

CLIMATE DESIGNERS

# MINI CANAL HYBRID

INSTALLATION- AND OPERATIONS MANUAL



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### DECLARATION OF CONFORMITY

CEO JAGA N.V.  
Jan Kriekels




31/03/2017

JAGA N.V. - Verbindingslaan 16 - B 3590, declares under its sole responsibility that the product to which this declaration relates: **JDPC.002** is in conformity with the following standards or documents provided that these are used in accordance with our instructions: **NBN EN 60335-1 based on EN 60335-1:2012 + A11:2014**  
**NBN EN 60335-2-80 based on EN 60335-2-80:2003 + A 1 :2004 + A2:2009**  
Following the provision of Directives as amended:  
- Low Voltage 2014/35/EC  
- EMC 2014/30/EC  
- Machinery 2006/42/EC



## 1. GENERAL INFORMATION

- Check for any visible damage.
- The unit must be handled with care in order to avoid damage to the unit's interior and exterior parts.
- The unit must remain accessible for inspection and maintenance, the trench must be removable at all times.
- Do not place any objects on the unit.
-  Do not insert objects into the supply and return air openings.

### Unit identification: (JDPC.002)



The serial number is tagged on unit's right side (on the left if the connections are on the unit's right side).

### Use:

- The unit has been designed to function as a fan coil for heating applications; any other use is strictly forbidden. Installing the unit in an explosive environment is prohibited.
- The area must be dry and dust-free, with a temperature between 5°C and 70°C and a relative humidity < 90%.
- The unit is not intended for industrial applications.
- Start-up and commissioning of the unit must be carried out by skilled staff, qualified to work on this type of product.


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### Maintenance:



- Maintenance must be carried out by qualified technicians.
-   Always use the main disconnect switch to isolate the unit from the mains before carrying out any maintenance or inspection work.
- A dirty grille obstructs the air flow, so clean the grille at regular intervals, depending on the room's purpose and how it's used. The grille should never be disassembled for maintenance and can be easily cleaned by using a vacuum cleaner.
- Do not use solvent- or detergent based products.
- Every 6 months: Check the condition of the coil and condensate drain.

### Disassembly:

When the unit is not used for long periods of time, it must be disconnected from the mains electrical connection.


-  When the unit is not used for long periods of time, it must be disconnected from the mains electrical connection. If the unit is not used during the winter period, the water in the system may freeze. A suitable quantity of anti-freeze liquid should be mixed with the water. Mixing the water with glycol modifies the unit's performance. Pay attention to the safety instructions on the packaging regarding glycol.

### Package:

-  Remove the packaging material and put it in the appropriate collection point or recycling facility, in compliance with the local regulations.
-  Do not leave the packaging within reach of children.

### Installation

Installation must be carried out by certified technicians. Incorrect installation could cause product failure, a reduced performance or an increased noise level.

-  The unit might have sharp edges; use gloves during installation/adjustment.
- all clearances indicated in the manual must be respected in order to guarantee performance, and to


allow installation and maintenance. In case valve packages are to be installed, make sure that there is enough room left.

- Sound travels very easily through hard materials. Soft rubber material can be used to reduce contact noise.
- With cooling: insulate the hydraulic pipes

#### **Device installation guidelines:**

- Do not insert objects into the supply and return air openings.

#### **Starting:**

 Start-up and commissioning of the fancoil must be carried out by skilled staff, qualified to work on this type of product.

- The unit is positioned correctly.
- The supply and return pipes are properly connected and insulated.
- The pipes are clean and air is removed.
- The wiring connections are correct and properly tightened.
- The supply voltage is correct.

**Run the unit for minimal 3 hours and check for abnormalities.**

## **2. SYMBOLS**



Danger



Danger: electrical hazard



Danger: sharp edges / components



Danger: hot surfaces



Danger: moving parts



Attention: important warning



Environmental safeguard

**---** VDC - direct current



VAC - alternating current

## 3. PRODUCT DESCRIPTION

### 3.1. OPERATION

The Mini Canal draws in the ambient air by means of the axial fans.

