



# KaCool W

► Assembly, installation and operating instructions

Keep these instructions in a safe place for future use!



## Table of contents

<b>1 General .....</b>	<b>5</b>
1.1 About these instructions .....	5
1.2 Explanation of Symbols.....	5
<b>2 Safety.....</b>	<b>6</b>
2.1 Correct use.....	6
2.2 Limits of operation and use.....	6
2.3 Risk from electrocution!.....	8
2.4 Personnel requirements - Qualifications .....	9
2.5 Personal Protective Equipment .....	9
<b>3 Transport, storage and packaging.....</b>	<b>10</b>
3.1 General transport instructions .....	10
3.2 Scope of delivery .....	10
3.3 Storage .....	11
3.4 Packaging .....	11
<b>4 Technical data.....</b>	<b>12</b>
<b>5 Construction and function .....</b>	<b>13</b>
5.1 Overview.....	13
5.2 Brief description .....	13
5.3 Wear parts list.....	13
<b>6 Installation and wiring .....</b>	<b>14</b>
6.1 Requirements governing the installation site.....	14
6.2 Minimum clearances.....	14
6.3 Installation .....	14
6.3.1 Suspending the unit.....	15
6.4 Installation .....	18
6.4.1 Connection to the pipe network .....	18
6.4.2 Overview of valve kits .....	18
6.4.3 Condensate drainage using a condensate pump .....	21
<b>7 Electrical connection.....</b>	<b>22</b>
7.1 Maximum electrical rating values .....	22
7.2 Electromechanical control .....	22
7.2.1 Connection (*00).....	23
7.3 Infra-red remote control version .....	29
7.3.1 2024-09-19_KACOOOL_W_IR.pdf .....	38

7.4	KaControl (*C1) .....	41
7.4.1	KaController installation.....	41
7.4.2	Connection (*C1).....	42
7.5	KaControl MC .....	48
7.5.1	KACOOl_W_KACONTROL_MC.pdf .....	54
7.6	Setting up the KaControl MC control system .....	61
<b>8</b>	<b>Pre-commissioning checks .....</b>	<b>64</b>
<b>9</b>	<b>Operation.....</b>	<b>66</b>
9.1	Operation of electromechanical control .....	66
9.2	Operation of the KaController.....	69
9.2.1	Function keys, display elements .....	69
9.3	Operation KaControl MC Touch Panel TP 2.....	72
9.3.1	Touch surface .....	72
9.3.2	Display areas .....	72
9.3.3	Changing values .....	72
<b>10</b>	<b>Maintenance .....</b>	<b>74</b>
10.1	Securing against reconnection .....	74
10.2	Maintenance Schedule:.....	74
10.3	Maintenance work .....	75
10.3.1	Replacing the filter. ....	75
10.3.2	Cleaning the condensate tray .....	75
10.3.3	Cleaning the condensate pump .....	75
10.3.4	Clean the inside of the unit .....	75
<b>11</b>	<b>Faults .....</b>	<b>76</b>
11.1	Fault table.....	76
11.2	KaControl faults .....	77
11.3	Start-up after rectification of fault .....	77
<b>12</b>	<b>List of KaControl parameters.....</b>	<b>78</b>
12.1	Parameter list.....	78
12.2	KaController parameter list.....	82
<b>13</b>	<b>Disposal .....</b>	<b>84</b>
<b>14</b>	<b>Certificates.....</b>	<b>85</b>
14.1	324_EU_Konformitätserklärung_KaCool W.pdf.....	86
	<b>Table .....</b>	<b>88</b>

## 1 General

### 1.1 About these instructions

These instructions ensure the safe and efficient handling of this equipment. These instructions form an integral part of the equipment and have to be kept in the direct vicinity of the equipment and available to personnel at all times.

All personnel must have carefully read through these instructions prior to commencing all work on the equipment. A fundamental prerequisite for safe working is compliance with all the stated safety instructions and other instructions contained in this manual.

In addition all local occupational health and safety at work regulations apply, as do general safety provisions governing the use of the equipment.

Illustrations in this guide are intended to provide a basic understanding and may differ from the actual model.

Ongoing tests and further developments may result in small variations between the unit supplied and the instructions.

### 1.2 Explanation of Symbols

**DANGER!**

This combination of symbol and signal word indicates an immediately dangerous situation caused by electrical power, which will cause death or serious injury if not avoided.

**WARNING!**

This combination of symbol and signal word indicates a possible hazardous situation.

**IMPORTANT NOTE!**

It represents a potentially hazardous situation, which could lead to damage to property or for a measure to optimise workflows.

**IMPORTANT NOTE!**

This symbol highlights useful hints, recommendations and information for efficient and trouble-free operation.

## 2 Safety

This section provides an overview of all important safety aspects to ensure optimum protection of personnel as well as safe and trouble-free operation. In addition to the safety instructions in these operating instructions, the valid safety, accident prevention and environmental protection regulations must be observed for the area of use of the unit. It is the duty of the operator to ensure that instructions relating to maintenance (e.g. relating to hygiene) are complied with.

### 2.1 Correct use

The appliances are used exclusively for heating and chilling air in frost-free and dry interior spaces.

The appliance must be connected to the on-site heating / cooling / ventilation system and the on-site waste water and power grid within the room to be treated. The Operating and application limits in chapter 2.2 [► 6] must be observed.



#### **IMPORTANT NOTE!**

Only use the unit after completion of the complete building and system. Site heating is not deemed to be correct and proper use.

Intended use of the unit also includes adherence to these instructions.

#### **Information in accordance with EN60335-1**

- ▶ This unit can be used by children aged 8 years or more and also by people with reduced physical, sensory or mental capabilities or a lack of experience and knowledge, if they are supervised or have been instructed in the safe use of the unit and the resulting dangers. Do not allow children to play with the unit. Do not allow children to clean and maintain the unit without supervision.
- ▶ The unit is not intended for operation above 2,000 m.a. s.l.
- ▶ This unit is not intended for permanent connection to the drinking water network.
- ▶ This unit is designed to be accessible to the general public.

Any use beyond or other than the stated intended use is considered as misuse.

Any modification to the unit or use of non-original spare parts will cause the expiry of the warranty and will invalidate the manufacturer's liability.

## 2.2 Limits of operation and use

Limits of operation		
Min./max. water temperature	°C	6-75
Min./max. air intake temperature	°C	15-30
Min./max. air humidity	%	max. 63%
Min. operating pressure	bar/kPa	-
Max. operating pressure	bar/kPa	8/800
Min./max. glycol percentage	%	0-50

Tab. 1: Limits of operation

Operating voltage	230 V/ 50/60 Hz
Power/current consumption	On the typeplate

Tab. 2: Operating voltage

We would refer to VDI-2035 Sheets 1 & 2, DIN EN 14336 and DIN EN 14868 with regard to the properties of the medium used to protect the equipment. The following values provide further guidance.

The water used should be free of contamination, such as suspended substances and reactive substances.

Water quality		
pH value (at 20 °C)		8-9
Conductivity (at 20 °C)	µS/cm	< 700
Oxygen content (O <sub>2</sub> )	mg/l	< 0.1
Hardness	°dH	4-8.5
Sulphur ions		not measurable
Sodium ions (Na <sup>+</sup> )	mg/l	< 100
Iron ions (Fe <sup>2+</sup> )	mg/l	< 0.1
Manganese ions (Mn <sup>2+</sup> )	mg/l	< 0.05
Ammonia ions (NH <sub>4</sub> <sup>+</sup> )	mg/l	< 0.1
Chlorine ions (Cl)	mg/l	< 100
CO <sub>2</sub>		< 50
Sulfate ions (SO <sub>4</sub> <sup>2-</sup> )	mg/l	< 50
Nitrite ions (NO <sub>2</sub> <sup>-</sup> )	mg/l	< 50
Nitrate ions (NO <sub>3</sub> <sup>-</sup> )	mg/l	< 50

Tab. 3: Water quality



## IMPORTANT NOTE!

### **Danger of frost in cooling mode!**

There is a risk of the heat exchanger freezing when used in unheated rooms.

- ▶ Make sure that the unit is equipped with a frost protection sensor and/or thermostat in this case.



## IMPORTANT NOTE!

### **Warning of misuse!**

In the event of misuse, as itemised below, there is a danger of limited or failing operation of the unit. Ensure that the airflow can circulate freely.

- ▶ Never operate the unit in humid areas, such as swimming pools, wet areas etc.
- ▶ Never operate the unit in rooms with an explosive atmosphere.
- ▶ Never operate the unit in aggressive or corrosive atmospheres (e.g. sea air).
- ▶ Never operate the unit above electrical equipment (such as switch cabinets, computers or other electrical units, or contacts that are not drip-proof).
- ▶ Never use the unit as a construction site heater.
- ▶ Never operate the unit in areas with a high dust content.



## IMPORTANT NOTE!

### **Energy losses due to misuse!**

Operating the unit with open windows (or other room openings) can result in significant energy losses.

- ▶ Heating and cooling modes (particularly when operating different units) need to be coordinated with each other.

## 2.3 Risk from electrocution!



## DANGER!

### **Risk of fatal injury from electrocution!**

Contact with live parts will lead to fatal injury from electrocution. Damage to the insulation or individual components can lead to a fatal injury.

- ▶ Only permit qualified electricians to work on the electrical system.
- ▶ Immediately disconnect the system from the power supply and repair it in the event of damage to the insulation.
- ▶ Keep live parts away from moisture. This can cause a short circuit.
- ▶ Properly earth the unit.



## **2.4 Personnel requirements - Qualifications**

### **Expertise**

The installation of this product requires specialist expertise in heating, cooling, ventilation, installation and electrical engineering. As this knowledge is normally acquired through professional training in one of the above fields, it is not dealt with further here.

Damage caused by improper installation is the responsibility of the operator or installer. Installers of these units should have adequate knowledge of the following based on their qualifications

- ▶ Safety and accident prevention regulations
- ▶ Guidelines and recognised technical regulations, i.e. VDE regulations (Association of German Electricians, DIN and EN standards.
- ▶ VDI 6022; maintenance personnel must be trained to Category B (possibly Category C) to comply with hygiene requirements (as required).

The installation, operation and maintenance of this unit must comply with the applicable laws, standards, provisions and regulations in the respective country and the current state of the art.

## **2.5 Personal Protective Equipment**

Personal protective equipment is used to protect people from impaired safety and health when working with the unit. The applicable accident prevention regulations at the place of use apply in all cases.

Personnel have to wear personal protective equipment during maintenance and troubleshooting on and with the unit.

## 3 Transport, storage and packaging

### 3.1 General transport instructions

Check on delivery for completeness and transport damage.

Proceed as follows in the event of visible damage:

- ▶ Do not accept delivery or only accept with reservations.
- ▶ Record any transport damage on the transportation documents or on the transport company's delivery note.
- ▶ Submit a complaint to the freight forwarder.



#### **IMPORTANT NOTE!**

Warranty claims can only be made within the applicable period for complaints. (More information is available in the T&Cs on the Kampmann website)



#### **IMPORTANT NOTE!**

2 people are needed to transport the unit. Wear personal protective clothing when transporting the unit. Only lift the unit on both sides and not by the pipes / valves.



#### **IMPORTANT NOTE!**

##### **Material damage caused by incorrect transport!**

Units being transported can drop or topple over if transported wrongly. This can cause serious material damage.

- ▶ Proceed carefully when unloading the equipment on delivery and when transporting it on site and note the symbols and instructions on the packaging.
- ▶ Only use the holding points provided.
- ▶ Only remove packaging shortly before assembling the unit.

### 3.2 Scope of delivery



#### **IMPORTANT NOTE!**

##### **Check the scope of delivery!**

- ▶ Check the delivery for damage.
- ▶ Check that the articles and type numbers are correct.
- ▶ Is the delivery and number of items delivered correct?

### 3.3 Storage

Store packaging under the following conditions:

- ▶ Do not store outdoors.
- ▶ Store in a dry and dust-free place.
- ▶ Store in a frost-free place.
- ▶ Do not expose to aggressive media.
- ▶ Protect from direct sunlight.
- ▶ Avoid mechanical vibrations and shocks.

**IMPORTANT NOTE!**

Under certain circumstances, packages can carry storage instructions that exceed the requirements listed here. Comply with these instructions accordingly.

### 3.4 Packaging

Handling packaging materials

**IMPORTANT NOTE!**

Dispose of packaging materials in line with the applicable statutory requirements and local regulations.

**IMPORTANT NOTE!**

The packaging is also use to protect the product from site dust and dirt. Only remove packaging shortly before assembling the unit.

# KaCool W

Assembly, installation and operating instructions

## 4 Technical data

Unit	KaCool W	
Size	1/2	3/4
Width [mm]	185	185
Length [mm]	929	1235
Height [mm]	332	332
Weight [kg]	13	16
Air volume flow [m³/h]	238-608	292-822
Internal volume of 2-pipe system [l]	0.9	1.3
Heat output [W] <sup>1</sup>	3418-6887	4424-10166
Cooling output [W] <sup>2</sup>	1312-2611	1715-4040
Sound power level [dB(A)]	30-48	27-49

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<sup>1</sup> at LPHW 75 / 65°C, t<sub>l1</sub> = 20°C

<sup>2</sup> at CHW 7/12°C, t<sub>l1</sub> = 27 °C, 48% relative humidity

## 5 Construction and function

### 5.1 Overview

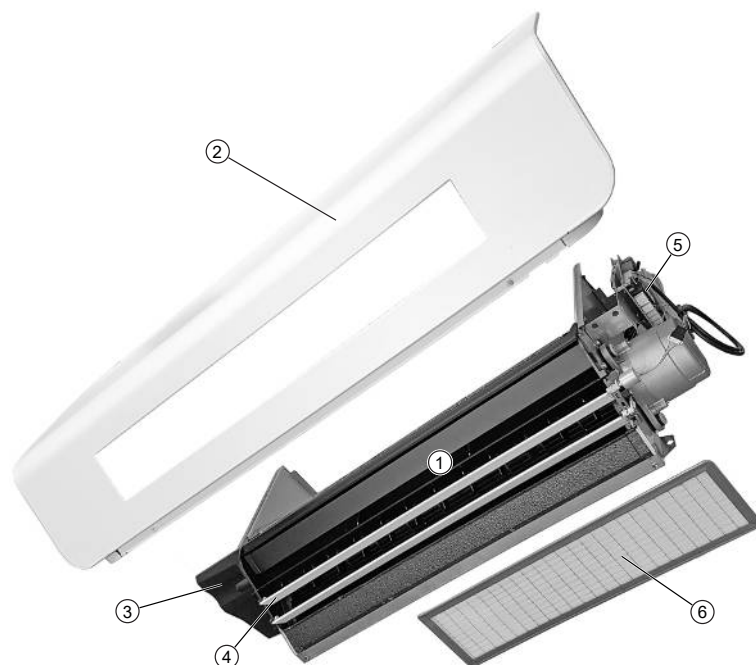


Fig. 1: KaCool W at a glance

1	Basic unit	2	Casing
3	Condensate tray	4	Air outlet fin
5	Electrical connection	6	ISO Coarse filter

### 5.2 Brief description

The KaCool W is a decentralised design wall-mounted unit for heating and cooling air in hotels, offices and business premises, among other places. The secondary air is drawn in through a regenerable air filter, which removes dust from the secondary air, protecting the downstream components from dirt. The fan blows the air through the copper-aluminium heat exchanger. Depending on the temperature at which the medium flows through the heat exchanger, the air is either cooled or heated in the heat exchanger. The air then passes through the outlet air fins into the room. The outlet air fins can be manually adjusted to the required direction. Condensate can be produced at the heat exchanger when cooling with low water temperatures. This drips onto the heat exchanger and falls into the condensate tray below. From here, the condensate can be discharged by a condensate pump and/or a condensate drain provided by others.

### 5.3 Wear parts list

Figure	Article	Properties	For use with	Art. no.
	Replacement filter with frame	1x	KaCool W	Size 1 / 2: 324001638253
				Size 3 / 4: 324001638255

## 6 Installation and wiring

### 6.1 Requirements governing the installation site

Only install and assemble the unit if the following conditions are met:

- ▶ Make sure that the wall is sufficiently load-bearing to take the weight of the unit (Technical data [► 12]).
- ▶ Make sure that the unit is securely suspended/standing.
- ▶ Ensure that the airflow can circulate freely.
- ▶ Provide adequate space for appropriately sized flow and return water connections on site (Connection to the pipe network [► 18]).
- ▶ There is a power supply on site (Maximum electrical rating values [► 22]).
- ▶ If need be, provide a condensation connection with a sufficient gradient on site.

### 6.2 Minimum clearances

Adhere to the minimum distances when suspending the unit in order to guarantee the unobstructed circulation of the air and ensure comfort.

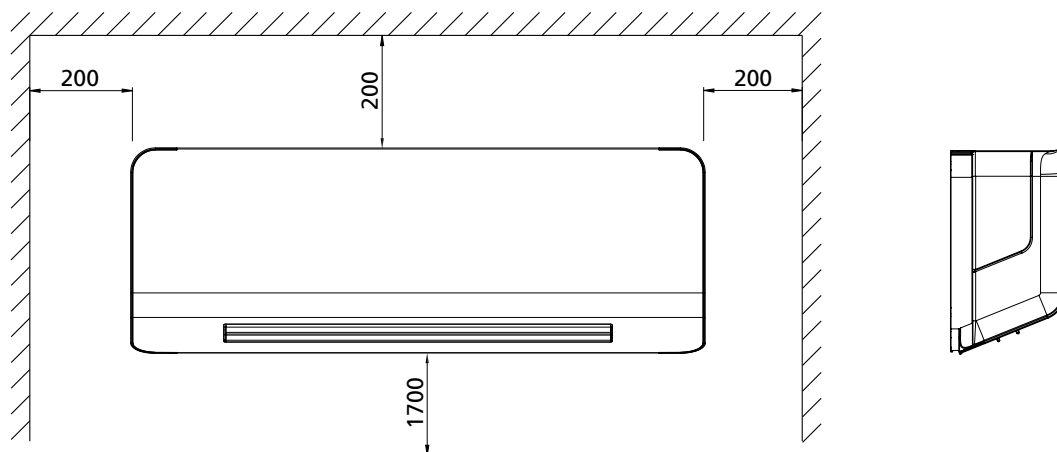


Fig. 2: Minimum distances (dimensions in mm)

### 6.3 Installation

2 people are needed to install the unit.

**CAUTION!****Risk of injury from sharp metal housing!**

The inner metal of the casing can have sharp edges.

- ▶ Wear suitable protective gloves.

**IMPORTANT NOTE!****Horizontal installation of units!**

When installing the units, ensure that they are completely horizontal to ensure proper operation.

**IMPORTANT NOTE!****Avoid draughts!**

Consider the occupied zone when installing/suspending the units. Do not expose people to the direct air flow. Position the unit accordingly and adjust the air outlet if required.

