



*Air for life*

## Installation regulations

Multi Room Controller

English





# Installation regulations

Multi Room Controller



Store near the appliance

This appliance may be used by children as of 8 years of age, persons with reduced physical or mental capacities, and persons with limited knowledge and experience if they are supervised or have received instructions on how to use the appliance safely and are aware of the possible dangers.

Children younger than 3 years of age must be kept away from the appliance, unless they are under constant supervision.

Children between the ages of 3 and 8 may only switch the appliance on or off, but only if supervised or if they have received clear instructions on the safe use of the appliance and understand the possible dangers, on the condition that the appliance has been placed and installed in the normal position for use. Children between the ages of 3 and 8 may not insert the plug into the socket, nor clean or make changes to the settings of the appliance, nor carry out any maintenance on the appliance that would normally be carried out by the user. Children may not play with the appliance.

**If you need a new power cable, always order the replacement from Brink Climate Systems B.V. To prevent dangerous situations, a damaged mains connection must only be replaced by a qualified expert!**

Country: GB

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# 1 About this document

Thank you for choosing one of our products. This installation and operation instructions contains all required information to become familiar with your new product.

- Read this document before you begin working on the appliance.
- Follow the instructions in this document.

Failure to observe these instructions voids any Brink Climate Systems B.V. warranty.

For more information, feedback or suggestions: [info@brinkclimatesystems.nl](mailto:info@brinkclimatesystems.nl)

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## 1.1 Scope of application of document

This document applies to: Multi Room Controller .

## 1.2 Copyright

This document, as well as all reports, illustrations, data, information, and other materials are the property of Brink Climate Systems B.V. and are disclosed by Brink Climate Systems B.V. only in confidence.

## 1.3 Safekeeping of this document

The user is responsible for the safekeeping of this document.

1. Hand this document over to the user after the installation of the system.
2. The document must be kept in a suitable location and must be available at all times.
3. The document must be included if the system is passed on to a third party.

# 2 Safety

## 2.1 Warnings

Warnings in the text warn you of possible risks before the start of an instruction. The warnings provide you with information on the possible severity of the risk using a pictogram and a keyword.



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**Danger**

Imminently hazardous situation which, if not avoided, will result in death or serious injury.

---

**Danger**

Imminently electrical hazardous situation which, if not avoided, will result in death or serious injury.

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**Warning**

Imminently hazardous situation which, if not avoided, could result in death or serious injury.

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**Caution**

Potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

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**Note**

Situations that may result in potential equipment or property damage accidents.

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### The warnings are laid out as follows:

**Warning**

**Possibilities : Danger / Warning / Caution / Note**

**Type and source of risk.**

Explanation of risk

**1.** Action to prevent the risk

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# 3 Scope of delivery

*Please check for damages and/or incomplete delivery before installation.*

## **Scope of delivery**

1. Multi Room Controller.
2. EU power adapter
3. Installation instructions.

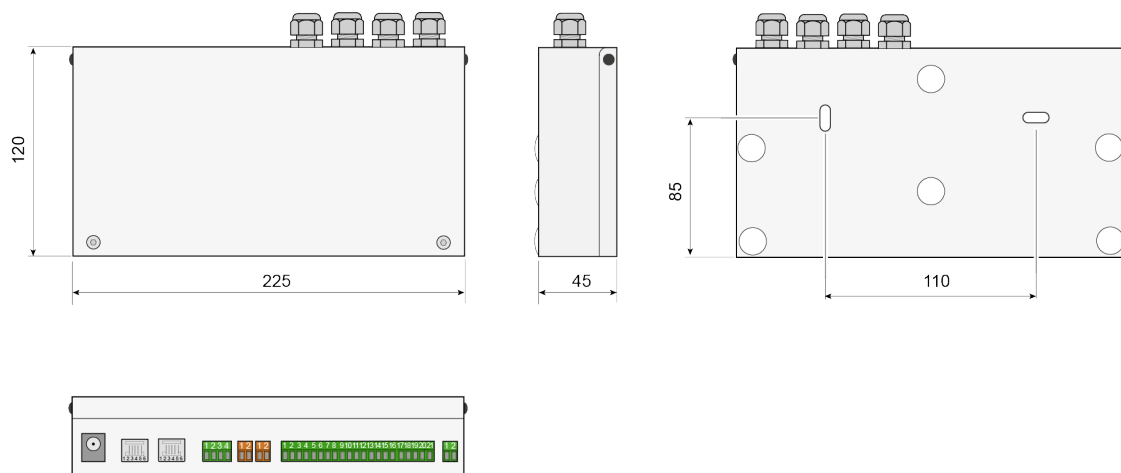


# 4 Product specifications

## 4.1 Technical information

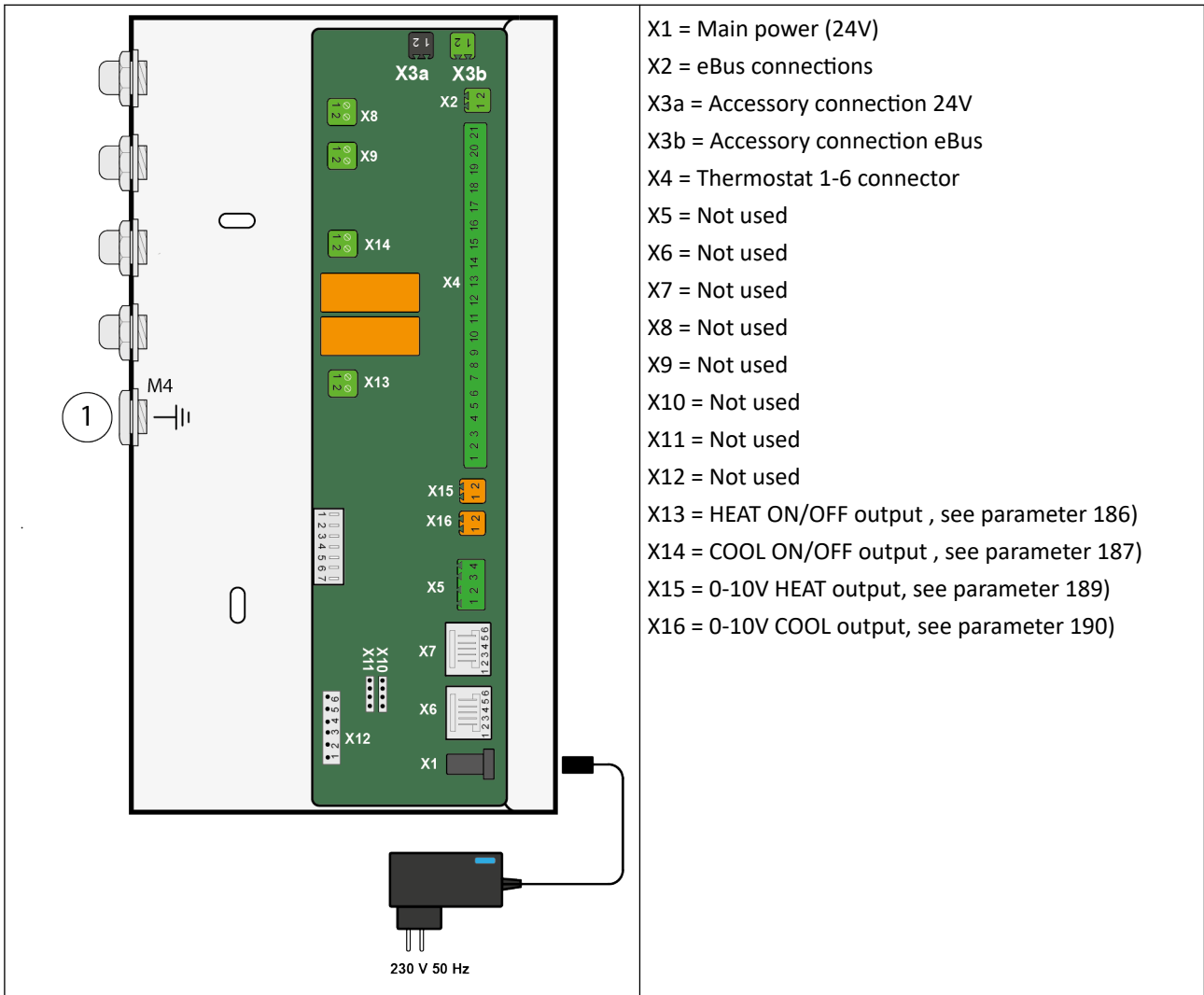
<b>Multi Room Controller</b>	
Operating voltage:	24V, 2.5A
Protection class:	IP20
Dimensions (w x h x d) [mm]	120 x 225 x 45
Color:	RAL9016
Maximum zone quantity:	6
Minimum zone quantity	2
Maximum air valve quantity	6
Minimum air valve quantity	2
<b>Ambient conditions</b>	
Ambient temperature:	0 °C <-> 35 °C
Storage temperature:	-20 °C <-> 60 °C
Humidity:	0% <-> 90%
application	indoor use

## 4.2 Dimensions





### 4.3 Multi Room Controller PCB connections



**Important!**  
 Ensure a proper earth connection by using connection point 1.

# 5 Function

## 5.1 Multi Room Controller

The Multi Room Controller is a multi-zone air supplying control system capable of cooling/heating and ventilating up to 6 different zones in a dwelling depending on temperature and/or CO<sub>2</sub> levels per zone. A complete Multi Room Controller system consists of various equipment and can be different per installation and or dwelling.

A complete functioning MRC system consists of at least:

- 1 Multi-room controller -> [Multi Room Controller](#) -> page 14
- 2 zones, with a minimum of 1 air valve per zone -> [Air Valves](#) -> page 17
- 1 Thermostat per zone -> [Thermostats](#) -> page 21
- 1 CO<sub>2</sub> sensor per zone. -> [CO<sub>2</sub> sensors](#) -> page 23

In order to function properly The Multi Room Controller needs to be connected to:

- A Brink Elan appliance for cooling or heating supply. -> [Elan](#) -> page 12
- A Brink Flair Heat recovery appliance for fresh air supply. -> [Flair](#) -> page 13
- An air-duct system which connects all zones to the heat recovery and Elan appliances. -> [Air Valve location](#) -> page 18
- When the installation is completed, the system needs to be configured with a (Windows) laptop and the Installation tool -> [Brink Installation Tool](#) -> page 29

Each zone is controlled independently by the Multi Room Controller. The thermostat in a zone determines heating or cooling demand and the CO<sub>2</sub> sensor in a zone determines ventilation demand. When a need for heating/cooling/ventilation is detected in a zone, the according air valve(s) will open and signals are send to the Flair and Elan appliances.