In the heating mode, the drawn in air is heated inside the heat exchanger and then blown back into the room through forced convection.

In the cooling mode, the drawn in air is cooled inside the heat exchanger until it reaches the dew point of the ambient air (in order to prevent condensation), and then blown back into the room.

It is important to note that the cooling water in the device is never colder than the dew point of the ambient air. This is to prevent condensation from forming in the heat exchanger. The Mini Canal Hybrid does not come equipped with a condensate drain.

The occurrence of condensation at too low temperatures will cause damage to the device and its surroundings.

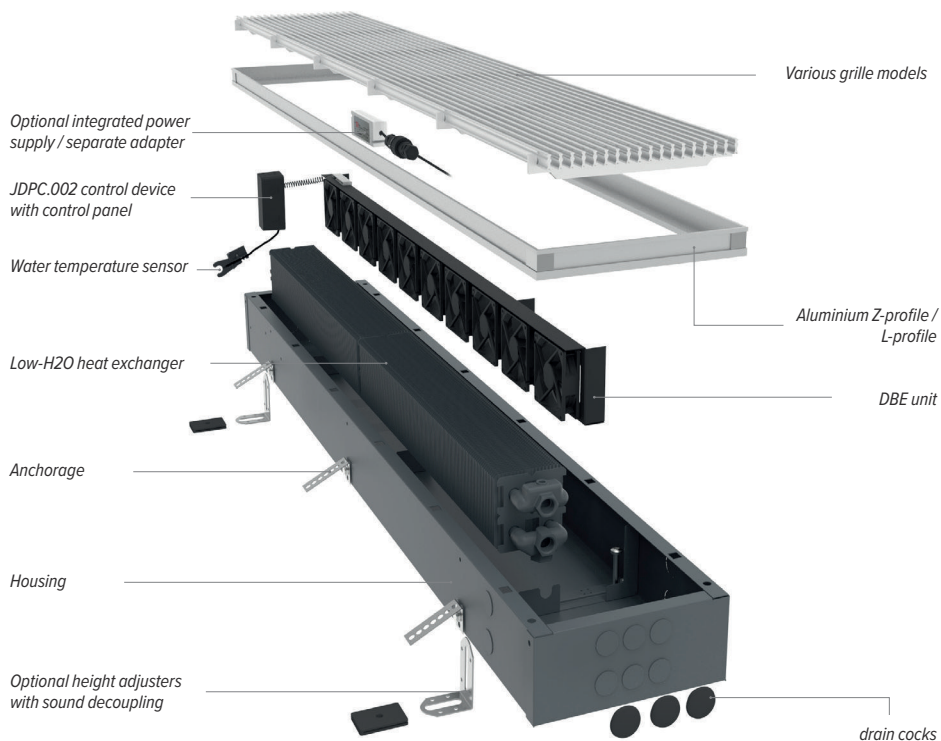
The system's dew point control via the water temperature control is part of an external fitting technique that is not done by Jaga and is therefore not Jaga's responsibility.

#### Operational limits

- Mains voltage: 12V of 230V ~
- Max. pressure heat exchanger: 10 bar
- power supply voltage: 12V ===
- Control voltage: Max.10V DC

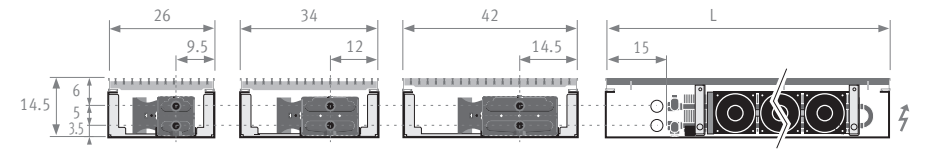
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### 3.2. PARTS