# KaCool W

## Assembly, installation and operating instructions

### 6.3.1 Suspending the unit

- Use the template (which is part of the packaging) to mark on the suspension points:

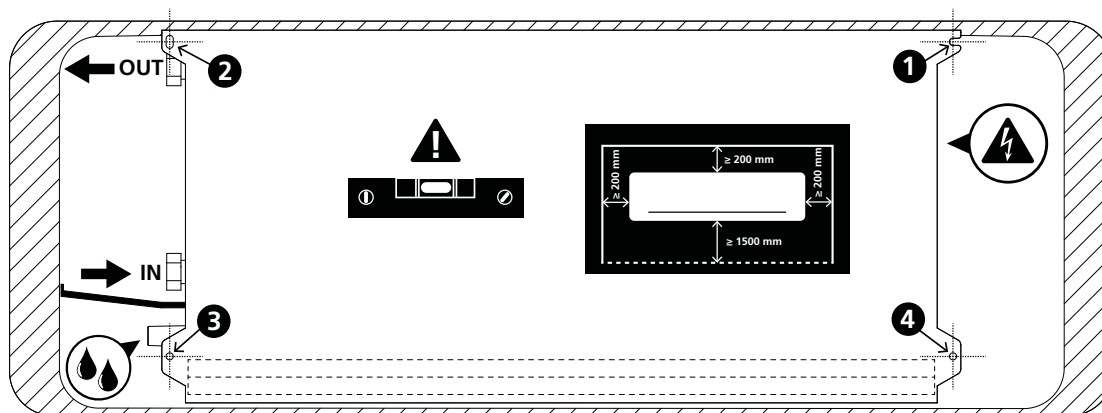


Fig. 3: Drilling template

### Dimensions of the suspension points, size 1/ size 2

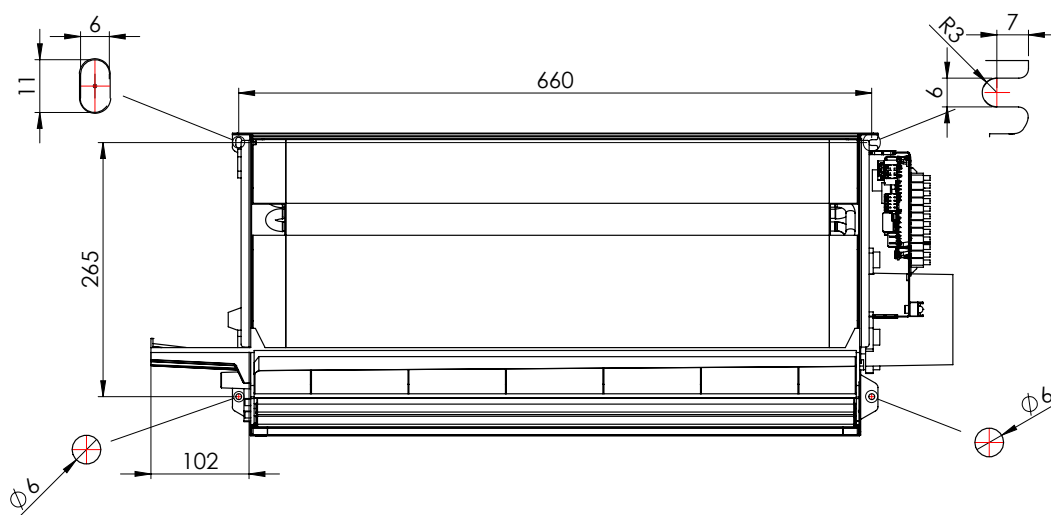


Fig. 4: Size 1/ size 2 suspension points

### Dimensions of the suspension points, size 3/ size 4

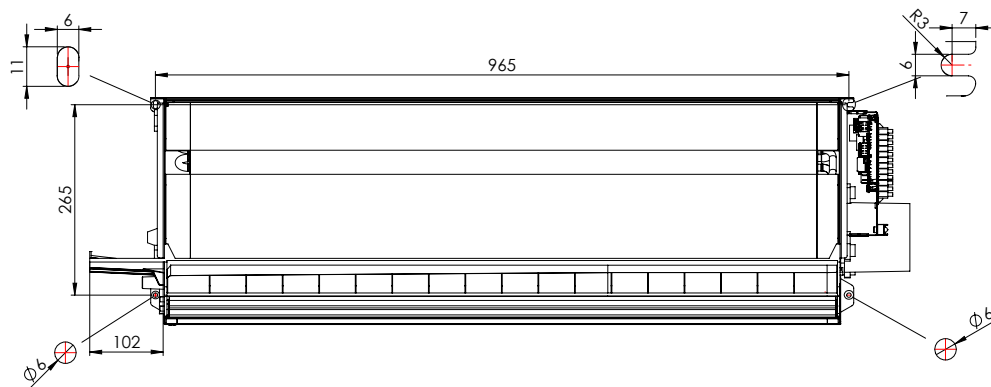






Fig. 5: Size 3/ size 4 suspension points



	<ul style="list-style-type: none"> <li>▶ Remove the fixing screws and remove the design panel.</li> </ul>
	<ul style="list-style-type: none"> <li>▶ Fix the basic unit to the wall using screws and rawlplugs (provided by others).</li> <li>▶ Once the basic unit has been installed, make the water-side and electrical connections.</li> </ul>
	<ul style="list-style-type: none"> <li>▶ Screw the casing to the basic unit.</li> </ul>
	<ul style="list-style-type: none"> <li>▶ Position the casing on the basic unit so that it sits over the filter rail.</li> </ul>

# KaCool W

Assembly, installation and operating instructions

## 6.4 Installation

### 6.4.1 Connection to the pipe network

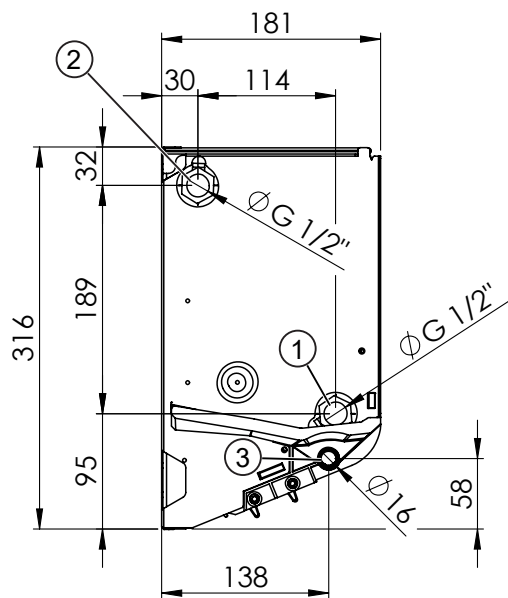





Fig. 6: Connecting dimensions

1	Supply 1/2"	2	Return 1/2"
3	Condensate connection (Ø16 mm)		

## 6.4.2 Overview of valve kits

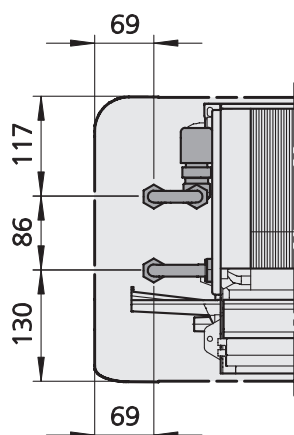
Valve kits	Article	Properties	Dimensions [mm]	For use with	Article no.
	2-way valve kit	2-pipe, 2-way valve, 1x 230 V 2-point actuator 230 V Open/Close, 50 Hz, 1/2" connection, KVS value 1.7 m³/h, max. operating pressure 16 bar, supplied loose	185 x 140 x 90	Size 1 - 4, DN15	3240020121 10
		2-pipe, 2-way valve, 1x 24 V 2-point actuator 24 V Open/Close, 50 Hz, 1/2" connection, KVS value 1.7 m³/h, max. operating pressure 16 bar, supplied loose			3240020121 12
	3-way valve kit	2-pipe, 3-way valve, 1x 230 V 2-point actuator 230 V Open/Close, 50 Hz, 1/2" connection, KVS value 1.7 m³/h, max. operating pressure 16 bar, supplied loose	185 x 140 x 90	Size 1 - 4, DN15	3240020121 20
		2-pipe, 3-way valve, 1x 24 V 2-point actuator 24 V Open/Close, 50 Hz, 1/2" connection, KVS value 1.7 m³/h, max. operating pressure 16 bar, supplied loose			3240020121 22
	Differential pressure-independent valve kit	2-pipe, 230 V 2-point actuator 230 V Open/Close, 50 Hz, 1/2" connection, max. operating pressure 16 bar, supplied loose	185 x 140 x 90	Size 1 - 4, flow rate (min./max.) 65 - 650 l/h, DN15	3240020121 30
		2-pipe, 24 V 2-point actuator 24 V Open/Close, 50 Hz, 1/2" connection, max. operating pressure 16 bar, supplied loose			3240020121 32

Tab. 4: Valve kit at a glance

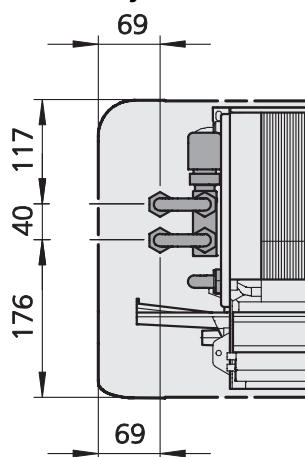
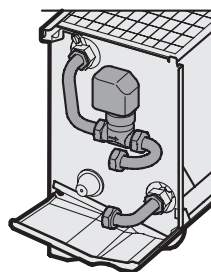
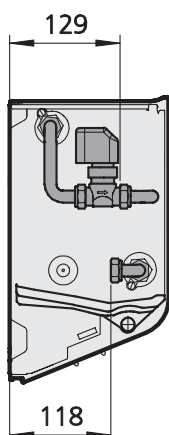
# KaCool W

Assembly, installation and operating instructions

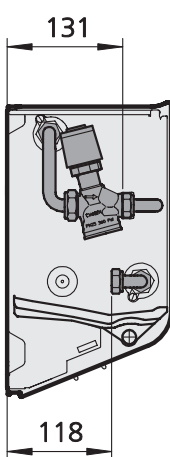
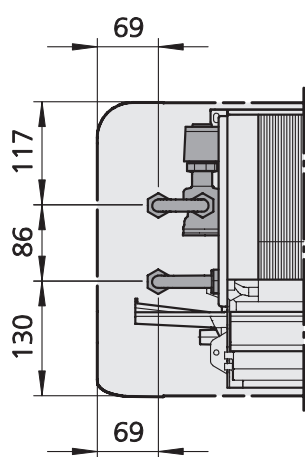
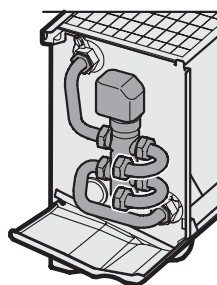
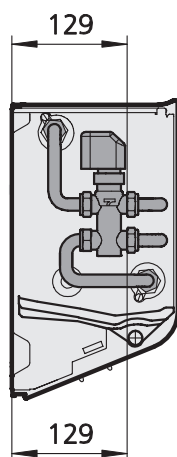
## Valve kit dimensions



2-way valve



3-way valve



## Differential pressure-independent valve


Fig. 7: KaCool W valve kits

## 6.4.3 Condensate drainage using a condensate pump

The water is drawn off by the condensate pump and discharged along a hose (supplied loose) connected on the pressure side. Depending on conditions on site, the water can be discharged into drainage lines, possibly with a trap connection.

In the event of a fault with the condensate drain, the water level will continue to rise until the float switch triggers an alarm contact. The contact can be analysed by external signalling devices.

Cooling mode must be automatically terminated, possibly with a shut-off valve, if the alarm contact is triggered to prevent the condensate tray from overflowing.

Figure	Article	Properties	Dimensions [mm]	For use with	Article no.
	Condensate pump	As an alternative to the free drain, 230 V 50 Hz, supplied loose	185 x 140 x 90	Size 1- 4	324002000410

### Condensate drain

- ▶ Drainage of condensate from the condensate pump must be along a natural gradient with an adequate cross-section (minimum 1/2"). Increase the cross-section of the line with longer condensate lines.
- ▶ Check whether the condensate line needs to be insulated to prevent the build-up of condensate along the line.
- ▶ Never use a rigid transition to the on-site condensate drain. We would recommend a free overflow into a trap.

# KaCool W

Assembly, installation and operating instructions

## 7 Electrical connection



### IMPORTANT NOTE!

#### Condensation formation in the cooling unit!

In the event of on-site valve control, the cooling valve must be closed when the fans are switched off.

### 7.1 Maximum electrical rating values

#### KaCool W, electromechanical version

Size	Rated voltage [VAC]	Mains frequency [Hz]	Rated power [W]	Rated current [A]	Leakage current [mA]	Ri analogue input [kΩ]	Max. back-up fuse [A]	IP class	Protection class
1	230	50	22	0.1	< 3.5	100	B16	IP20	I
2	230	50	21	0.1	< 3.5	100	B16	IP20	I
3	230	50	30	0.13	< 3.5	100	B16	IP20	I
4	230	50	28	0.13	< 3.5	100	B16	IP20	I

#### KaCool WKaControl C1, Mx

Size	Rated voltage [VAC]	Mains frequency [Hz]	Rated power [W]	Rated current [A]	Leakage current [mA]	Ri analogue input [kΩ]	Max. back-up fuse [A]	IP class	Protection class
1	230	50	22	0.1	< 3.5	20	B16	IP20	I
2	230	50	21	0.1	< 3.5	20	B16	IP20	I
3	230	50	30	0.13	< 3.5	20	B16	IP20	I
4	230	50	28	0.13	< 3.5	20	B16	IP20	I

- ▶ Electrical data Basic unit, without control and accessories, e.g. valve actuators or other actuators
- ▶ Maximum of 5 devices on one B16 automatic unit

## 7.2 Electromechanical control

### 7.2.1 Connection (\*00)

#### Circuit description, KaCool W electromechanical 230 V (\*00)

- ▶ All KaCool W require a 230 V AC power supply. Factory-fitted actuators are wired to the terminals.
- ▶ The appropriate terminals are available for valve actuators.
- ▶ The fan speed of the EC fans used can be continuously variably controlled by a 0–10 V DC signal. The internal motor electronics detects any possible motor malfunction and automatically switches off the fan.
- ▶ When operating with external control, make sure that the cooling valve is closed when the fans are switched off.

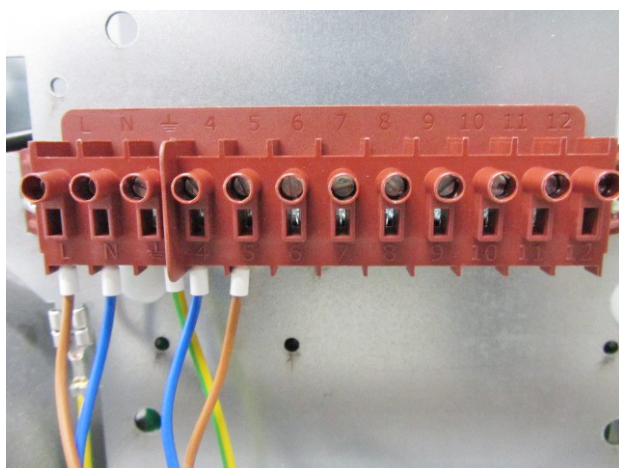


Fig. 8: Terminal assignment

Terminals	Site connection	Internal connection	Optional / supplied loose
L	Mains power supply line	Motor L	Condensate pump L
N		Motor N	
PE		PE	
4	GND	GND	
5	0 - 10 V	0 - 10 V	
6			
7	Optional jumper (N)		Jumper N (by others)
8	Optional jumper (N)		Valve / condensate pump N
9			Valve / Condensate pump fault
10			
11			
12	Heating / cooling valve 230 V		Condensate pump fault

#### Control via 0 – 10 V DC

control signal	Function
0 V	Off
1.5 V – 10 V	0 – 100%

**Information on cable laying:**

The following information on cable types and cable laying must be observed in compliance with VDE 0100.

The installation, operation and maintenance of these devices must comply with the country-specific applicable laws, standards, regulations and directives.

Without \*: NYM-J. The required number of cores incl. protective conductor is indicated on the cable. Cross sections are not indicated, as the cable length is included in the calculation of the cross section.

\*) :       Shielded cable, J-Y(ST)Y 0.8mm. Lay separately from power lines.

\*\*) :       Shielded cable stranded in pairs, e.g. UNITRONIC® BUS LD 2x2x0.22, UNITRONIC® BUS LD 3x2x0.22. Install separately from power lines.

- If other cable types are used, they must be at least equivalent.

- The connection terminals on the device are suitable for a maximum wire cross-section of 2.5 mm², the mains plug for max. 4.0 mm².

- When using residual current circuit breakers, these must be at least mixed frequency sensitive (type F). For the design of the rated residual current, the specifications from DIN VDE 0100 Parts 400 and 500 must be observed.

- For the design of the on-site mains supply and fuse protection (C16A, max. 10 devices), the electrical data in the table below must be observed.


- Lines for data or bus signals are shown with shield connected at one end. Lines for analog signals are shown with the shield not connected. Due to structural or local conditions and depending on the type and level of interference, which can be caused by magnetic and/or electric fields in high and/or low frequency ranges, among other things, a different connection of the shield (connected at both ends or not connected) may be necessary. This must be checked by the customer and, if necessary, carried out deviating from the specifications in the documentation!

**Electromechanical:**

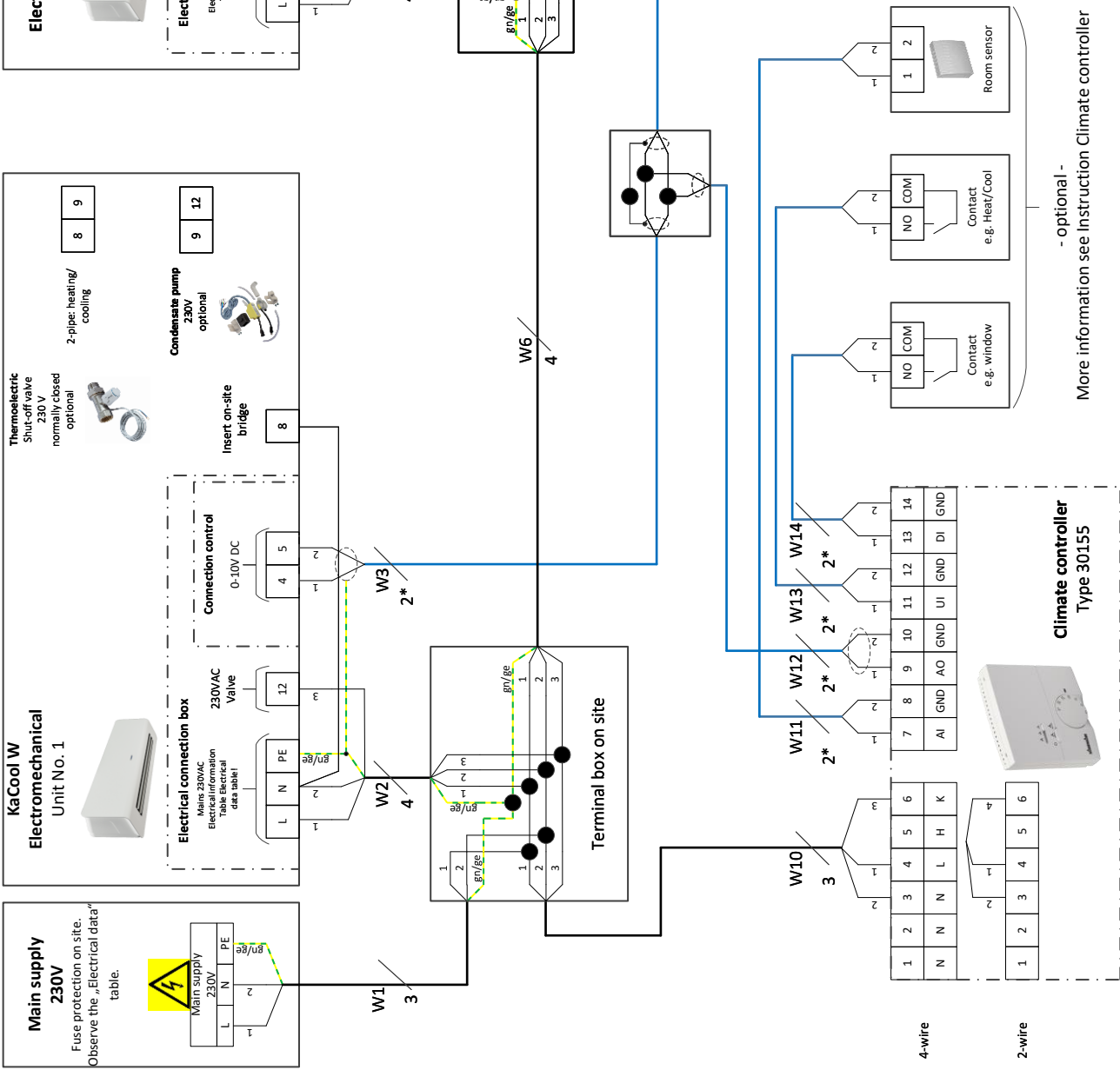
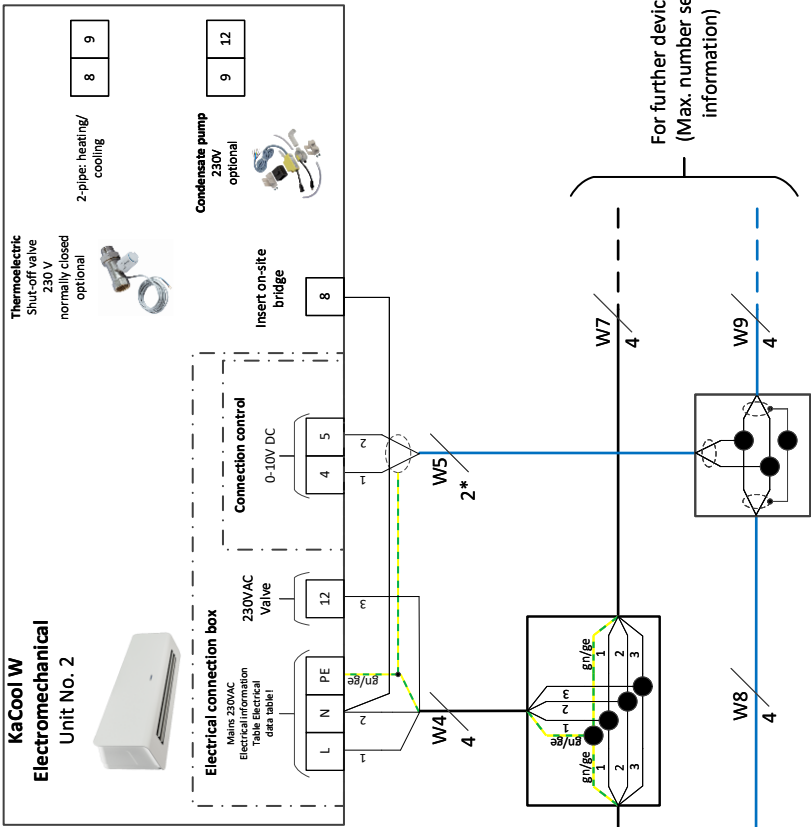
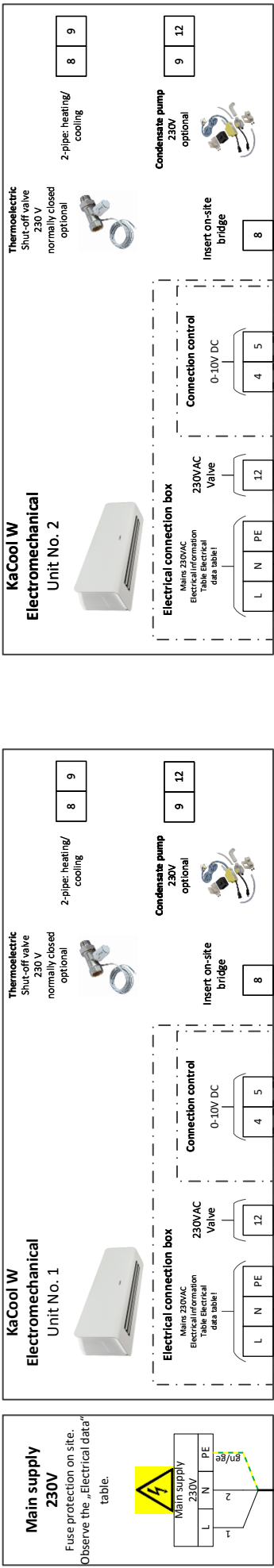
- Cable length between speed controller and the last device: maximum 100 m, from 20 m connect shield on one side.