### *System Features:*

- Modular heating/cooling and/or ventilation
- Minimum system size: 2 zones with at least 1 valve/1 thermostat and 1 CO<sub>2</sub> sensor per zone.
- Maximum system size: 6 zones with a total of 6 air valves.
- settings adjustable per zone
- Adjustable air quantity (set during installation)
- Constant flow control
- Saving and loading of complete configurations

Priority has been given to cooling heating over ventilation. The system can provide ventilation and temperature regulation at the same time. When for example 1 zone demands cooling and another zone demands ventilation, the zone demanding ventilation will receive cool ventilation air. When a zone demands heating and another zone demands ventilation, the ventilation demanding zone will receive warm ventilation air. When a zonde demands cooling and another zone demands heating, the cooling will be prioritized.

<b>NOTE</b>	<p>The Multi Room Controller prioritizes cooling over ventilation and ventilation over heating.</p> <p>The Elan appliance is able to cool or heat, simultaneously heating and cooling in different zones is therefore not possible.</p> <p>When the Elan and/or the Flair are equipped with a multi-position switch, position 1 sets controlling of the appliance to the Multi Room Controller. All other positions will control the appliance directly and the Multi Room Controller will be overruled.</p>
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# 6 Installation

## 6.1 Installation General

The installation and installing should meet the following requirements:

- Quality requirements of ventilation systems in homes, ISSO 61.
- Quality requirements of balanced ventilation dwellings, ISSO 62
- The regulations for ventilation of dwellings and residential buildings.
- Safety provisions for low-voltage installations
- Any additional regulations of the local utilities.
- The installation regulations for the Multi-zone system .
- In addition to the above design and installation requirements and recommendations, the national building and ventilation regulations must be respected.

<b>NOTE</b>	Before installing any equipment please read the installation steps in this manual carefully. It might be possible to combine certain steps due to the location of components. Combining steps will save time and helps in a easier setting to work and a better functioning system.
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## 6.2 Installation sequence

A Multi Room Controller system consists of various types of equipment, please install all equipment according to their manuals before switching power on.

An installation sequence might look like below (the same sequence is followed in this manual).

- Installing [Elan](#) -> page 12
- Installing [Flair](#) -> page 13
- Installing [Multi Room Controller](#) -> page 14
- Installing [Air Valves](#) -> page 17
- Installing [Thermostats](#) -> page 21
- Installing [CO2 sensors](#) -> page 23
- [Setting to work](#) -> page 27

## 6.3 Elan

In a Multi Room Controller system, the Elan appliance provides the required cooling or heating capacity. The Elan Appliance comes in various types and receives cooling or heating from for example a heatpump.

The Elan appliance is a fluid-fed air handling unit that cools or heats by guiding air over a heat exchanger. The heat exchanger is fed with either cold water or hot water, depending on the type of Elan and modus (cooling or heating). In a Multi Room Controller system the Elan 4, Elan 10/16/20 with cooling block or the Elan 25 3.0 can be used.

Cool or heat demand connections to for example a heatpump need to be made between the Multi Room Controller and heatpump Multi Room Controller PCB [Multi Room Controller PCB connections](#) -> page 9

The supplied cooling or heating capacity into the zones depends on several settings in the Elan, Multi Room Controller and on input from the Thermostats. The Multi Room Controller determines the fanspeed of the Elan and to which zone(s) the air is directed.

The air flow provided by the Elan will increase depending on the amount of zones or valves in demand of cooling/heating. The air flow rate can be set by using the Brink Installation tool.

For further information and installation about the Elan appliance please refer to its dedicated installation manual.

For electrical connections between Multi Room Controller and Elan [Multi Room Controller connections](#) -> page 15

<b>NOTE</b>	<p>The Elan appliance is able to cool or heat, simultaneously heating and cooling in different zones is therefore not possible.</p> <p>When the Elan is equipped with a multi-position switch, position 1 sets controlling of the appliance to the Multi Room Controller. All other positions will control the appliance directly and the Multi Room Controller will be overruled.</p> <p>when the Multi Room Controller is switched off (230V off) the Elan will run on it's own settings autonomously.</p>
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## 6.4 Flair

In a Multi Room Controller system, the Flair appliance provides the total required amount of ventilation air.

The total airflow of the Flair depends on the settings in the appliance and Multi Room Controller, and on the measured values from the CO<sub>2</sub> Sensors. The Flair supplies the total amount of air, the Multi Room Controller determines to which zone(s) the air is directed.

When air valves are closed there is by-pass enough through the valves to provide the minimum required amount of ventilation air.

For further information and installation about the Flair heat recovery appliance please refer to its dedicated installation manual.

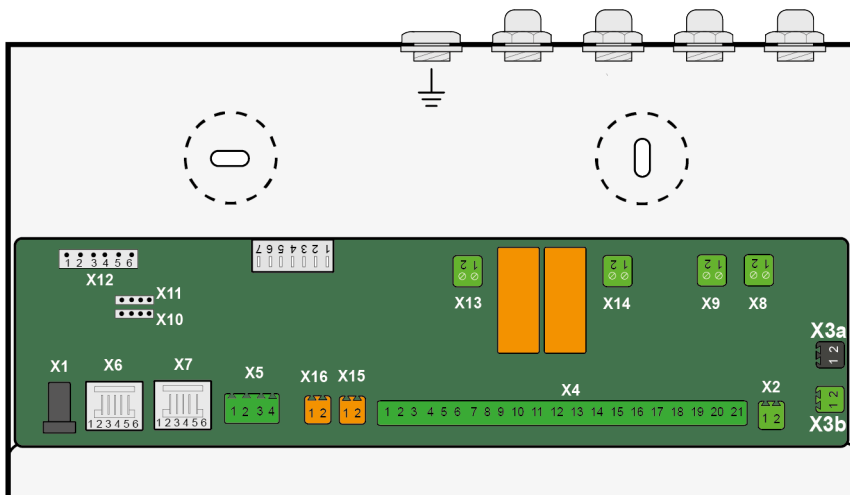
For electrical connections between Multi Room Controller and Flair [Multi Room Controller connections](#) -> page 15

<b>NOTE</b>	When the Flair is equipped with a multi-position switch, position 1 sets controlling of the appliance to the Multi Room Controller. All other positions will control the appliance directly and the Multi Room Controller will be overruled. when the Multi Room Controller is switched off (230V off) the Flair will run on it's own settings autonomously.
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## 6.5 Multi Room Controller

### 6.5.1 Multi Room Controller location

Make sure the Multi Room Controller is installed in a fixed position by using the mounting holes -> Dimensions and connections [Dimensions](#) -> page 8



- The appliance must not be placed in a zone with high humidity levels (such as a bathroom).
- The ambient temperature has to be between 0 °C and + 35 °C.
- Make sure sufficient free space is available around the Multi Room Controller in order to connect all the wiring of the other appliances.
- Make sure the sixth DIP-switch on the PCB of the Multi Room Controller is switched to ON, -> [Multi Room Controller DIP-switch settings](#) -> page 16
- Make sure a power outlet socket is available near the Multi Room Controller to be able to power it.

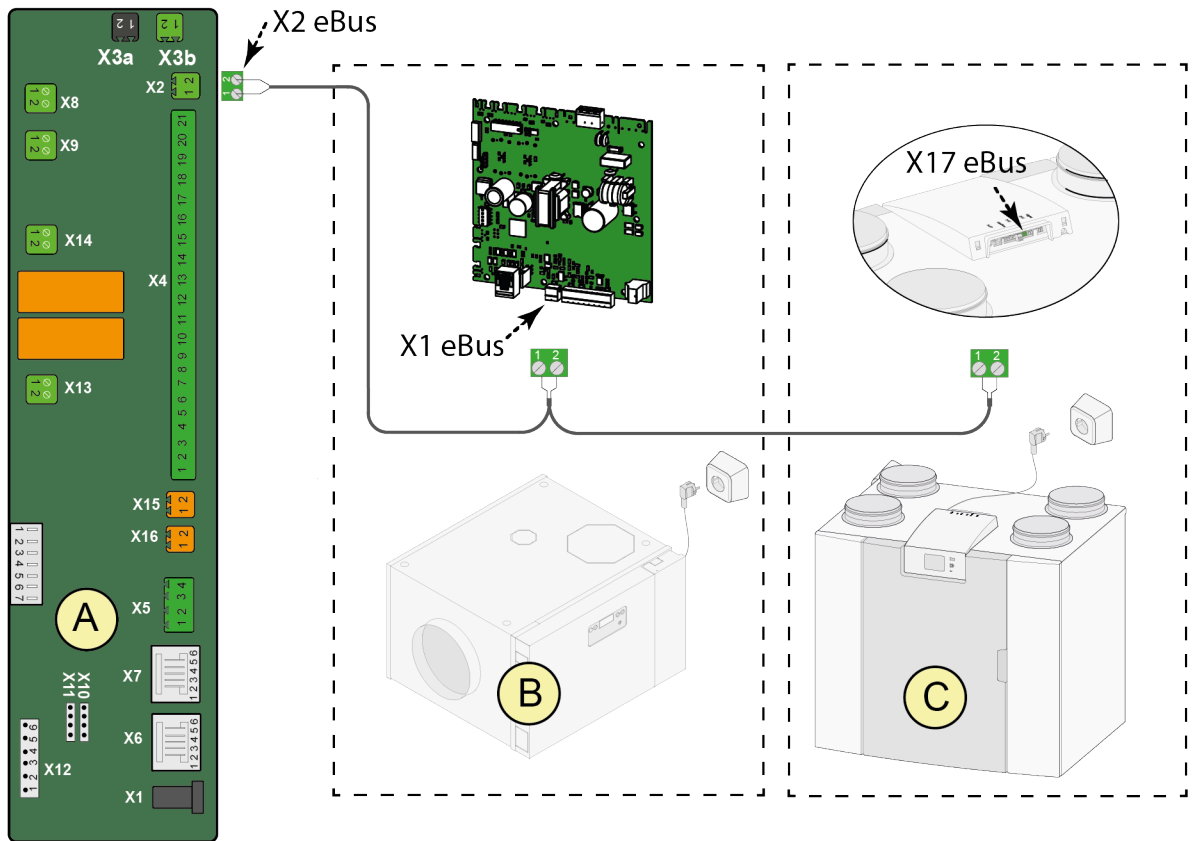


**DANGER**


Disconnect the power supply when working on the appliance.  
Always connect the ground connection.