4. TECHNICAL DATA

4.1. DIMENSIONS



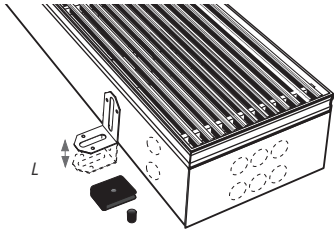
WIDTH		HEIGHT									
26	110	130	150	170	190	210	230	250	270	290	310
34											
42											

4.2. HEIGHT CONTROL

4.2.1. Default supplied anchoring hooks

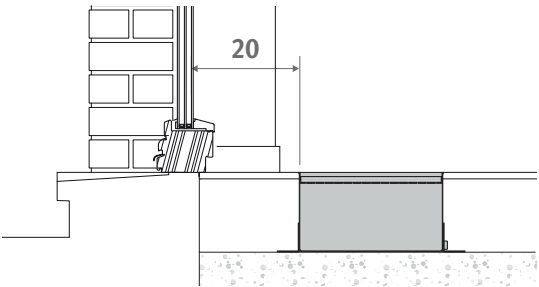
The device is controlled by the water temperature.

4.2.2. Height control, provided with acoustic decoupling



CODE	ADJUSTABLE
7690.01	0 - 4.5 cm
7690.04	4.5 - 13 cm

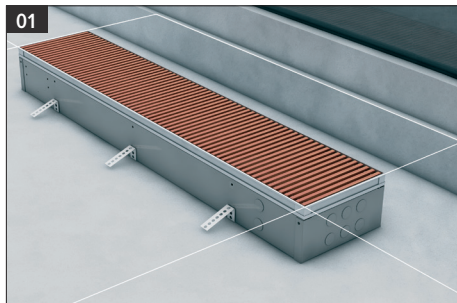
4.3. FREE SPACE



 Curtains to the floor: Place the device at least 20 cm from the window.

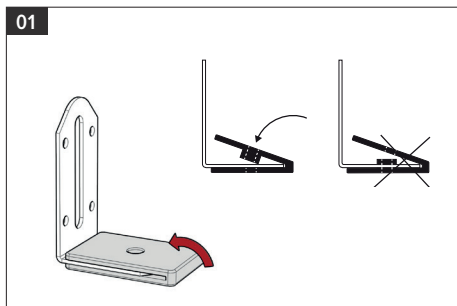
## 5. INSTALLATION

### 5.1. INSTALLATION WITH ANCHORING

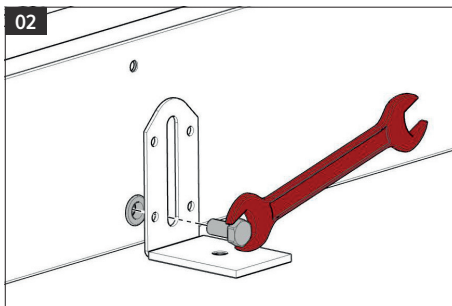


The device is controlled by the water temperature.  
Continue to step 4.

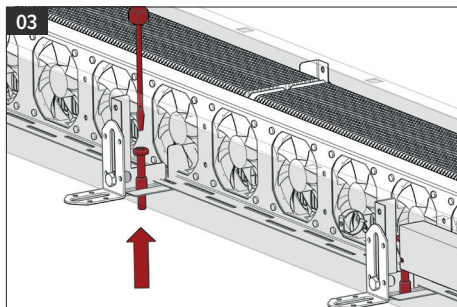
### 5.2. INSTALLATION WITH HEIGHT ADJUSTMENT



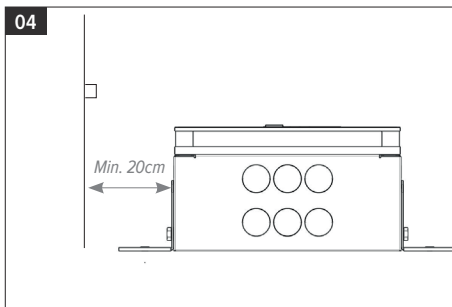
Mount the sound decoupler around each height adjuster.