- Cable length between room thermostat and temperature sensor or switch contact: maximum 50 m.

- Cable length between speed controller and temperature sensor or switching contact: maximum 100 m.

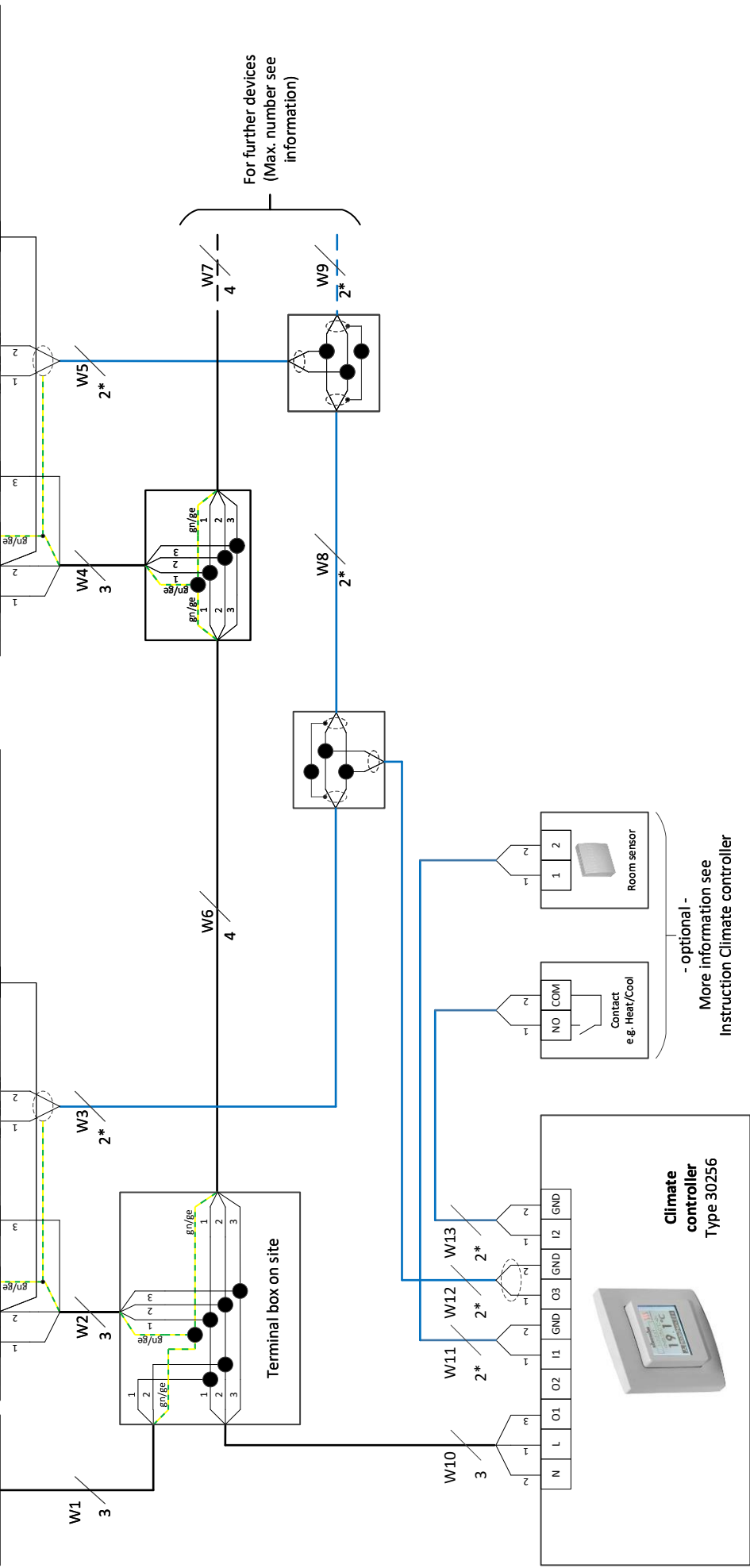
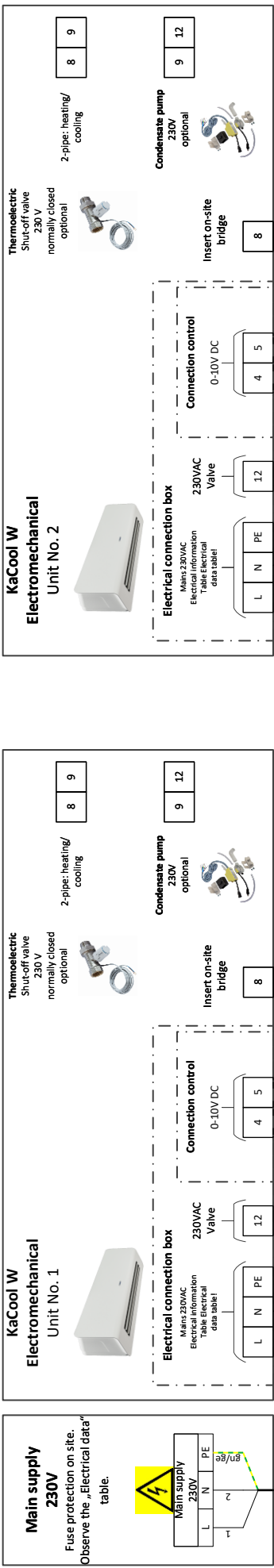
<b>KaControl®</b>	Projekt: KaCool W		General Information	Blatt-Nr.: 2 von 7	 Genau mein Klima.
	Erstelldatum: 27.11.2024				

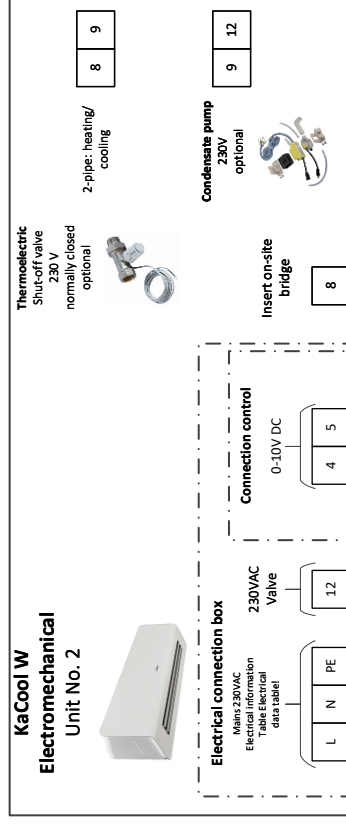




For further devices  
(Max. number see  
information)







## 7.3 Infra-red remote control version

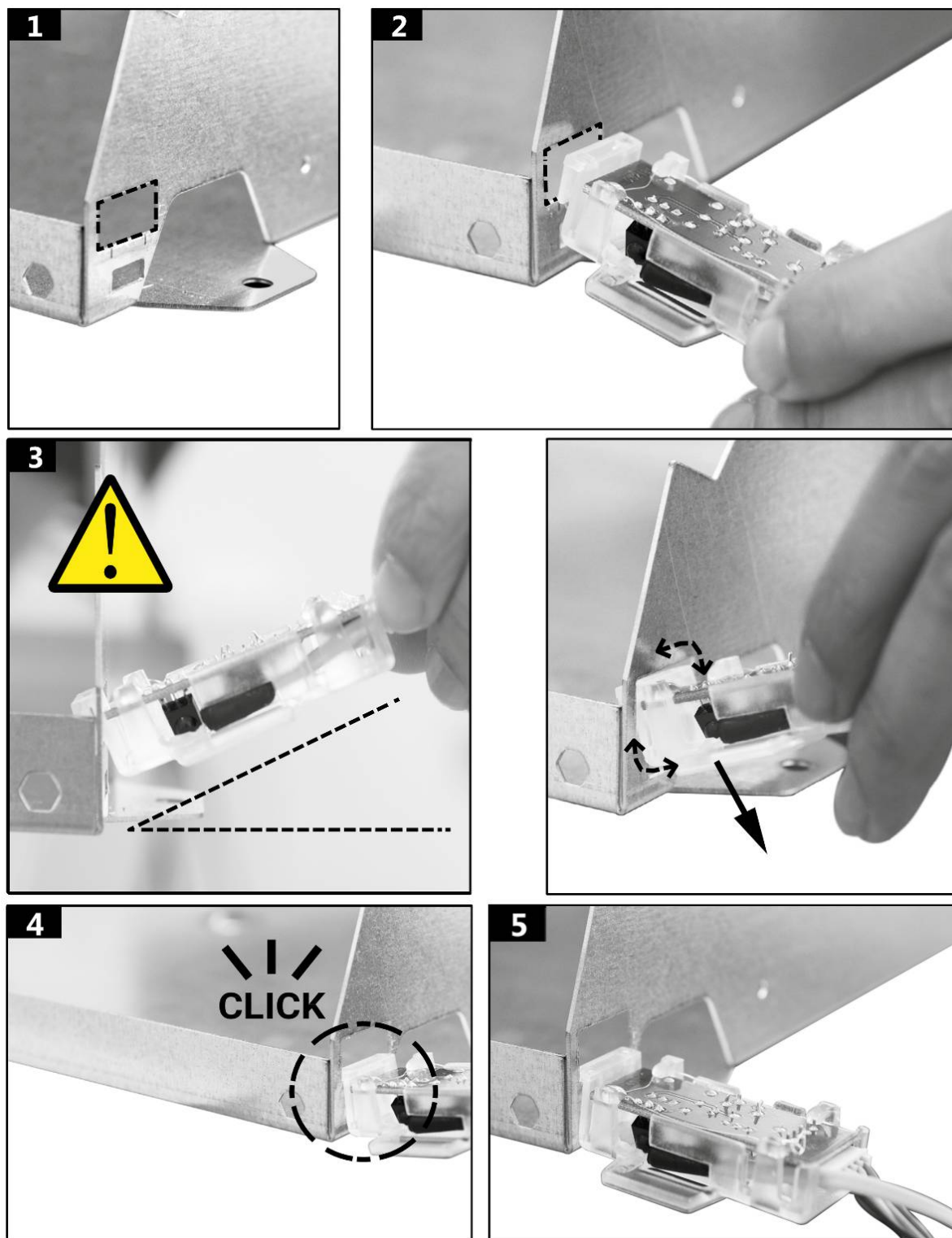


Fig. 9: Attaching the infra-red receiver

**Note:** When inserting and removing the receiver, always tilt the plug as shown on the figure to avoid breaking the plug.

# KaCool W

Assembly, installation and operating instructions

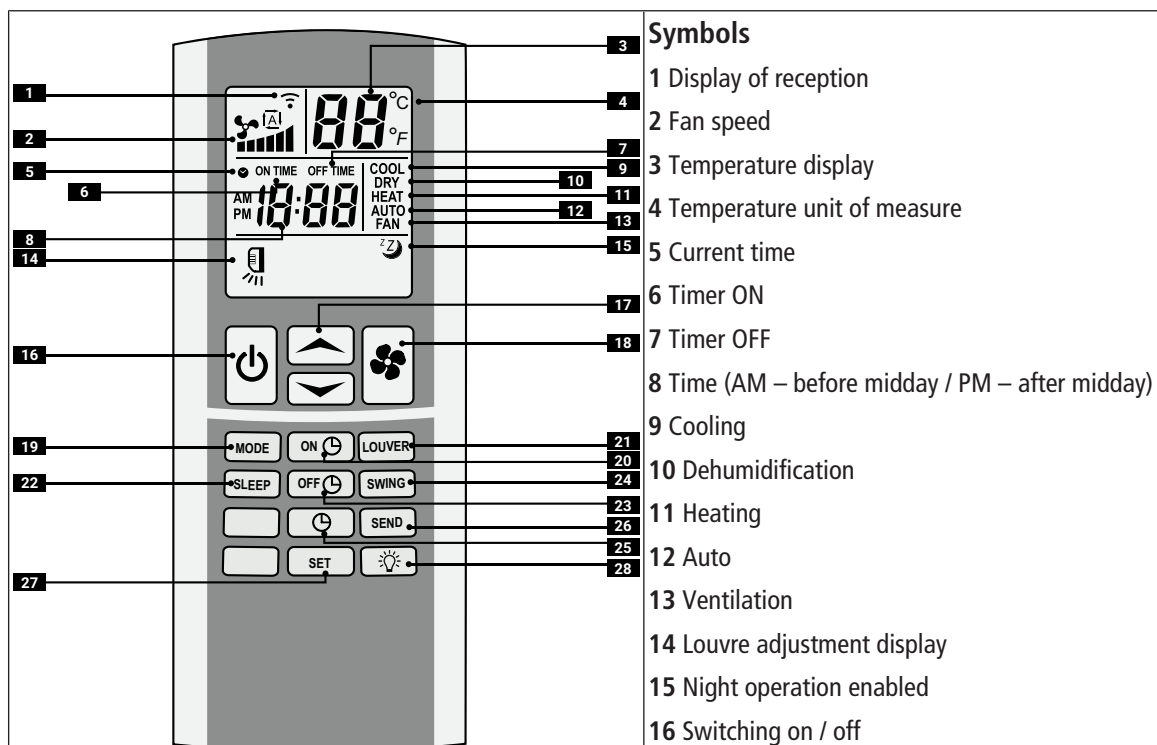


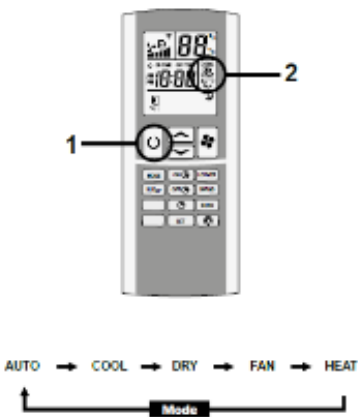



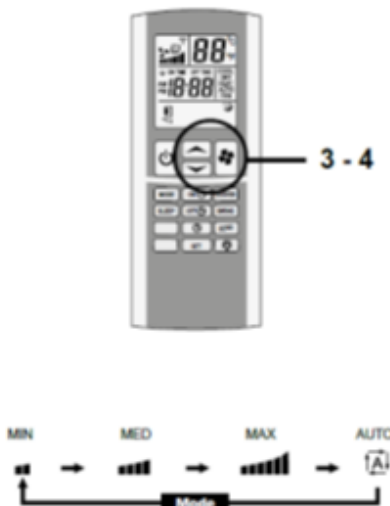




Fig. 10: Infra-red remote controller IR-G




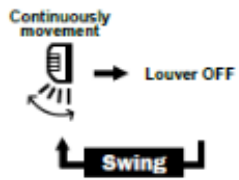
## Symbols

- 1 Display of reception
- 2 Fan speed
- 3 Temperature display
- 4 Temperature unit of measure
- 5 Current time
- 6 Timer ON
- 7 Timer OFF
- 8 Time (AM – before midday / PM – after midday)
- 9 Cooling
- 10 Dehumidification
- 11 Heating
- 12 Auto
- 13 Ventilation
- 14 Louvre adjustment display
- 15 Night operation enabled
- 16 Switching on / off

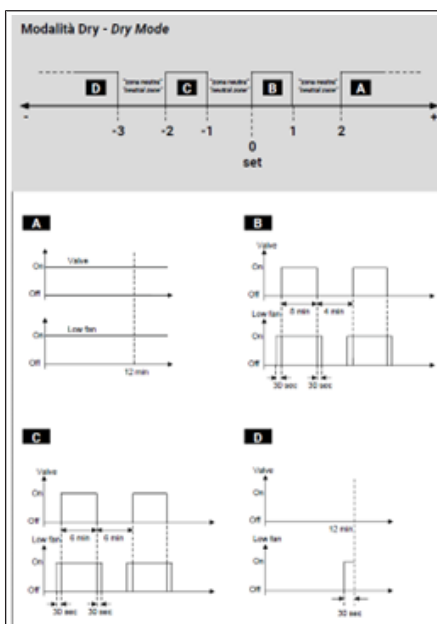
## keys

- 17 Setpoint adjustment
- 18 Fan speed
- 19 Module selection (hot / cold – Ventilation – Dehumidification - Auto)
- 20 Active timer
- 21 Louvre angle adjustment
- 22 Night function
- 23 Timer off
- 24 Flap oscillation function
- 25 Current time
- 26 Send
- 27 Confirm timer and time
- 28 Display lighting

	<p><b>1. Switching on / off</b></p> <ul style="list-style-type: none"> <li>Press <b>POWER</b>  to switch the unit on or off. Once the unit has been switched on, it is operated in accordance with the setting displayed on the remote control.</li> </ul> <p><b>2. Operating mode</b></p> <ul style="list-style-type: none"> <li>Pressing <b>MODE</b> enables the unit to be set to 5 different operating modes (Fan, Cool, Dry, Heat, Auto).</li> </ul> <p><b>COOL:</b> The system is operated in cooling mode.</p> <p><b>DRY:</b> The system is operated in dehumidification mode.</p> <p><b>HEAT:</b> The system is operated in heating mode.</p> <p><b>AUTO:</b> The system switches automatically between cooling and heating mode depending on the entering water temperature.</p> <p><b>FAN:</b> The unit works only in ventilation mode. The SLEEP, TEMP  and TEMP  keys are then not used.</p>
	<p><b>3. Temperature setting</b></p> <ul style="list-style-type: none"> <li>The temperature can be set within a range of 16 - 30 °C. To do this, press TEMP  or TEMP .</li> </ul> <p><b>4. Motor</b></p> <ul style="list-style-type: none"> <li>Press FAN  to select the motor speed (high, medium, minimum or auto-matic).</li> </ul> <p><b>Note:</b> The  key can only be pressed in FAN, COOL, HEAT and AUTO mode (not in DRY mode).</p>

 <p>5 - 6</p>	<h3>5. Timer ON</h3> <ul style="list-style-type: none"> <li>▶ The unit can be programmed to switch on in advance. Press ON  and the symbol (ON TIME) appears.</li> <li>▶ Press  or  to change the time (+ 1 minute).</li> <li>▶ Press and hold down  or  for 3 seconds to increase the time in 10-minute increments. Press SET and the symbol (OFF TIME) appears on the screen.</li> </ul> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>▶ Press ON  when the symbol (ON TIME) appears on the screen: the symbol (ON TIME) flashes. Then press ON  again to delete the switching-on setting. The symbol (ON TIME) appears on the screen.</li> <li>▶ Press OFF  when the symbol (OFF TIME) appears on the screen: the symbol (OFF TIME) flashes. Then press OFF  again to delete the switching-on setting. The symbol (OFF TIME) is no longer visible on the screen. The timer function sent once to the unit is always enabled.</li> </ul> <h3>6. Time</h3> <ul style="list-style-type: none"> <li>▶ To set the time on the remote control, press : the symbol () starts flashing.</li> <li>▶ Press  or  to change the time (+ 1 minute). Press and hold  or  for 3 seconds to increase the time in 10-minute increments. Pressing SET makes the  symbol disappear from the screen and the time is displayed once again.</li> </ul>
 <p>7</p> 	<h3>7. LOUVRE function</h3> <ul style="list-style-type: none"> <li>▶ When LOUVRE is pressed, the horizontal flaps are positioned as shown in the symbols.</li> </ul>
 <p>Continuously movement</p> <p>Louvre OFF</p> <p>Swing</p>	<h3>SWING function</h3> <ul style="list-style-type: none"> <li>▶ When SWING is pressed, the horizontal flaps swing continuously, as shown in the symbols.</li> </ul>

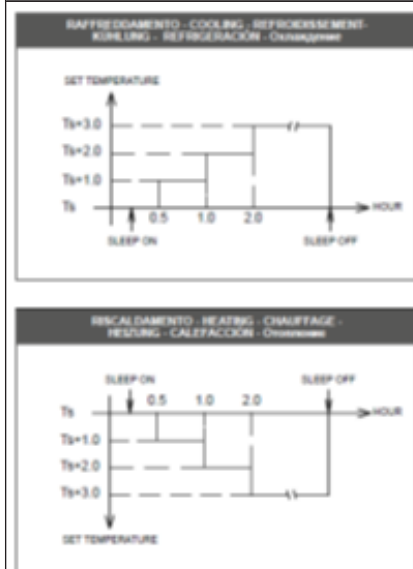





## Dry function

- Dry mode is a predefined cooling working cycle control. Only temperature control is permitted in this mode. The fan works automatically and only at minimum speed. There are four pre-defined operating zones A-B-C-D and three neutral zones in which the function remains unchanged (the previous function is repeated).