## 6.5.2 Multi Room Controller connections

Connect the appliance by eBus. Connect Elan and the Flair heat recovery appliance to port X2 on the Multi Room Controller. It is recommended to use the following sequence of connecting : Multi Room Controller-Elan-Flair.



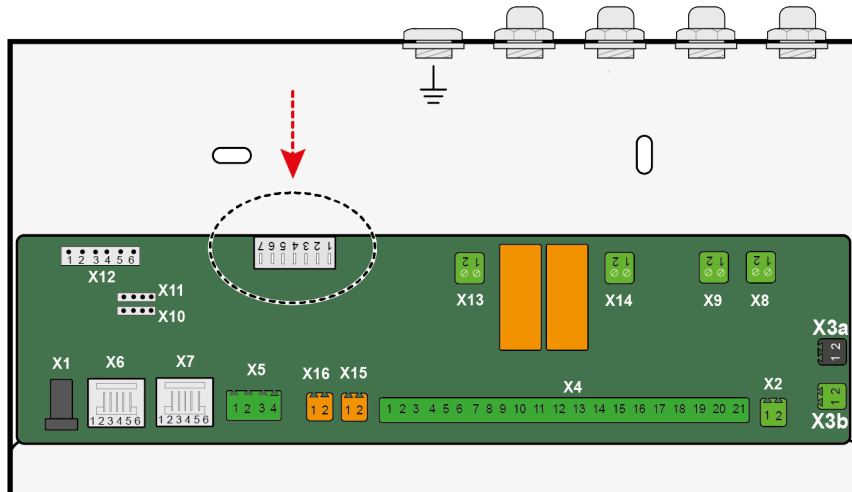
- A. Multi Room Controller
- B. Elan (Elan 4 is shown, other Elan appliances are possible).
- C. Flair heat recovery appliance.

 <b>DANGER</b>	Disconnect the power supply when working on appliances.
<b>NOTE</b>	<b>All 24V and eBus connections are polarity sensitive!</b> <b>Because connections are made in a serial way, in case of a cable malfunction all equipment behind this malfunction will not communicate with the Multi Room Controller.</b>

### 6.5.3 Multi Room Controller DIP-switch settings

Set the dipswitches correctly.

Dipswitch	1	2	3	4	5	6	7
setting	OFF	OFF	OFF	OFF	OFF	ON	OFF





## 6.6 Air Valves

### 6.6.1 Air valve function

The required air distribution in a Multi Room Controller system is provided through an air duct system. When the Multi Room Controller system is used for cooling make sure all air supply ducts are sufficiently insulated to prevent condensation.

The amount of air flow into a zone is controlled by one or more motor-controlled air valves. The air valves have 2 positions: open and closed.

When air valves are closed there is by-pass enough through the valve to provide the minimum required amount of ventilation air.

A maximum of 6 valves can be connected to the Multi Room Controller, divided over at least 2 zones. Up to 5 valves can be connected to 1 zone. All air valves connected to 1 zone will respond equally to a heating/cooling and/or ventilation demand.

The Brink Installation Tool is used to assign air valves to their corresponding zones. By assigning an air valve to a zone, it's is automatically linked to the corresponding zone thermostat.

When there is no heating or cooling demand in any of the connected zones, all air valves will be set to open position.

Depending on the applied ducts and needed amount of airflow, different diameters of air valves can be selected and installed. Air valves are available in 5 different diameters (Ø80, Ø125, Ø160, Ø180 & Ø200) as seen in the image below.

The PCB of an air valve motor is connected to the Multi Room Controller via eBus and a 24V power supply with a 4-wire cable. Each air valve is uniquely identifiable to the Multi Room Controller, see [Air Valve DIP-switch settings](#) -> page 20.

*for electrical connections see [Air Valve electrical connections](#) -> page 18*



### 6.6.2 Air Valve location

The air valves need to be installed in the ducting system to be able to supply air into a zone. The ducting system needs to be installed by a professional.

When installing an air duct system the following needs to be taken into account :

- Air speeds in the complete system.
- Thermal insulation on ducts, manifolds and air valves to prevent cooling and heating capacity loss.
- Insulation to prevent condensation on ducts, manifolds and air valves.
- Solid and rigid installation of equipment to prevent vibrations and/or noise.
- Do not locate the air valve near the air supply grille/inlet. The valve is in the airflow, creating sound (even in fully open position)
- Equipment needs to be accessible for service and cleaning purposes.


### 6.6.3 Air Valve electrical connections

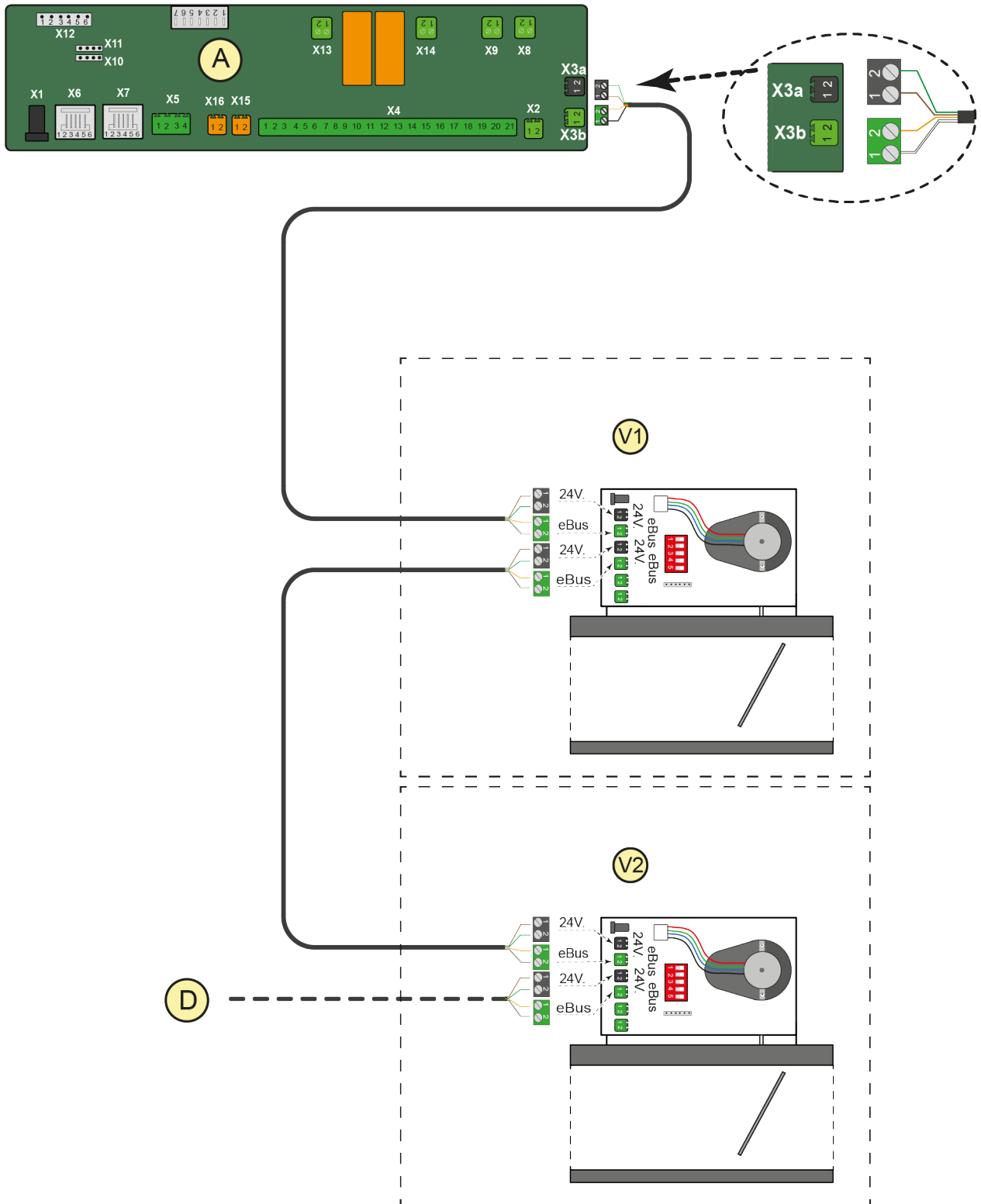
*Air valves need the following electrical connections:*

1. Communication via eBus cable (green connector).
2. Power via 24 cable (black connector).
3. Address settings via DIP-switches.

Connecting the Air Valves:

1. All air valves in the system need to be connected to 24V power and eBus, please note polarity on the connectors. A multi-core cable can be used to only have to install 1 cable for connecting the 24V and eBus to an air valve.
2. It is advised to make a drawing or list of the as installed connecting sequence, if equipment is not communicating or functioning, this drawing will help identify in locating issues.
3. Preferably the connecting sequence follows the air valve numbering:
  - Multi Room Controller -> air valve 1 -> air valve 2 -> etc. etc.
4. Start wiring from the Multi Room Controller unit. use the green X3b connector for eBus connections and the black X3a connector for power connections. Note that connections are polarity sensitive!
5. Give all installed air valves a unique DIP-switch setting -> [Air Valve DIP-switch settings](#) -> page 20
6. Use the Brink Installation Tool after all air valves have been connected to the Multi Room Controller to check if all air valves are visible and working -> [Setting to work](#) -> page 27

 <b>DANGER</b>	Disconnect the power supply when working on appliances.
<b>NOTE</b>	<p><b>All 24V and eBus connections are polarity sensitive! connect pin 1 of the Ebus connectors to eachother and connect the pin 2 connections to eachother. do not mix these connections. The same counts for the 24V!</b></p> <p><b>Because connections are made in a serial way, in case of a cable malfunction all equipment behind this malfunction will not communicate with the Multi Room Controller.</b></p>



A = Multi Room Controller

V1 = Air Valve 1

V2 = Air Valve 2

D = Air valve 3 etc. etc.

