	
	Expert password	
	Unit	
	Restart	
	Empty cache	
	Interfaces	Network (USB)
		DHCP via input
		Use DHCP
		Local IP address
Subnet mask		
		Gateway address

# REMKO Smart-Control Touch

## "Settings" menu item (continued) - Expert

Level 2 menu item	Level 3 menu item	Level 4 menu item	Level 5 menu item
Basic settings (continued)	Interfaces (continued)	KNXnet/IP	Smart Com
			Protocol
			Interface search
			IP of the KNX interface
			Re-couple interface
			Physical address
			Address of the interface
			Tunnel address 1
			Tunnel address 2
			Tunnel address 3
			Tunnel address 4
			Tunnel address 5
			Programming mode
		Serial interface 2	Search indoor units
			Indoor units search
			Reset malfunction
		Automatic mode	Normal room temperature
			Difference from cooling limit
			Difference from heating limit
		System configuration	Heat pump
			Auxiliary heat generator
			PV current usage
			Graduated tariffs
			Domestic hot-water heating
			Hot water circulation
			Hygiene function
			Unmixed circuit
			1st mixed circuit
			2nd mixed circuit
			3rd mixed circuit
			Setpoint increase
			Separate cooling buffer
		Potential-free inlets	

"Settings" menu item  (continued) - Expert

Level 2 menu item	Level 3 menu item	Level 4 menu item
Hot water	Domestic hot-water heating	Storage tank set temp.
		Mode
		Time program A
		Time program B
		Time program C
		Tolerance during ECO operation
		Switch-off delay
		Hot water valve
		1 x WW aufheizen
	Circulation	Circulation type
		Circulation set temp.
		Set temp. hysteresis
		Time program
		Running time
	Hygiene function	Disable switch-on
		Set temperature
		Day of activation
		Time of activation
		Inspection time
		Storage tank volume
		Pulse valency
Max. duration until cancellation		
Circulation pump		
2nd Heat pump		

# REMKO Smart-Control Touch

## Factory-set circulation switching times

Designation	Value range	Factory setting	Customer system
Time program	Mon-Sun	Mon-Sun	00:00-24:00

## Hygiene function

Designation	Value range	Factory setting	Customer system
Set temperature	"60 °C - 75 °C"	60 °C	
Day of activation	Mon-Sun	Monday	
Time of activation	Hrs/Mins	20:00	
Inspection time	24 h - 72 h	72 h	
Storage tank volume	0 - 1000 l	300 l	
Pulse valency	0.0 - 20.0 l/imp	3.1 l/imp	
Max. duration until cancellation	15 - 120 min	60 min	
Circulation pump	Activated / Deactivated	Deactivated	

"Settings" menu item  (continued) - Expert

Level 2 menu item	Level 3 menu item	Level 4 menu item
Heating/cooling	Building adaptation	Building time constant
		Standard outside temp. (Heating)
		Standard outside temp. (Cooling)
		Max. cooling down (outside temperature ref.)
		Inertia of the heating curve
	Mode	Room climate mode
		User profile (time program A,B,C)
		Stand-By time program
		Away mode
		Party mode
		Difference from heating limit
	Screed drying function <b>After the screed function we recommend ending this function manually by deactivating it!</b>	Difference from cooling limit
		Floor screed function status
		Start/end temperature
		Max.temperature
		Heating phase increment
		Drying time
		Time at high temp.
		Incremental cooling phase
Time at low temp.		

**Floor screed function**

Designation	Value range	Factory setting	Customer system
Floor screed function status	Activated / Deactivated	Deactivated	
Start/end/max/temp.	"10 °C-50 °C"/"20 °C-50 °C"	20 °C/35 °C	
Incremental heating phase	0.0 K - 10.0 K	5.0 K	
Drying time	0.0 h - 192 h	24 h	
Time at high temp.	0.0 h - 192 h	96 h	
Incremental cooling phase	0.0 K - 10.0 K	5.0 K	
Time at low temp.	0.0 h - 192 h	24 h	

# REMKO Smart-Control Touch

## "Settings" menu item (continued) - Expert

Level 2 menu item	Level 3 menu item
Unmixed circuit	Operating mode
	Heating circuit mode
	Fixed value
	Heating curve adjustment
	Cooling circuit mode
	Fixed value
	Cooling curve adjustment
	Time program A
	Time program B
	Time program C
	Time program function
	Room temperature reduction
	Room temperature increase
	Room unit
	Room temperature influence
	Dew point monitoring
	Dew point distance
	Delta T regulation
	Delta T setpoint
	Pump type
	Min. pump speed A40 (%)
	Max. pump speed A40 (%)
	Min. pump speed A40 (rpm)
	Max. pump speed A40 (rpm)
	Heat meter
	Manual medium flow rate
	Impulse rate medium flow rate S21

"Settings" menu item  (continued) - Expert

Level 2 menu item	Level 3 menu item
1st, 2nd and 3rd mixed circuit	Operating mode
	Heating circuit mode
	Fixed value
	Heating curve adjustment
	Cooling circuit mode
	Fixed value
	Cooling curve adjustment
	Time program A
	Time program B
	Time program C
	Time program function
	Room temperature reduction
	Room temperature increase
	Room unit
	Room temperature influence
	Dew point monitoring
	Dew point distance
	Max. inlet temperature
	Delta T regulation
	Delta T setpoint
	Pump type
	Min. pump speed (1st Circuit A41, 2. Circuit A42, 3. Circuit A43) (%)
	Max. pump speed (1st Circuit A41, 2. Circuit A42, 3. Circuit A43) (%)
	Min. pump speed (1st Circuit A41, 2. Circuit A42, 3. Circuit A43) (rpm)
	Max. pump speed (1st Circuit A41, 2. Circuit A42, 3. Circuit A43) (rpm)
	Mixing valve running time
	Heat meter
	Manual medium flow rate
	Impulse rate for medium flow rate (1st Circuit S22, 2. Circuit S23, 3. Circuit S24)

# REMKO Smart-Control Touch

"Settings" menu item  (continued) - Expert

## Unmixed & mixed circuit switching times

Designation	Factory setting	Customer system
Time program A	Mo-Su 00:00-24:00	
Time program B	Mo-Fr 05:00-23:00	
	Sa-Su 06:00-23:00	
Time program C	Mo-Fr 05:00-23:00	
	Sa-Su 06:00-23:00	

Level 2 menu item	Level 3 menu item	Level 4 menu item
Heat pump (continued)	Graduated tariff	Number of power tariffs
		Time field Tariff 1-9
		Power tariff 1-9
		Continuous hot water influence
		Short-term hot water influence
		Short-term heating influence
		Continuous heating influence
	PV current usage	PV personal use variant
		Power tariff 1
		Feed-in tariff
		Personal use tariff
		Factor for PV power surplus
		Damping electrical power
		Hot water setpoint
		Setpoint heating
		Setpoint cooling
		Continuous heating influence
		PV cooling limit distance
		Minimum running time for cooling (PV)
		Target feed-in
		Hysteresis

"Settings" menu item  (continued) - Expert

Level 2 menu item	Level 3 menu item	Level 4 menu item
Heat pump (continued)	SG-Ready *)	Setpoint heating (Status 3)
		Setpoint heating (Status 4)
		Setpoint cooling (Status 3)
		Setpoint cooling (Status 4)
		Hot water setpoint (Status 3)
		Hot water setpoint (Status 4)
		Enable E-heater (Status 4)
Auxiliary heat generator	Operating mode	
	Response to disable signal S40	
	Supply changeover valve A12	
	Reheating HW	
Energy meter	Heat pump (electrical)	Meter constant S25
	Domestic supply meter (elec.)	Meter constant S26
	Photovoltaics (yield)	Meter constant S28
Probe correction	Outside temperature	
Program output	Alarm messages selection	

\*) SG-Ready parameters from software version 4.28

# REMKO Smart-Control Touch

## "Settings" menu item (continued) - Expert

### Manual mode (relay test)

With this menu item, you can control the individual actuators (pumps, mixing valves, etc.) manually or specify values of probes for checking.

Parameter		Selection parameter
Manual mode		Permanent / Deactivated / 15 minutes
Pump unmixed circuit	A01	Auto / On / Off
Pump 1st mixed circuit	A02	Auto / On / Off
Pump 2nd mixed circuit	A03	Auto / On / Off
Pump 3rd mixed circuit	A04	Auto / On / Off
Changeover valve, hot water	A10	Auto / On / Off
Hot water circulation pump	A11	Auto / On / Off
Cooling changeover valve	A14	Auto / On / Off
Open mixing valve 1st mixed circuit	A20	Open / Stop / Close / Auto
Close mixing valve 1st mixed circuit	A21	Open / Stop / Close / Auto
Open mixing valve 2nd mixed circuit	A22	Open / Stop / Close / Auto
Close mixing valve 2nd mixed circuit	A23	Open / Stop / Close / Auto
Open mixing valve 3rd mixed circuit	A24	Open / Stop / Close / Auto
Close mixing valve 3rd mixed circuit	A25	Open / Stop / Close / Auto
Trace heating	A31	Auto / On / Off
Auxiliary heat generator	A32	Auto / On / Off
Hygiene function	A33	Auto / On / Off
Alarm signal	A34	Auto / Closed / Open
Pump unmixed circuit	A40	Auto / On / Off
Speed	A40	Auto / On / Off
Pump 1st mixed circuit	A41	Auto / On / Off
Speed	A41	Auto / On / Off
Pump 2nd mixed circuit	A42	Auto / On / Off
Speed	A42	Auto / On / Off
Pump 3rd mixed circuit	A43	Auto / On / Off
Speed	A43	Auto / On / Off

**Manual mode (probes) **

Parameter		Selection parameter
Manual mode		Permanent / Deactivated / 15 minutes
Storage tank temperature, lower	S03	Probe value
		Default value "-60°C - 250°C"
Storage tank temperature, upper	S04	Probe value
		Default value "-60°C - 250°C"
Circulation paddle switch	S05	Auto / On / Off
Outside temperature	S06	Probe value
		Default value "-60°C - 250°C"
Temperature of buffer tank	S07	Probe value
		Default value "-60°C - 250°C"
Temperature of buffer tank (cooling)	S08	Probe value
		Default value "-60°C - 250°C"
Unmix. circuit inlet temp.	S09	Probe value
		Default value "-60°C - 250°C"
Unmix. circuit return flow temp.	S10	Probe value
		Default value "-60°C - 250°C"
1st mixed circuit inlet temp.	S11	Probe value
		Default value "-60°C - 250°C"
1st mixed circuit return flow temp.	S12	Probe value
		Default value "-60°C - 250°C"
2nd mixed circuit inlet temp.	S13	Probe value
		Default value "-60°C - 250°C"
2nd mixed circuit return flow temp.	S14	Probe value
		Default value "-60°C - 250°C"
3rd mixed circuit inlet temp.	S15	Probe value
		Default value "-60°C - 250°C"
3rd mixed circuit return flow temp.	S16	Probe value
		Default value "-60°C - 250°C"

# REMKO Smart-Control Touch

"Message" menu item  (continued) - Expert

Manual mode (probes)  (continued)

Parameter		Selection parameter
Unmix. circuit medium flow rate	S21	Probe value
		Default value "Impulse 0 - 100 l/min"
1st mixed circuit medium flow rate	S22	Probe value
		Default value "Impulse 0 - 100 l/min"
2nd mixed circuit medium flow rate	S23	Probe value
		Default value "Impulse 0 - 100 l/min"
3rd mixed circuit medium flow rate	S24	Probe value
		Default value "Impulse 0 - 100 l/min"
Energy supplier external block	S40	Auto / On / Off
Enabling contact (GLT)	S41	Auto / On / Off
Switch over heating/cooling (GLT)	S42	Auto / On / Off
Photovoltaics status (GLT)	S43	Auto / On / Off

Parameter		Selection parameter
ModBus		
Heat pump operating mode	μPC	Auto / On / Off
Heating/cooling enable	μPC	deactivated / HP1 / HP2 / HP3
Enable hot water	μPC	deactivated / HP1 / HP2 / HP3
Enable E-heater	μPC	deactivated / HP1 / HP2 / HP3
Manual defrosting	μPC	deactivated / HP1 / HP2 / HP3

**"Settings" menu item  (continued) - Expert**

**Commissioning**

Information on the "Commissioning" menu item is described in the separate "Commissioning wizard" chapter on the next pages.