Note: The previous cycle is repeated in the neutral zone.



## Sleep function

- Press SLEEP to enable the sleep function. The  symbol appears on the display. The temperature entered is automatically raised by 1 °C after one hour for COOL operating mode. The temperature entered is automatically lowered by 1 °C after one hour for HEAT operating mode.
- Press SLEEP once more to disable the sleep function.
- In the event of a power failure, the sleep function is disabled by switching off and changing the operating mode.

# KaCool W

Assembly, installation and operating instructions



## Replacing the remote control batteries

If the remote control batteries start to lose power, the display becomes dimmer until it completely goes out if the batteries are not replaced.

Replace the batteries as follows:

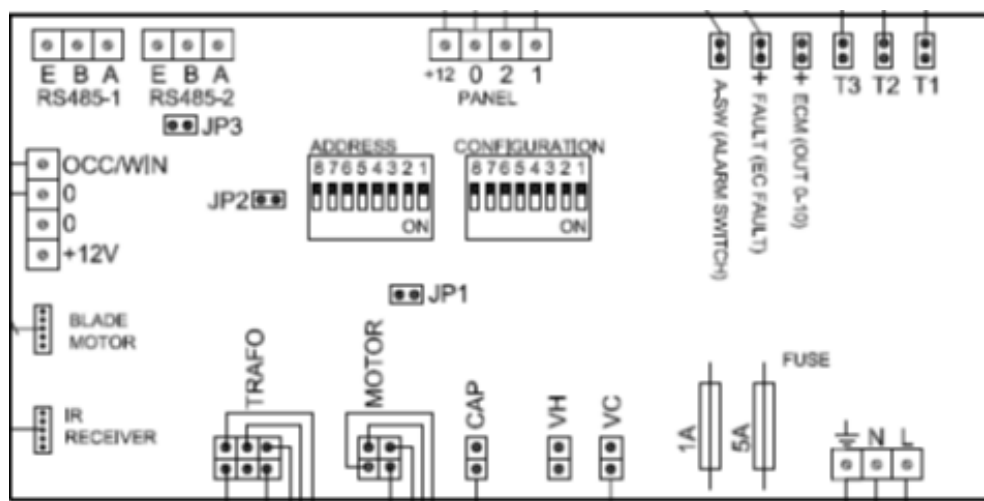
- ▶ Push down the battery cover and remove.
- ▶ Remove the depleted batteries.
- ▶ Wait 1 minute before inserting the new batteries (AAA).
- ▶ Note the correct poles when inserting the new batteries.
- ▶ Replace the battery cover.

Remove the batteries if the unit is not used for a longer period of time.

## Emergency On/Off key

The receiver has an Emergency On/Off key [On/OFF] using which the unit can be switched on and off when the unit is not in operation. Press and hold down the key for more than 3 (but no more than 10) seconds until an acoustic signal is audible. The unit switches on or off as soon as the key has been pressed. Once the unit has been switched on using the Emergency On/Off key, the season changes automatically on the unit. The target temperature is set to 21 °C (Heating) and 24 °C (Cooling), and the fan is set to medium speed.

## Functional description of the infra-red PCB



DIP no.	Function	ON	OFF	Standard
1	System type	4-pipe	2-pipe	OFF
2	VH out	Not used	Valve	OFF
3	Regulation type	Wall terminal	Infra-red receiver	OFF
4	Motor type	3 speeds	0-10 V DC (EC)	OFF
5	Fan in cooling mode	Thermostatic	Continuous mode	OFF
6	Fan in heating mode	Thermostatic	Continuous mode	OFF
7	Delay time for switching off the fan	No delay time	3-minute delay	OFF
8	Master/slave	Master	Slave	OFF

Tab. 5: DIP switch "Configuration" functional logic

## DIP switch "Address" functional logic

Address	DIP switch to be set	Address	DIP switch to be set	Address	DIP switch to be set
0	Not assigned	21	1,3,5	42	2,4,6
1	1	22	2,3,5	43	1,2,4,6
2	2	23	1,2,3,5	44	3,4,6
3	1.2	24	4,5	45	1,3,4,6
4	3	25	1,4,5	46	2,3,4,6
5	1.3	26	2,4,5	47	1,2,3,4,6
6	2.3	27	1,2,4,5	48	5,6
7	1,2,3	28	3,4,5	49	1,5,6
8	4	29	1,3,4,5	50	2,5,6
9	1.4	30	2,3,4,5	51	1,2,5,6
10	2.4	31	1,2,3,4,5	52	3,5,6
11	1,2,4	32	6	53	1,3,5,6
12	3.4	33	1,6	54	2,3,5,6
13	1,3,4	34	2,6	55	1,2,3,5,6
14	2,3,4	35	1,2,6	56	4,5,6
15	1,2,3,4	36	3,6	57	1,4,5,6
16	5	37	1,3,6	58	2,4,5,6
17	1.5	38	2,3,6	59	1,2,4,5,6
18	2.5	39	1,2,3,6	60	3,4,5,6
19	1,2,5	40	4,6		
20	3.5	41	1,4,6		

## Jumper functional logic

Jumper no.	Function	Open	Closed	Standard
JP1	<ul style="list-style-type: none"> <li>▶ De-stratification with heating or cooling</li> <li>▶ Switches on the fan at the lowest speed when the setpoint is reached</li> <li>▶ <math>T_{on} = 1</math> minute</li> <li>▶ <math>T_{off} = 5</math> minutes</li> </ul>	Active	Not active	Locked
JP2	RS485-1 terminal board in a communication bus system	120 Ohm resistor not switched on	120 Ohm resistor switched on	Open
JP3	RS485-2 terminal board in a communication bus system	120 Ohm resistor not switched on	120 Ohm resistor switched on	Open

## LED display (normal operation)

LED display	Meaning	Unit status
LED is switched off.	Unit is switched off or in fan mode.	Unit is switched off or in fan mode.
LED steady blue light	Cooling mode	Operating mode
LED steady red light	Heating mode	Operating mode
LED blue flashing light 1 second ON – 1 second OFF	Window contact open.	Unit is switched off.
LED flashes red / blue	Water temperature reading under way Temperature > 18 °C cooling mode Temperature < 32 °C heating mode	Standby mode

## LED display (alarm status)

LED display (red)	Meaning	Unit status
2x flashing and a pause	Alarm switch input open	Condensate water level alarm
3x flashing and a pause	EC fault input open	Locked with alarm
4x flashing and a pause	RT3 = 75 °C RT3 = 4 °C	Maximum water temperature alarm Minimum water temperature alarm
5x flashing and a pause	Sensor RT1 is not connected or has short-circuited	Locked with alarm
6x flashing and a pause	Sensor RT2 is not connected or has short-circuited	Locked with alarm
7x flashing and a pause	Sensor RT3 is not connected or has short-circuited	Locked with alarm

## Sensor

IR remote control versions of units have 3 sensors as standard:

- ▶ T1 Air intake sensor: measures the temperature at the air intake and is used to determine the air intake or room temperature.
- ▶ T2 Water temperature/changeover sensor: determines the medium temperature for the changeover between cooling and heating mode.
- ▶ T3 Heat exchanger sensor: determines the temperature of the heat exchanger. Stops or starts the fan when the heat exchanger temperature is within the right range.

**Information on cable laying:**

The following information on cable types and cable laying must be observed in compliance with VDE 0100.

The installation, operation and maintenance of these devices must comply with the country-specific applicable laws, standards, regulations and directives.

Without \*: NYM-J. The required number of cores incl. protective conductor is indicated on the cable. Cross sections are not indicated, as the cable length is included in the calculation of the cross section.

\*) :        Shielded cable, J-Y(ST)Y 0.8mm. Lay separately from power lines.

\*\*) :        Shielded cable stranded in pairs, e.g. UNITRONIC® BUS LD 2x2x0.22, UNITRONIC® BUS LD 3x2x0.22. Install separately from power lines.

- If other cable types are used, they must be at least equivalent.

- The connection terminals on the device are suitable for a maximum wire cross-section of 2.5 mm², the mains plug for max. 4.0 mm².

- When using residual current circuit breakers, these must be at least mixed frequency sensitive (type F). For the design of the rated residual current, the specifications from DIN VDE 0100 Parts 400 and 500 must be observed.

- For the design of the on-site mains supply and fuse protection (C16A, max. 10 devices), the electrical data in the table below must be observed.


- Lines for data or bus signals are shown with shield connected at one end. Lines for analog signals are shown with the shield not connected. Due to structural or local conditions and depending on the type and level of interference, which can be caused by magnetic and/or electric fields in high and/or low frequency ranges, among other things, a different connection of the shield (connected at both ends or not connected) may be necessary. This must be checked by the customer and, if necessary, carried out deviating from the specifications in the documentation!

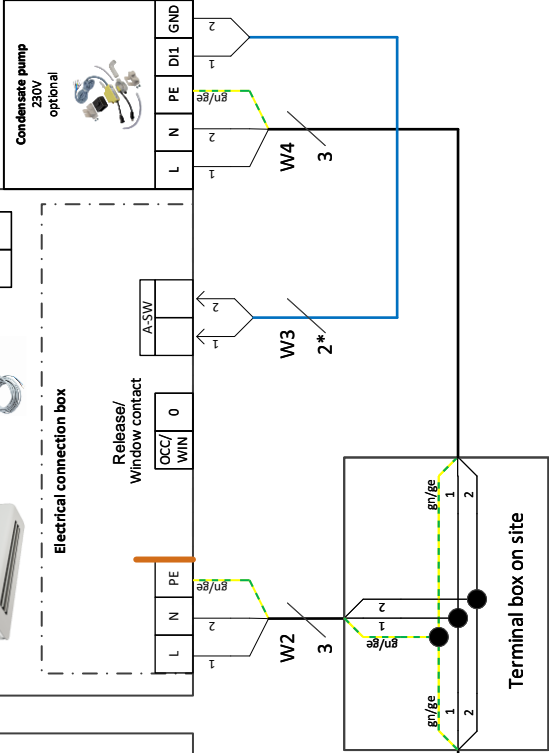
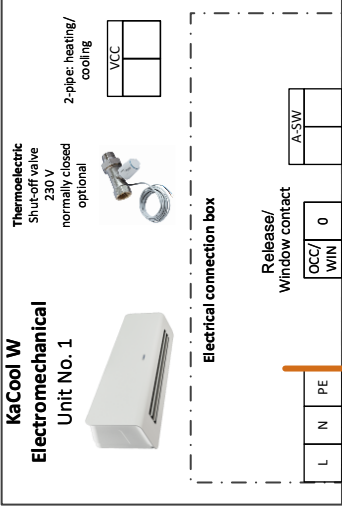
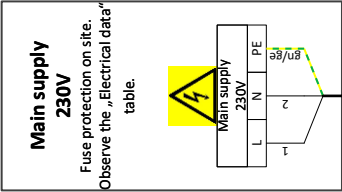
**Electromechanical:**

- Cable length between speed controller and the last device: maximum 100 m, from 20 m connect shield on one side.

- Cable length between room thermostat and temperature sensor or switch contact: maximum 50 m.

- Cable length between speed controller and temperature sensor or switching contact: maximum 100 m.

		General Information	Blatt-Nr.: 2 von 5	 Genau mein Klima.
	Erstelldatum: 27.11.2024			







## 7.4 KaControl (\*C1)

### 7.4.1 KaController installation

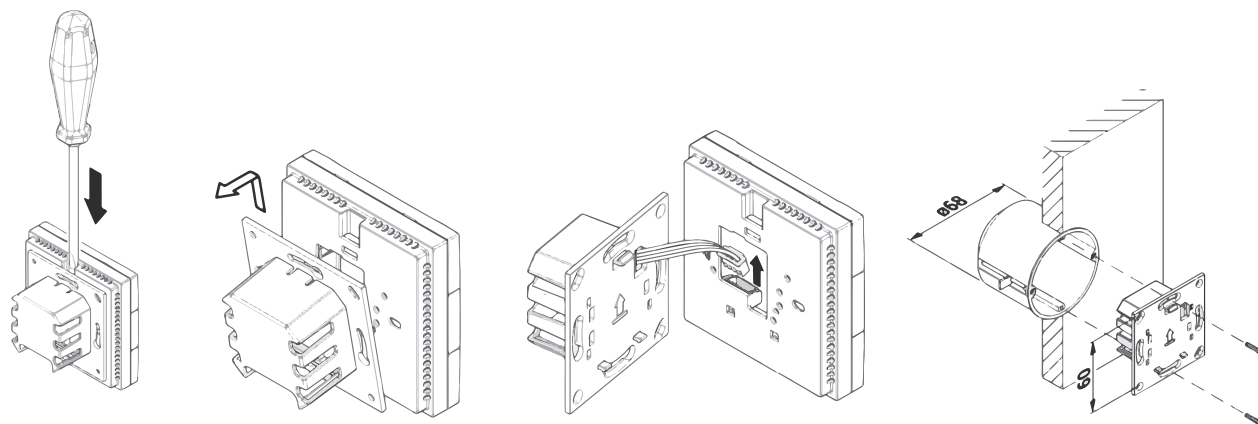


Fig. 11: Installation of flush-mounted back box

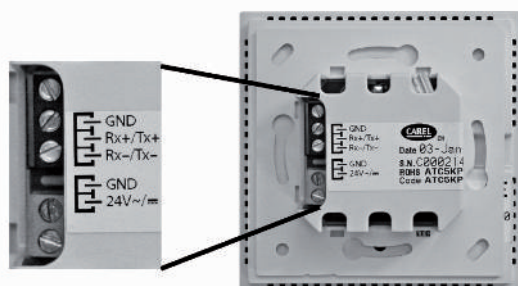


Fig. 12: KaController terminals

#### Electrical connection

- Connect the KaController to the nearest KaControl unit in line with the wiring diagram. The maximum bus length between the KaController and the KaControl master unit is 30 m.
- The respective KaControl automatically becomes the master unit in the control circuit when a KaController is connected to it.

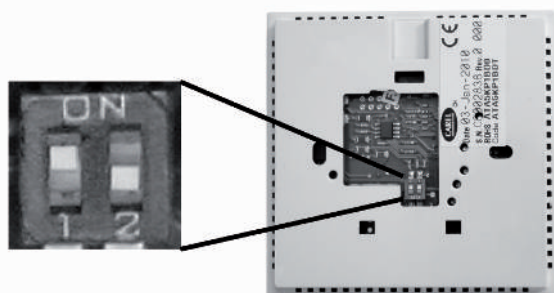


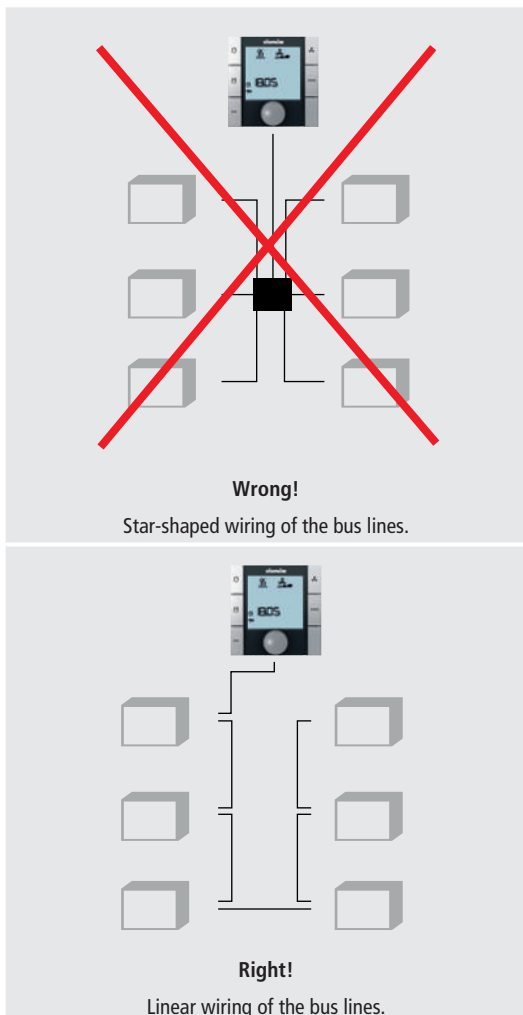
Fig. 13: DIP switch setting on KaController

#### DIP switch setting

The DIP switches on the rear of the KaController should be set according to the illustration:

- DIP switch 1: ON
- DIP switch 2: OFF

## 7.4.2 Connection (\*C1)



### General information

- ▶ Route all low voltage cables along the shortest route.
- ▶ Ensure that low-voltage and power cables are separated, using metal partitions on cable harnesses.
- ▶ Use only shielded cables as low-voltage and bus cables.
- ▶ Lay all BUS cables in a linear pattern. Star-shaped wiring is not permitted.
- ▶ The KaController is connected via a bus connection to the respective control PCB on the unit.

Tab. 6: Wiring of bus lines



### IMPORTANT NOTE!

Use shielded, paired cables as bus cables, UNITRONIC® BUS LD 2x2x0.22, but at least of the same value or higher.



### IMPORTANT NOTE!

When laying the Bus lines, the formation of star points, e.g. in junction boxes, is not permitted. The cables must be looped through at the devices!

## Circuit description KaCool W (\*C1)

- ▶ All KaCool W need a 230 V / 50 Hz power supply.
- ▶ Factory-fitted actuators are wired to the terminals.
- ▶ The speed of the EC fans used is controlled by a 0-10 V DC signal from the KaControl.
- ▶ The internal motor electronics detects any possible motor malfunction and automatically switches off the fan.
- ▶ The KaControl allows the EC fan and the valve actuator either to be controlled by a 0 – 10 V DC signal or by the KaControl.

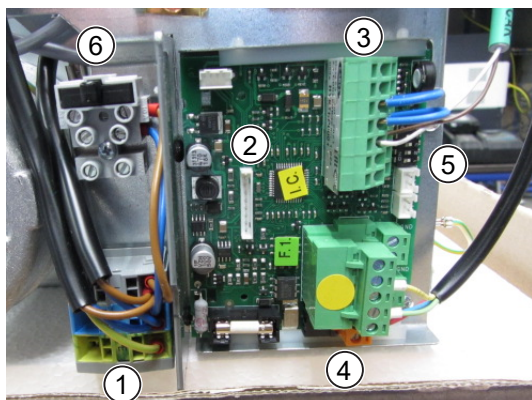


Fig. 14: Terminal assignment (\*C1)

1	Power supply 230 V	2	Slot for interface card
3	KaController connection and control contacts	4	Fan and valve actuators
5	DIP switch	6	Optional condensate pump

## Information on cable laying:

The following information on cable types and cable laying must be observed in compliance with VDE 0100.

The installation, operation and maintenance of these devices must comply with the country-specific applicable laws, standards, regulations and directives.

Without \*: NYM-J. The required number of cores incl. protective conductor is indicated on the cable. Cross sections are not indicated, as the cable length is included in the calculation of the cross section.

\*) : Shielded cable, J-Y(ST)Y 0.8mm. Lay separately from power lines.

\*\*) : Shielded cable stranded in pairs, e.g. UNITRONIC® BUS LD 2x2x0.22, UNITRONIC® BUS LD 3x2x0.22. Install separately from power lines.

- If other cable types are used, they must be at least equivalent.

- The connection terminals on the device are suitable for a maximum wire cross-section of 2.5 mm², the mains plug for max. 4.0 mm².

- When using residual current circuit breakers, these must be at least mixed frequency sensitive (type F). For the design of the rated residual current, the specifications from DIN VDE 0100 Parts 400 and 500 must be observed.

- For the design of the on-site mains supply and fuse protection (C16A, max. 10 devices), the electrical data in the table below must be observed.

- Lines for data or bus signals are shown with shield connected at one end. Lines for analog signals are shown with the shield not connected. Due to structural or local conditions and depending on the type and level of interference, which can be caused by magnetic and/or electric fields in high and/or low frequency ranges, among other things, a different connection of the shield (connected at both ends or not connected) may be necessary. This must be checked by the customer and, if necessary, carried out deviating from the specifications in the documentation!

## Electromechanical:

- Cable length between speed controller and the last device: maximum 100 m, from 20 m connect shield on one side.

- Cable length between room thermostat and temperature sensor or switch contact: maximum 50 m.

- Cable length between speed controller and temperature sensor or switching contact: maximum 100 m.