## 6.6.4 Air Valve DIP-switch settings

When setting DIP-switches please take the following into account:

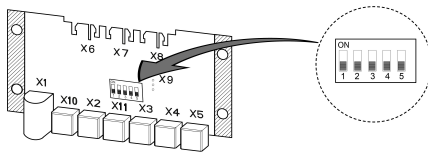
- Start with zone 1 and air valve 1.
- When 1 air valve is installed per zone, air valve 1 needs to supply air to zone 1, valve 2 to zone 2 etc etc. Set the DIP-switches accordingly.
- When more then 1 air valves per zone is installed, the ssettings need to follow the sequence of valves per zone. A few examples :

1 valve per zone	
zone 1	valve 1
zone 2	valve 2
zone 3	valve 3
zone 4	valve 4
zone 5	valve 5
zone 6	valve 6

2 valves in zone 1	
zone 1	valve 1
	valve 2
zone 2	valve 3
zone 3	valve 4
zone 4	valve 5
zone 5	valve 6

2 valves in zone 2 and 4	
zone 1	valve 1
zone 2	valve 2
	valve 3
zone 3	valve 4
zone 4	valve 5
	valve 6

### SETTINGS



Valve	DIP-switch				
	1	2	3	4	5
Valve 1	ON	OFF	OFF	ON	OFF
Valve 2	OFF	ON	OFF	ON	OFF
Valve 3	ON	ON	OFF	ON	OFF
Valve 4	OFF	OFF	ON	ON	OFF
Valve 5	ON	OFF	ON	ON	OFF
Valve 6	OFF	ON	ON	ON	OFF

## 6.7 Thermostats

### 6.7.1 Thermostat function

Thermostats measure the temperature of a zone and depending on modus and temperature setpoint the thermostat will send a cooling or heating signal to the Multi Room Controller. This signal is forwarded from the Multi Room Controller to the Elan appliance and air valves to generate cooling or heating in order to reach the desired set temperature.

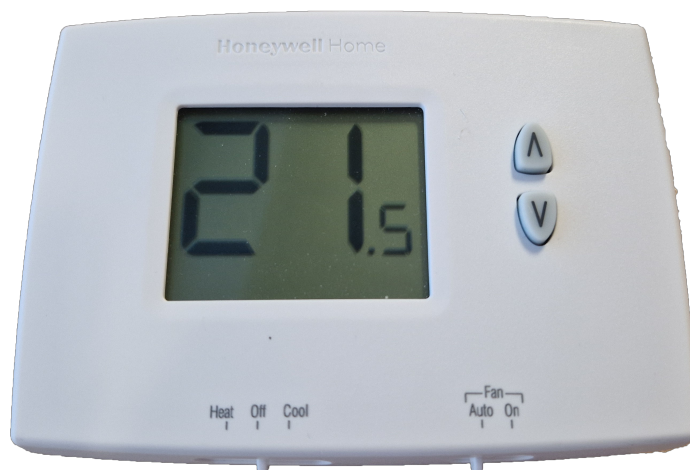
Possible settings on a thermostat :

- Cooling
- Off
- Heating
- temperature setpoint.

A maximum of 6 thermostats can be connected to the Multi Room Controller. For example: one thermostat for each zone, or up to 5 zones from one thermostat. Linking multiple zones to 1 thermostat can be achieved using the Brink Installation Tool. The thermostat is an on/off type.

The auto-on Fan switch is not used and therefore has no function in the Multi Room Controller system.

For electrical connections see [Thermostat electrical connections](#) -> page 22



### 6.7.2 Thermostat location

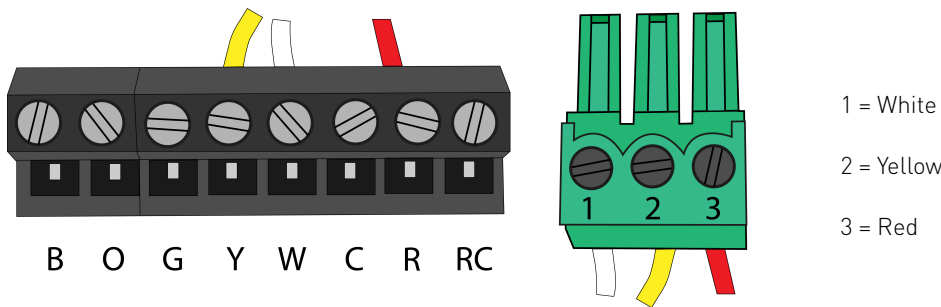
For accurate temperature measurement and thus accurate controlling of the temperature in a zone, please pay attention to the following:

- Place a Thermostat at around 1.5-2 meter high from the floor.
- Place a Thermostat on a inner wall.
- Do not place a Thermostat in direct sunlight.
- Do not place a Thermostat above a heat source.
- Do not place a Thermostat near a window or door.
- Do not place a thermostat in a draughty area.
- Do not place a thermostat directly in the path of the cool/warm/ventilation airflow.
- do not cover a thermostat.

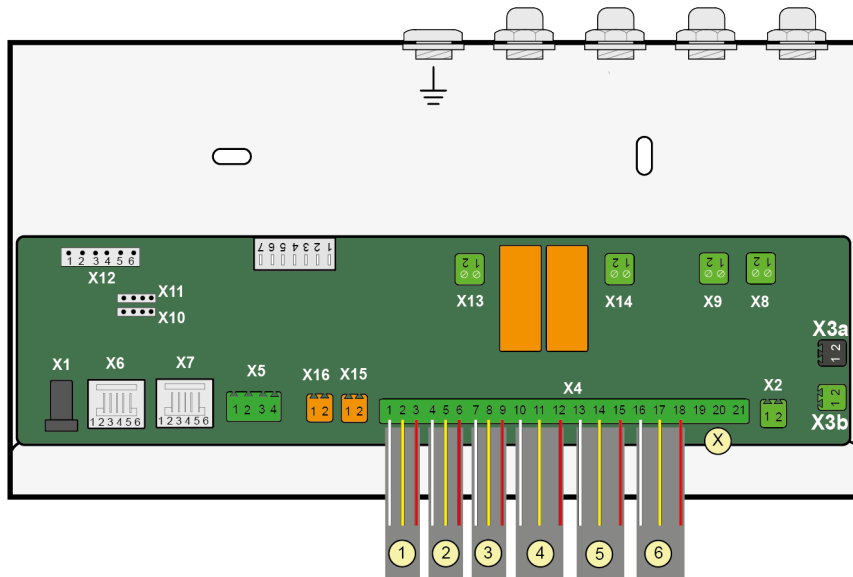
### 6.7.3 Thermostat electrical connections

1. Route and install a cable from the Multi Room Controller location to the thermostat location.
2. Remove the wall plate from the thermostat (instructions are on the back of the thermostat).
3. Pull the wires through wire hole.
4. Connect the 3 wires to the black thermostat connector as indicated below.
5. Connect the 3 wires to the correct zone on connector X4 of the Multi Room Controller as indicated below.
  - each thermostat has 3 wires that need to be connected.
6. Mount the zone thermostat on the wall.
7. Follow steps 1-7 for all thermostats.
8. Manage the settings of the zone thermostats using the Brink Installation Tool when setting the system to work.

#### Wire connections zone 1



#### Zone connections



**NOTE** Thermostats do not use the eBus connection, connect Thermostats directly to the x4 connector on the Multi Room Controller

## 6.8 CO<sub>2</sub> sensors

### 6.8.1 CO<sub>2</sub>-sensor function

CO<sub>2</sub> sensors measure the amount of CO<sub>2</sub> in a zone and send this signal to the Multi Room Controller. The Multi Room Controller will send a signal to the Flair appliance and the relevant air valve to increase the ventilation airflow in a zone when the CO<sub>2</sub> levels rise above a certain value. The Multi Room Controller will send a signal to decrease the ventilation airflow and close the valve of a zone when the CO<sub>2</sub> levels drop below a certain value. The minimum and maximum CO<sub>2</sub> values can be set per zone.

A maximum of 6 CO<sub>2</sub> sensors can be connected to the Multi Room Controller. For example, one CO<sub>2</sub> sensor for each zone, or up to 5 zones from one CO<sub>2</sub> sensor.

The circuit board of a CO<sub>2</sub> sensor is connected to the Multi Room Controller via eBus and a 24V power supply using a 4-wire cable. Each CO<sub>2</sub> sensor is uniquely identifiable to the Multi Room Controller, see [CO<sub>2</sub> sensor DIP-switch settings](#) -> page 26.

Settings for CO<sub>2</sub> levels and the linking of sensors to different zones are done using the [Brink Installation Tool](#) -> page 29.

For electrical connections see [CO<sub>2</sub> sensor electrical connections](#) -> page 24



### 6.8.2 CO<sub>2</sub> sensor location

For accurate CO<sub>2</sub> measurement and thus correct controlling of the amount of ventilation air in a zone, please pay attention to the following:

- Place a CO<sub>2</sub> sensor at around 1.5-2 mtr high from the floor.
- Do not place a CO<sub>2</sub> sensor close to a workstation.
- Do not place a CO<sub>2</sub> sensor near a window or door.
- Do not place a CO<sub>2</sub> sensor directly path of the cool/warm/ventilation airflow.
- Do not cover a Co<sub>2</sub> sensor.


### 6.8.3 CO<sub>2</sub> sensor electrical connections

CO<sub>2</sub>-sensors need the following electrical connections.