**"Settings" menu item  (continued) - Expert**

**Chimney sweep**

Level 2 menu item	Level 3 menu item
Mode	Normal operation/test mode
Hot water valve	Deactivated/activated
Running time	15 - 90 minutes

**"Messages" menu item    - Expert**

This menu displays warnings, warning information and error messages.

If this "Messages" symbol should light up in red or yellow in the basic display, it is necessary to check which fault, warning or note is displayed on the message level. In order to call up the message level, it is only necessary to touch the symbol.

# REMKO Smart-Control Touch

## 5.2 Commissioning wizard

When starting the controller for the first time the commissioning assistant is started in order to implement the basic programming of the existing system. After commissioning has been fully completed, the default set of parameters is enabled. During the first heating period, the thermal characteristics of the system should be observed, and the parameters optimised as necessary.

The following parameters are enabled according to the installed heat pump and components. The parameters of the installation level must be enabled on the heat pump and a number of these must be adjusted to the site configuration.

### Setting the country

Please confirm this parameter in order to load the country-specific settings. The selection of the country determines the setting for the date format, units of measurement and temperature limits. All settings can be modified at a later date.

### Setting country and country-specific settings

Menu item	Parameter	Factory setting
Country	Germany	Germany
	Österreich	
	Schweiz	
	United States	
	United Kingdom	
	Nederland	
	Belgique	
	Luxembourg	
	France	
	Espana	
	Portugal	
	Italia	
	Greece	
	Norge	
	Danmark	
	Sverige	
	Suomi	
Polska		
Cesko		
Slovensko		

### Setting the language

All menu entries, commands and parameters are displayed in plain language in the language selected.

Menu item	Parameter	Factory setting
Language setting	Deutsch	<b>Deutsch</b>
	English	
	Francais	
	Italiano	
	Espanol	
	Portugues	
	Nederlands	
	Polski	
Čeština		

### Setting the time zone for the winter time

Selecting the time zone for the winter time allows the switch to daylight savings time to occur automatically. The respective time zone in winter must be specified.

Central Europe (GER, FR, IT, ES, PL)

-CET (Central European Time, Berlin, Paris)

If UTC (Universal Time Coordinated) is selected, no automatic switch to daylight savings time occurs.

Menu item	Parameter	Factory setting
Time zone (winter)	Time zones from "Winter -12" to "Winter +12 (PETT)" can be set	<b>Winter +1 (CET)</b>

### Setting the date

When setting the date, first the four-digit year is selected, then the month, and finally the day.

Menu item	Parameter	Factory setting
Date setting	Year	<b>Current date entry</b>
	Month	
	Day	

# REMKO Smart-Control Touch

## Setting the time

From here, you can set the current time. The controller has automatic summertime switching, which can also be activated from the menu "Language/Time" (+1 CET).

When setting the time, first the hours are selected, and then the minutes.

Menu item	Parameter	Factory setting
Time setting	Hours	Current time entry
	Minutes	

## Restore counter readings

When first installing the controller, this parameter is confirmed with "NO".

Confirm this parameter with "YES" if you have performed a software update and wish to restore the previous counter readings.

Menu item	Parameter	Factory setting
Restore counter readings	YES	NO
	NO	

## Load user settings

When first installing the controller this parameter is confirmed with "NO".

If a new software status is installed after the initial installation, it is possible to confirm this with "YES" and all existing parameters will be accepted anew. This means a complete new installation is unnecessary.

Menu item	Parameter	Factory setting
Load user settings	YES	NO
	NO	

## Heat pump selection

The controller detects automatically that a heat pump has been connected. If necessary, activate the heat pump.

Menu item	Parameter	Factory setting
Heat pump selection	1-10	1

## Auxiliary heat generator

Activate the additional heat generator if a second heat generator is present.

Menu item	Parameter	Factory setting
Auxiliary heat generator	Active/inactive	Inactive

## Operating mode

Two operating modes are available:

1. ➤ Alternative
2. ➤ Parallel

Menu item	Parameter	Factory setting
Operating mode selection	Parallel	<b>Alternative</b>
	Alternative	

Selection of the auxiliary heat generator:

- alternative (heat pump or oil/gas-fired boiler or wall heating)
- parallel (heat pump and/or Smart Serv electric heating element) according to usable limits

The operating mode of the internal pump in the indoor unit must be defined here in the level "Expert → Settings → Auxiliary heat generator → Internal pump".

## Source buffer tank

Optionally, the "Source buffer tank" function can be activated. Activation must take place when the heat pump is used as a heat source of the buffer tank for supplying the REMKO MWL heat pumps. If the heat pump is not required as a heat source for the MWL heat pumps, activation of this function is not necessary and remains deactivated!

Menu item	Parameter	Factory setting
Source buffer tank	Activated	<b>Deactivated</b>
	Deactivated	

## Domestic hot-water heating

Optionally, you can activate or deactivate the "Domestic hot-water heating" function. Activate domestic hot-water heating if domestic water has to be heated for washing or showering. When this function is activated, the associated parameters are then queried. Pay attention to information on the display.

Menu item	Parameter	Factory setting
Domestic hot-water heating	Activated	<b>Deactivated</b>
	Deactivated	

# REMKO Smart-Control Touch

## Storage tank set temperature

Desired temperature for the domestic hot water.

If there is a solar yield, the storage tank can become substantially warmer. The maximum temperature for solar charging can be modified under Settings/Solar/Storage tank.

For efficiency reasons, the lowest possible set temperature should be selected. If the available quantity of hot water is insufficient, the value should be increased. Pay attention to the maximum temperature of the heat pump.

Menu item	Parameter	Factory setting
Storage tank set temp.	40 °C - 65 °C	45 °C

## Hot water circulation

If there is a hot water circulation pump in the building, which you are intending to operate in an energy-saving manner using the controller, this function must be activated.

Menu item	Parameter	Factory setting
Hot water circulation	Deactivated	As required
	Activated	

## Circulation type

(dependent on which probes are used)

Impulse circulation: (Only in conjunction with the REMKO impulse generator)

If briefly dispensing water triggers an impulse on the flow-operated safety device, this is registered by the controller and the circulation pump is started up. This means that the circulation is also active when it is required.

Temperature-guided circulation: (Only in conjunction with the REMKO S05 probe)

Temperature-guided circulation keeps the hot water temperature at the set temperature.

Select the circulation type.

Menu item	Parameter	Factory setting
Circulation type	Impulse circulation	As required
	Temperature-guided circulation	

## Circulation set temperature - temperature-guided circulation

Desired set temperature for temperature-guided circulation.

This should be set at least 5 °C below the set temperature for the hot water storage tank, or even lower for efficiency reasons.

Then set the desired temperature.

Menu item	Parameter	Factory setting
Temperature-guided circulation	25 °C - 65 °C	35 °C

### Impulse-guided circulation - Running time of the circulation

Switch-on time of the circulation pump after a dispensing impulse.

If the circulation line is very short, a shorter running time may suffice. If the time is not sufficient to pump hot water to a remote dispensing point, the running time must be extended.

Then select the desired temperature.

Menu item	Parameter	Factory setting
Impulse-guided circulation - Running time of the circulation	1 min - 15 mins	<b>5 min.</b>

### Impulse-guided circulation - Disable switch-on

After the running time of the circulation pump, the pump cannot be started again while disable switch on is active. This prevents unnecessary permanent operation of the pump in the case of continuous dispensing. If the hot water cools too much while disable switch-on is active, the time should be shortened.

Then select the desired time.

Menu item	Parameter	Factory setting
Impulse-guided circulation - Disable switch-on	1 min - 15 mins	<b>5 min.</b>

### Unmixed circuit

Optionally, you can activate or deactivate the "Unmixed circuit" function.

Menu item	Parameter	Factory setting
Unmixed circuit	Deactivated	<b>Deactivated</b>
	Activated	

# REMKO Smart-Control Touch

## Operating mode

Select the operating mode for the unmixed circuit.

## Setting heating circuit mode

This is where you can select between the different **heating circuit modes**. The choice is between control according to the set **"heating curve"** and **"fixed value regulation"**.

Menu item	Parameter	Factory setting
Operating mode unmixed circuit	Heating	<b>As required</b>
	Cooling	
	Heating and cooling	

**After setting the unmixed mixed heating circuit, the 1st mixed heating circuit is enabled, and after activating the 1st mixed heating circuit, the 2nd mixed heating circuit is enabled.**

**The descriptions of the 1st and 2nd mixed heating circuit are identical to the unmixed heating circuit.**

The mixed heating circuits each require a supply and return probe! These probes are included in the scope of supply of the mixed REMKO heating circuit groups.

## Standard outside temperature (heating)

The standard outside temperature must be set to the appropriate value for the region. After setting the correct temperature, this is stored for all activated heating circuits that are to be controlled in accordance with a heating curve.

Menu item	Parameter	Factory setting
Standard outside temperature (heating)	0 °C - -20 °C	<b>-10 °C</b>

## Standard outside temperature (cooling)

The standard outside temperature must be set to the appropriate value for the region. After setting the correct temperature, this is stored for all activated cooling circuits that are to be controlled in accordance with a cooling curve.

Menu item	Parameter	Factory setting
Standard outside temperature (cooling)	+30 °C - +40 °C	<b>+36 °C</b>

### Setpoint increase

After activating the system separation it is possible to select a setpoint increase, in order to balance the heat losses with a heat exchanger.

Menu item	Parameter	Factory setting
Setpoint temperature	0 - 10	5.0 K

### Separate cooling buffer

Activate the separate cooling buffer if a second buffer is present (one buffer for heating operation and one buffer for the cooling operation).

Menu item	Parameter	Factory setting
Separate cooling buffer	Active/inactive	Inactive

### Setting the building time constant

The building time constant specifies the ability of the building to retain heat. The building time constant is dependent upon the type of building (see table). The value is also dependent on individual temperature perception, and so the information in the table should only be treated as a guide.