## KaControl:

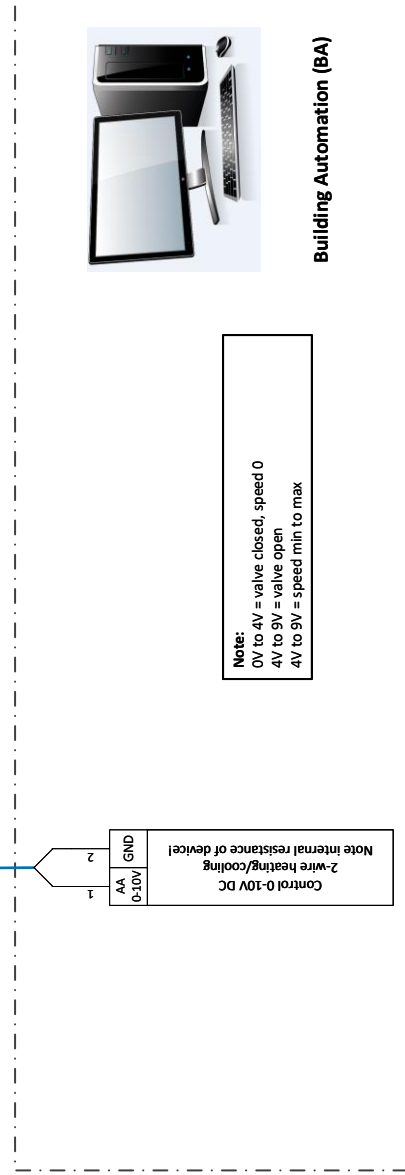
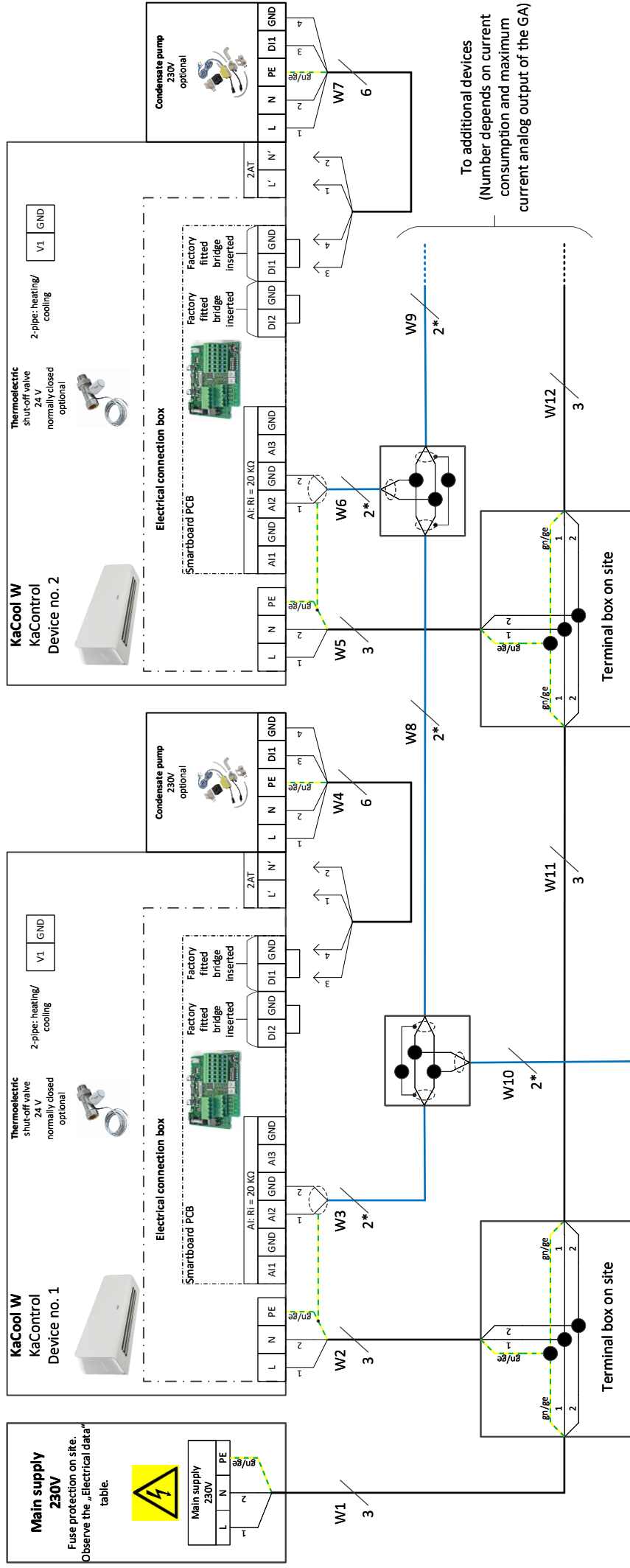
- Cable length temperature sensor or switching contact: maximum 30m (maximum 100m with minimum wire cross-section of 1.0 mm²).

- Cable length BUS cable room control unit KaController to unit 1: maximum 30 m.

- Maximum number of devices in parallel: 6 pieces.

- BUS cable length from device 1 to device 6: maximum 30 m.

<b>KaControl®</b>		Projekt: KaCool W	General Information	Blatt-Nr.:  2 von 6
	Erstelldatum: 08.01.2025			
			 Genau mein Klima.	



Main supply  
230V

Fuse protection on site.  
Observe the „Electrical data“  
table.

L	N	PE
1	2	3

KaCool W  
KaControl  
Device no. 1

Thermoelectric  
shut-off valve  
24 V V<sub>1</sub>  
normally closed  
optional

Electrical connection box

Smartboard PCB

Factory fitted  
bridge inserted

2AT

AI: R1 = 20 KΩ

L	N	PE	Tx	GND	V+	Tx	AI1	GND	AI2	GND	AI3	GND	D12	GND	D11	GND	L'	N'	2AT
1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	1	2	3

Factory fitted  
bridge inserted

Condensate pump  
230V  
optional

L	N	PE	D11	GND
1	2	3	4	5

Room sensor

Contact sensor

Contact sensor

Contact  
e.g. heating/  
cooling

KaController  
Type 321000x

GND	TX+	TX-	GND	24V
1	2	3	4	5

- Options -  
Multifunctional inputs  
(For possible functions see instructions)

KaControl®	Erstelldatum: 08.01.2025	Projekt: KaCool W	KaCool W C1, 2-wire, valve actuator 24VDC open/closed, with KaController type 321000x single device	Blatt-Nr.: 4 von 6	KAMPMAN Genau mein Klima.



## 7.5 KaControl MC

### Assembly Touch Panel TP 2

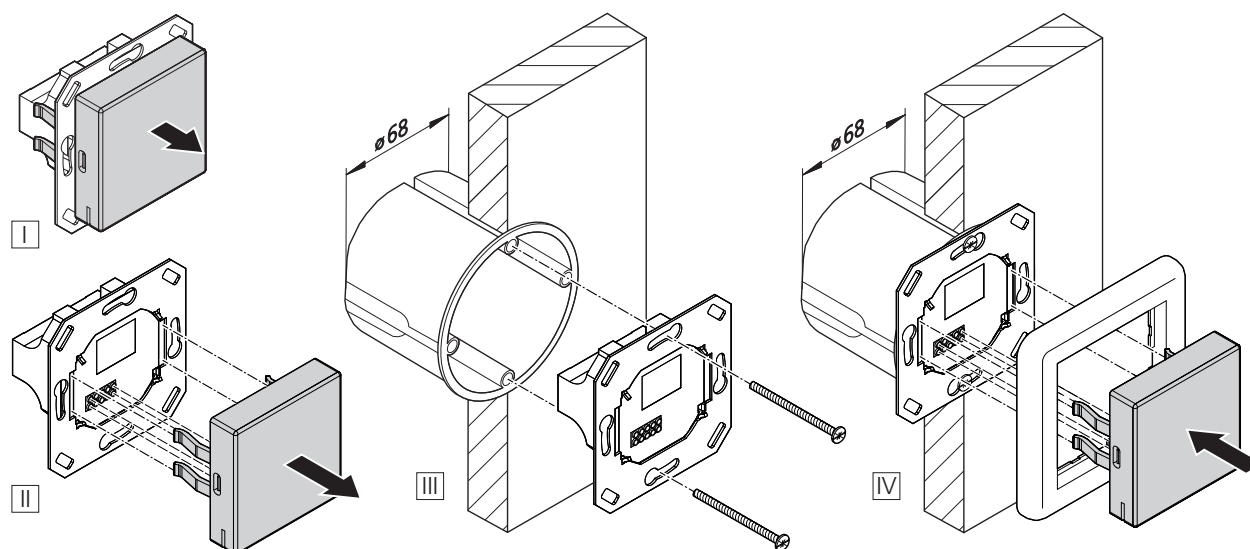


Fig. 15: Installation Touch Panel TP 2

- ▶ Remove the touchscreen from the flush-mounted unit.
- ▶ Screw the flush-mounted unit to the flush box.
- ▶ Insert the frame and touchscreen into the flush-mounted unit.



## Connection Touch Panel TP 2



### Electrical connection

- ▶ Connect the Touch Panel TP 2 as a CAN bus line according to the layout plan.
- ▶ The 4-pole terminal on the SmartBoard M controller (installed in the device) supplies the Touch Panel TP 2 control unit with a voltage of 24 V.
- ▶ The maximum cable length of the CAN bus is 100 m (total length of the CAN bus line).

### Switch position terminating resistor

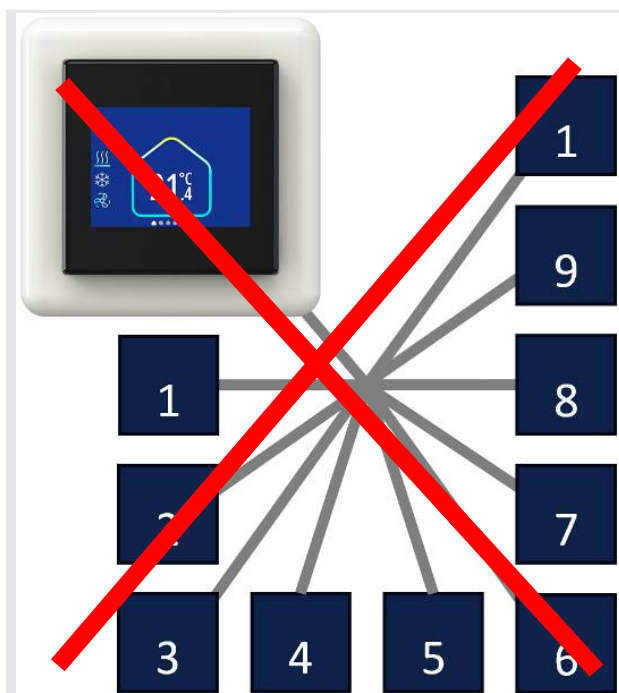
There is a switch on the connection area of the Touch Panel TP 2 for activation of the terminating resistor. When installing the Touch Panel TP 2 at the beginning or end of a CAN bus line, set the switch to the ON position. Incorrect switch positions lead to communication problems.

- ▶ Switch position **ON**: Terminating resistor activated
- ▶ Switch position **OFF**: Terminating resistor deactivated

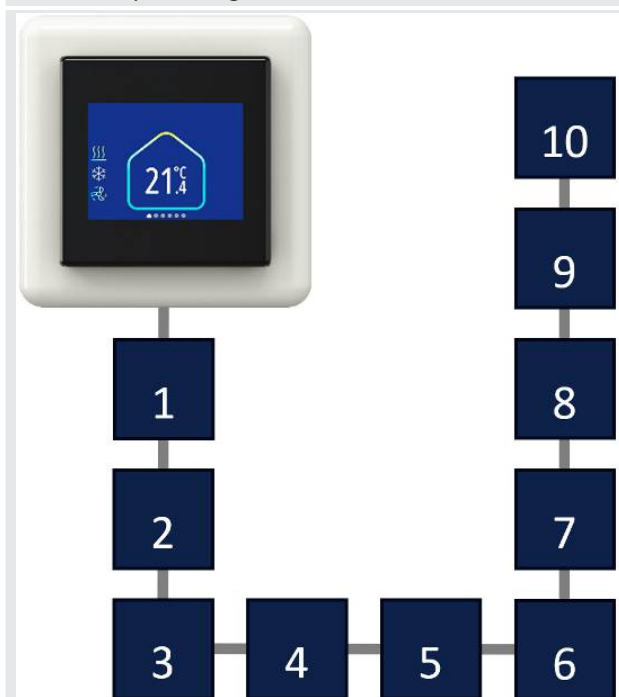
# KaCool W

Assembly, installation and operating instructions

## Connection



No star-shaped wiring from the CAN bus



Run the CAN bus wiring in one line. Set the terminating resistors at the beginning (e.g. Touch Panel TP 2 ) and end of the CAN bus line (e.g. device 10) to switch position ON.

### General notes

- Lay all low voltage lines along the shortest possible route.
- Warrant spatial separation of low voltage and high voltage lines, e.g. by using metal crossbars on cable harnesses.
- Only use shielded cables for low-voltage and Bus lines.
- Lay all Bus lines in a linear fashion. Star-shaped wiring is not permitted!
- The 4-pole terminal on the SmartBoard M control board (installed in the device) supplies the control unit Touch Panel TP 2 with a voltage of 24 V.



## IMPORTANT NOTE!

Use shielded, paired cables as bus cables, UNITRONIC® BUS LD 2x2x0.22, but at least of the same value or higher.



## IMPORTANT NOTE!

When laying the Bus lines, the formation of star points, e.g. in junction boxes, is not permitted. The cables must be looped through at the devices!

## Circuit description

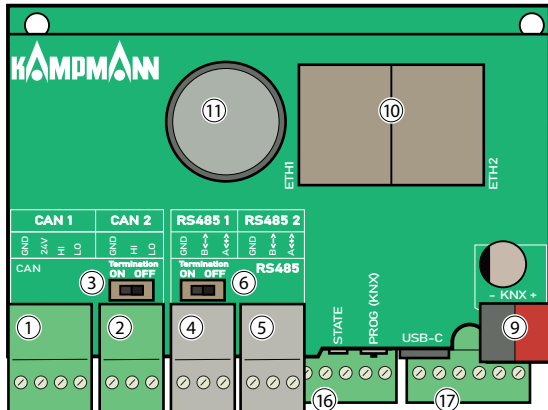
- ▶ All devices require a power supply of 230 V/ 50 Hz.
- ▶ The fan speed of the EC fans used is controlled by the KaControl control via a 0 - 10 V DC signal so that the room reaches the desired temperature.
- ▶ The KaControl MC control is used to control the fan and the actuator(s) so that the room reaches the desired temperature.
- ▶ The current status of the room temperature control is displayed on the control unit Touch Panel TP 2. Parameterization can also be carried out via the control unit.
- ▶ The following interfaces are available in each device for the integration of building management systems. (With the exception of the 0 - 10 V control, these must be activated via a license subject to a charge).
  - KNX TP
  - Modbus RTU (RS485 with switchable terminating resistor)
  - Modbus TCP (Ethernet)
  - BACnet/IP (Ethernet)
- ▶ The control board is equipped with a miniature fuse.

# KaCool W

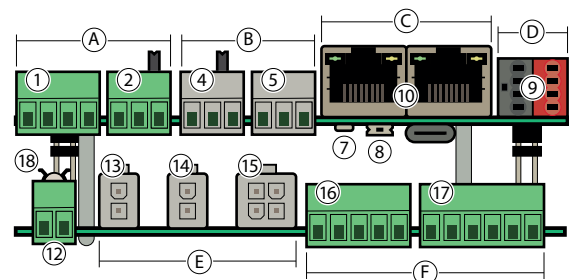
Assembly, installation and operating instructions

## Description PCB KaControl MC

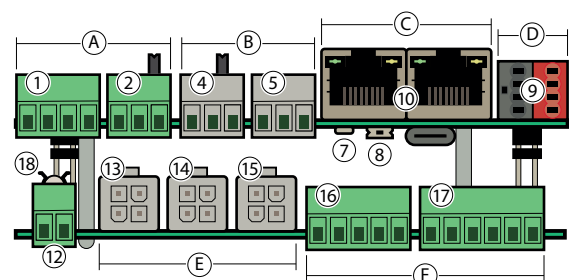
Top view of mainboard



- (A) CAN bus
- (B) Modbus RTU
- (C) Modbus (TCP) & BACnet/IP
- (D) KNX TP
- (E) Outputs
- (F) Multi-function inputs

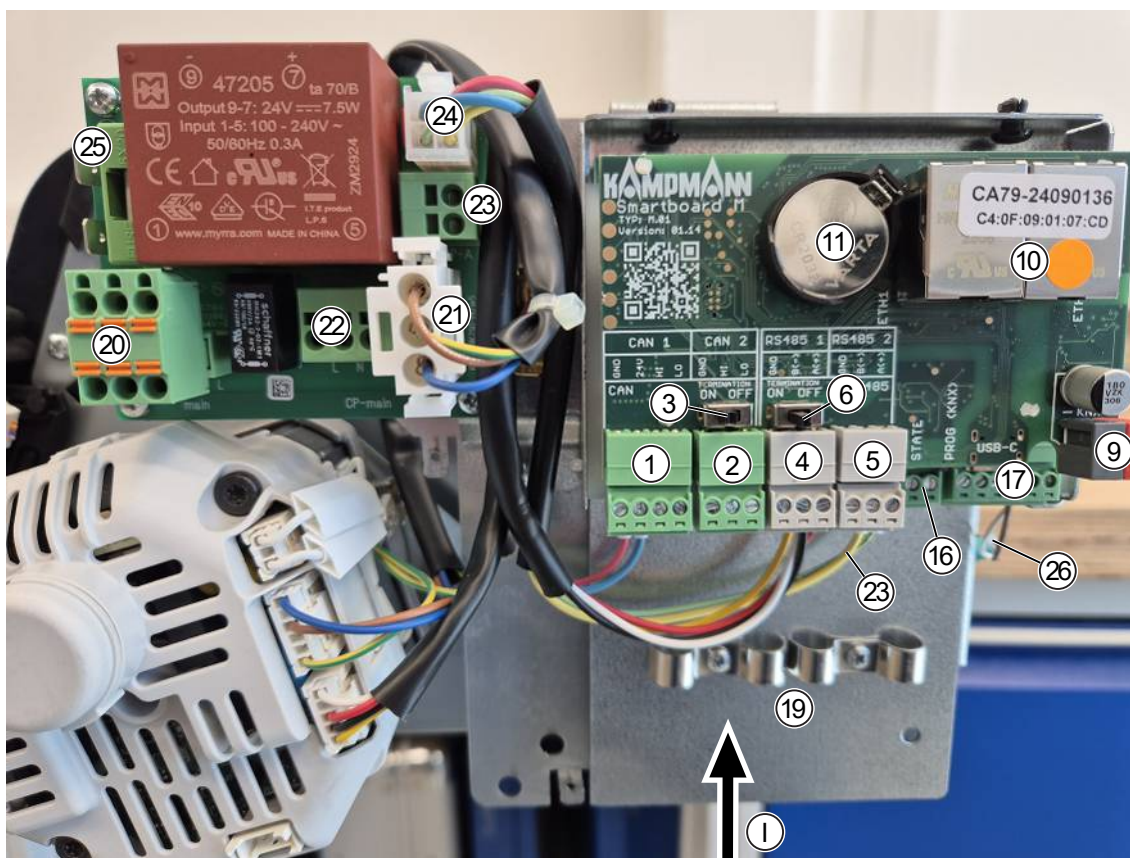


Front view of smart board M FCU 2P  
(xxxM1)



Front view of smart board M DCU cont  
(xxxM2)

1	Connection CAN bus 4-pole (KaCool W ) or 3-pole previous device	2	3-pin CAN bus connection to the following device
3	Connectable terminating resistor CAN bus	4	Connection Modbus RTU previous device
5	Connection Modbus RTU following device	6	Switchable terminating resistor Modbus RTU
7	Status LED	8	Button for WLAN (WiFi) and KNX TP
9	KNX TP connection terminals	10	Ethernet connection for the web server, Modbus TCP & BACnet/IP with integrated switch
11	Battery (type CR2032)	12	24 V power supply Smart board M
13	Heating valve actuator connection (for xxxM1 version -> 2-pin, for xxxM2 version -> 4-pin)	14	Connection valve actuator chiller (for version xxxM1 -> 2-pole, for version xxxM2 -> 4-pole)
15	Fan connection	16	Multifunction inputs 1 & 2 for internal & external sensors/signals
17	Multifunctional inputs 3, 4 & 5 for internal & external sensors/signals	18	Fuse (4 A slow-blow)



I	Cable entry		
1	Connection CAN bus 4-pin (\\"Touch 2\\") or 3-pin previous device	2	CAN bus 3-pin connection to the following device
3	Switchable terminating resistor CAN bus	4	Connection Modbus RTU previous device
5	Connection Modbus RTU following device	6	Switchable terminating resistor Modbus RTU
9	KNX TP connection terminals	10	Ethernet connection for the web server, Modbus TCP & BACnet/IP with integrated switch
11	Battery (type CR2032)	16	Multifunctional inputs 1 & 2 for internal & external sensors/signals
17	Multifunctional inputs 3, 4 & 5 for internal & external sensors/signals	19	Modbus RTU / CAN bus shield terminals
20	Power supply 230V (max. cross-section 2.5 mm <sup>2</sup> ) 2 x PE; 2 x N; 2 x L	21	Connection power supply fan
22	Connection power supply condensate pump	23	Connection condensate alarm condensate pump (optional)
24	Control connection	25	Miniature fuse 1 A T(slow-blow)
26	Internal intake sensor (factory-fitted) (IN5) (Always installed on appliances with KaControl C1 and Ka-Control Mx control)		

**Information on cable laying:**

The following information on cable types and cable laying must be observed in compliance with VDE 0100.

