BRINK

Air for life

Installation regulations

Wireless Controller with CO_2 sensor
English

Contents

1 User manual

Dear client,
Thank you for buying the Wireless Controller with CO₂ sensor. This user's manual contains all required information to quickly become familiar with the product. We kindly request you to carefully go through this information before using the product. This user's manual is intended for the Wireless Controller with CO₂ sensor installer and end user.
Take good care of this user's manual! For more information or ordering manuals, please contact:

Brink Climate Systems B.V.
P.O. Box 11
NL-7950 AA, Staphorst, The Netherlands
T: +31 (0) 522 46 99 44
F. +31 (0) 522 46 94 00
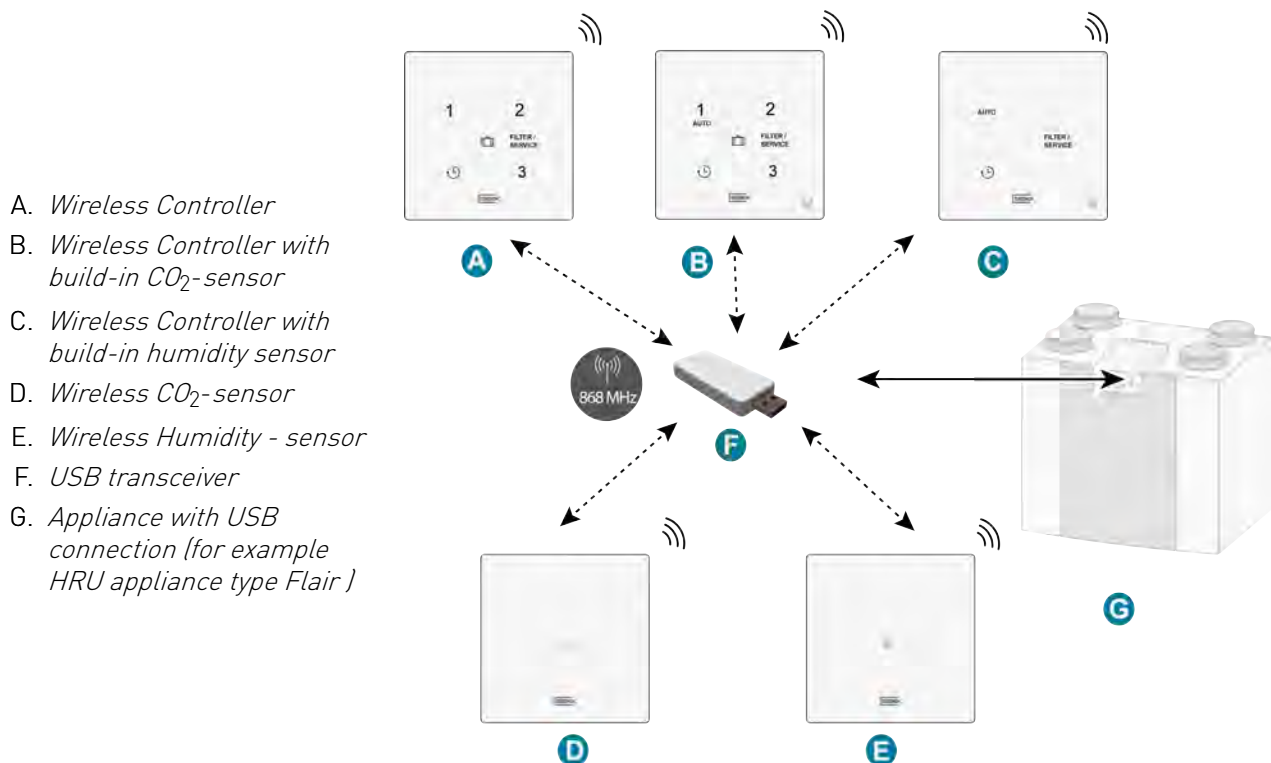E. info@brinkclimatesystems.nl
www.brinkclimatesystems.nl

1.1 Description Wireless Controller with CO₂ sensor

Intended and unintended use
This manual is about the Wireless Controller with CO₂ sensor (See B in image below).
The Wireless Controller with CO₂ sensor should only be used in combination with products that have been approved by Brink Climate Systems B.V.
The Wireless Controller with CO₂ sensor can only be used with a heat recovery unit (HRU) appliance which is equipped with a USB connection and produced after July 2022! A remote control (A, B or C) also displays when the filter(s) needs to be replaced/ cleaned or when the ventilation system is malfunctioning. Brink supplies a range of wireless remote controls/sensors that make contact with a heat recovery unit (HRU) appliance by means of a USB transceiver. This range consists of the 5 following types of wireless controllers/sensor (A-E)

A. *Wireless Controller*
B. *Wireless Controller with build-in CO$_2$-sensor*
C. *Wireless Controller with build-in humidity sensor*
D. *Wireless CO$_2$-sensor*
E. *Wireless Humidity - sensor*
F. *USB transceiver*
G. *Appliance with USB connection (for example HRU appliance type Flair)*

The connected HRU appliance is operated by pressing one of the buttons on the Wireless Controller with CO₂ sensor.