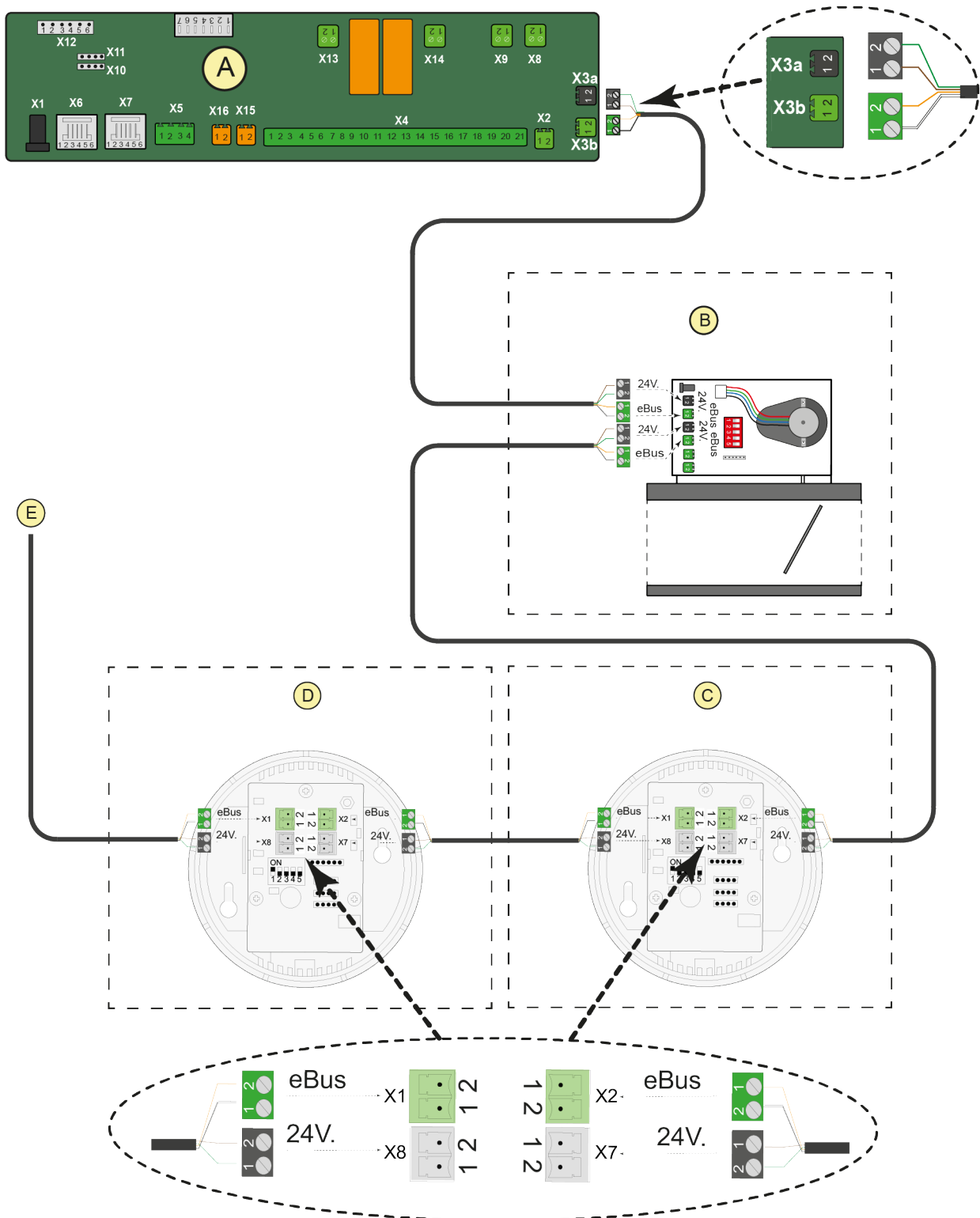
1. Communication via eBus cable (green connector).
2. Power via 24 cable (black connector).
3. Address settings via DIP-switches.

Connecting the CO<sub>2</sub>-sensors:

1. All CO<sub>2</sub> sensors in the system need to be connected to 24V power and eBus, the sequence of connecting the appliances does not matter, polarity on the connectors does. A multi-core cable can be used to only have to install 1 cable for connecting the 24V and eBus to a CO<sub>2</sub> sensor.
2. It is advised to make a drawing or list of the as installed connecting sequence, if equipment is not communicating or functioning, this drawing will help identify in locating issues.
3. Preferably the connecting sequence follows the zones.
  1. : Multi Room Controller -> All air valves -> CO<sub>2</sub> sensor zone 1 -> CO<sub>2</sub> sensor zone 2 -> etc.
4. Start wiring from the last air valve in the system. Use the green X3b connector for eBus connections and the black X3a connector for power connections. Note that connections are polarity sensitive!
5. Give all installed CO<sub>2</sub> sensors a unique DIP-switch number -> [CO<sub>2</sub> sensor DIP-switch settings](#) -> page 26.
6. Use the Brink Installation Tool after all CO<sub>2</sub> sensors have been connected to the Multi Room Controller to check if all CO<sub>2</sub> sensors are visible and working -> [Setting to work](#) -> page 27

 <b>DANGER</b>	Disconnect the power supply when working on appliances.
<b>NOTE</b>	<b>All 24V and eBus connections are polarity sensitive!</b> <b>Because connections are made in a serial way, in case of a cable malfunction all equipment behind this malfunction will not communicate.</b>





A = Multi Room Controller

B = Air Valve PCB

C = CO<sub>2</sub>-sensor 1

D = CO<sub>2</sub>-sensor 2

E = Connection to other air valves and/or CO<sub>2</sub> sensors.

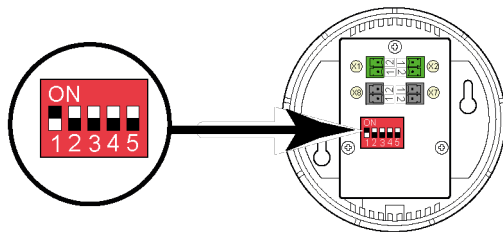
### 6.8.4 CO2 sensor DIP-switch settings

When setting DIP-switches please take the following into account:

- start with zone 1 and CO<sub>2</sub> sensor 1.
- When 1 CO<sub>2</sub> sensor is installed per zone, CO<sub>2</sub> sensor 1 needs to supply air to zone 1, CO<sub>2</sub> sensor 2 to zone 2 etc etc. set the DIP-switches accordingly.

1 CO2 sensor per zone	
zone 1	CO <sub>2</sub> sensor 1
zone 2	CO <sub>2</sub> sensor 2
zone 3	CO <sub>2</sub> sensor 3
zone 4	CO <sub>2</sub> sensor 4
zone 5	CO <sub>2</sub> sensor 5
zone 6	CO <sub>2</sub> sensor 6

#### SETTINGS



	DIP-switch				
CO <sub>2</sub> -sensor	1	2	3	4	5
CO <sub>2</sub> -sensor 1	ON	OFF	OFF	OFF	OFF
CO <sub>2</sub> -sensor 2	OFF	ON	OFF	OFF	OFF
CO <sub>2</sub> -sensor 3	ON	ON	OFF	OFF	OFF
CO <sub>2</sub> -sensor 4	OFF	OFF	ON	OFF	OFF
CO <sub>2</sub> -sensor 5	ON	OFF	ON	OFF	OFF
CO <sub>2</sub> -sensor 6	OFF	ON	ON	OFF	OFF

# 7 Setting to work

## 7.1 General

Please check if the following is correct before switching power on:

1. All DIP-switches set correctly on:
  1. Multi Room Controller
  2. All installed Air Valve(s)
  3. All installed CO<sub>2</sub> sensor(s)
2. The polarity of the eBus and 24V wiring in the complete system.
3. Thermostats connected to correct zone position on X4 of Multi Room Controller.
4. installation and connections of all equipment carried out in accordance with the manual(s).

<b>NOTE</b>	<p>When an appliance is connected to eBus after power has been switched on it can take up to several minutes before the appliance is seen by or communicating with the Multi Room Controller.</p> <p>Resetting power on the Multi Room Controller will start a rescan for appliances.</p>
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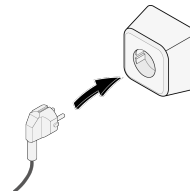
## 7.2 Switching on the system:

1. Switch on the Elan and Flair appliances
  - See relevant manuals of these appliances on how to switch on.
2. Switch on the Multi Room Controller.
  - [Switching on and off Multi Room Controller](#) -> page 28
  - Wait 10 minutes for calibration to finish.
3. set-up the system with the [Brink Installation Tool](#) -> page 29
4. After finishing start-up and set-up:
  - CO<sub>2</sub> levels will be regulated automatically.
  - Cooling or heating and Temperature control for a zone will be regulated by the Multi Room Controller depending on the thermostat settings, see [Thermostat function](#) -> page 21.

## 7.3 Switching on and off Multi Room Controller

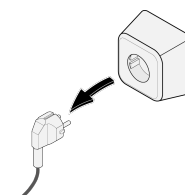
### Switching on:

1. Connect the power adapter plug to position X1 on the Multi Room Controller.
2. Connect the 230 V power plug from the adapter to a 230V socket.
3. During the startup of the Multi Room Controller, the air valves will calibrate. The total calibration process can take up to 10 minutes.
4. After calibration is finished the Multi Room Controller is ready for use.

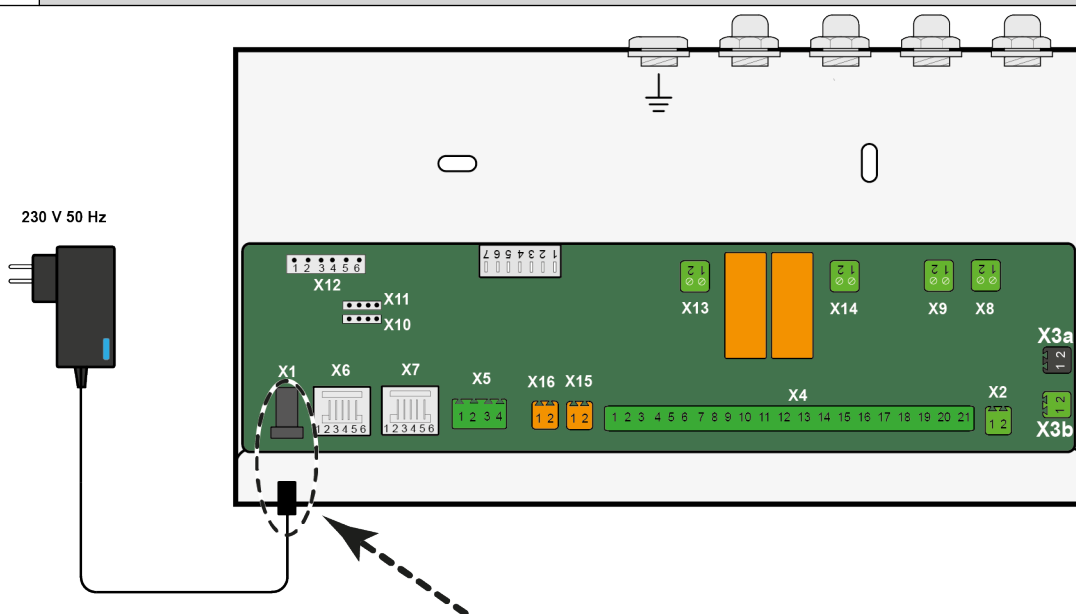


### Switching off:

1. Pull the 230 V power plug from the socket.
2. The appliance is now off.



Disconnect the power supply when working on appliances.