Fix the height adjusters to the casing. Do not completely tighten the bolt.



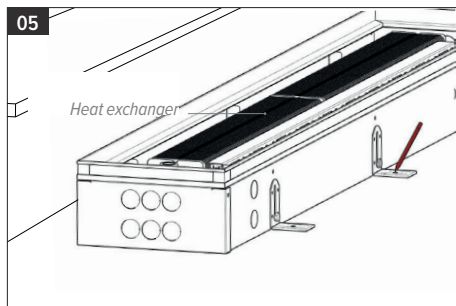
Unscrew the control screws in the bottom of the unit and place the plastic caps on the bottom of the screws to prevent vibrations and noise to the floor.




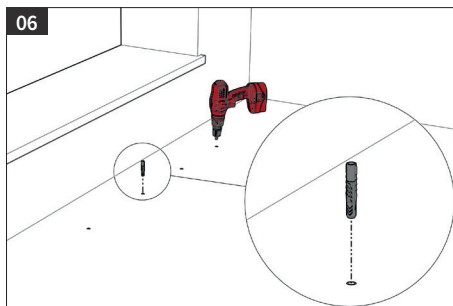
Place the device in the correct position.


**!** Curtains to the floor: Place the device at least 20 cm from the window.

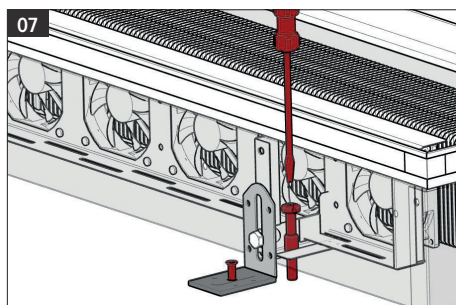
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**05**  Install the device with the coil facing the wall or window. Mark the drill holes.

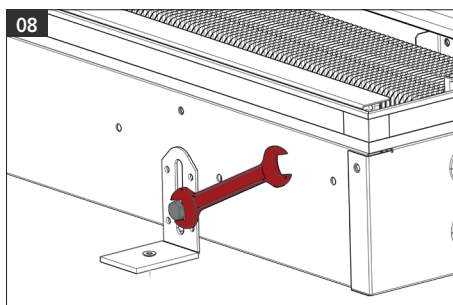


**06**  Drill the holes and place the plugs. Use the correct plug for your floor type.

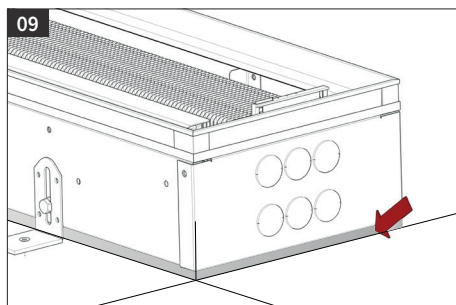


**07** Fix the device to the floor, thanks to the height control in combination with the rubber sound decouplers. Use the control screws to adjust the unit to the desired height.

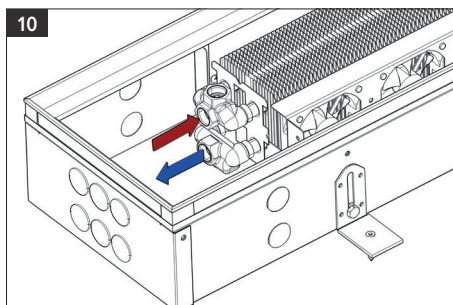
**!** L-profile: in line with the finished floor  
Z-profile: on top of the finished floor



**08** Secure the height.



**!** If the device is not mounted directly on the floor, the space under the device must be filled.



**10** Connect the device to the hydraulic system by using the specified inlet/ outlet connections. Make sure that the connections are air tight, use a sealant for this. The coil is equipped with a de-aerator.