Recommended are:

Building type	Heat retention ability	Recommended value
Light	Low heat retention ability, e.g. prefab/wood-frame houses	approx. 10 h
Medium	Moderate heat retention ability, e.g. house made from hollow blocks	approx. 20 h
Heavy	High heat retention ability, e.g. brick house	approx. 30 h
Very heavy	Very high heat retention ability, e.g. exterior and interior walls > 30 cm	approx. 60 h
Passive	Well-insulated, e.g. zero-energy housing	approx. 100 h

Menu item	Parameter	Factory setting
Building time constant	0 - 100 h	According to design! - 10 h

# REMKO Smart-Control Touch

## 5.3 Hygiene function/ legionella circuit

You have the option of activating a hygiene function.

The hygiene function can only be performed with an active additional heat generator, e.g. with a REMKO Smart-Serv auxiliary heat generator.

This hygiene/legionella function can be activated on a static basis, i.e. always on the same weekday at the set time.

The "Static" operating mode is possible without flow sensor. The hygiene function is purely activated after a time program. To do so, you must set the day and time as well as the desired temperature.

You can also activate a dynamic hygiene function that is aligned with your requirement and storage tank capacity.

The precondition for the dynamic hygiene function is that a REMKO flow sensor (e.g. EDP no. 254070) has been installed. The dynamic hygiene function can be individually adjusted to the user and the installed storage tank size.

Activation of the hygiene function is only possible in the expert level. Accessing the expert level is described in chapter "Operation - Expert level - Menu structure".

The hygiene function is not activated ex works. In order to install this function, select the following parameters consecutively in the expert level:

After selecting the function, the hygiene function is enabled and can be adjusted in the "Settings" level under the point "Hot water". You can find the description for activation and setting in the following.

### Parameter settings for the hygiene function

In order to access the setting parameters for the hygiene function, select the following parameters consecutively:

<b>Expert level</b>
↓
<b>Settings</b>
↓
<b>Basic settings</b>
↓
<b>System configuration</b>
↓
<b>Hygiene function</b>
(OFF)
↓
<b>Static</b>   <b>Dynamic</b>

<b>Expert level</b>
↓
<b>Settings</b>
↓
<b>Hot water</b>
↓
<b>Hygiene function</b>
↓
<b>Static</b>   <b>Dynamic</b>
<b>Set temperature</b>
Day of activation   -
Time of activation   -
-   Inspection time
-   Storage tank volume
-   Pulse valency
<b>Max. duration until cancellation</b>
<b>Circulation pump</b>
<b>2nd heat generator</b>

**Overview of all of the parameters relevant for the static or dynamic hygiene function.**

Static	Dynamic	Description
Set temperature		Setting the target temperature
Day of activation	-	Setting the first weekday
Time of activation	-	Setting the starting time
-	Inspection time	The hygiene function is only active if the tank contents of the hot water storage tank have not been changed for 72 hours. The test time can be shortened here if the customer wishes
-	Storage tank volume	Setting of the hot water storage tank between 0 and 1000 l. Factory setting: 300 litres
-	Pulse valency	Setting dependent on the flow sensor installed (DN15/ DN25, see "Flow sensor" operating instructions)
Max. duration until cancellation		After the set time has elapsed, the hygiene function is interrupted if it has not already been switched off via normal operation
Circulation pump		If a circulation pump has been installed in the factory system, this must be operational when the hygiene function is activated. If the circulation pump is installed on the I/O module (terminal A04) of the heat pump, this is activated via the circulation pump function
2nd heat generator		<p>If the second heat generator in this level is deactivated, it is enabled in accordance with the set bivalency point after the hygiene function has been enabled. If value for hot water does not fall below the set bivalency point, the second heat generator is enable as required. If value for hot water does fall below the set bivalency point, it is enabled immediately after the hygiene function is called up. The definitive bivalency point for your system can be found in the Smart-Control Touch controller instructions in the expert level under "Settings/ Heat pump".</p> <p>If the second heat generator is activated in this level, the second heat generator is immediately enabled with activation of the hygiene function.</p> <p>With bivalent systems (wall heating device/ oil/gas boiler), the hygiene function is exclusively activated via the second heat generator.</p>

After the parameters described above, activation of the hygiene function is completed. To return to the basic display, exit the parameter levels via the arrow at the bottom left.

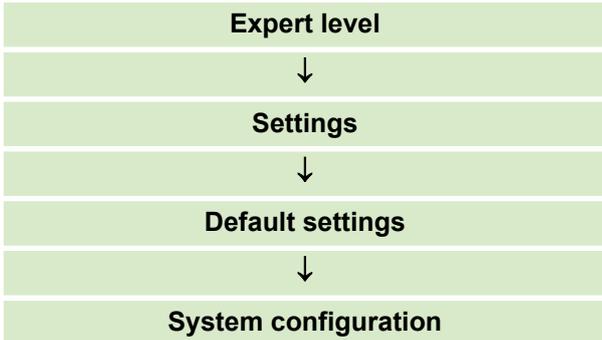
# REMKO Smart-Control Touch

## 5.4 Activate heating and cooling circuit, examples

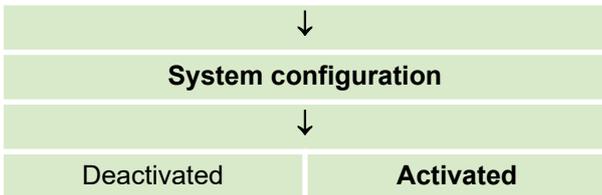
### Example for activating a heating circuit

1. Retrospective enabling of a heating circuit.

Activation of further heating circuits is only possible in the expert level. To do so, activate the expert level with the password "0321" and select the following parameters:



In the "System configuration" level, set the required heating circuit from "deactivated" to "activated". After activation, the circuit is now enabled and can be set in the "User" level and in the "Expert" level of the connected heating circuit configuration. For this purpose, implement the changes as described in the chapter "Setting the heating/cooling operating mode".



**i**  
*The REMKO Smart-Control Touch controller can control max. one unmixed and four mixed heating circuits!*

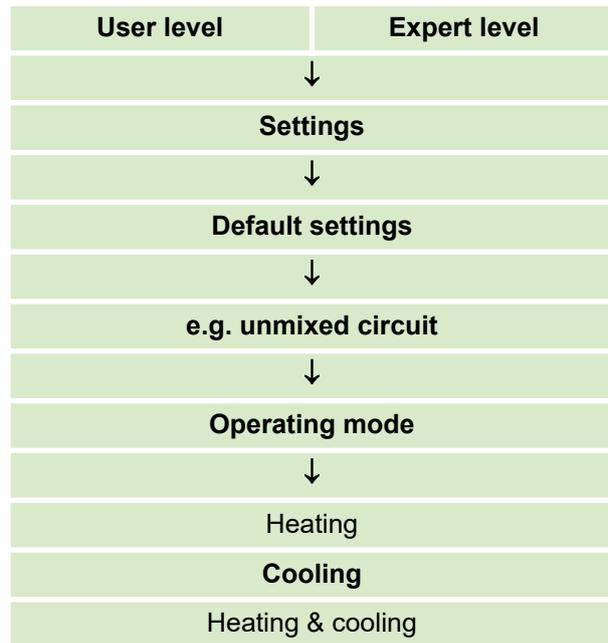
### Example for activating a cooling function

Change operating mode of a heating/cooling circuit.

The operating mode

- Heating
- Cooling
- Heating/cooling

can be changed at any time in the respective activated heating circuits under the parameter "Operating mode".

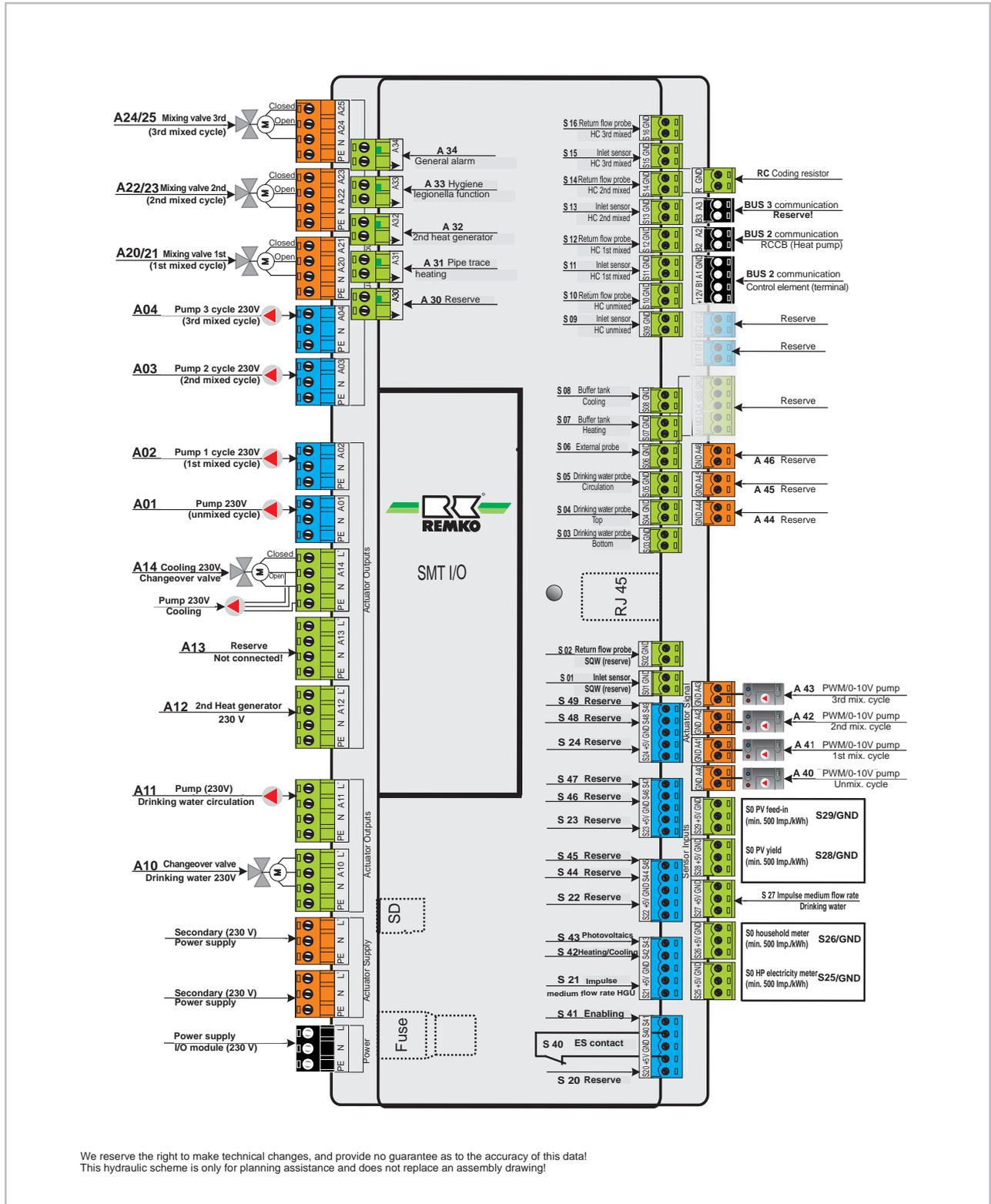


## 6 Electrical wiring

### 6.1 Electrical configuration - I/O module

Use wire gauge corresponding with the connection cable supplied!