# 8 Brink Installation Tool

To set the system to work or to adjust parameters in the Multi Room Controller, the Brink Installation Tool is required.

Download the Brink Installation Tool here: <https://www.brinkclimatesystems.nl/support/tools>

Install the software on a (Windows) device. Connect the device to the eBus connection of the Flair with the Service tool cable (531961) and extension cable (532233)

The Installation Tool is designed to guide the installer through the installation process step by step. Once all settings are done, the end user can simply use the thermostats (per zone) to control temperature, CO<sub>2</sub> levels will be controlled automatically (per zone).

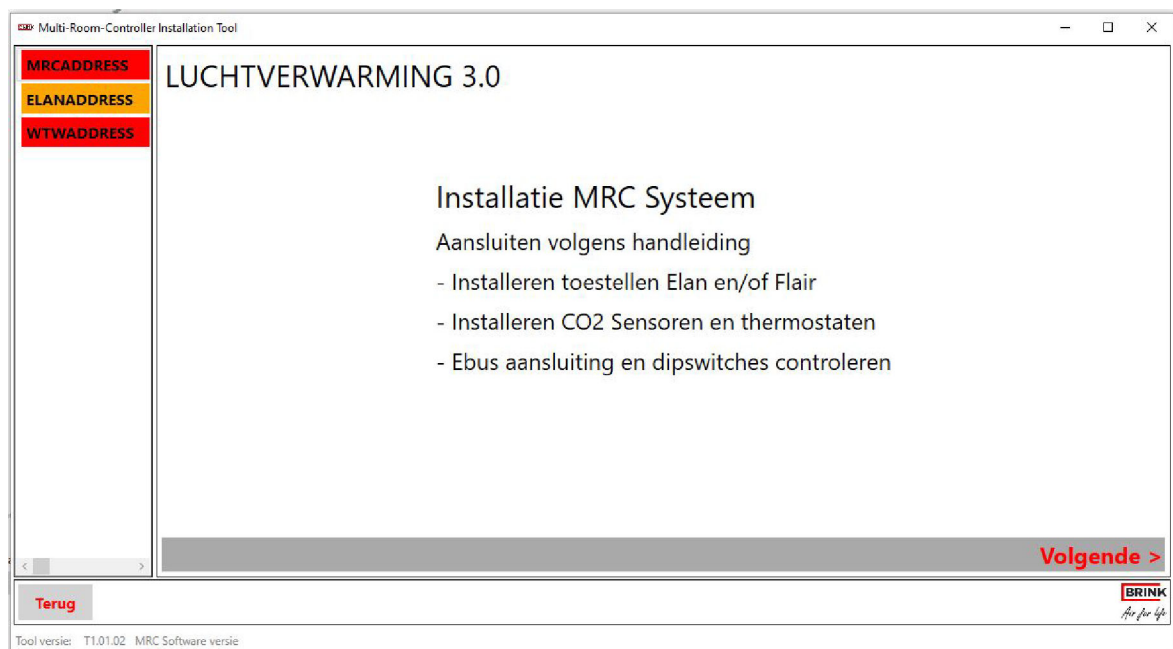
Values might need to be taken from calculations that have been made for this particular Multi Room Controller system, values can differ per dwelling/system.

## 8.1 Configuration

- Open the Brink Installation Tool on the (Windows) device.
- Connect the laptop to the eBus connection of the Flair unit with the 2 service cables cables.
- Follow steps 1-7 below to configurate the system.

### STEP 1:

- The screen below should be displayed when the Brink Installation Tool has started, choose "next".
- Note that the red and orange marked addresses means certain items are not found (yet), see STEP 3 for further explanation.



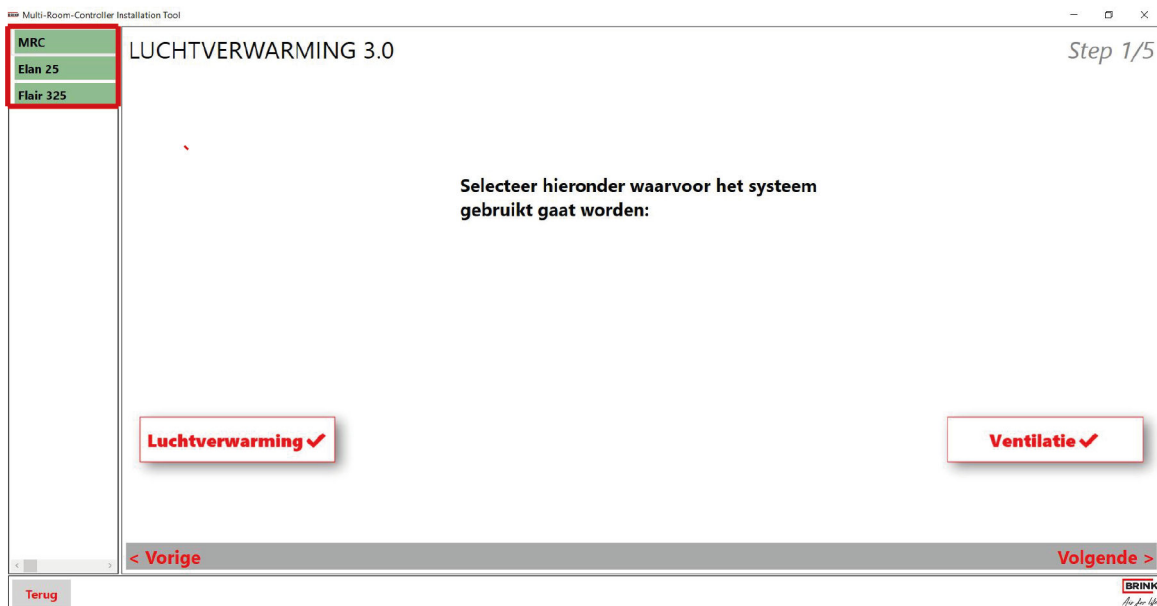
## STEP 2:

In the next page (below) Choose "Installation set-up"



## STEP 3:

- Check if all the appliances are green (communicating) in the top left corner of the screen. Investigate the eBus and 24V connections when appliances are not communicating.
  - GREEN = Ok
  - ORANGE = Searching (this status might take a while)
  - RED = Not connected
- Select if the Multi Room Controller is used for cooling/heating or ventilation or a combination of both. (click on 1 or both tiles).



- **Click next**

#### STEP 4:

- Enter the max amount of airflow for the Elan.
- Enter the regulating temperature for the Elan.
- Enter the nominal airflow for the Flair.

Multi-Room-Controller Installation Tool

MRC  
Elan 25  
Flair 325

Instellingen systeem: Step 2/5  
(zie berekening installatie ontwerp)

Elan maximale luchtdebiet [%].

Elan maximale regeltemperatuur [°C].

Nominale luchtdebiet [m<sup>3</sup>/h].

< Vorige Volgende >

Terug BRINK  
Air for life

- Click next

#### STEP 5:

- Enter the amount of zones. Minimum is 2, Maximum is 6.

Multi-Room-Controller Installation Tool

MRC  
Elan 25  
Flair 325

Selecteer aantal zones Step 3/5

2 3 4 5 6

Huidige keuze is 6 Zones

< Vorige Volgende >

Terug BRINK  
Air for life

- Click next

## STEP 6:

- Enter the amount of air valves per zone.
- Enter which zones use a CO<sub>2</sub> sensor.
- Enter minimum CO<sub>2</sub> level ppm per zone, advised is above 600ppm.
- Enter maximum CO<sub>2</sub> level ppm per zone, advised is max 1200ppm.
- Enter nominal ventilation airflow rate per zone (m<sup>3</sup>/h).
- Enter nominal Elan per zone (increase in fanspeed per zone in % when heating is active).

### **i** Note

The total amount of nominal airflow in all the zones added up needs to be the same amount as entered at nominal airflow at step 4. if the values differ a red exclamation mark will appear.

### **i** Note

Fanspeed setting for cooling is done with parameter 29: factor cooling.

The screenshot shows the 'Multi-Room-Controller Installation Tool' window. The title bar includes 'MRC', 'Elan 25', and 'Flair 325'. The main window title is 'Stel instellingen voor zones in' and it is labeled 'Step 4/5'. The interface is organized into a table with 6 columns representing zones. The rows represent different settings: 'Instellingen zones' (with '+' and '-' buttons), 'Aantal Kleppen' (valves), 'CO<sub>2</sub> sensor aanwezig?' (checkbox), 'CO<sub>2</sub> Minimum regelwaarde' (minimum CO<sub>2</sub> level), 'CO<sub>2</sub> Maximum regelwaarde' (maximum CO<sub>2</sub> level), 'Nominaal luchtdebiet (m<sup>3</sup>/h)' (nominal airflow), and 'Nominaal Elan [%]' (nominal Elan). At the bottom, there are navigation buttons: '< Vorige' (Previous), 'Volgende >' (Next), and 'Terug' (Back). The BRINK logo is visible in the bottom right corner.