The installation, operation and maintenance of these devices must comply with the country-specific applicable laws, standards, regulations and directives.

Without \*: NYM-J. The required number of cores incl. protective conductor is indicated on the cable. Cross sections are not indicated, as the cable length is included in the calculation of the cross section.

\*) :        Shielded cable, J-Y(ST)Y 0.8mm. Lay separately from power lines.

\*\*) :        Shielded cable stranded in pairs, e.g. UNITRONIC® BUS LD 2x2x0.22, UNITRONIC® BUS LD 3x2x0.22. Install separately from power lines.

- If other cable types are used, they must be at least equivalent.

- The connection terminals on the device are suitable for a maximum wire cross-section of 2.5 mm².

- When using residual current circuit breakers, these must be at least mixed frequency sensitive (type F). For the design of the rated residual current, the specifications from DIN VDE 0100 Parts 400 and 500 must be observed.

- For the design of the on-site mains supply and fuse protection (C16A, max. 10 devices), the electrical data in the table below must be observed.

- Lines for data or bus signals are shown with shield connected at one end. Lines for analog signals are shown with the shield not connected. Due to structural or local conditions and depending on the type and level of interference, which can be caused by magnetic and/or electric fields in high and/or low frequency ranges, among other things, a different connection of the shield (connected at both ends or not connected) may be necessary. This must be checked by the customer and, if necessary, carried out deviating from the specifications in the documentation!

**KaControl MC:**

- Cable length temperature sensor or switching contact: maximum 30m.

- The connection terminals on the Smartboard M are for a maximum wire cross-section of 1.5 mm².

- Maximum number of devices in parallel: 10 units.

- Maximum BUS cable length from device 1 to device 10: 100 m.

- Note CAN bus or Modbus/RTU: The resistor must be switched on via the slide switch on the first and last bus participant (device or operating unit) of the bus line!

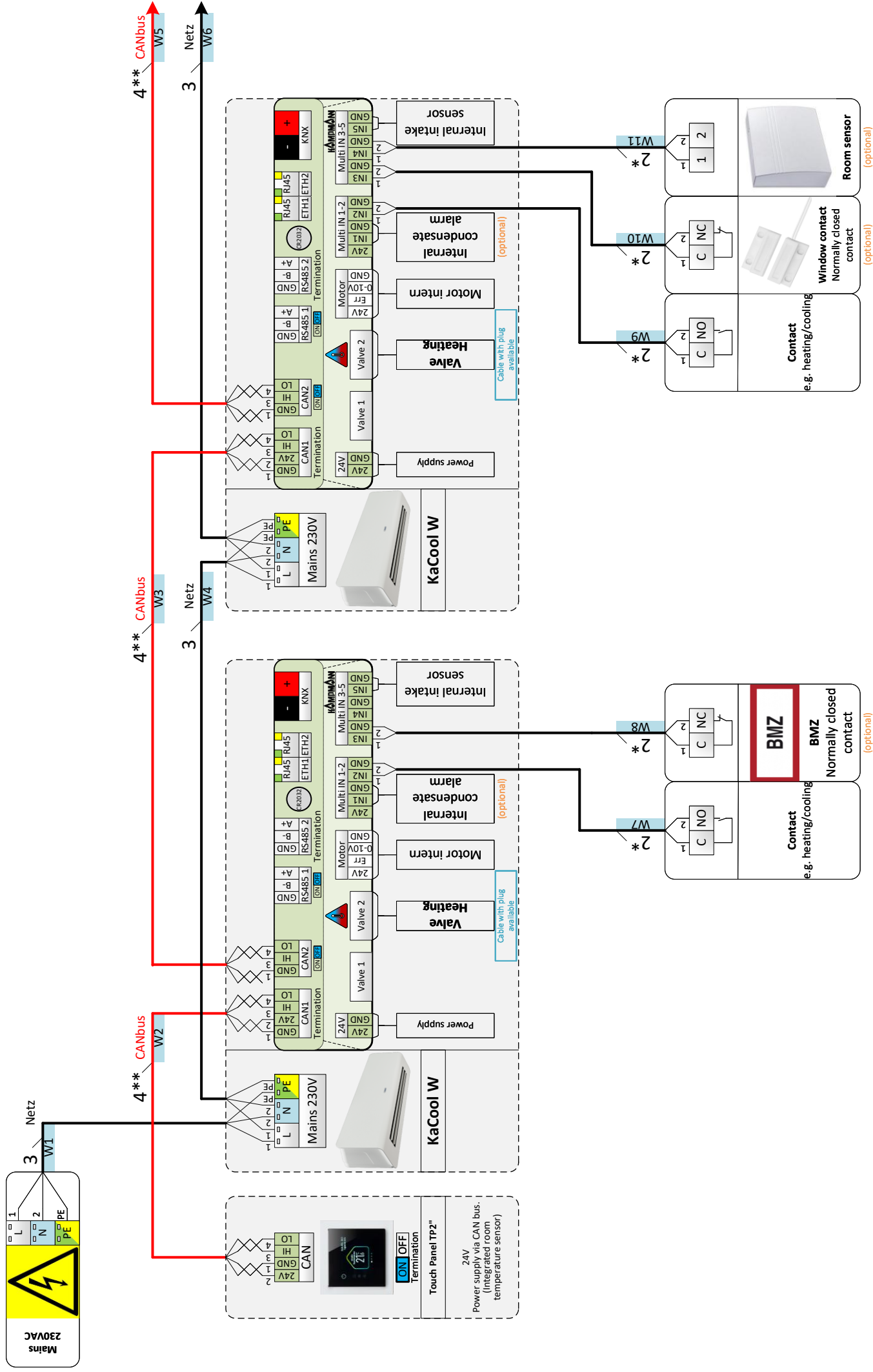


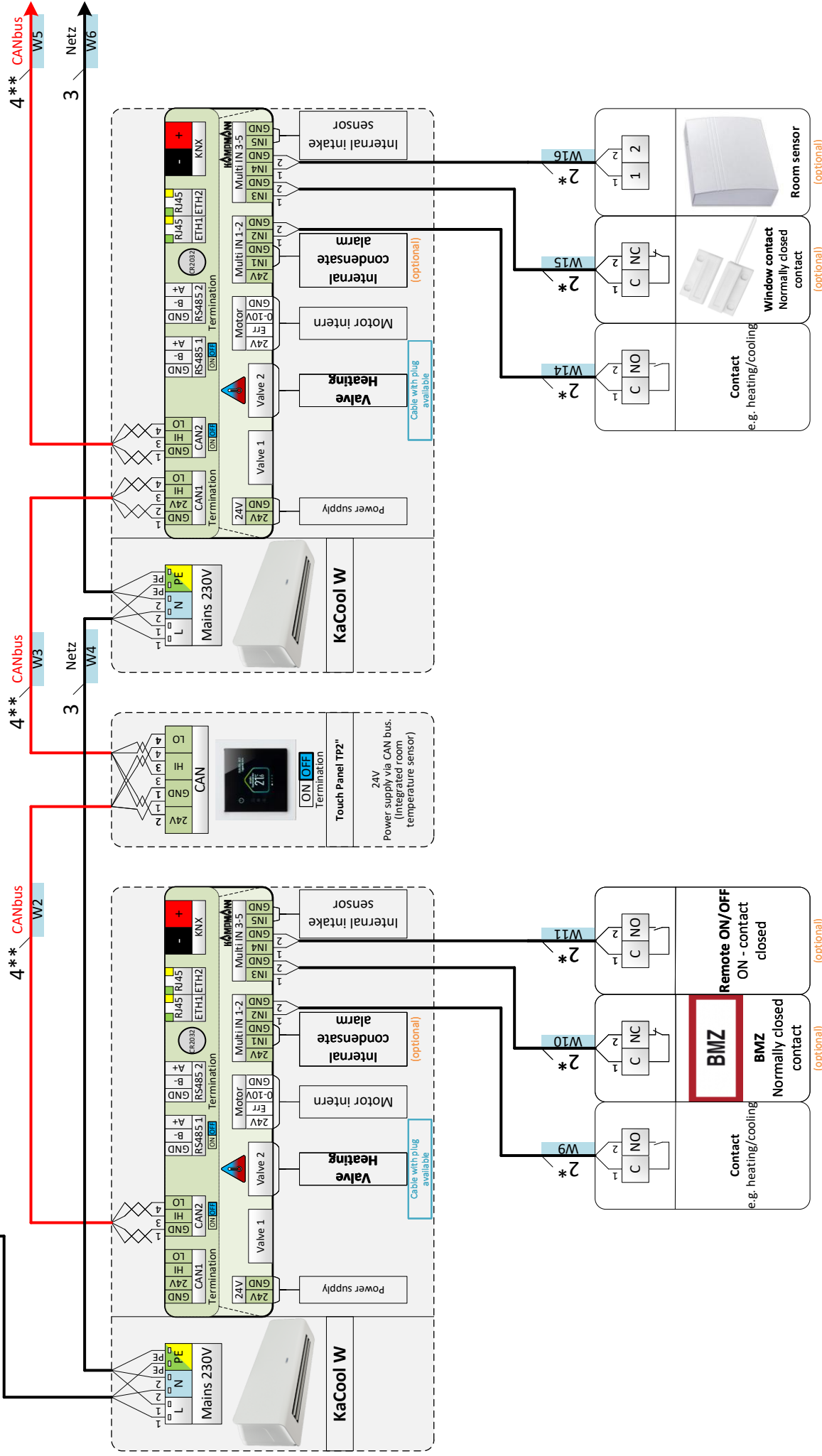
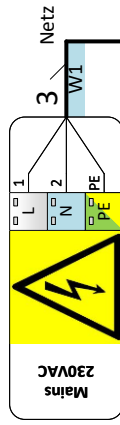
Actuator with symbol is for 4-pipe cooling or 2-pipe heating/cooling.

The multifunctional inputs can be flexibly configured so that any accessory can be connected to any input.

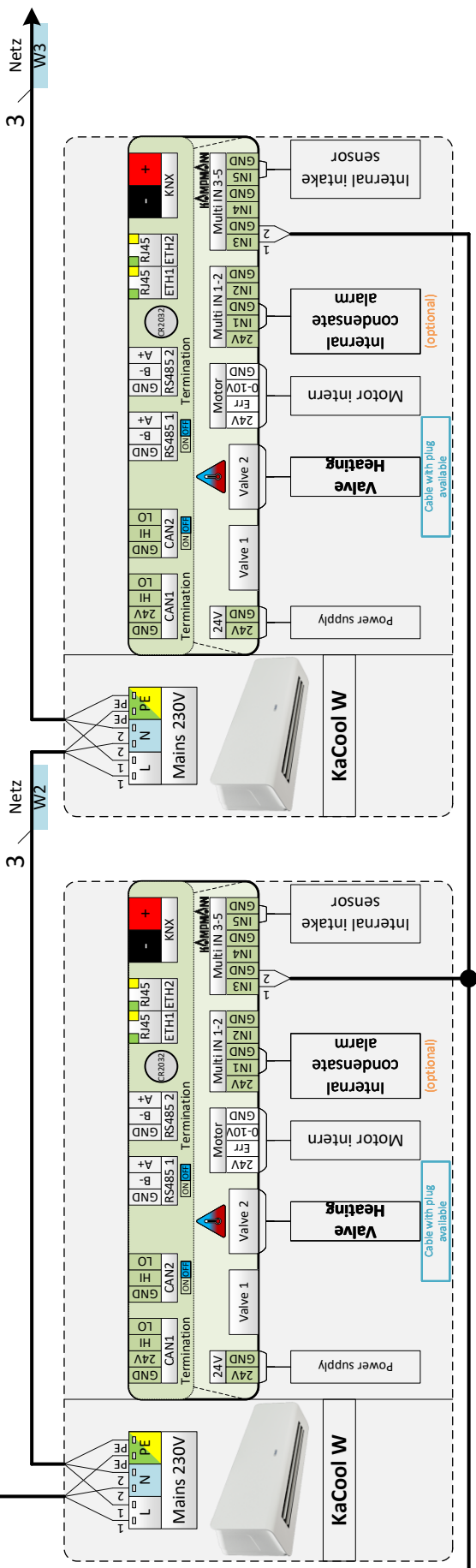
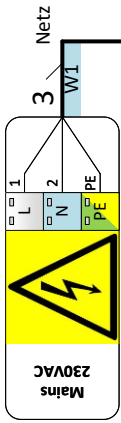
Bearbeiter:	Projekt:	General Information		Blatt-Nr.: 2 von 9	
	Erstelldatum:				



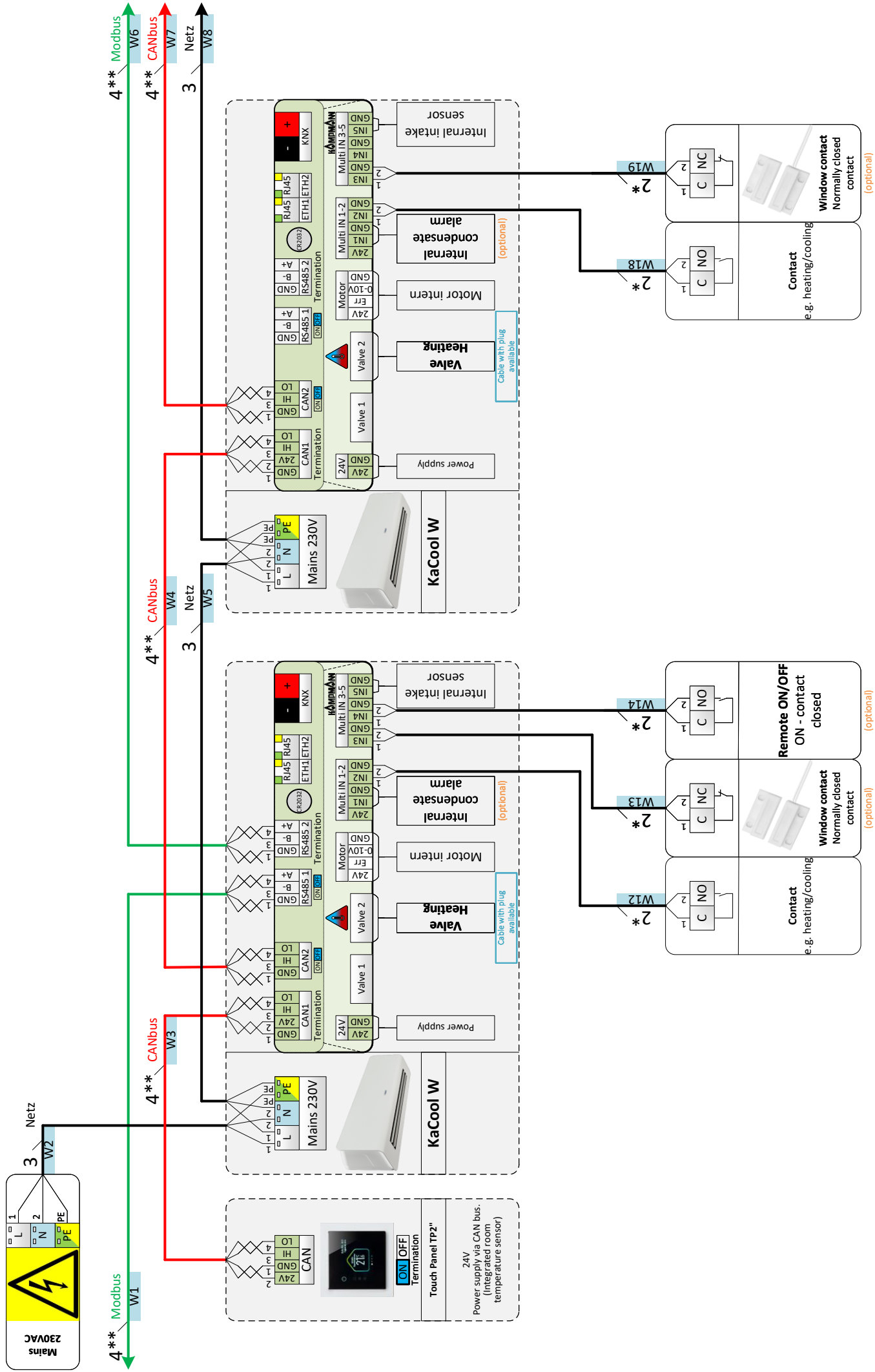


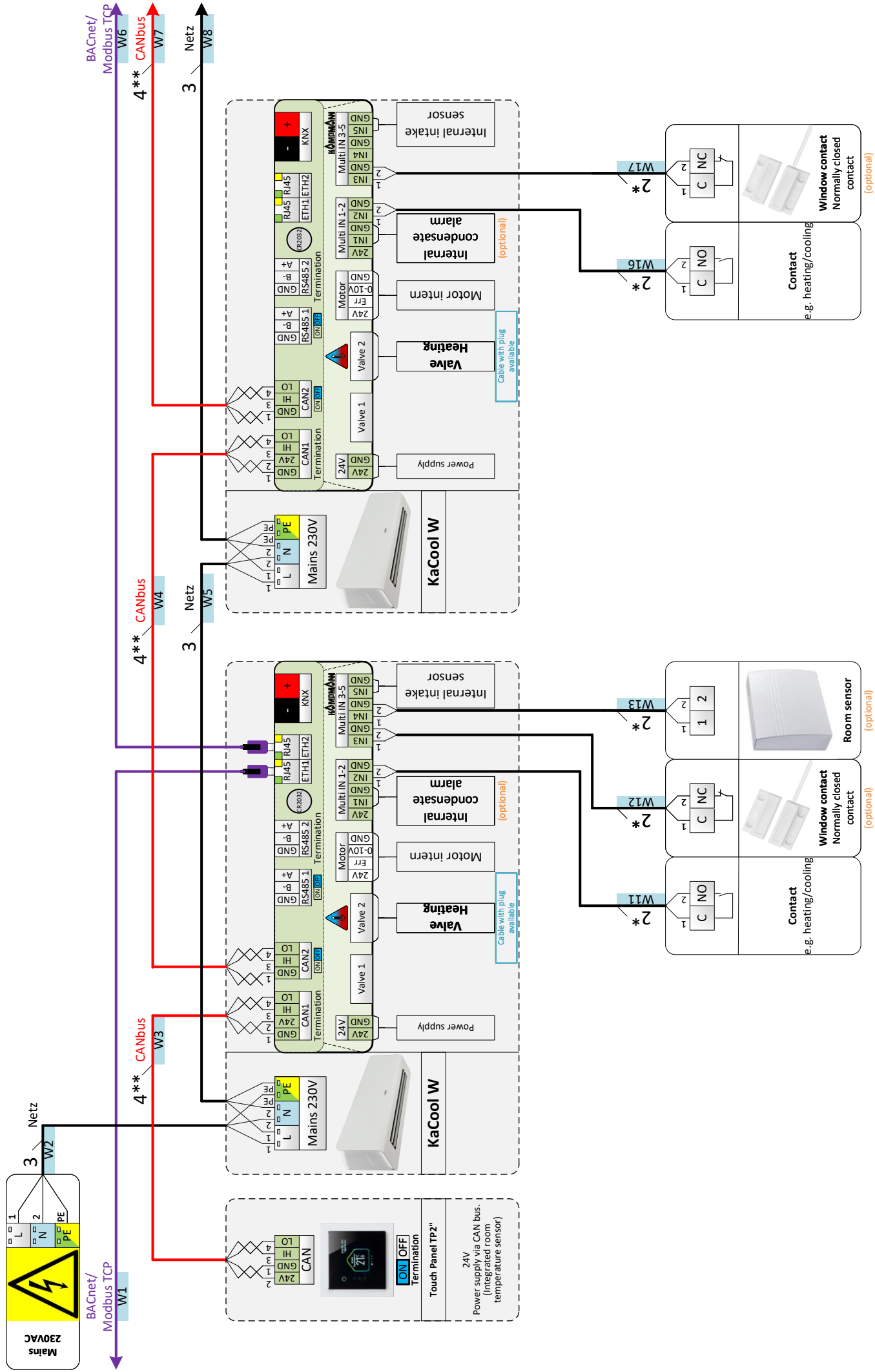






Bearbeiter:	Projekt:		KaCool W, 2-wire, KaControl MC, Valve drive 24V DC, condensate pump optional, Control via building automation		Blatt-Nr.:	
	Erstelldatum:				5 von 9	KAMPMANN







## 7.6 Setting up the KaControl MC control system


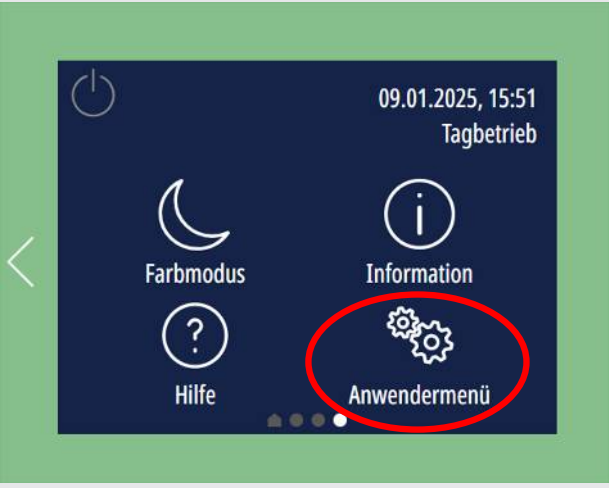

Products with KaControl MC control are set up via an integrated web server. In the settings, products are guided step by step through a quick configuration and adapted to the local conditions.