Lay load lines separately to measuring lines!



We reserve the right to make technical changes, and provide no guarantee as to the accuracy of this data!  
This hydraulic scheme is only for planning assistance and does not replace an assembly drawing!

# REMKO Smart-Control Touch

## 6.2 Terminal assignment / legend

Designation	Input	Output	Signal	Description
PW	X			Power supply I/O 230V
PP		X		Power supply of external consumers
S01	X			Reserve
S02	X			Reserve
S03	X			Hot water tank probe, bottom
S04	X			Hot water tank probe, top
S05	X			Circulation return flow temp./impulse
S06	X			Outside temperature probe
S07	X			Heating buffer probe
S08	X			Cooling buffer probe
S09	X			Unmixed circuit inlet probe
S10	X			Unmixed circuit return flow probe
S11	X			Probe 1, mixed circuit inlet
S12	X			Probe, 1st mixed circuit return flow
S13	X			Probe 2, mixed circuit inlet
S14	X			Probe, 2nd mixed circuit return flow
S15	X			Probe 3, mixed circuit inlet
S16	X			Probe, 3rd mixed circuit return flow
S20	X			Reserve
S21	X			Impulse medium flow rate, unmixed circuit
S22	X			Impulse medium flow rate, 1st unmixed circuit
S23	X			Impulse medium flow rate, 2nd unmixed circuit
S24	X			Impulse medium flow rate, 3rd unmixed circuit
S25	X			S0 heat pump current meter min. 500 imp./kWh
S26	X			S0 heat pump household meter min. 500 imp./kWh
S27	X			Impulse medium flow rate, dynamic hygiene function
S28	X			S0 PV yield min. 500 imp./kWh
S29	X			S0 PV power supply min. 500 impulses/kWh
S40	x			ES contact
S41	X		1 V/DC	Enabling contact (NO/NC)
S42	X		1 V/DC	Switch over heating/cooling (NO/NC)
S43	X		1 V/DC	Photovoltaics status (NO/NC)
A01		X		230V switched pump unmixed circuit
A02		X		230V switched pump, 1st mixed circuit

Designation	Input	Output	Signal	Description
A03		X		230V switched pump, 2nd mixed circuit
A04		X		230V switched pump, 3rd mixed circuit
A10		X		230V changeover valve, hot water preparation
A11		X		230V circulation pump 230V
A12		X		2. Heat generator 230 V
A13		X		Reserve
A14		X		230V changeover valve, cooling
A20		X		Mixing valve 1st mixed circuit "Open"
A21		X		Mixing valve 1st mixed circuit "Closed"
A22		X		Mixing valve 2nd mixed circuit "Open"
A23		X		Mixing valve 2nd mixed circuit "Closed"
A24		X		Mixing valve 3rd mixed circuit "Open"
A25		X		Mixing valve 3rd mixed circuit "Closed"
A30		X		Reserve
A31		X		Pipe trace heater (anti-freeze protection)
A32		X		Enable 2nd heat generator (e.g. gas/oil boiler)
A33		X		Enable 2nd heat generator (e.g. instantaneous water heater)
A34		X		General alarm signal
A40			X	0-10V without PWM signal unmixed Circulation pump
A41			X	0-10V without PWM signal, 1st mixed circuit pump
A42			X	0-10V without PWM signal, 2nd mixed circuit pump
A43			X	0-10V without PWM signal, 3rd mixed circuit pump
A44			X	Reserve
A45			X	Reserve
A46			X	Reserve
MI,MO,CL K,nSS,GN D				Non functional
OT 1 (2x)				Not connected
OT 2 (2x)				Not connected
B1, A1 +12 Volt, GND				Operating module
B2/A2				Heat pump communication connection
B3/A2				Not connected
R				Coding resistor

# REMKO Smart-Control Touch

## 6.3 Template hydraulic diagrams with installation parameters

### ! NOTICE!

The following template hydraulic systems are only to be used as a planning aid, and do not replace an installation drawing! Technical modifications reserved!

The design and planning of customer-provided hydraulic systems must be performed by a specialist installer!

We recommend adapting plant-specific parameters, such as a heating limits and bivalence point, to the design data!

You can find further hydraulics examples at [www.remko.de](http://www.remko.de)

### Hydraulic circuit diagram for heat pump SQW Package Cologne

Configuration: Circuit unmixed, circuit 1 mixed, circuit 2 mixed, circuit 3 mixed.

Operating mode: monoenergetic.

Function: Heating or cooling.

**This hydraulic circuit diagram serves solely to assist in planning activities; the customer-provided hydraulic system on site must be planned and installed by the installation contractor!**

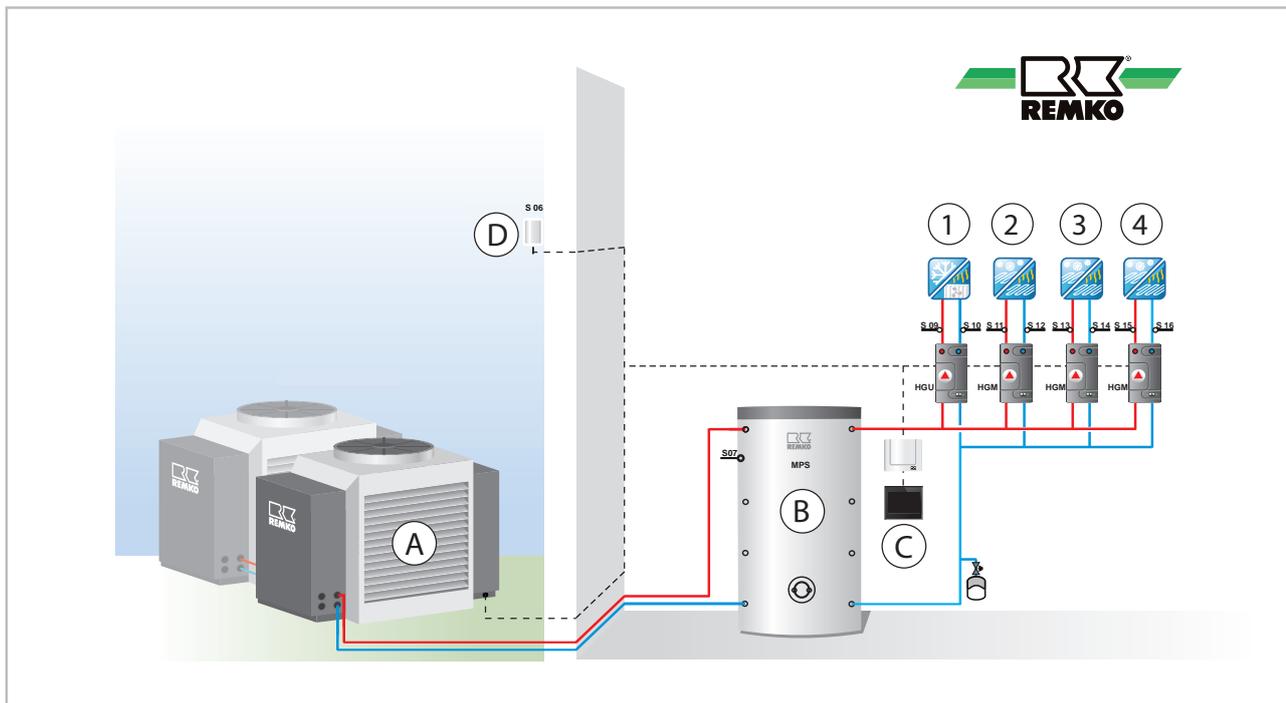


Fig. 12: Example hydraulic diagram

- A: Heat pump SQW
- B: Storage tank
- C: Smart Control
- D: External probe

- 1: Unmixed circuit
- 2: Mixed circuit 1
- 3: Mixed circuit 2
- 4: Mixed circuit 3

### Default settings for SQW Package Cologne

Menu item	Parameter	Factory setting
Activate heat pump	Activated/Deactivated	Activated
Auxiliary heat generator	Activated/Deactivated	Deactivated
Domestic hot-water heating	Activated/Deactivated	Deactivated
Storage tank set temperature	"40°C - 65°C"	45 °C
Hot water circulation	Activated/Deactivated	Deactivated
Circulation type	Impulse	Deactivated
Unmixed circuit	Activated/Deactivated	Activated
Heating circuit mode	Heating curve	Activated
Heating-curve base point	"15 °C - 35 °C"	30 °C
Standard inlet temperature	"40°C - 90 °C"	55 °C
Standard outside temperature	"0 °C - 20 °C"	20 °C
1st mixed circuit	Activated/Deactivated	Activated
Heating circuit mode	Heating curve	Activated
Heating-curve base point	"15 °C - 25 °C"	20 °C
Standard inlet temperature	"28 °C - 90 °C"	35 °C
Standard outside temperature	"0 °C - 20 °C"	20 °C
2nd mixed circuit	Activated/Deactivated	Activated
Heating circuit mode	Heating curve	Activated
Heating-curve base point	"15 °C - 25 °C"	20 °C
Standard inlet temperature	"28 °C - 90 °C"	35 °C
Standard outside temperature	"0 °C - 20 °C"	20 °C
3rd mixed circuit	Activated/Deactivated	Activated
Heating circuit mode	Heating curve	Activated
Heating-curve base point	"15 °C - 25 °C"	20 °C
Standard inlet temperature	"28 °C - 90 °C"	35 °C
Standard outside temperature	"0 °C - 20 °C"	20 °C
Setpoint increase	0 - 10 k	5 k
Separate cooling buffer	Activated/Deactivated	Deactivated
Building time constant	0 h - 100 h	10 h

The parameters must still be adjusted by the customer in accordance with the specifications!