For explanation of the buttons of the Wireless Controller with CO₂ sensor see →

The Wireless Controller with CO₂ sensor must always be used with a USB transceiver on the HRU appliance; a combination of multiple sensors/controllers on 1 USB transceiver is possible.

Buttons 1 till 4 are used for pairing a sensor/controller to the USB transceiver; each sensor/controller is assigned an NODE ID number under which the sensor/controller is registered in the HRU appliance. In total, a maximum combination of 12 controllers /sensors can be paired to 1 transceiver (Max. 4 controllers / max. 4 CO_2-sensors and max 4 humidity sensors).

Note: A controller with a build in CO_2-sensor is seen as an CO_2-sensor and a controller with a build-in humidity sensor will be seen as an humidity sensor.

When one or more CO_2 sensors are connected to the HRU appliance, it will ventilate according to the set conditions of the connected CO_2 sensor(s).

If multiple sensors are used, the sensor that requests the highest ventilation level always has priority; If multiple controllers are used, the last used ventilation level has priority.

When the holiday mode (🧳) is used (only if this option is available); humidity control / CO_2 control (only if applicable) is not effective!

The air flow quantities associated with the ventilation settings must always be set on the connected appliance and cannot be adjusted on the Wireless Controller with CO₂ sensor. For ventilation settings, see the installation manual of the relevant connected HRU appliance.

1.2 Delivery content

Check that the delivered Wireless Controller with CO₂ sensor is complete and not damaged.

The delivery content of the Wireless Controller with CO₂ sensor consists of the following components:

1. Wireless Controller with CO₂ sensor
2. Frame
3. Wall bracket
4. Mounting screws (2x) & wall plugs (2x)
5. Permanent power supply (230V~/5V=)
6. Short information with QR-code to on line manual
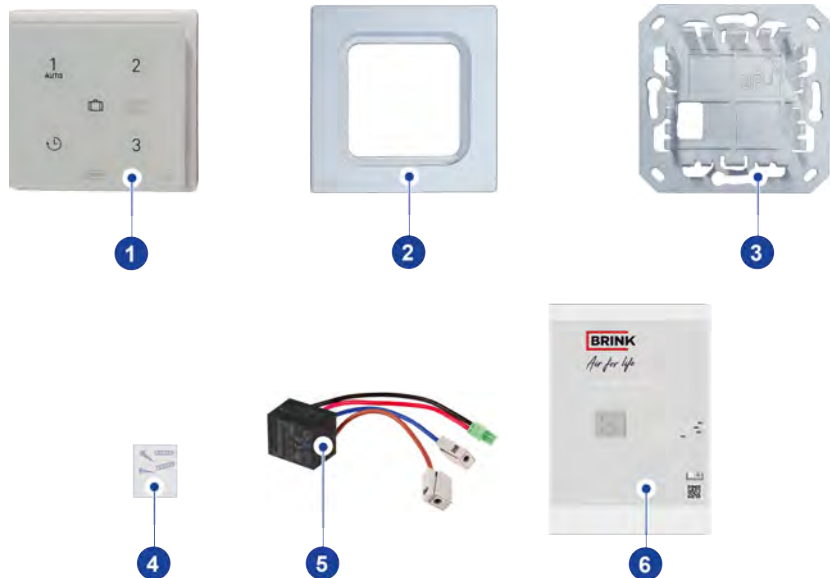
2 Technical specification

2.1 General product specification

Product description

Name:	Wireless Controller with CO_2 sensor

Technical product specifications

Operating voltage:	5 V
Protection class:	IP21
PPM range:	400 - 5000
Frequency:	868 MHz
Color:	RAL 9010 (White)

Ambient conditions

|	
Ambient temperature:	0 °C to 50 °C
Storage temperature:	-20 °C to 60 °C
Humidity:	0% to 90%
Other:	For indoor use
Range	300 m (open field; 1 meter height)

2.2 Environment influences

The Wireless Controller with CO_2 sensor should be placed and used in a space with the correct ambient conditions for proper operation. The Wireless Controller with CO_2 sensor may only be mounted indoors, but not close to a heat source, a radiator, in a extreme humid environment. The Wireless Controller with CO_2 sensor may also not be exposed to direct radiation heat (sun light). The Wireless Controller with CO_2 sensor may also not be mounted close to a magnetic field. This could damage internal components.