There are two options for accessing the web server:



Ethernet	WLAN (Wi-Fi)
This requires an Ethernet cable (network cable) and a notebook with a network connection (RJ-45).	A WLAN-capable end device with an installed browser is required.
<ul style="list-style-type: none"> <li>▶ Connect the network cable from one of the two Ethernet sockets to the notebook.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Activate the WLAN hotspot by pressing and holding (approx. 3 s) the PROG (KNX) button; LED lights up 2x alternately red and green WLAN is active for 2 hours</li> </ul>
Set the IP address 192.168.1.250 with the subnet mask 255.255.255.0 in the notebook settings for the Ethernet socket used.	<ul style="list-style-type: none"> <li>▶ Select WLAN signal with selected end device; Hotspot name is SmartBoard Mxxxxxxx The x"s are placeholders for the serial number of the SmartBoard M (sticker on the network socket), which is also on the PCB. <b>Attention:</b> An incorrect serial number can lead to a connection with an incorrect device! A password is not necessary. <b>Recommendation:</b> Deactivate mobile data and disconnect active WLAN to prevent end devices from switching to a mobile wireless network or another detected WLAN.</li> </ul>
<ul style="list-style-type: none"> <li>▶ Open the browser and enter the IP address of the SmartBoard M (ex works) in the address line as follows: 192.168.1.100</li> </ul> <p>The user interface of the Touch Panel TP 2 is synchronized in the browser.</p>	

# KaCool W

Assembly, installation and operating instructions

Ethernet	WLAN (Wi-Fi)
 	<p>► Use the arrow buttons next to the displayed room control unit to navigate to the settings and open the user menu. (On a terminal device with a touch screen, you can also swipe to the left).</p>
	<p>► Navigate to the right to Configuration and open it.</p>

► Enter the following sequence of digits when entering the password: **7108**

Ethernet	WLAN (Wi-Fi)
	<ul style="list-style-type: none"> <li>▶ Select the Quick configuration button.</li> </ul>
<ul style="list-style-type: none"> <li>▶ All relevant information is requested step by step in the quick configuration. Enter or answer the information according to the intended use.</li> <li>▶ Note: It is essential to answer <b>all</b> steps, otherwise the function will not work optimally for the intended purpose.</li> </ul>	
	<ul style="list-style-type: none"> <li>▶ If necessary, save the parameter set locally.</li> </ul>

## 8 Pre-commissioning checks

During initial commissioning, it must be ensured that all necessary requirements are met so that the appliance can function safely and as intended.

### Structural tests

- ▶ Check that the unit is securely standing and fixed.
- ▶ Check the horizontal installation/suspension of the unit.
- ▶ Check the completeness and correct seating of all filters (dirt side).
- ▶ Check whether all components are properly fitted.
- ▶ Check whether all dirt, such as packaging or site dirt, has been removed.

### Electrical tests

- ▶ Check whether all lines have been properly laid.
- ▶ Check whether all lines have the necessary cross-section.
- ▶ Are all wires connected in accordance with the electric wiring diagrams?
- ▶ Is the earth wire connected and wired throughout?
- ▶ Check whether the fault signal contacts of the EC fans have been correctly connected (break contacts in series with multiple units).
- ▶ Check all external electrical connections and terminal connections are fixed in place and tighten if necessary.

### Water-side checks

- ▶ Check whether all supply and drainage lines have been properly connected.
- ▶ Fill pipes and unit with water and bleed.
- ▶ Check whether all bleed screws are closed.
- ▶ Check leak tightness (pressure test and visual inspection).
- ▶ Check whether the parts carrying water have been flushed through.
- ▶ Check whether any shut-off valves fitted on site are open.
- ▶ Check whether any electrically actuated shut-off valves have been properly connected.
- ▶ Check whether all valves and actuators are working properly (note permitted mounting position).

### Air-side checks

- ▶ Check whether there is unimpeded flow at the air inlet and outlet.
- ▶ Check whether the air inlet filter is fitted and dirt-free.

### Condensation water connection

- ▶ Check whether the condensation tray is free of building rubble.
- ▶ Check the condensation drain and operation of the alarm signal on the condensation pump.
- ▶ Check whether the cooling valve switches off in the event of an alarm signal.
- ▶ Check whether the unit is connected leak-free to the on-site condensation connection.
- ▶ Check whether the waste water lines are clean and have a sufficient gradient.
- ▶ Check whether the condensation pump has a working power supply.

Once all checks have been completed, initial commissioning can be carried out in line with Chapter 9 "Operation" [▶ 66].





## 9 Operation

### 9.1 Operation of electromechanical control



 <p>A white, rectangular room thermostat with a large rotary dial on the front. The dial has numbers from 15 to 30. Above the dial are three small buttons labeled 'MAN', 'AUTO', and 'ON'. The brand name 'KAMPMANN' is visible at the bottom left of the device.</p>	<p><b>Room thermostat, type 30155</b></p> <ul style="list-style-type: none"> <li>▶ Electronic room thermostat with 3-stage automatic function for 2- and 4-pipe applications, surface-mounted wall installation on a flush-mounted box in visually unobtrusive design</li> <li>▶ simple operation using a large rotary dial for temperature setting with mechanical range limitation of the temperature setpoint, operating mode selector switch, Standby, Manual fan, Automatic fan, 3-stage switch for pre-selecting the fan speed when the operating mode selector switch is in the "Manual fan" position</li> <li>▶ option for external room sensor connection</li> <li>▶ control input for heating/cooling changeover with 2-pipe applications</li> <li>▶ digital input can be set to Comfort/ECO or ON/OFF switchover</li> </ul>
 <p>A white, square clock thermostat with a digital LCD display. The display shows 'KAMPMANN', 'komfort', a sun icon, '28.0°C', and '19.1°C'. Below the display are four buttons labeled 'Mode', 'Menu', 'On', and 'Off'. The device is mounted on a square wall plate.</p>	<p><b>Clock thermostat 230 V, type 30256</b></p> <ul style="list-style-type: none"> <li>▶ Electronic clock thermostat for 2- and 4-pipe applications, surface-mounted wall installation on a flush-mounted box in visually unobtrusive design</li> <li>▶ Operation using 4 sensor keys</li> <li>▶ Timer with automatic summer/winter changeover</li> <li>▶ Option for external room sensor</li> <li>▶ Control input for heating/cooling changeover with 2-pipe applications</li> <li>▶ Digital input can be set to Comfort/ECO or ON/OFF switchover</li> <li>▶ Parallel operation of 2 units is possible</li> </ul>

Fig. 16: Room thermostat, type 30155

Fig. 17: Clock thermostat type 30256



Fig. 18: Clock thermostat, type 30456

## Clock thermostat 24 V, type 30456

- ▶ Electronic clock thermostat for 2- and 4-pipe applications, surface-mounted wall installation on a flush-mounted box in visually unobtrusive design
- ▶ operation using 4 sensor keys
- ▶ timer with automatic summer/winter switch-over
- ▶ option for external room sensor connection
- ▶ control input for heating/cooling changeover with 2-pipe applications
- ▶ digital input can be set to Comfort/ECO or ON/OFF switchover
- ▶ parallel operation of 5 units is possible



Fig. 19: Climate controller type 196000148941

## Climate controller, white, type 196000148941

- ▶ for 2- and 4-pipe applications, surface-mounted wall installation on a flush-mounted box with a visually unobtrusive design with 2.5" LCD display and high-quality glass finish with capacitive keys
- ▶ automatic LED backlight
- ▶ parametrisable language: German or English
- ▶ timer program with 3 time channels, each with 4 switch-over points
- ▶ option to connect an external room sensor
- ▶ 3 control inputs (functions parametrisable, e.g. window contact, presence detector, heating/cooling switchover)



Fig. 20: Climate controller type 196000148942

## Climate controller, black, type 196000148942

- ▶ for 2- and 4-pipe applications, surface-mounted wall installation on a flush-mounted box with a visually unobtrusive design with 2.5" LCD display and high-quality glass finish with capacitive keys
- ▶ automatic LED backlight
- ▶ parametrisable language: German or English
- ▶ timer program with 3 time channels, each with 4 switch-over points
- ▶ option to connect an external room sensor
- ▶ 3 control inputs (functions parametrisable, e.g. window contact, presence detector, heating/cooling switchover)

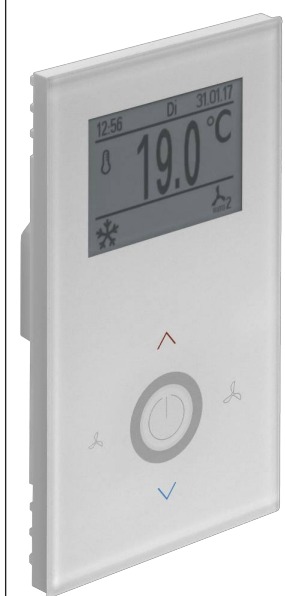


Fig. 21: Climate controller type 196000148943

## Climate controller, white, type 196000148943

- ▶ with Modbus interface
- ▶ for 2- and 4-pipe applications, surface-mounted wall installation on a flush-mounted box with a visually unobtrusive design with 2.5" LCD display and high-quality glass finish with capacitive keys
- ▶ automatic LED backlight
- ▶ parametrisable language: German or English
- ▶ timer program with 3 time channels, each with 4 switch-over points
- ▶ Modbus-RTU interface as a slave device
- ▶ option to connect an external room sensor
- ▶ 2 control inputs (functions parametrisable, e.g. window contact, presence detector, heating/cooling switchover)

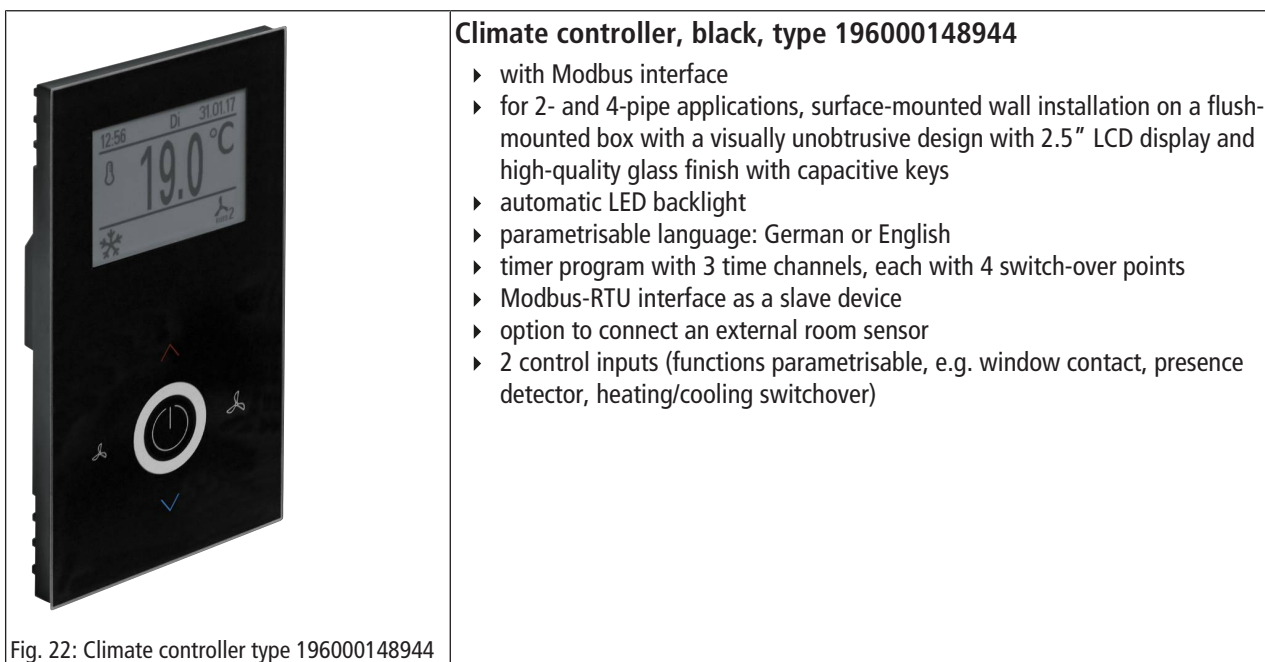


Fig. 22: Climate controller type 196000148944

## 9.2 Operation of the KaController

The following information is limited to the key content on the operation of the KaController and KaControl system. More information is included separately in the KaControl SmartBoard user manual.

# KaCool W

Assembly, installation and operating instructions

## 9.2.1 Function keys, display elements

All menus can be selected and set using the navigator dial.

The LED background lighting is automatically switched off 5 seconds after the KaController is last used. The LED background lighting can be permanently disabled using a parameter setting.

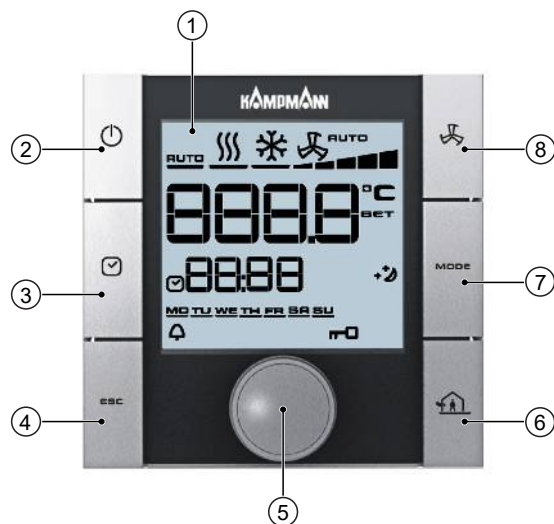


Fig. 23: KaController with function keys, type 3210002

1	Display with LED background lighting	2	ON/OFF key (depending on setting) ▶ ON/OFF ▶ Eco mode/Day mode (factory setting)
3	TIMER button ▶ Set time ▶ Set timer programs	4	ESC button ▶ back to standard view
5	Navigator dial ▶ Change settings ▶ Call up menus	6	House symbol ▶ External ventilation
7	MODE button ▶ Set operating modes (disabled with 2-pipe applications)	8	FAN button ▶ Set fan control

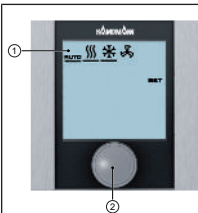


Fig. 24: KaController type 3210001



Fig. 25: KaController black, type 3210006

KaController without operating keys (one-button operation) type 3210001	
1. Display with LED background lighting	
2. Navigator dial ▶ Change settings ▶ Call up menus	
KaController, black without function keys (one-button operation) type 3210006	
1. Display with LED background lighting	
2. Navigator dial ▶ Change settings ▶ Call up menus	

The symbols shown on the display depend on the application (2-pipe, 4-pipe etc.) and the parameters set.

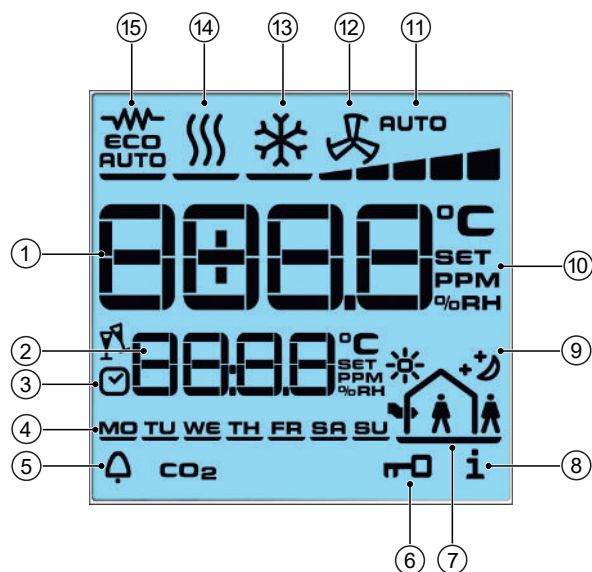


Fig. 26: Display

1	Display of setpoint room temperature	2	Current time
3	Timer program enabled	4	Weekday
5	Alarm	6	Selected function is locked
7	"External ventilation" mode is locked	8	Filter alert
9	Eco mode	10	Setpoint setting enabled
11	Fan control setting Auto-0-1-2-3-4-5	12	Ventilation mode
13	Cooling mode	14	Heating mode
15	Automatic Heating/Cooling changeover mode		

# KaCool W


Assembly, installation and operating instructions

## 9.3 Operation KaControl MC Touch Panel TP 2

### 9.3.1 Touch surface

The Touch Panel TP 2 enables convenient and intuitive operation of secondary air units with the KaControl MC control system. The input is based on commercially available touch systems. The main displays can be changed or displayed by swiping horizontally on the touch surface. The lists of settings can be scrolled vertically. Individual operating elements can be selected directly.

### 9.3.2 Display areas




**Display areas**

- ① Display area, operating status, date, time
- ② Display area and setting range for room status, unit functions and fault alarms
- ③ Display area of the navigation guide

Note: Views can vary and be customised depending on the quick configuration.


### 9.3.3 Changing values



**Temperature setpoint**

Change the temperature setpoint by holding and shifting the temperature symbol on the semicircle. The set temperature is displayed. There is the option of an absolute temperature setting or a relative deviation from the comfort temperature (e.g. +/- 3°C). This can be changed in the quick configuration.







	<p><b>Fan control</b></p> <p>Change the fan stage by holding and shifting the fan symbol on the semicircle. The set fan stage is displayed.</p> <p>The number of fan stages and the automatic mode option can be selected in the quick configuration.</p>
---	---

## Settings



Four buttons can be selected in the settings.

	<p>The colour mode can be changed by pressing the icon. Three colour modes can be selected:</p> <ul style="list-style-type: none"> <li>▶ Blue background, white font</li> <li>▶ White background, black font</li> <li>▶ Black background, white font</li> </ul>		<p>The icon displays information on the manufacturer and the group of units.</p>
	<p>Select the Help icon to retrieve detailed information using the QR code.</p>		<p>The Settings icon can be used to adjust the behaviour of the control group. Please refer to the detailed instructions.</p>

## 10 Maintenance

### 10.1 Securing against reconnection



#### **DANGER!**

##### **Risk of death by unauthorised or uncontrolled restart!**

Unauthorised or uncontrolled restarting of the equipment can result in serious injury or death.

- Before restarting, ensure that all safety devices are fitted and working properly and that there is no hazard to humans.

Always follow the procedure described below to prevent accidental restart:

1. de-energise.
2. Prevent accidental re-connection.
3. Check that the equipment is de-energised.
4. Cover and cordon off adjacent live parts.



#### **WARNING!**

##### **Risk of injury from rotating parts!**

The fan impeller can cause severe injuries.

- Switch off the unit and prevent it from reconnection before commencing any work on moving components of the fan. Wait until all parts have come to a standstill.

### 10.2 Maintenance Schedule:

The sections below describe maintenance work needed for the proper and trouble-free operation of the equipment.

If there are signs of increased wear during regular checks, shorten the required maintenance intervals to the actual wear and tear. Contact the manufacturer with any questions about maintenance work and intervals.

Interval	Maintenance work
If necessary	Regular visual inspections and acoustic tests for damage, soiling and function.
External filter (with cooling): quarterly External air filter (heating only): every six months Secondary air filter: annually	Check filter for dirt, clean and change filter if necessary.
Humid cooling: every six months Dry cooling: annually	Check and clean appliance components (heat exchanger, condensate tray, condensate pump, condensate drain, float switch).
every six months	Check water-side connections, valves and screw connections for dirt, leaks and function.
annually	Check electrical connections.
annually	Clean air-conducting components/surfaces.

## 10.3 Maintenance work

### Open the design panel before maintenance work!

Open the design panel before maintenance work, as described in "Installing the unit on the ceiling".

#### 10.3.1 Replacing the filter.



#### CAUTION!

#### Risk of injury from sharp metal housing!

The inner metal of the casing can have sharp edges.

- ▶ Wear suitable protective gloves.



- ▶ Pull the replacement filter out of the rail, clean it or replace it if necessary.