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## 7 Error messages on the Smart Control

Operating messages, warnings and error display on the Smart-Control

Operating messages

ID	Description	Desig.	Details
ID6000	Storage tank 1: Max. temperature reached		The temperature on one of the probes in storage tank 1 is higher than the maximum permitted storage tank temperature
ID6001	HW request		There is an active requirement to charge the storage tank
ID6002	Heat pump compressor start		Heat pump compressor start
ID6003	Switching cycle disabled (I/O2)		The heat pump was disabled in order to reduce the compressor's switching cycles
ID6004	Low pressure difference	μPC2	The pressure difference is too low
ID6005	Internal pump lead time		The internal pump runs at reduced speed during the pump lead time
ID6006	Switching cycle disabled		The heat pump was disabled in order to reduce the compressor's switching cycles
ID6007	Min. holding time		The heat pump is disabled due to a min. holding time
ID6008	Disable signal	S16	The heat pump is disabled due to a disable signal
ID6009	Disable signal (I/O 2)		The heat pump is disabled due to a disable signal
ID6010	Heat pump compressor start (I/O 2)		Heat pump compressor start
ID6011	Maximum defrosting period	μPC2	Maximum defrosting period
ID6012	Defrosting HP (I/O 2)		Defrost heat pump
ID6020	Pump internal after-run time		The internal pump runs at a reduced speed during the pump after-run time
ID6022	Min. holding time (I/O2)		The heat pump is disabled due to a min. holding time
ID6100	Maintenance 1 year interval		Check solar circuit medium
ID6103	Heat demand HP		Heat demand, heat pump
ID6104	Cooling demand HP		Cooling demand, heat pump
ID6105	Defrost heat pump		Defrost heat pump
ID6107	Standby mode active		Standby mode active
ID6108	Random delay after power failure		Random delay after power failure (up to 200 seconds after power returns) - the purpose of the random delay is to avoid a system overload due to many consumers being switched on at the same time
ID6109	Outdoor temp. Heat pump usable limit		Outdoor temp. Heat pump usable limit - the heat pump is disabled due to the usable limits being exceeded or not being reached

ID	Description	Desig.	Details
ID6111	Heat pump bivalence temperature		Heat pump bivalence temperature - the heat pump is disabled because the temperature has dropped below the bivalence temperature
ID6113	Solar heating		Solar heating - heat generators are disabled
ID6114	Temperature dropped below dew point		Compressor is disabled for cooling function
ID6115	Low pressure difference		The pressure difference is too low to start the compressor
ID6116	Maximum defrosting period		Maximum defrosting period
ID6122	Heat pump compressor stop		Heat pump compressor stop

## Error

ID	Description	Desig.	Details
ID7001	General inverter fault	μPC2	General inverter fault - please contact an authorised service technician
ID7002	Device offline	μPC2	Device offline - please check the data connection between the controller board and the inverter
ID7003	Envelope fault	μPC2	Envelope fault - the compressor operates outside the programmed curve. Please contact an authorised service technician
ID7004	Compressor start error	μPC2	Compressor start error
ID7005	Maximum hot gas temperature	μPC2	Maximum hot gas temperature - the compressor is blocked by having reached the maximum hot gas temperature
ID7006	High pressure malfunction	μPC2	High pressure malfunction. If this fault occurs frequently, please contact an authorised service technician
ID7007	High pressure malfunction transducer	μPC2	The compressor is disabled due to a high pressure malfunction
ID7008	Outside temperature probe error	μPC2	Outside temperature probe error - please check the outside temperature sensor on the inverter board and its connection
ID7009	Low pressure malfunction	μPC2	The compressor is disabled due to a low pressure malfunction
ID7010	Fan overload	μPC2	The compressor is disabled due to a fan overload
ID7011	Inlet temperature probe error	μPC2	Inlet temperature probe error - please check the inlet temperature probe on the inverter board and its connection.
ID7012	Outlet temperature probe error	μPC2	Outlet temperature probe error - please check the outlet temperature probe on the inverter board and its connection
ID7013	EEPROM error	μPC2	EEPROM error. Please contact an authorised service technician
ID7014	Hot gas temperature probe error	μPC2	Hot gas temperature probe error - please check the hot gas temperature probe on the inverter board and its connection.

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ID	Description	Desig.	Details
ID7015	Suction gas temperature probe error	μPC2	Suction gas temperature probe error - please check the suction gas temperature probe on the inverter board and its connection
ID7016	High pressure probe error	μPC2	High pressure probe error - please check the high pressure probe on the inverter board and its connection
ID7017	Low pressure probe error	μPC2	Low pressure probe error - please check the low pressure probe on the inverter board and its connection.
ID7018	EEV motor fault	μPC2	EEV motor fault. Please contact an authorised service technician
ID7019	Low overheating	μPC2	The compressor is disabled due to overheating being too low
ID7020	Low suction gas temperature	μPC2	The compressor is disabled due to the suction gas temperature being too low
ID7021	Low evaporation temperature	μPC2	The compressor is disabled due to the evaporation temperature being too low
ID7022	High evaporation temperature	μPC2	The compressor is disabled due to the evaporation temperature being too high.
ID7023	High condensation temperature	μPC2	The compressor is disabled due to the condensation temperature being too high
ID7024	Anti-freeze protection - primary cycle	μPC2	The anti-freeze protection in the heat pump's heat exchanger was triggered due to a system temperature that is too low. After rectifying the cause of the error, reset the error in (Expert/Settings/Heat pump/Basic settings) and, if necessary, de-energise the outdoor unit
ID7025	Negative temperature difference	μPC2	The temperature difference when the heat generator is active is implausible
ID7026	Incorrect phase sequence (rotating field)	μPC2	Incorrect phase sequence (rotating field) or missing phase conductor - please check the phase sequence (the rotating field) of the power supply.
ID7028	Low pressure difference	μPC2	The pressure difference in the cooling cycle is too low
ID7032	Open contact - internal return temp. probe	S15.2	Open contact - internal return temperature probe
ID7033	Short circuit - internal return temp. probe	μPC2	Short circuit - internal return temperature probe
ID7036	External safety chain		Fault in the external safety chain (high pressure or low pressure switch)
ID7037	Low pressure		Low pressure malfunction
ID7038	High pressure		High pressure malfunction
ID7039	AC current fault		AC current consumption is not plausible
ID7040	EEPROM error		The EEPROM settings for the motherboard (outdoor unit) are not plausible
ID7041	Compressor overload malfunction		The compressor's maximum current consumption was exceeded
ID7042	Inverter fault		Check the winding resistances and the connection lines of the compressor

ID	Description	Desig.	Details
ID7043	Suction gas temperature probe fault		Short circuit or open contact – probe for suction gas temperature, outdoor unit
ID7044	Register temperature probe fault		Short circuit or open contact – probe register temperature, outdoor unit
ID7045	High-pressure probe error		Check the high pressure sensor of the outdoor unit and its connection
ID7046	Low-pressure probe error		Check the low pressure sensor of the outdoor unit and its connection
ID7047	Power supply malfunction		Malfunction from over- or undervoltage
ID7048	Medium flow rate probe error		Medium flow rate probe error
ID7049	Humidity probe error		Humidity probe error
ID7050	Anti-freeze protection		The anti-freeze protection in the heat pump's heat exchanger was triggered due to an inlet temperature that is too low. After rectifying the cause of the error, reset the error in (Expert/Settings/Heat pump/Basic settings) and, if necessary, de-energise the outdoor unit
ID7051	Fan malfunction	HP 1	Fan malfunction
ID7052	Low pressure	HP 1	Low pressure malfunction - pressure transducer P1
ID7053	Overheating point undershot	HP 1	Temperature below overheating point for too long
ID7054	Overheating point exceeded	HP 1	Temperature above overheating point for too long
ID7055	High pressure malfunction	HP 1	High pressure malfunction - pressure transducer P2
ID7056	Envelope alarm	HP 1	The compressor ran outside its usable limits for too long
ID7057	High heat gas temperature	HP 1	The maximum hot gas temperature has been exceeded
ID7058	4-way valve fault	HP 1	Pressure difference too low
ID7059	Expansion valve fault	HP 1	The expansion valve was not detected
ID7060	Fault with probe P1	HP 1	Pressure transducer P1 was not detected.
ID7061	Fault with probe P2	HP 1	Pressure transducer P2 was not detected
ID7062	Fault with probe T1	HP 1	Temperature probe T1 was not detected
ID7063	Fault with probe T2	HP 1	Temperature probe T2 was not detected
ID7064	Fault with probe T3	HP 1	Temperature probe T3 was not detected
ID7065	Fault with probe T4	HP 1	Temperature probe T4 was not detected
ID7066	Fault with probe T5	HP 1	Temperature probe T5 was not detected
ID7067	Fault with probe T6	HP 1	Temperature probe T6 was not detected
ID7068	Fault with probe T7	HP 1	Temperature probe T7 was not detected
ID7069	Inverter communication error	HP 1	Communication with the inverter was interrupted

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ID	Description	Desig.	Details
ID7070	High pressure switch	HP 1	The high pressure switch was triggered
ID7071	Inverter interlocked	HP 1	Inverter interlocked
ID7072	Inverter malfunction	HP 1	Inverter malfunction
ID7073	DLT probe fault	HP 1	Temperature probe DLT was not detected
ID7074	Fan malfunction	HP 2	Fan malfunction
ID7075	Low pressure	HP 2	Pressure transducer P1
ID7076	Overheating point undershot	HP 2	Temperature below overheating point for too long
ID7077	Overheating point exceeded	HP 2	Temperature above overheating point for too long
ID7078	High pressure malfunction	HP 2	Pressure transducer P2
ID7079	Envelope alarm	HP 2	The compressor ran outside its usable limits for too long
ID7080	High heat gas temperature	HP 2	The maximum hot gas temperature has been exceeded
ID7081	4-way valve fault	HP 2	Pressure difference too low
ID7082	Expansion valve fault	HP 2	The expansion valve was not detected
ID7083	Fault with probe P1	HP 2	Pressure transducer P1 was not detected
ID7084	Fault with probe P2	HP 2	Pressure transducer P2 was not detected
ID7085	Fault with probe T1	HP 2	Temperature probe T1 was not detected
ID7086	Fault with probe T2	HP 2	Temperature probe T2 was not detected
ID7087	Fault with probe T3	HP 2	Temperature probe T3 was not detected
ID7088	Fault with probe T4	HP 2	Temperature probe T4 was not detected
ID7089	Fault with probe T5	HP 2	Temperature probe T5 was not detected
ID7090	Fault with probe T7	HP 2	Temperature probe T7 was not detected.
ID7091	Inverter communication error	HP 2	Communication with the inverter was interrupted
ID7092	High pressure switch	HP 2	The high pressure switch was triggered
ID7093	Inverter interlocked	HP 2	Inverter interlocked
ID7094	Inverter malfunction	HP 2	Inverter malfunction
ID7095	DLT probe fault	HP 2	Temperature probe DLT was not detected
ID7096	Anti-freeze protection	HP 2	The anti-freeze protection in the heat pump's heat exchanger was triggered due to a return temperature that is too low. After rectifying the cause of the error, reset the error in (Expert/Settings/Heat pump/Basic settings) and, if necessary, de-energise the outdoor unit
ID7097	Flow switch (contact open)		Open contact of the flow switch (jumper plug) during defrost / cooling mode
ID7098	Logic error source circuit		Logic error source circuit - medium flow rate in the source circuit with closed valve