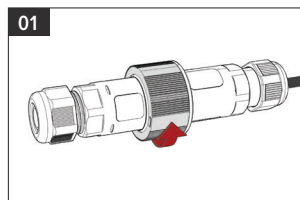


### 5.3. ELECTRICAL CONNECTION

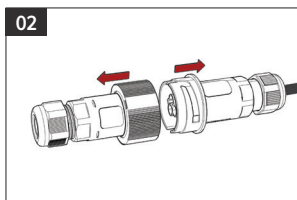
 ALWAYS USE THE MAIN SWITCH TO ISOLATE THE POWER SUPPLY!

#### 5.3.1. Option VAC (pre-mounted)

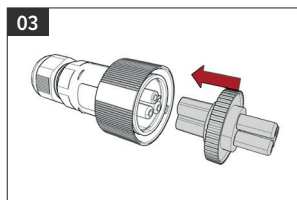
for connection to 230 VAC with waterproof power and cable gland in the duct.



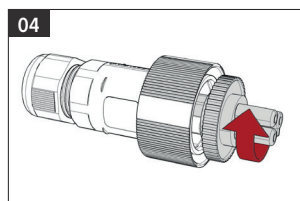
Unlock the connecting part.



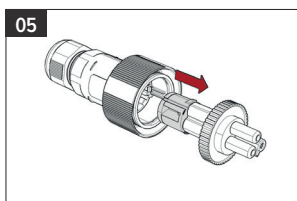
Pull the 2 parts apart.



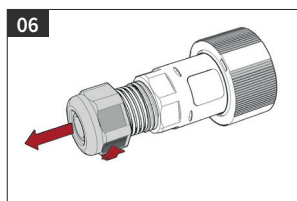
Place the tool on the connection core.



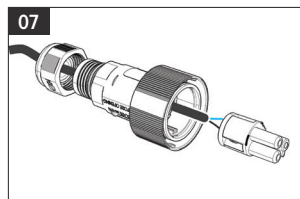
Turn the core.



Remove the core from the housing.



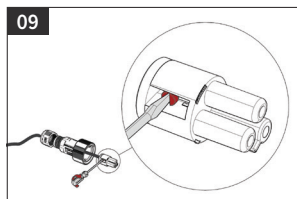
Loosen the cable gland.



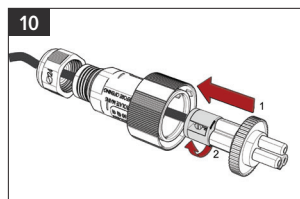
Insert the cable through the cable gland up to the core.



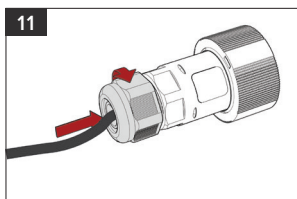
Connect the cables correctly to the core.



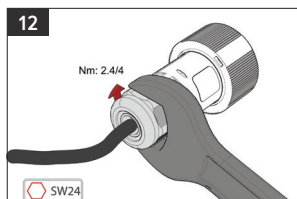
Fix the cables by tightening the screw.



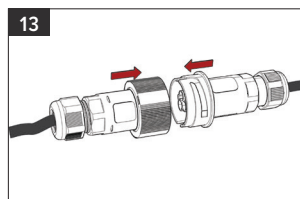
Slide the core into the housing and tighten it.



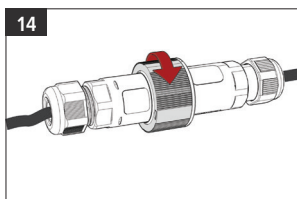
Fix the cable gland.



Tighten the cable gland with 2,4/4 Nm.



Place the 2 sides together.