#### 10.3.2 Cleaning the condensate tray



- ▶ Clean the condensate tray.

#### 10.3.3 Cleaning the condensate pump

#### Condensate pump check

Once you have refitted the cleaned condensate pump, reinsert the condensate tray and fill it with water until the filling level monitor is half-filled with water. If it is working properly, the condensate pump should now start operating and drain the water.

#### 10.3.4 Clean the inside of the unit

Check all elements that come into contact with air (internal surfaces of the unit, outlet elements etc.) for dirt or deposits during maintenance and use a commercially available product to remove.

## 11 Faults

The following chapter describes possible causes of faults and the work needed to rectify them. Should faults occur frequently, shorten the maintenance intervals in line with the actual loading on the unit.

Contact the manufacturer with any faults that cannot be rectified using the following information.

### Behaviour in the event of faults

The following applies:

1. Immediately switch off the unit with faults that pose an immediate danger to persons or property!
2. Determine the cause of the fault!
3. Switch off the unit and prevent it from being reconnected if rectifying the fault requires work in the hazard area. Immediately advise a supervisor on site about the fault.
4. Either rectify the fault yourself or have it repaired by authorised personnel, depending on the nature of the fault.

The Fault table [► 76] provides information on who is authorised to rectify and remedy faults.

### 11.1 Fault table

Fault	Possible cause	Remedy
No function.	No power supply.	Check voltage, switch on repair switch.
		Replace fuse.
System water leakage	Heat exchanger defect.	Replace heat exchanger if necessary.
	Hydraulic connection not correct.	Check flow and return, retighten if necessary.
Water leakage condensate	Drains of the condensate tray clogged.	Clean condensate drains and check for sufficient slope.
	Cold water pipe not properly insulated.	Check insulation.
	Condensate drain not properly installed.	Check the function of the condensate pump. Check condensate drain, clean if necessary.
	Air-conducting accessory components not properly insulated.	Check insulation.
Unit not heating or cooling sufficiently (LPHW/CHW)	Fan is not switched on.	Switch on fan at controller.
	Air volume is too low.	Set a higher speed.
	Filter is dirty.	Replace filter.
	No heating or cooling medium.	Switch on heating and/or cooling system, switch on circulation pump, vent unit/system.
	Valves not operating.	Replace faulty valves.
	Water volume too low.	Check pump output, check hydraulics.
	Setpoint temperature on the controller set too low/high.	Adjust temperature setting on the controller.
	Operating unit with integral sensor and/or external sensor is exposed to direct sunlight or positioned over a heat source.	Place operating unit with integral sensor and/or external sensor in a suitable position.
	Air cannot blow out or in freely.	Remove obstacles at the air outlet/air inlet.
	Heat exchanger dirty.	Clean heat exchanger.
	Air in the heat exchanger.	Vent heat exchanger.

Fault	Possible cause	Remedy
Unit too loud	Fan speed too high.	Set a lower fan speed, if possible.
	Air intake / air discharge opening is obstructed.	Free air routes.
	Filter dirty.	Replace filter.
	Rotating parts unbalanced	Clean and/or replace impeller. Make sure that no balancing brackets are removed during cleaning.
	Fan dirty.	Clean dirt from fan.
	Heat exchanger dirty.	Clean dirt from the Heat exchanger.

## 11.2 KaControl faults

Code	Alarms	Priority
A11	Faulty control sensor.	1
A12	Motor fault.	2
A13	Room frost protection.	3
A14	Condensation alarm.	4
A15	General alarm.	5
A16	Sensor AI1, AI2 or AI3 faulty.	6
A17	Unit frost protection.	7
A18	EEPROM error.	8
A19	Offline slave in the CAN bus network.	9

Tab. 7: KaControl unit alarms

Code	Alarms
tAL1	Temperature sensor in the KaController faulty.
tAL3	Real-time clock in the KaController faulty.
tAL4	EEPROM in the KaController faulty.
Cn	Communication fault with the external control.

Tab. 8: KaController alarms



### IMPORTANT NOTE!

#### Important note!

More information on control settings can be found in the separate KaControl SmartBoard user manual.

## 11.3 Start-up after rectification of fault

After correction of the fault, carry out the following steps for recommissioning:

1. Make sure that all maintenance covers and access openings are sealed.
2. Switch off the unit.
3. Acknowledge the fault on the controller, if necessary.

## 12 List of KaControl parameters

### 12.1 Parameter list

Parameter	Function	Standard	Min.	Max.	Unit	KaCool W <sup>11</sup>
P000	Software version	24	0	255	-	24
P001	Basic setpoint for setpoint input $\pm 3K$	22	8	32	°C	22
P002	Switch-on and switch-off hysteresis for valves	3	0	255	K/10	1
P003	Neutral zone in a 4-pipe system (only in automatic mode)	3	0	255	K/10	20
P004	Cooling without fan assistance (natural convection)	0	0	255	K/10	0
P005	Heating without fan assistance (natural convection)	5	0	255	K/10	0
P006	Fan On/Off hysteresis (only in ventilation mode)	5	0	255	K/10	5
P007	P-band, heating	20	0	100	K/10	25
P008	P-band, cooling	20	0	100	K/10	25
P009	Shift to the basic setpoint for setpoint input $\pm 3K$	3	0	10	C	3
P010	Contact sensor: temperature limit value to activate fan stages 1 and 2 in heating mode	26	0	255	°C	26
P011	Contact sensor: temperature limit value to activate fan stages 3 and 4 in heating mode	28	0	255	°C	28
P012	Contact sensor: temperature limit value to activate fan stage 5 in heating mode	30	0	255	°C	30
P013	Contact sensor: hysteresis for limit temperatures P010, P011, P012, P014	10	0	255	K/10	10
P014	Contact sensor: limit value temperature to activate fan stages in cooling mode	18	0	255	°C	18
P015	Function of input AI1	0	0	19	-	0
P016	Function of input AI2	0	0	19	-	0
P017	Function of input AI3	0	0	9	-	0
P018	Temperature increase of cooling setpoint in Eco mode	30	0	255	K/10	30
P019	Temperature reduction of heating setpoint in Eco mode	30	0	255	K/10	30
P020	ADC limit coefficient	6	0	15	-	6
P021	ADC average coefficient	6	0	15	-	6
P022	Activation/deactivation of sun symbol in Comfort mode	0	0	1	-	0
P023	Difference for compensation when cooling	0	-99	127	K/10	0
P024	Coefficient for compensation when cooling	0	-20	20	1/10	0

<sup>11</sup>

Parameter key KaCool W , SAP no.9001386, dated 10.07.2020

Parameter	Function	Standard	Min.	Max.	Unit	KaCool W <sup>11</sup>
P025	Difference for compensation when heating	0	-99	127	K/10	0
P026	Coefficient for compensation when heating	0	-20	20	1/10	0
P027	Fan setting: maximum run-time for manual fan mode	0	0	255	min.	0
P028	Rinsing function: fan stage during the rinsing function	2	1	5	-	2
P029	Activation of continuous fan mode	0	0	1	-	0
P030	Ventilation temperature activation	12	0	255	°C	12
P031	Ventilation interval	27	0	255	°C	27
P032	Flushing function: maximum idle time of fan	15	0	255	min.	15
P033	Flushing function: duration of the flushing function	120	0	255	s	120
P034	Flushing function: activation in operating modes	0	0	3	-	3
P035	Fan run-on time after an operating mode is switched to stage 1	0	0	255	s	0
P036	Type of setpoint setting	0	0	1	-	0
P037	Display	1	0	7	-	1
P038	Lock/disable function on the control unit	72	0	255	-	72
P039	Function of digital output V2 (in a 2-pipe system)	0	0	3	-	0
P040	Valve control by pulse width modulation	0	0	1	-	0
P041	Reset time of PI controller to activate the fan in automatic fan mode	0	0	20	min.	0
P042	Fan setting: lock and activate fan stages	0	0	127	-	2
P043	Function of digital input DI1	0	0	22	-	12
P044	Function of digital input DI2	0	0	22	-	0
P045	Threshold voltage for potentiometer to switch on the unit	10	0	100	kiloohm	10
P046	Temperature setting corresponds to the minimum resistance value = 10 kiloohm in the potentiometer	18	12	34	°C	18
P047	Temperature setting corresponds to the maximum resistance value = 100 kiloohm in the potentiometer	24	13	35	°C	24
P048	Threshold voltage for potentiometer for starting up the fans	10	0	100	kiloohm	10
P049	Threshold voltage for potentiometer for maximum fan speed	90	0	100	kiloohm	90
P050	Fan setting: max. fan speed	100	0	100	%	100
P051	Fan setting: min. fan speed	0	0	90	%	15
P052	Fan setting: activation of fan speed limit	0	0	1	-	1

# KaCool W

Assembly, installation and operating instructions

Parameter	Function	Standard	Min.	Max.	Unit	KaCool W <sup>11</sup>
P053	Valve activation by pulse width modulation of the valve switching cycle	15	10	30	min.	15
P054	Configuration of bus system	0	0	2	-	0
P055	Display of heating/cooling symbols in automatic mode	0	0	1	-	1
P056	DI2 setting (polarity) when DIP 4 = ON	1	0	1	-	1
P057	Reset setpoint to the value of P01 (after changing an operating program)	0	0	1	-	0
P058	Sensor adjustment: sensor AI1	0	-99	127	K/10	0
P059	Supply air temperature setpoint in heating mode	35	0	50	°C	35
P060	Supply air temperature setpoint in cooling mode	18	0	50	°C	18
P061	Sensor adjustment: sensor in the KaController	0	-99	127	K/10	0
P062	Sensor adjustment: sensor AI2	0	-99	127	K/10	0
P063	Outside temperature <P63 fan increase by P122	0	-99	127	°C	0
P064	Sensor adjustment: sensor AI3	0	-99	127	K/10	0
P065	reserved	-	-	-	-	-
P066	Master/slave assignment in CAN bus	0	0	1	-	0
P067	Serial CAN bus address	1	1	125	-	1
P068	Logic of the hydronic algorithms	0	0	7	-	0
P069	Network address	1	0	207	-	1
P070	Dependence of the hydronic algorithms (on slaves)	0	0	7	-	0
P071	Serial address of slave 1	0	0	207	-	0
P072	Serial address of slave 2	0	0	207	-	0
P073	Serial address of slave 3	0	0	207	-	0
P074	Serial address of slave 4	0	0	207	-	0
P075	Serial address of slave 5	0	0	207	-	0
P076	Serial address of slave 6	0	0	207	-	0
P077	Serial address of slave 7	0	0	207	-	0
P078	Serial address of slave 8	0	0	207	-	0
P079	Serial address of slave 9	0	0	207	-	0
P080	Serial address of slave 10	0	0	207	-	0
P081	Dependence of the hydronic algorithms, slave 1	0	0	7	-	0
P082	Dependence of the hydronic algorithms, slave 2	0	0	7	-	0
P083	Dependence of the hydronic algorithms, slave 3	0	0	7	-	0
P084	Dependence of the hydronic algorithms, slave 4	0	0	7	-	0
P085	Dependence of the hydronic algorithms, slave 5	0	0	7	-	0
P086	Dependence of the hydronic algorithms, slave 6	0	0	7	-	0
P087	Dependence of the hydronic algorithms, slave 7	0	0	7	-	0



Parameter	Function	Standard	Min.	Max.	Unit	KaCool W <sup>11</sup>
P088	Dependence of the hydronic algorithms, slave 8	0	0	7	-	0
P089	Dependence of the hydronic algorithms, slave 9	0	0	7	-	0
P090	Dependence of the hydronic algorithms, slave 10	0	0	7	-	0
P091	Load default values	0	0	255	-	0
P092	Password management	0	0	255	-	0
P093	Type of pre-comfort (room occupancy)	0	0	3	-	0
P094	Pre-comfort timer	60	1	255	min.	60
P095	Disable DIP switch settings	0	0	1	-	0
P096	Digital outputs continuously activated	0	0	1	-	0
P097	Read off DIP switch	-	0	63	-	-
P098	0..10 V control: valve switch on limit	30	0	100	V/10	40
P099	0..10 V control: min. switch-on limit for fan speed	40	0	100	V/10	40
P100	0..10 V control: max. switch-on limit for fan speed	90	0	100	V/10	90
P101	Valve activation by pulse width modulation of P-band in heating mode	15	0	100	K/10	15
P102	Valve activation by pulse width modulation of P-band in cooling mode	15	0	100	K/10	15
P103	Valve activation by pulse width modulation of PI controller reset time	0	0	20	min.	0
P104	Minimum ON time with PWM valve activation	3	0	20	min.	3
P105	Compensation: max. negative delta setpoint	50	0	150	K/10	50
P106	Compensation: max. positive delta setpoint	50	0	150	K/10	50
P107	Duration of valve open to check water temperature	5	0	255	min.	5
P108	Duration of valve closed	240	35	255	min.	240
P109	Dead zone PI control for 3-way valve	10	0	100	K/10	10
P110	Hysteresis to switch between heating/fan mode	0	0	20	°C	0
P111	Threshold to switch between heating/fan mode	0	0	50	°C	0
P112	reserved	-	-	-	-	-
P113	reserved	-	-	-	-	-
P114	reserved	-	-	-	-	-
P115	reserved	-	-	-	-	-
P116	reserved	-	-	-	-	-
P117	Lock function buttons on the KaController	0	0	7	-	0
P118	On delay time	0	0	255	sec	0
P119	Off delay time	0	0	255	sec	0
P120	reserved	-	-	-	-	-
P121	reserved	-	-	-	-	-

# KaCool W

## Assembly, installation and operating instructions

Parameter	Function	Standard	Min.	Max.	Unit	KaCool W <sup>11</sup>
P122	Relative fan speed increase via contact	2	0	5	-	2
P123	Maximum valve running time	150	0	255	sec	150
P124	Minimum P + I output variation for valve movement (0 to 10)	5	0	100	%	5
P125	reserved	-	-	-	-	-
P126	Operating weeks	0	0	255	week	0
P127	Information on operating weeks reached (filter message)	0	52	255	week	0
P128	Reset operating week counter	0	0	1	-	0
P129	Fan speed limiter activation in certain operating modes	0	0	1	-	0
P130	Absolute fan speed increase via contact	2	0	5	-	2
P131	External ventilation, delay time	0	0	255	min.	0
P132	Operating level, master password	22	0	255	-	22
P133	Hysteresis for outside temperature to switch between heating/fan mode	0	0	255	K/10	0
P134	Threshold for outside temperature to switch between heating/fan mode	0	0	50	°C	0
P135	Activate virtual sensor	0	0	1	-	0
P136	Activate external ventilation	0	0	2	-	0

Tab. 9: Parameter key, standard revision 1.024 from 10.07.2020

## 12.2 KaController parameter list

Parameter	Function	Standard	Min.	Max.	Unit	Comment
t001	Serial address	1	0	207	-	Address in Modbus network
t002	Baud rate 0 = Baud rate 4800 1 = Baud rate 9600 2 = Baud rate 19200	2	0	2	-	
t003	Background lighting function 0 = Slow fade in, fast fade out 1 = Slow fade in, slow fade out 2 = Fast fade in, fast fade out	0	0	2	-	
t004	Strong background lighting	4	0	5	-	
t005	Sensor calibration of KaController sensor	0	60	60	°C	
t006	LCD display contrast	15	0	15	-	
t007	BEEP setting 0 = BEEP ON 1 = BEEP OFF	0	0	1	-	
t008	Password for KaController Parameter menu	11	0	999	-	
t009	Minimum settable setpoint temperature	8	0	20	°C	
t010	Maximum settable setpoint temperature	35	10	40	°C	
t011	Interval of setpoint setting 0 = Automatic setting depending on PCB (parameterisable, freely programmable) 1 = Increment of 1 ° (parameterisable PCBs) 2 = Increment of 0.5 ° (freely programmable PCBs)	0	0	2	-	
t012	Date/Time setting: Year	9	0	99	-	
t013	Date/Time setting: Month	1	1	12	-	
t014	Date/Time setting: Day	1	1	31	-	
t015	Date/Time setting: Weekday	1	1	7	-	
t016	Date/Time setting: Hour	0	0	23	-	
t017	Date/Time setting: Minute	0	0	59	-	

## 13 Disposal

### Batteries

The crossed-out wheeled garbage can symbol printed on batteries and accumulators means that they must not be disposed of with household waste at the end of their life. Every consumer is legally obliged to return used batteries free of charge to a collection point in their municipality, to recycling centers or to a retailer.

Waste batteries may contain harmful substances that can damage the environment or health if not stored or disposed of properly. Particular care must be taken when handling batteries containing lithium due to the special risks involved. Batteries containing harmful substances are marked with appropriate symbols and/or chemical symbols (Cd = cadmium, Hg = mercury, Pb = lead).

Measures to prevent waste and avoid littering include the consistent use of rechargeable accumulators or batteries with a longer service life. Remove used batteries and accumulators from appliances and dispose of both separately. This separation facilitates the recycling of different types of batteries and accumulators.

### Electrical and electronic appliances

Waste electrical and electronic equipment must be disposed of separately from unsorted municipal waste. This is indicated by the crossed-out wheeled garbage can symbol. If the old appliance contains batteries or accumulators, these must generally be removed from the old appliance before it is handed in at a collection point.

As a manufacturer of electrical and electronic appliances, we offer the option of returning old appliances. Owners of old appliances from private households can return them free of charge to the collection points of the public waste disposal authorities or to the collection points set up by manufacturers or distributors.

Old appliances may contain sensitive personal data. The end user is responsible for deleting the data on the old appliances to be disposed of.

## **14 Certificates**

# EU-Konformitätserklärung

EU Declaration of Conformity

Déclaration de Conformité CE

Deklaracja zgodności CE

EU prohlášení o konformite

## Wir (Name des Anbieters, Anschrift):

We (Supplier's Name, Address):

Nous (Nom du Fournisseur, Adresse):

My (Nazwa Dostawcy, adres):

My (Jméno dodavatele, adresa):

**KAMPMANN** GMBH & Co. KG  
Friedrich-Ebert-Str. 128-130  
49811 Lingen (Ems)

## erklären in alleiniger Verantwortung, dass das Produkt:

declare under sole responsibility, that the product:

déclarons sous notre seule responsabilité, que le produit:

deklarujemy z pełną odpowiedzialnością, że produkt:

deklarujeme, vědomi si své odpovědnosti, že produkt:

## Type, Modell, Artikel-Nr.:

**KaCool W**

**324\*\*\***

Type, Model, Articles No.:

Type, Modèle, N° d'article:

Typ, Model, Nr artykułu:

Typ, Model, Číslo výrobku:

## auf das sich diese Erklärung bezieht, mit der / den folgenden Norm(en) oder normativen Dokumenten übereinstimmt:

to which this declaration relates is in conformity with the following standard(s) or other normative document(s):  
auquel se réfère cette déclaration est conforme à la (aux) norme(s) ou autre(s) document(s) normatif(s):

do którego odnosi się niniejsza deklaracja, jest zgodny z następującymi normami lub innymi dokumentami normatywnymi:

na který se tato deklarace vztahuje, souhlasí s následující(mi) normou/normami nebo s normativními dokumenty:

**DIN EN 1397**

**EN 55014-1; -2**

**EN 61000-3-2; -3-2**

**EN 62233**

**EN/IEC 63000**

**EN 60335-1; -2-40**

**Wasserübertrager – Wasser-Luft-Ventilator-konvektoren –  
Prüfverfahren zur Leistungsfeststellung**

**Elektromagnetische Verträglichkeit**

**Elektromagnetische Verträglichkeit**

**Elektromagnetische Verträglichkeit**

**Beschränkung gefährlicher Stoffe in Elektrogeräten**

**Sicherheit elektr. Geräte für den Hausgebrauch und  
ähnliche Zwecke**

**Gemäß den Bestimmungen der Richtlinien:**

Following the provisions of Directive:

Conformément aux dispositions de Directive:

Zgodnie z postanowieniami Dyrektywy:

Odpovídající ustanovení směrnic:

**2014/30/EU****EMV-Richtlinie****2014/35/EU****Niederspannungsrichtlinie****2011/65/EU****RoHS****Lingen (Ems), den 26.06.2023****Ort und Datum der Ausstellung**

Place and Date of Issue

Lieu et date d'établissement

Miejsce i data wystawienia

Místo a datum vystavení

**Frank Bolkenius****Name und Unterschrift des Befugten**

Name and Signature of authorized person

Nom et signature de la personne autorisée

Nazwisko i podpis osoby upoważnionej

Jméno a podpis oprávněné osoby

# KaCool W

Assembly, installation and operating instructions

## Table

Tab. 1	Limits of operation .....	7
Tab. 2	Operating voltage .....	7
Tab. 3	Water quality.....	7
Tab. 4	Valve kit at a glance.....	19
Tab. 5	DIP switch "Configuration" functional logic.....	35
Tab. 6	Wiring of bus lines .....	42
Tab. 7	KaControl unit alarms .....	77
Tab. 8	KaController alarms .....	77
Tab. 9	Parameter key, standard revision 1.024 from10.07.2020.....	78









<https://www.kampmanngroup.com/hvac/products/fan-coils/kacool-w>

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