2.3 Overview operational controls

The Wireless Controller with CO₂ sensor has five (capacitive) buttons . Each button is equipped with a LED (white).
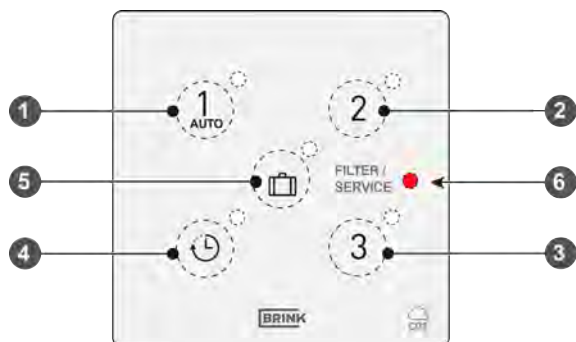
1. Button ventilation level 1 or automatic ventilation position in accordance with CO_2 sensor(s)
2. Button ventilation level 2
3. Button ventilation level 3
4. Button boost function
5. Button holiday mode
6. Filter/fault indication LED (red)

Button 1 (auto)
When button 1 is operated, the HRU appliance will be set to ventilation level 1 (basic ventilation during absence) or the HRU appliance will be ventilate automatically conform set requirements of the connected CO_2 sensor(s); the white LED next to button 1 will flash once as "button press" confirmation.

Button 2
When button 2 (sufficient ventilation during presence) is operated, the HRU appliance will be set to ventilation level 2; the white LED placed next to button 2 will flash once as "button press" confirmation.

Button 3
When button 3 (maximum ventilation during cooking/showering) is operated, the HRU appliance will be set to ventilation level 3; the white LED placed next to button 3 will flash once as "button press" confirmation

Button 4/ Boost (⏱)
When button 4 is operated, the HRU appliance will run for 30 minutes at ventilation level 3 (boost function) and then again at the previous ventilation position; the white LED placed next to button 4 will flash once as "button press" confirmation.

Button 5 (🧳)
When button 5 (minimum ventilation) is operated, the HRU appliance will be set to ventilation level 0 (holiday position); the white LED next to button 5 will blink once as "button press" confirmation.

Filter/ fault LED
This red LED indicates when filter (s) must be cleaned / replaced or when a malfunction has occurred in the connected HRU appliance.
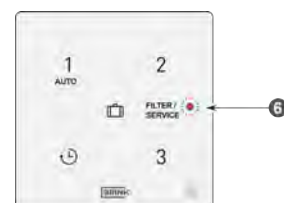
Filter notification

The filter(s) in the HRU appliance, connected to the Wireless Controller with CO_2 sensor, should be cleaned or replaced when the red LED on the Wireless Controller with CO_2 sensor appears.
This LED is permanently on.

Resetting of the filter notification is not possible with the Wireless Controller with CO_2 sensor!

Consult the manual of the HRU appliance connected to the Wireless Controller with CO_2 sensor for resetting filter notification.

6 = LED Filter notification

Fault notification

If there is a fault in the HRU appliance, connected to the Wireless Controller with CO_2 sensor, the red LED on the Wireless Controller with CO_2 sensor flashes permanently with frequency of 1 Hz (1 blink per second).

See the installation instructions of the HRU appliance connected to the Wireless Controller with CO_2 sensor for troubleshooting for the error notifications indicated on the Wireless Controller with CO_2 sensor.
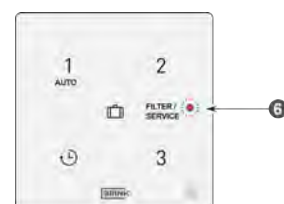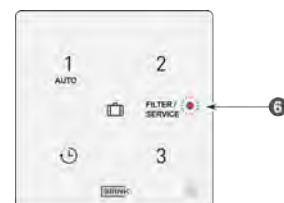
6 = LED fault indication (flashes 1Hz)

Lost connection

When the Wireless Controller with CO_2 sensor lost connection with the USB-transceiver the fault LED will also flash.
The LED flashes 3 times 0.5 seconds ON and 60 seconds OFF.

Filter and fault notifications are overruled.

6 = LED (flash 0.5 sec on - 60 sec off)

3 Assembly

3.1 Mounting Wireless Controller with CO_2 sensor on the wall

You should perform the **step1** to **step 5** to assemble the Wireless Controller with CO_2 sensor.
An example of a wireless controller is shown in this section, but other wireless controllers/sensors are assembled in the same way.

> ⚠ **Warning!**
> At all times disconnect the 230 V. mains supply when connecting the permanent power supply!