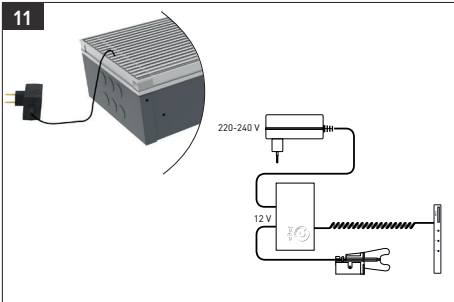


Tighten the connecting part.

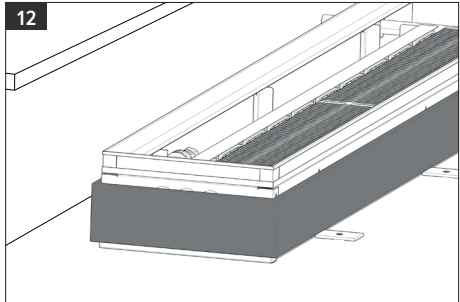


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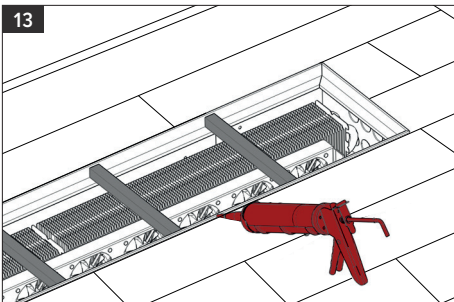
5.3.2. Option VDC



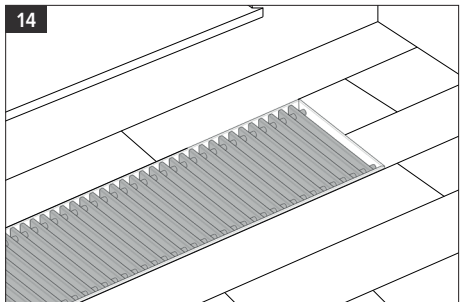
Plug-in wall power supply.



If screed is used the device needs to be completely insulated in order to protect the device from voltage differences.




Place the spacers.  
Apply the finishing touches.

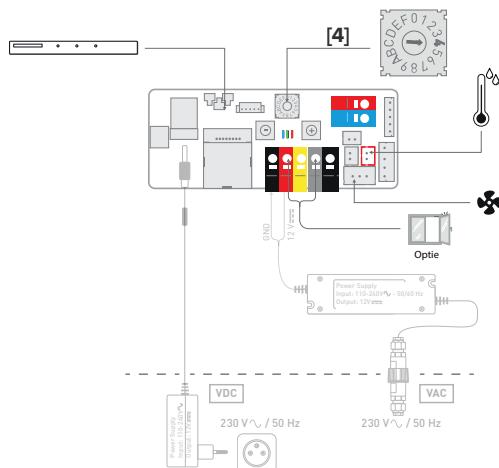


Install the grille.

6. OPERATION

	CONFIGURATION CODE	HEATING	COOLING	T° WATER	CONTROL	OPTION WINDOW CONTACT
MANUAL WATER TEMPERATURE MONITORING	DPC.MD44	x		x	x	x
	DPC.MD45	x	x	x	x	x
0 - 10V BMS  WATER TEMPERATURE MONITORING	DPC.MD61	x		x		
	DPC.MD62	x	x	x		

## 6.1. DPC.MD45 (🔴/🔵/Off) / OPTION: DPC.MD44 (🔴/Off)



The user manually selects the desired mode via the control panel. The unit can run at 3 speeds. The unit starts as soon as the set water temperature has been reached.

🔴 The unit starts at the last selected speed(1, 2 or 3), as soon as the water temperature  $> 28^{\circ}\text{C}$ .

🔵 Only with configuration code DPC.MD45

The unit starts at the last selected speed(1, 2 or 3), as soon as the water temperature  $< 20^{\circ}\text{C}$ .

Off All functions are disabled until the user switches on the unit via the control panel.