ID	Description	Desig.	Details
ID7099	Communication malfunction		Communication malfunction - I/O module
ID7100	Signal line reversed		Temperatures in the cooling cycle implausible, check the correct connection of the signal lines of outdoor unit A
ID7101	Short circuit - cooling buffer tank probe		Short circuit - cooling buffer tank probe
ID7102	Open contact - cooling buffer tank probe		Open contact - cooling buffer tank probe
ID7103	Incorrect phase sequence	μPC	Incorrect phase sequence (rotating field) - please check the phase sequence (the rotating field) of the power supply
ID7104	Open contact - unmixed circuit inlet temperature probe		Open contact - unmixed circuit inlet temperature probe
ID7105	Short circuit - unmixed circuit inlet temperature probe		Short circuit - unmixed circuit inlet temperature probe
ID7106	Open contact - mixed circuit return temperature probe		Open contact - mixed circuit return temperature probe
ID7107	Short circuit - mixed circuit return temperature probe		Short circuit - mixed circuit return temperature probe
ID7108	Anti-freeze protection		The anti-freeze protection in the heat pump's heat exchanger was triggered due to a return temperature that is too low. After rectifying the cause of the error, reset the error in (Expert/Settings/Heat pump/Basic settings) and, if necessary, de-energise the outdoor unit
ID7110	Short circuit - supply air temp.		Short circuit - supply air temp.
ID7111	Probe fault - outside air temp.		Probe fault - outside air temp.
ID7112	Probe fault - exhaust air temp.		Probe fault - exhaust air temp.
ID7113	Probe fault - outside air humidity		Probe fault - outside air humidity
ID7114	Probe fault - exhaust air humidity		Probe fault - exhaust air humidity
ID7115	Short circuit - inlet temp. probe Source		Short circuit - inlet temp. probe Source
ID7116	Open contact - inlet temp. probe Source		Open contact - inlet temp. probe Source
ID7117	Short circuit - outlet temp. probe Source		Short circuit - outlet temp. probe Source
ID7118	Open contact - outlet temp. probe Source		Open contact - outlet temp. probe Source
ID7119	Short circuit - suction gas temp. probe		Short circuit - suction gas temp. probe

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ID	Description	Desig.	Details
ID7120	Open contact - suction gas temp. probe		Open contact - suction gas temp. probe
ID7121	Short circuit - heat gas temp. probe		Short circuit - heat gas temp. probe
ID7122	Open contact - heat gas temp. probe		Open contact - heat gas temp. probe
ID7151	Room sensor offline		Room sensor offline - The room sensor for the unmixed circuit was not detected
ID7152	Room sensor offline		Room sensor offline - The room sensor for the 1st mixed circuit was not detected
ID7153	Room sensor offline		Room sensor offline - The room sensor for the 2nd mixed circuit was not detected
ID7154	Room sensor offline		Room sensor offline - The room sensor for the 3rd mixed circuit was not detected
ID7155	Room sensor offline		Room sensor offline - The room sensor for the 4th mixed circuit was not detected
ID7156	Room thermostat offline		Room thermostat offline - The room thermostat for the unmixed circuit was not detected
ID7157	Room thermostat offline		Room thermostat offline - The room thermostat for the 1st mixed circuit was not detected
ID7158	Room thermostat offline		Room thermostat offline - The room thermostat for the 2nd mixed circuit was not detected
ID7159	Room thermostat offline		Room thermostat offline - The room thermostat for the 3rd mixed circuit was not detected
ID7160	Room thermostat offline		Room thermostat offline - The room thermostat for the 4th mixed circuit was not detected
ID7161	Modbus address conflict		Modbus address conflict - Make sure that a room sensor and room thermostat never have the same Modbus address
ID7170	Communication malfunction	HP 2	2nd Heat pump
ID7200	Open contact - storage tank 1 bottom probe	S02	Open contact - storage tank 1 bottom probe
ID7201	Short circuit - storage tank 1 bottom probe	S02	Short circuit - storage tank 1 bottom probe
ID7202	Open contact - storage tank 1 middle probe	S09	Open contact - storage tank 1 middle probe
ID7203	Short circuit - storage tank 1 middle probe	S09	Short circuit - storage tank 1 middle probe
ID7204	Open contact - storage tank 1 top probe	S08	Open contact - storage tank 1 top probe
ID7205	Short circuit - storage tank 1 top probe	S08	Short circuit - storage tank 1 top probe
ID7206	Open contact - external probe	S10	Open contact - external probe

ID	Description	Desig.	Details
ID7207	Short circuit - external probe	S10	Short circuit - external probe
ID7208	Open contact - refrigerant probe	S07	Open contact - refrigerant probe
ID7209	Short circuit - refrigerant probe	S07	Short circuit - refrigerant probe
ID7210	Open contact - circulation temp. probe	S05	Open contact - drinking water circulation temperature probe
ID7211	Short circuit - circulation temp. probe	S05	Short circuit - drinking water circulation temperature probe
ID7212	Open contact - inlet temp. probe	S13	Open contact - inlet temp. probe
ID7213	Short circuit contact - inlet temp. probe	S13	Short circuit contact - inlet temp. probe
ID7214	Min. refrigerant temp.	S07	The minimum refrigerant temperature was not reached - anti-freeze protection in the heat exchanger
ID7215	Min. refrigerant temp. (I/O2)	S07.2	The minimum refrigerant temperature (I/O2) was not reached - anti-freeze protection in the heat exchanger
ID7218	Open contact - collector 1 probe	S01	Open contact - collector 1 probe
ID7219	Short circuit - collector 1 probe	S01	Short circuit - collector 1 probe
ID7222	Open contact - Temp. probe inlet collector circuit	S03	Open contact - Temperature probe inlet collector circuit
ID7223	Short circuit - Temp. probe inlet collector circuit	S03	Short circuit - Temp. probe inlet collector circuit
ID7224	Open contact - Temp. probe return flow collector circuit	S04	Open contact - Temperature probe return flow collector circuit
ID7225	Short circuit - Temp. probe return flow collector circuit	S04	Short circuit - Temperature probe return flow collector circuit
ID7228	Open contact - inlet temp. probe	S13.2	Open contact - inlet temp. probe
ID7229	Short circuit contact - inlet temp. probe	S13.2	Short circuit contact - inlet temp. probe
ID7231	Anti-freeze protection (I/O 2)		The anti-freeze protection in the heat pump's heat exchanger was triggered due to an inlet temperature of less than 5 °C. After eliminating the cause of the error, the controller must be restarted to reset the error
ID7236	Open contact - mix. heating cycle inlet temp. probe	S12	Open contact - mixed heating cycle inlet temperature probe
ID7237	Short circuit - mix. heating cycle inlet temp. probe	S12	Short circuit - mixed heating cycle inlet temperature probe

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ID	Description	Desig.	Details
ID7238	Open contact - mix. heating cycle return temp. probe	S11	Open contact - mixed heating cycle return temperature probe
ID7239	Short circuit - mix. heating cycle return temp. probe	S11	Short circuit - mixed heating cycle return temperature probe
ID7240	Connection to the KNX interface	KNX	Connection to the KNX IP interface lost
ID7241	Negative temp. differential	μPC	The temperature difference when the heat generator is active is implausible
ID7245	Tunnel occupied	KNX	The tunnel with the physical address (IA of the SMT) set on the controller is already taken by another KNXnet/IP unit (e.g.: ETS PC) or is not available on the interface
ID7246	Low pressure	μPC	The compressor is disabled due to a low pressure malfunction
ID7247	Device offline	μPC	Device offline - please check the data connection between the controller board and the inverter
ID7248	Interface is not supported	KNX	The KNXnet/IP tunnelling protocol is not supported by the detected KNX interface
ID7249	Incorrect interface detected	KNX	The physical address of the detected KNXnet/IP interface is not consistent with the parameter settings of the SMT controller
ID7250	Min. medium flow rate (I/O 2)		The medium flow rate fell below the heat pump's minimum medium flow rate due to defrosting or in cooling mode. After eliminating the cause of the error, the controller must be restarted to reset the error
ID7251	Min. medium flow rate		The medium flow rate fell below the heat pump's minimum medium flow rate due to defrosting or in cooling mode. After eliminating the cause of the error, the indoor and outdoor units must be restarted to reset the error
ID7252	Heat pump malfunction code	S20	Heat pump malfunction code
ID7253	Heat pump 2 malfunction code	S20.2	Heat pump 2 malfunction code
ID7254	General inverter fault	μPC	General inverter fault - please contact an authorised service technician
ID7255	EEPROM error	μPC	EEPROM error. Please contact an authorised service technician
ID7256	Envelope fault	μPC	Envelope fault - the compressor operates outside the programmed curve. Please contact an authorised service technician
ID7257	Fan overload	μPC	The compressor is disabled due to a fan overload
ID7258	Maximum hot gas temperature	μPC	Maximum hot gas temperature - the compressor is blocked by having reached the maximum hot gas temperature
ID7259	High pressure malfunction	μPC	High pressure malfunction. If this fault occurs frequently, please contact an authorised service technician
ID7260	High pressure malfunction transducer	μPC	The compressor is disabled due to a high pressure malfunction

ID	Description	Desig.	Details
ID7261	Fault with probe B1		Please check probe and the connection to the inverter board
ID7262	Outside temperature probe error	μPC	Outside temperature probe error - please check the outside temperature sensor on the inverter board and its connection
ID7263	Error brine outlet temp. Probe	μPC	Error brine outlet temp. Probe - please check the brine outlet temperature probe on the inverter board and its connection
ID7264	Inlet temperature probe error	μPC	Inlet temperature probe error - please check the inlet temperature probe on the inverter board and its connection
ID7265	Fault with probe B5		Please check probe B5 and the connection to the inverter board
ID7266	Fault with probe B6		Please check probe B6 and the connection to the inverter board
ID7267	Outlet temperature probe error	μPC	Outlet temperature probe error - please check the outlet temperature probe on the inverter board and its connection
ID7268	Fault with probe B8		Please check probe B8 and the connection to the inverter board
ID7269	Hot gas temperature probe error	μPC	Hot gas temperature probe error - please check the hot gas temperature probe on the inverter board and its connection
ID7270	Suction gas temperature probe error	μPC	Suction gas temperature probe error - please check the suction gas temperature probe on the inverter board and its connection
ID7271	High pressure probe error	μPC	High pressure probe error - please check the high pressure probe on the inverter board and its connection
ID7272	Low pressure probe error	μPC	Low pressure probe error - please check the low pressure probe on the inverter board and its connection
ID7273	WKF fault code E101		Communication error between com. kit and outdoor unit. F1/F2 twisted or cable break
ID7274	WKF fault code E177		Compressor stopped due to an emergency stop signal. After eliminating the cause of the error, the indoor and outdoor units must be restarted to reset the error
ID7275	WKF fault code E221		Short circuit or open contact - probe ambient air temperature motherboard outdoor unit CN43 Pin 1&2
ID7276	Restart required		Due to the changed system (setting / coding resistor), the controller has to be restarted - disconnect it from the power supply for around 10 seconds
ID7278	Low overheating		The compressor is disabled due to overheating being too low
ID7282	Low pressure difference	μPC	The pressure difference in the cooling cycle is too low.
ID7283	Open contact - internal return temp. probe	S15	Open contact - internal return temperature probe
ID7284	Short circuit - internal return temperature probe	S15	Short circuit - internal return temperature probe
ID7285	Low suction gas temperature	μPC	The compressor is disabled due to the suction gas temperature being too low
ID7286	Coding error	Rc	A unique unit identifier could not be assigned using the coding resistor at the Rc terminal