Instellingen zones	1	2	3	4	5	6
Aantal Kleppen:	1	1	1	1	1	1
CO <sub>2</sub> sensor aanwezig?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CO <sub>2</sub> Minimum regelwaarde	400	400	400	750	750	750
CO <sub>2</sub> Maximum regelwaarde	1200	1200	1200	1200	1200	1200
Nominaal luchtdebiet (m <sup>3</sup> /h)	40	40	40	40	40	40
Nominaal Elan [%]	5	5	5	5	5	5

- Click next



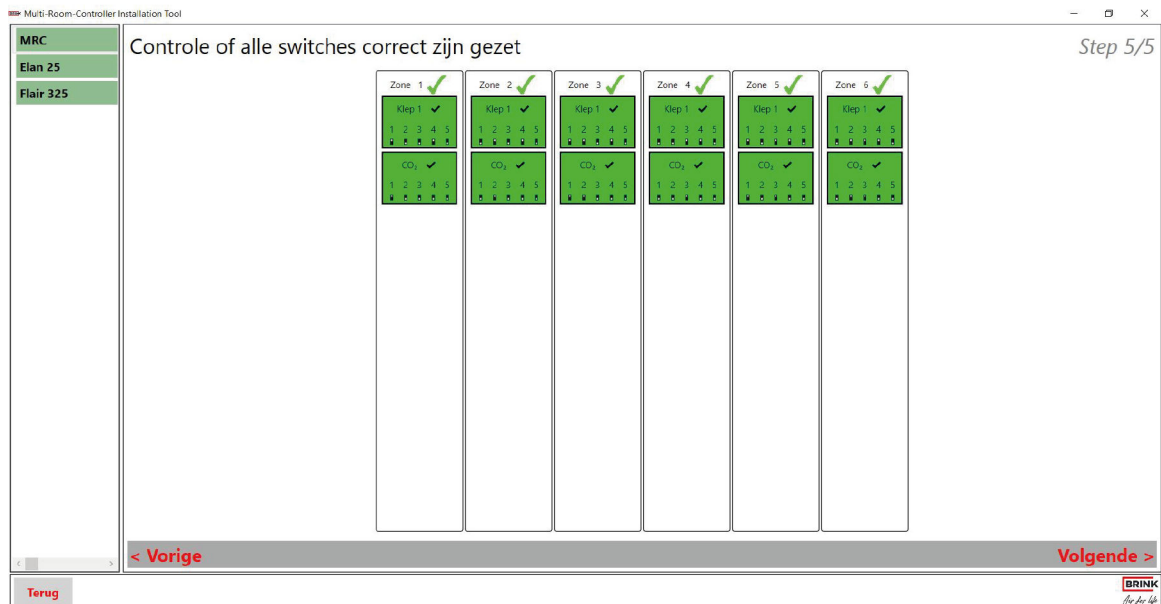
## STEP 7:

- Check if all dipswitches are set correctly and match the lay-out of the system.
- Note all setting for future purposes.



### Note

If an air valve or CO<sub>2</sub> sensor is indicated RED it is not set correctly, please adjust where needed.



- **Click next to save, complete and exit the set-up menu. you will be redirected to the overview page where the status of various zones can be seen.**
- **Select parameters to check and change parameters where needed -> Parameter List-> -> page 38.**

## 8.2 Maintenance

### Start-up menu:

When "Overview" is chosen in the opening screen of the Brink installation tool, you are directed to the overview page. On this page you can choose 3 tabs to show relevant information:

- Zone information
- Parameters
- Actual data

### Zone Information:

- connection status with Multi Room Controller-Elan-Flair in the above left corner: green = ok
- General information
- X13-X16 status
- Operational Information

The screenshot displays the 'Multi-Room-Controller Installation Tool' interface. On the left, a sidebar shows 'MRC', 'Elan 25', and 'Flair 325' with 'MRC' selected. The main area is divided into several sections:

- Algemene Info:**
  - Software versie: K2.01.03 0002
  - Apparaat ID: 129
  - Serienummer: 000000000000
  - Bedieningstijd: 392
  - MRC status: NOT\_SET
- X13-X16 status:**

Connector	Status	Idle time in min	Elan status	Elan setpunt
Common cooling input	Dicht	5	Gevonden	0
<b>Bedrijfsmodus</b>				
Heating: X13 Status	Open			
X15 Voltage	0	Koelen	WTW status	WTW setpunt
X14 Status	Dicht		Gevonden	0
Cooling: X16 Voltage	1			
- Operationale Info:**

Zone	Klep			Warmte vraag	CO2 Sensor			Setpunt WTW	Setpunt Elan
	Status	Stand	Positie		Status	CO2 ppm			
Zone1	Ok	Dicht	1	Verwarmen	Ok	400	10	1	
Zone2	Ok	Open	1	Koelen	Ok	400	10	1	
Zone3	Ok	Dicht	1	Onbekend	Ok	0	10	1	
Zone4	Ok	Dicht	1	Onbekend	Ok	0	10	1	
Zone5	Ok	Dicht	1	Onbekend	Ok	0	10	1	
Zone6	Ok	Dicht	1	Onbekend	Ok	0	10	1	

At the bottom left, there is a 'Terug' button, and at the bottom right, the Brink logo is visible.

## Parameters:

On this page all parameter settings can be checked and changed and complete system configurations can be saved or loaded. also see [Parameter list](#) -> page 38

To change a parameter:

- Select the parameter to be changed from the list.
- Enter the desired value.
- Click 'edit' to confirm value.
- Click 'refresh parameters' to show the newly set value in the list.

Index	Omschrijving	Huidige waarde	Minimum	Maximum	Stap grootte	Eenheid
17	Z1_MIN_AIRFLOW_HRU	20	10	600	5	-
18	Z2_MIN_AIRFLOW_HRU	20	10	600	5	-
19	Z3_MIN_AIRFLOW_HRU	20	10	600	5	-
20	Z4_MIN_AIRFLOW_HRU	20	10	600	5	-
21	Z5_MIN_AIRFLOW_HRU	20	10	600	5	-
22	Z1_MAX_AIRFLOW_HRU	40	10	600	5	-
23	Z2_MAX_AIRFLOW_HRU	30	10	600	5	-
24	Z3_MAX_AIRFLOW_HRU	50	10	600	5	-
25	Z4_MAX_AIRFLOW_HRU	40	10	600	5	-
26	Z5_MAX_AIRFLOW_HRU	40	10	600	5	-
27	Z6_MAX_AIRFLOW_HRU	30	10	600	5	-
28	COOLING_HEATING_ENABI	1	0	1	1	-
29	FACTOR_COOLING	10	10	200	1	-
186	X13_OUTPUT_MODE	0	0	1	1	-
187	X14_OUTPUT_MODE	0	0	1	1	-
188	X15_OUTPUT_MODE	1	0	1	1	-
189	X15_VOLTAGE	10	10	100	1	-
190	X16_VOLTAGE	10	10	100	1	-
191	NUMBER_OF_ZONES	6	2	6	1	-
192	Z1_CO2_LOW	450	400	2000	25	-
193	Z1_CO2_HIGH	1200	400	2000	25	-
194	Z2_CO2_LOW	400	400	2000	25	-

Follow the steps below to save the complete configuration of a Multi Room Controller system for reuse or to load complete configurations into other Multi Room Controller systems. This can be useful when replacing the Multi Room Controller board or in projects where several of the same systems are installed.

- Click 'save parameters' (5) when the complete configuration is complete to save it as a file on the laptop.
- Click 'load parameters' (6) To load a configuration file from the laptop into a Multi Room Controller.

## Actual Data:

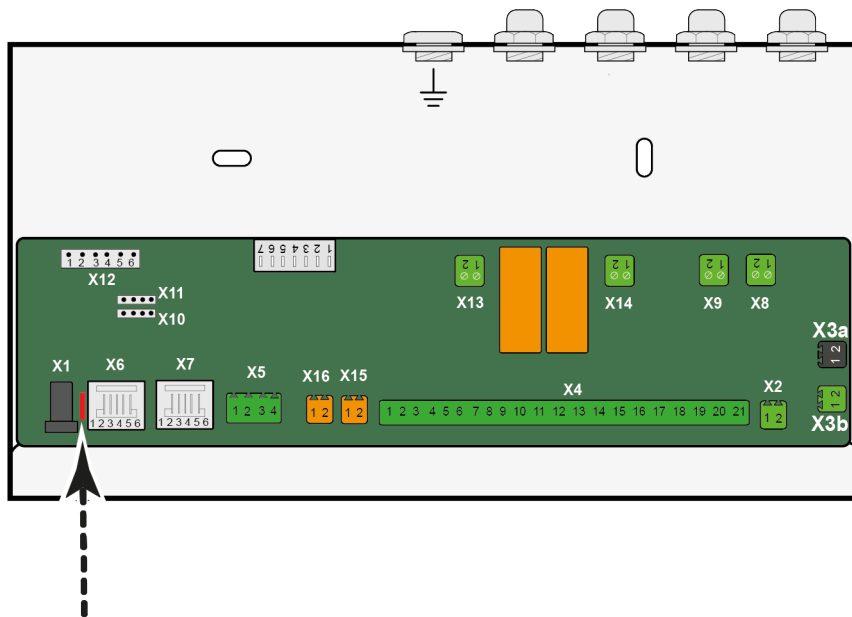
On this page the zone Information is listed.

# 9 Fault

## 9.1 Fault analysis

When there is no fault present in the system, the status LED will be green. If a fault is detected, the LED will blink RED on Multi Room Controller PCB.