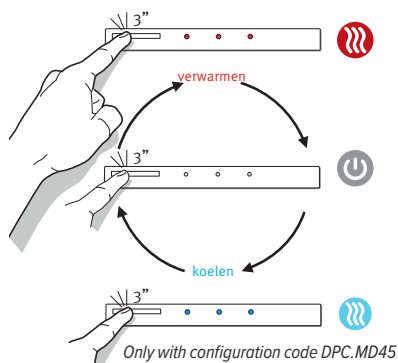
🌀 - 🌀 - 🌀 3 speeds. Activator speed is set according to the unit's length.

### 6.1.1. Control

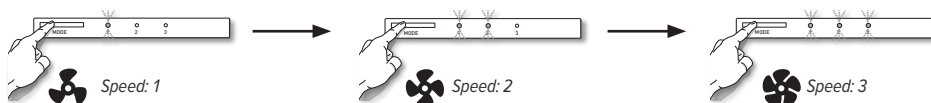
Press the button until the desired mode is reached ( $\pm 3$  sec.).

⚠ Red LEDs are flashing: the water temperature of the supplied water is too low( $T_w < 28^{\circ}\text{C}$ ).

Blue LEDs are flashing: the water temperature of the supplied water is too high ( $T_w > 20^{\circ}\text{C}$ ).



**Manually raising / lowering the fan speed:**

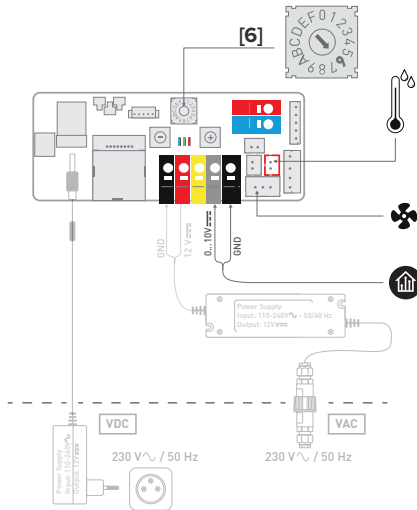


## 6.2.1. Notifications




Error sensor [3] - Check the water temperature sensor

## 6.2. 0-10VDC INPUT / HOME AUTOMATION - DPC.MD61 / DPC.MD62




The device is controlled via home automation. The unit starts as soon as there is a 0-10V control signal and the set water temperature has been reached.

 The unit starts as soon as the water temperature is  $> 28^{\circ}\text{C}$  and the control signal is 0-10V.

 Only with configuration code DPC.MD45

The unit starts as soon as the water temperature is  $< 20^{\circ}\text{C}$  and the control signal is 0-10V.

 Activator speed in function of the incoming control signal.

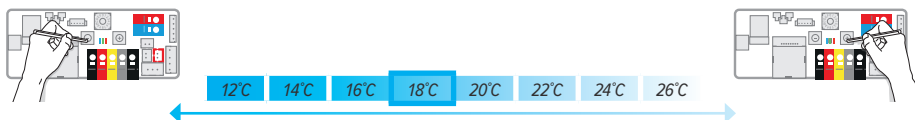
## 7. SETTINGS VIA CIRCUIT BOARD CONTROLLER

### 7.1. ADJUSTING THE WATER TEMPERATURE

#### 7.1.1. Adjusting the maximum water temperature for cooling

By reducing the water temperature setting, the unit will start later. If the water temperature is set higher, the unit will start sooner.

1. Start setup mode: press and hold the [-] button until the blue LED flashes 5x and release.
2. Short press the [-] or [+] button to adjust the set temperature.



The blue LED flashes quickly when the minimum temperature is reached.

The red LED flashes quickly when the maximum temperature is reached.



Automatic control: The green LED lights up when the water temperature (supply water) is lower than the set temperature.