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ID	Description	Desig.	Details
ID7287	Low evaporation temperature	μPC	The compressor is disabled due to the evaporation temperature being too low
ID7288	High evaporation temperature	μPC	The compressor is disabled due to the evaporation temperature being too high
ID7289	High condensation temperature	μPC	The compressor is disabled due to the condensation temperature being too high
ID7290	WKF fault code E102		Communication error between com. kit and outdoor unit. F1/F2 twisted or cable break
ID7291	WKF fault code E201		Communication error between com. kit and outdoor unit - communication could not be established or incorrect board version
ID7292	WKF fault code E231		Short circuit or open contact - evaporator temperature probe motherboard outdoor unit CN43 Pin 3&4
ID7293	WKF fault code E251		Short circuit or open contact - hot gas temperature probe motherboard outdoor unit CN43 Pin 5&6
ID7294	WKF fault code E320		Short circuit or open contact - overload switch probe (OLP) motherboard outdoor unit CN43 Pin 7&8
ID7295	WKF fault code E416		Compressor stopped by overheating protection
ID7296	Open contact - 2nd mixed heating cycle return flow temp.	S14	Open contact - 2nd mixed heating cycle return flow temp.
ID7297	Short circuit - 2nd mixed heating cycle return flow temp.	S14	Short circuit - 2nd mixed heating cycle return flow temp.
ID7298	Open contact - 3rd mixed heating cycle inlet temp.	S12.2	Open contact - 3rd mixed heating cycle inlet temp.
ID7299	Short circuit - 3rd mixed heating cycle inlet temp.	S12.2	Short circuit - 3rd mixed heating cycle inlet temp.
ID7300	Open contact - 3rd mixed heating cycle return flow temp.	S11.2	Open contact - 3rd mixed heating cycle return flow temp.
ID7301	Short circuit - 3rd mixed heating cycle return flow temp.	S11.2	Short circuit - 3rd mixed heating cycle return flow temp.
ID7302	Open contact - 4th mixed heating cycle inlet temp.	S06.2	Open contact - 4th mixed heating cycle inlet temp.
ID7303	Short circuit - 4th mixed heating cycle inlet temp.	S06.2	Short circuit - 4th mixed heating cycle inlet temp.
ID7304	Open contact - 4th mixed heating cycle return flow temp.	S14.2	Open contact - 4th mixed heating cycle return flow temp.
ID7305	Short circuit - 4th mixed heating cycle return flow temp.	S14.2	Short circuit - 4th mixed heating cycle return flow temp.

ID	Description	Desig.	Details
ID7306	Open contact - refrigerant probe (I/O 2)	S07.2	Open contact - refrigerant probe (I/O 2)
ID7307	Short circuit - refrigerant probe (I/O 2)	S07.2	Short circuit - refrigerant probe (I/O 2)
ID7308	WKF fault code E464		Overcurrent at the inverter module IPM (IGBT transistor module). Check software status for the motherboard
ID7309	WKF fault code E425		Phase fault malfunction. A phase conductor is missing at the frequency converter (can only occur with WKF 180 - otherwise, check motherboard version)
ID7310	WKF fault code E203		Communication error between motherboard (7-segment display) and inverter board
ID7311	WKF fault code E466		Under-voltage or over-voltage in the intermediate DC circuit of the inverter.
ID7312	WKF fault code E469		Voltage probe fault in the intermediate DC circuit of the inverter. Replace inverter board if necessary
ID7313	WKF fault code E458		Implausibly high current at the current probe or fault at the BLDC motor for fan 1.
ID7314	WKF fault code E475		Malfunction at the BLDC motor for fan 2
ID7315	WKF fault code E461		Implausibly low current at the current probe or malfunction on the inverter board at compressor start (can occur with compressor damage)
ID7316	WKF fault code E467		Missing phase conductor on the compressor
ID7317	WKF fault code E462		Overcurrent fault (primary side) - check power supply / fuse for the EMI board
ID7318	WKF fault code E463		Compressor overtemperature (OLP). Probe value greater than 115 °C (below 12.7 kΩ). Can be caused by a jammed expansion valve
ID7319	WKF fault code E554		Refrigerant quantity / refrigerant loss malfunction
ID7320	WKF fault code E556		Power ratings for the com. kit board (IM) and the motherboard (AM) differ - check board versions.
ID7323	Open contact - brine inlet probe	S07	Open contact - brine inlet probe
ID7324	Short circuit - brine inlet probe	S07	Short circuit - brine inlet probe
ID7325	Compressor start error	μPC	Compressor start error
ID7328	Open contact - 2nd mixed heating cycle inlet temp.	S06	Open contact - 2nd mixed heating cycle inlet temp.
ID7329	Short circuit - 2nd mixed heating cycle inlet temp.	S06	Short circuit - 2nd mixed heating cycle inlet temp.
ID7332	Anti-freeze protection	μPC	The anti-freeze protection in the heat pump's heat exchanger was triggered due to an inlet temperature that is too low. After eliminating the cause of the error, the controller must be restarted to reset the error.

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ID	Description	Desig.	Details
ID7333	Negative temp. differential		The temperature difference when the heat generator is active is implausible
ID7334	Comm. signal		Communication between operating unit SMT 1 and power unit SMT 1 I/O was interrupted.

## Warnings

ID	Description	Desig.	Details
ID8001	Driver offline	μPC2	EVD EVO probe fault
ID8002	Driver offline	μPC2	Driver offline
ID8100	System temperature too low		The system temperature is too low to start the heat pump.
ID8101	Medium flow rate too low		The medium flow rate is too low to start the heat pump
ID8102	Temperature discrepancy in solar cycle		The collector temperature is at least 60K higher than the storage tank temperature
ID8103	Overnight collector temperature		A collector temperature of at least 45°C occurred overnight
ID8104	Medium flow rate too low	HP 2	The medium flow rate is too low to start the heat pump
ID8105	Set medium flow rate	HP1	The flow rate has dropped below the set medium flow rate
ID8107	Compressor status		The active operating mode is safety mode because the compressor is active without demand
ID8108	Compressor start error	μPC	Compressor start error
ID8109	EVD EVO probe fault	μPC	EVD EVO probe fault
ID8110	Driver offline	μPC	Driver offline
ID8111	Room sensor offline		The room sensor for the unmixed circuit was not detected
ID8112	Room sensor offline		The room sensor for the 1st mixed circuit was not detected
ID8113	Room sensor offline		The room sensor for the 2nd mixed circuit was not detected
ID8114	Room sensor offline		The room sensor for the 3rd mixed circuit was not detected
ID8115	Room sensor offline		The room sensor for the 4th mixed circuit was not detected.
ID8132	Anti-freeze protection active		The anti-freeze protection function is currently active - check the room climate mode set
ID8138	HW storage tank set temp.		The hot water storage tank set temperature was reduced due to low outside temperatures
ID8139	Lower application area (heating)		The temperature has currently dropped below the guaranteed application area of the external unit in heating mode
ID8140	Upper application area (heating)		The guaranteed application area of the external unit in heating mode is currently exceeded
ID8141	Lower application area (cooling)		The temperature has currently dropped below the guaranteed application area of the external unit in cooling mode

ID	Description	Desig.	Details
ID8142	Upper application area (cooling)		The guaranteed application area of the external unit in cooling mode is currently exceeded
ID8144	Target flow rate (I/O 2)		The flow rate has dropped below the set medium flow rate
ID8150	Max. defrost duration	HP1	The maximum duration for the defrost has been exceeded
ID8151	Max. defrost duration	HP2	The maximum duration for the defrost has been exceeded.
ID8223	SD card error (host)		SD card error (host): The SD card is either not inserted correctly or an error has occurred
ID8224	SD card error		SD card error (CP): The SD card is not inserted or an error has occurred
ID8225	Dew point monitoring	CP	Dew point monitoring was activated but no control panel (with integrated humidity and temperature probe) was assigned to the cooling cycle to calculate the dew point
ID8226	Temp. dropped below min. inlet temp.		Temp. dropped below min. inlet temp. (or dew point) - cooling request is suppressed
ID8227	Hygiene function: Setpoint not reached		The hygiene function was cancelled due to the maximum runtime being reached before attaining the set temperature
ID8228	Coding resistor fault		A fault has occurred at the Rc terminal. Check the coding resistor and the connection at the Rc terminal.
ID8229	2nd heat generator active		Due to the return temperature being too low during defrosting, the 2nd heat generator activated

# REMKO Smart-Control Touch

## 8 Assembly and installation of the Smart Control Touch controller

### ! NOTICE!

Only use the unit in dry areas and protect it from electromagnetic radiation.

The Smart Control Touch remote can be mounted to a wall, e.g. in the living room.

### Surface-mounted installation



Fig. 13: Surface-mounted installation

To surface-mount the Smart Control Touch remote, proceed as follows:

1. ➤ Fasten the wall bracket directly to the wall using screws and rawplugs.
2. ➤ Lay the patch cable (LAN cable) from the I/O module of the heat pump to the wall bracket. (Not supplied as standard).
3. ➤ Lay a two-core cable from the I/O module of the heat pump to the wall bracket (terminal +12V B1 and GND A1) for the power supply (+12V). (Not supplied as standard).
4. ➤ Connect the remote control to the intended sockets with the cables and bolt the base plate to the wall bracket.
5. ➤ Fit the remote control on the base plate with magnets.

### Electrical wiring and interfaces

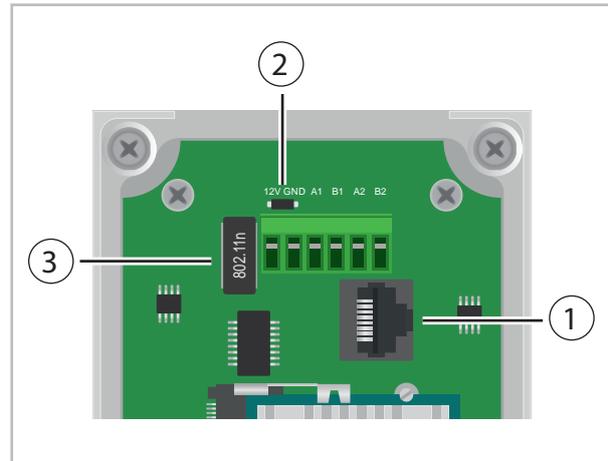


Fig. 14: Electrical wiring and interfaces

- ① Network cable connection (LAN cable)
- ② Power supply connection (12V/GND)

For the surface-mounted installation, the transformer included in the scope of delivery is used for the power supply (230V~ / 12V  $\text{---}$  ). If the unit is flush-mounted, a 12V direct current source must be provided at the installation position.

- ③ WiFi receiver (WLAN stick)

The available WiFi receiver is required if a wireless network connection is to be used.