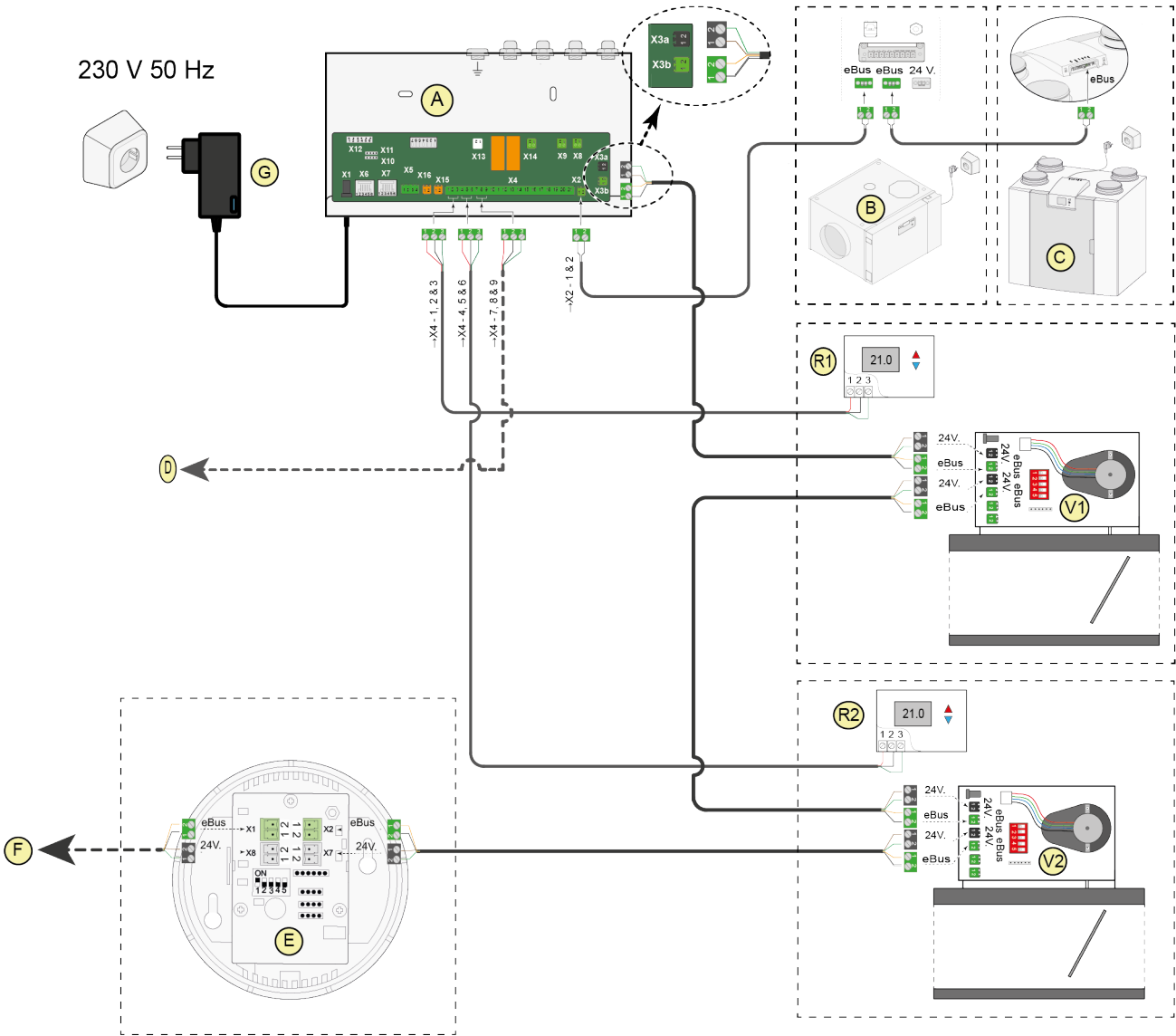
When a fault is detected, make sure all appliances used in the Multi Room Controller's system are connected properly. If the fault's origin is not clear, use the Brink Installation tool to determine which appliances are not communicating.



Disconnect the power supply when working on appliances.

# 10 Electrical diagram

The diagram below is an example; there are various Multi Room Controller configurations possible, each with different numbers of air valves and CO<sub>2</sub> sensors.



A = Multi Room Controller

B = Elan

C = Flair

D = Connection to extra optional thermostats. (total up to 6 possible)

E = CO<sub>2</sub>-sensor

F = Other CO<sub>2</sub>-sensors and valves

G = Power adapter

R1 = Zone 1 Thermostat

R2 = Zone 2 Thermostat

V1 = Air Valve 1

V2 = Air Valve 2

# Parameter list

Index	Description	Min setting	Max. setting	Factory setting	step	unit
208	eBus group nr.	1	8	1	1	
186	X13 contact HEAT (potential free contact) 0= Normally open (open when heating active) 1 = Normally closed (closed when heating active)	0	1	0	1	
187	X14 contact COOLING (potential free contact) 0= Normally open (open when cooling active) 1 = Normally closed (closed when cooling active)	0	1	0	1	
188	X15 output mode (not used)	0	1	0	1	
189	X15 Voltage setpoint	1.0	10	10	0.1	Vdc
190	X16 Voltage setpoint	1	10	10	0.1	Vdc
191	Number of zones	2	6	6	1	
192	CO <sub>2</sub> zone 1 low level	400	2000	600	25	ppm
193	CO <sub>2</sub> zone 1 high level	400	2000	2000	25	ppm
194	CO <sub>2</sub> zone 2 low level	400	2000	600	25	ppm
195	CO <sub>2</sub> zone 2 high level	400	2000	2000	25	ppm
196	CO <sub>2</sub> zone 3 low level	400	2000	600	25	ppm
197	CO <sub>2</sub> zone 3 high level	400	2000	2000	25	ppm
198	CO <sub>2</sub> zone 4 low level	400	2000	600	25	ppm
199	CO <sub>2</sub> zone 4 high level	400	2000	2000	25	ppm
200	CO <sub>2</sub> zone 5 low level	400	2000	600	25	ppm
201	CO <sub>2</sub> zone 5 high level	400	2000	2000	25	ppm
202	CO <sub>2</sub> zone 6 low level	400	2000	600	25	ppm
203	CO <sub>2</sub> zone 6 high level	400	2000	2000	25	ppm
204	idle time after cooling	5	1440	60	1	minutes
205	CO2 zone 1 enabled	0	1	1	1	
206	CO2 zone 2 enabled	0	1	1	1	
207	CO2 zone 3 enabled	0	1	1	1	
224	CO2 zone 4 enabled	0	1	1	1	
225	CO2 zone 5 enabled	0	1	1	1	
226	CO2 zone 6 enabled	0	1	1	1	
227	Zone 1 number of valves	1	6	1	1	
228	Zone 2 number of valves	1	6	1	1	
229	Zone 3 number of valves	1	6	1	1	
230	Zone 4 number of valves	1	6	1	1	
231	Zone 5 number of valves	1	6	1	1	
232	Zone 6 number of valves	1	6	1	1	
233	Zone 1 min. airflow Elan	1	100	4	1	%
234	Zone 2 min. airflow Elan	1	100	4	1	%
235	Zone 3 min. airflow Elan	1	100	4	1	%
236	Zone 4 min. airflow Elan	1	100	4	1	%
237	Zone 5 min. airflow Elan	1	100	4	1	%

238	Zone 6 min. airflow Elan	1	100	4	1	%
239	Zone 1 max. airflow Elan	1	100	10	1	%
240	Zone 2 max. airflow Elan	1	100	10	1	%
241	Zone 3 max. airflow Elan	1	100	10	1	%
242	Zone 4 max. airflow Elan	1	100	10	1	%
243	Zone 5 max. airflow Elan	1	100	10	1	%
244	Zone 6 max. airflow Elan	1	100	10	1	%
16	Zone 1 min. airflow Heat recovery unit	10	600	15	5	m <sup>3</sup> /h
17	Zone 2 min. airflow Heat recovery unit	10	600	15	5	m <sup>3</sup> /h
18	Zone 3 min. airflow Heat recovery unit	10	600	15	5	m <sup>3</sup> /h
19	Zone 4 min. airflow Heat recovery unit	10	600	15	5	m <sup>3</sup> /h
20	Zone 5 min. airflow Heat recovery unit	10	600	15	5	m <sup>3</sup> /h
21	Zone 6 min. airflow Heat recovery unit	10	600	15	5	m <sup>3</sup> /h
22	Zone 1 max. airflow Heat recovery unit	10	600	60	5	m <sup>3</sup> /h
23	Zone 2 max. airflow Heat recovery unit	10	600	60	5	m <sup>3</sup> /h
24	Zone 3 max. airflow Heat recovery unit	10	600	60	5	m <sup>3</sup> /h
25	Zone 4 max. airflow Heat recovery unit	10	600	60	5	m <sup>3</sup> /h
26	Zone 5 max. airflow Heat recovery unit	10	600	60	5	m <sup>3</sup> /h
27	Zone 6 max. airflow Heat recovery unit	10	600	60	5	m <sup>3</sup> /h
28	cooling heating enabled	0	1	1	1	
29	Factor cooling (increase in fanspeed compared to heating)	10	200	110	1	%

# 11 Service

## 11.1 Ordering spare parts

When ordering parts or accessories, in addition to the article code number, please state type, serial number, year of production and the name of the part:

Example	
Appliance type	Multi Room Controller
Serial number	429000230102
Year of production	2023
Part	Multi Room Controller circuitboard
Article code	532959
Quantity	1

## 11.2 Spare parts list

No.	Article description	Article code
1	Circuit board Multi Room Controller	532959
2	EU Power adapter 24V 2.5A	532960
3	Valve motor	532083
4	Circuit board motorized valve	532118

## 11.3 Accessories

No.	Article description	Article code
1	Zone thermostat	510306
2	CO <sub>2</sub> Sensor	532126
3	Valve Ø80	310452
4	Valve Ø125	310453
5	Valve Ø160	310454
6	Valve Ø180	310455
7	Valve Ø200	310456
8	Service Tool cable	531961
9	Extension cable	532233



# 12 Conformiteitsverklaring

This declaration of conformity is issued under the sole responsibility of the manufacturer.

**Manufacturer:** **Brink Climate Systems B.V.**  
**Address:** **P.O. Box 11**  
**NL-7950 AA, Staphorst, The Netherlands**  
**Product:** **Multi Room Controller**

The product described above complies with the following directives:

- ◆ 2014/35/EU (LVD directive)
- ◆ 2014/30/EU (EMC directive)
- ◆ 2011/65/EU (ROHS directive)
- ◆ 2012/19/EU (WEEE directive)

The product described above has been tested according to the following standards:

- ◆ EN 60335-1 2020
- ◆ EN 55014-1 2021
- ◆ EN 55014-2 2021
- ◆ EN 61000-3-2 2019
- ◆ EN 61000-3-3 2013/A1:2019
- ◆ 60669-2-5 2016

Staphorst, 04-06-2021



A. Hans  
*Managing Director*

# 13 Recycling and disposal



Do not dispose of as household waste!

In accordance with the Waste Disposal Act, the following components must be disposed of or recycled in an environmentally compatible manner by means of appropriate collection points:

- Old appliance
- Wearing parts
- Defective components
- Electrical or electronic waste
- Environmentally hazardous liquids and oils

Environmentally compatible means separated by material groups to ensure the greatest possible recyclability of the basic materials with the minimum environmental impact.

1. Dispose of packaging made of cardboard, recyclable plastics and synthetic filler materials in an environmentally compatible manner through appropriate recycling systems or a recycling center.
2. Please observe the applicable national and local regulations.





*Air for life*

**Brink Climate Systems B.V.**

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