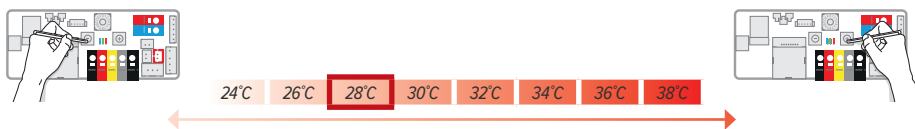
3. Exit setup mode: hold the [-] button until the blue LED flashes 5x and release.

#### 7.1.2. Adjusting the minimum water temperature for heating

By increasing the water temperature setting, the unit will start later. If the water temperature is set lower, the unit will start sooner.

**⚠** In combination with a heat pump, it may be necessary to reduce the water temperature.

1. Start setup mode: Press and hold the [+] button until the red LED flashes 5x and release.
2. Short press the [-] or [+] button to adjust the set temperature.



The blue LED flashes quickly when the minimum temperature is reached.

The red LED flashes quickly when the maximum temperature is reached.



Automatic control: The green LED lights when the water temperature (supply water) exceeds the set temperature.

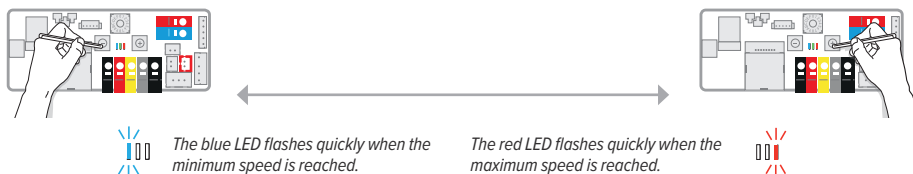
3. Exit setup mode: press and hold the [+] button until the red LED flashes 5x and release.

**⚠** After 30 seconds, the new settings are automatically saved and the device returns to the selected mode..

## 7.2. SETTING FANSPEED

### 7.2.1. Without control panel

1. Select the mode that you want to adjust: Cooling ❄️ / Heating 🔥
2. Short press [-] or [+] to adjust the preset speed.

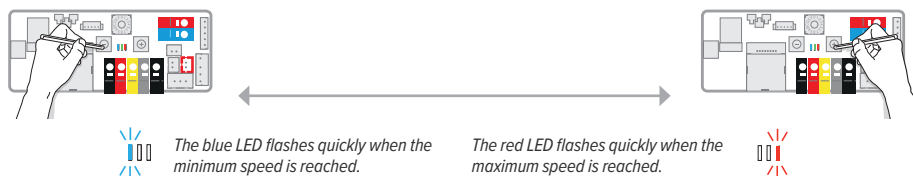


FANSPEED %															
20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	100

3. After 30 seconds, the new settings are automatically saved and the device returns to the selected mode.

### 7.2.2. With control panel

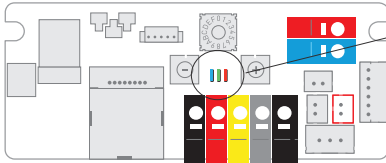
1. Select the mode that you want to adjust: Cooling ❄️ / Heating 🔥
2. Select the speed that you want to adjust: Speed 1 🌀 / Speed 2 🌀 / Speed 3 🌀
3. Short press [-] or [+] to adjust the preset speed.



FANSPEED %															
20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	100

4. After 30 seconds, the new settings are automatically saved and the device returns to the selected mode.

### 7.3. CIRCUIT BOARD ERROR CODE

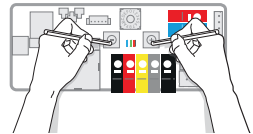


Check the water temperature sensor

Check the room temperature sensor

## 7.4. FACTORY RESET

1. Disable power charge.
2. Press and hold down both the [-] and [+] button on the circuit board and switch on the power again. The blue LED will light up, followed by the green LED 2 seconds later and the red LED 4 seconds later. Release the buttons as soon as all 3 LEDs are flashing.
3. The controller will return to the Factory Default settings, all LEDs will flash for 8 seconds.



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