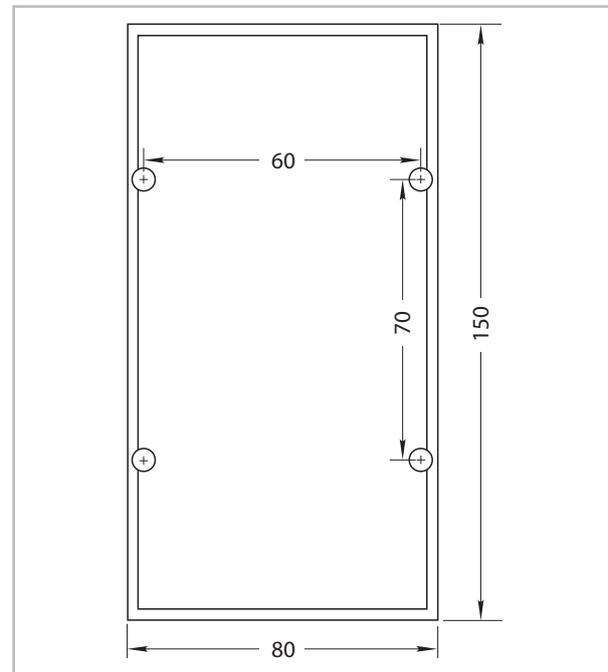


Fig. 15: Assembly and dimensioning of the wall bracket (all measurements in mm)

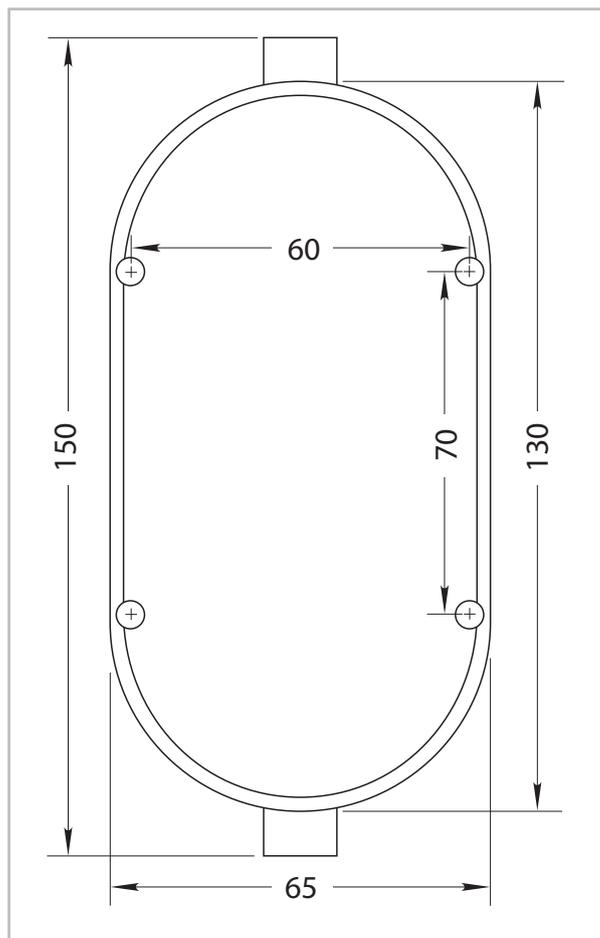
## Flush-mounted installation



*Fig. 16: Flush-mounted installation*

For the flush-mounted installation it is first necessary to install a double flush-mounted socket and connect this with appropriately dimensioned conduit.

Perform the assembly and installation of the remote control as described previously in the section "Surface-mounted installation".



*Fig. 17: Assembly and dimensioning of the wall bracket (all measurements in mm)*

# REMKO Smart-Control Touch

Connection of the remote control to the I/O module with a LAN cable

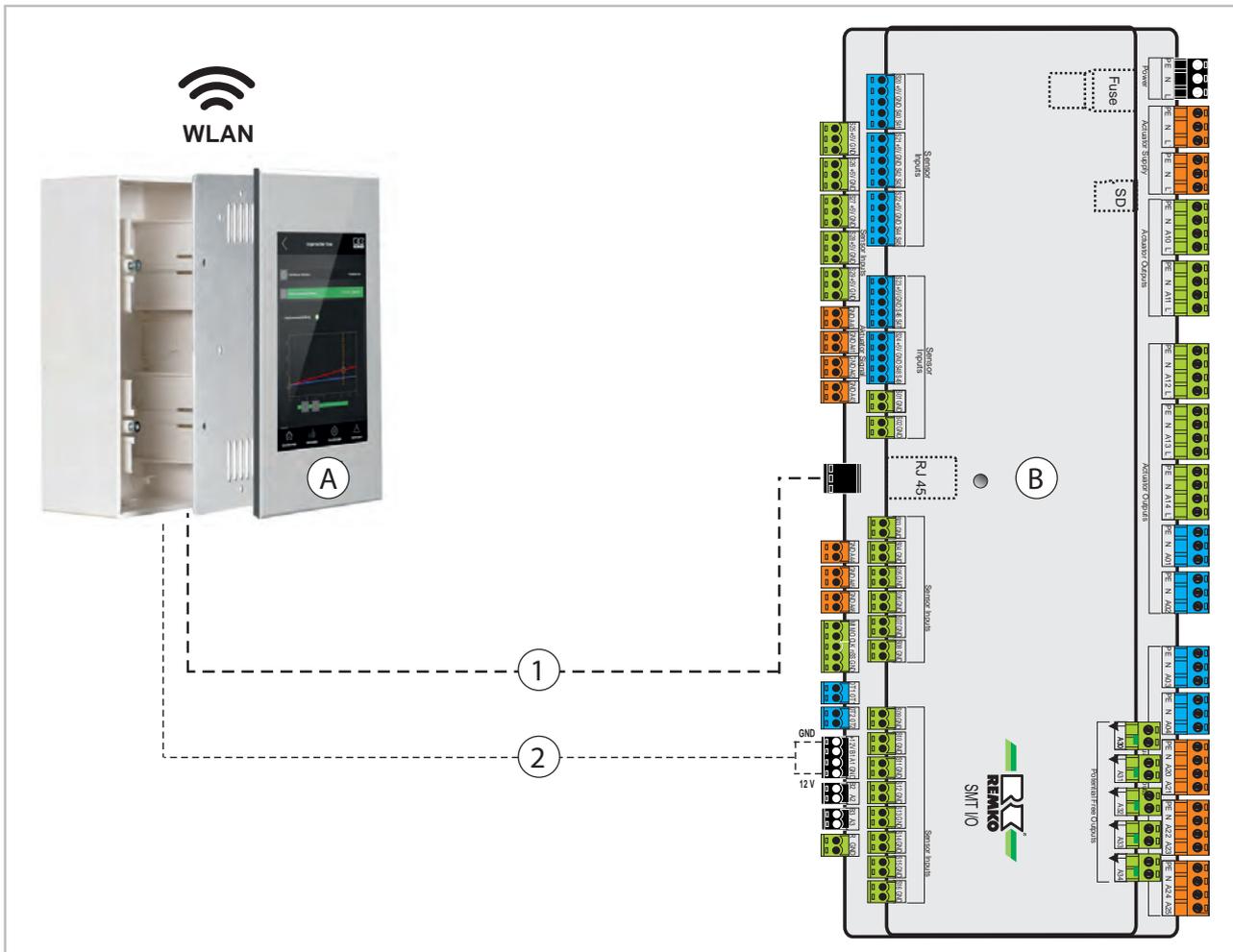


Fig. 18: Connection to the I/O module

A: Remote control

B: I/O module

1: Ethernet interface / patch cable connection (LAN cable)

2: Power supply: +12V, terminal B1/A1



Observe the separate controller instructions for commissioning and programming the REMKO Smart-Control Touch controller.

### Connection of the remote control to the I/O module via a WLAN router

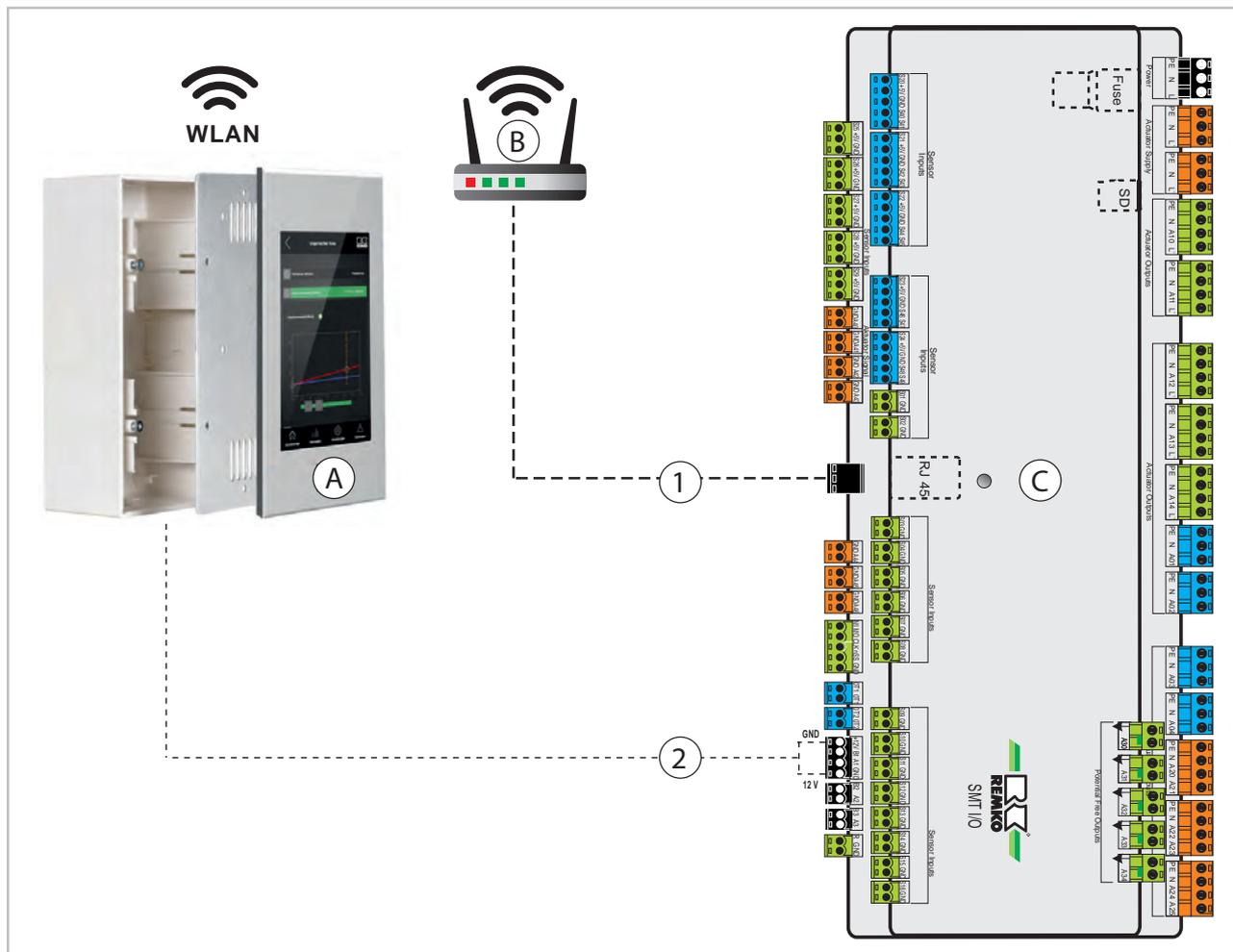


Fig. 19: Connection to the I/O module

A: Remote control

B: Customer's WLAN router

C: I/O module

1: Ethernet interface/patch cable connection (LAN cable)

2: Power supply: +12V, terminal B1/A1



The power supply (+12V) of the controller must be established by the customer with an external mains power supply. Refer in this regard to the technical data for the connection.



Observe the separate controller instructions for commissioning and programming the REMKO Smart-Control Touch controller.



Setting up and installing the WLAN function can be found in the corresponding operating instructions for the Smart-Control Touch controller.

# REMKO Smart-Control Touch

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# REMKO Smart-Control Touch



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