When mounting the permanent power supply, the wall bracket must be attached to a electrical wall box (Ø 55 mm). Connect the permanent power supply (A) with the Wireless Controller with CO_2 sensor (B) conform the wiring diagram. The following 5 steps should be performed to connect the permanent power supply:

Step 1

- Place the permanent power supply in the wall box.
- The 230V mains supply must be connected to the factory mounted gray connectors. Strip the wire over a length of approx. 7 mm.
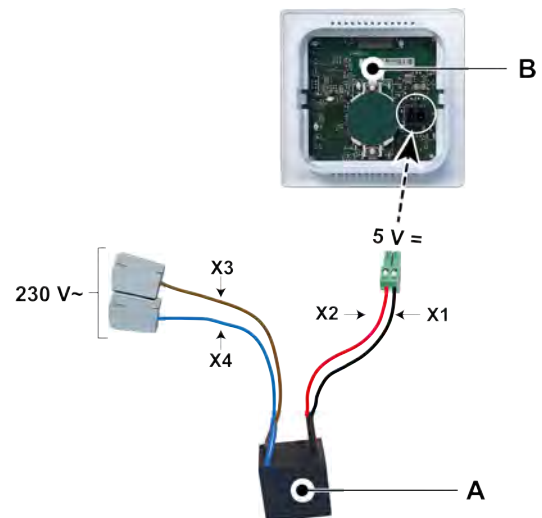
Step 2

- Screw the wall bracket on the wall box and feed the red and black wires including mounted green connector through the square hole in the in the mounting plate.

- ⚠ **Take note!**
  The up arrow on the wall bracket must point upwards!

A. *Permanent power supply (230V~/5V=)*
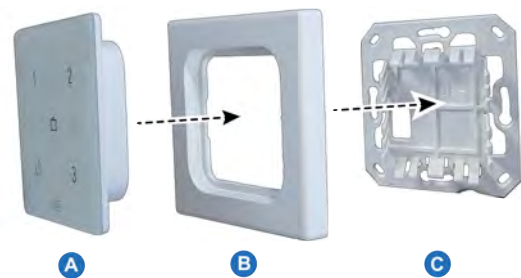
B. *Wireless Controller with CO_2 sensor*

X1 = Black
X2 = Red
X3 = Brown
X4 = Blue

Step 3

- After feed the red and black wire with the green connector through the frame (B) connect this to the connector on the back side of the Wireless Controller with CO_2 sensor (A).
- Removal of the battery (if mounted) is not required but recommended.
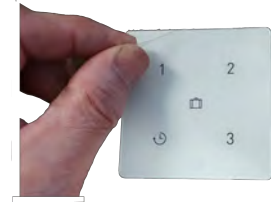
Step 4

- Click the Wireless Controller with CO_2 sensor (A) together with connected red and black wires and the frame (B) on the wall bracket (C).

- After mounting the Wireless Controller with CO_2 sensor on the wall bracket, remove the foil from the front.
- Reconnect the 230 V. mains supply.

Step 5

- When the Wireless Controller with CO_2 sensor has been fitted on the wall, the USB transceiver* can be placed in the USB port of the appliance which must be connected with the Wireless Controller with CO_2 sensor. To connect the USB transceiver with HRU appliance see → Connecting additional controller/ sensor with USB Transceiver (Pairing) page 13, Connecting with USB Transceiver (Pairing) page 11 .
  * The USB transceiver is not included in the scope of delivery of the Wireless Controller with CO_2 sensor and must be ordered separately!

## 3.2 Remove Wireless Controller with CO_2 sensor from wall bracket

For removing the Wireless Controller with CO_2 sensor from the wall bracket grasp the front of the Wireless Controller with CO_2 sensor by edges and gently pull away from wall.

An example of a wireless controller is shown in this section, but other wireless controllers/sensors can be removed from the wall bracket in the same way.

3.3 Using another frame (option)

The Wireless Controller with CO_2 sensor consists of a wall bracket (C), a frame (B) and the wireless controller (A). The wall bracket (C) is designed in such a way that also a large number of frames from other vendors can be used.
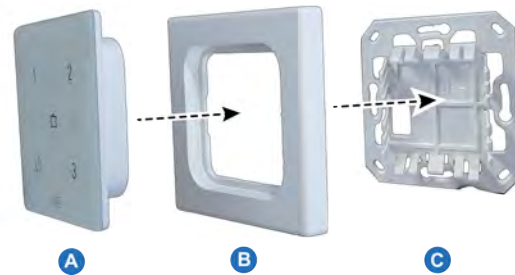
Products are supplied with Brink frame as standard. This frame can be replaced by frames from the other manufacturers and series. Appearance and tolerances vary by manufacturer. The following types of frames can be used instead of the standard frame:
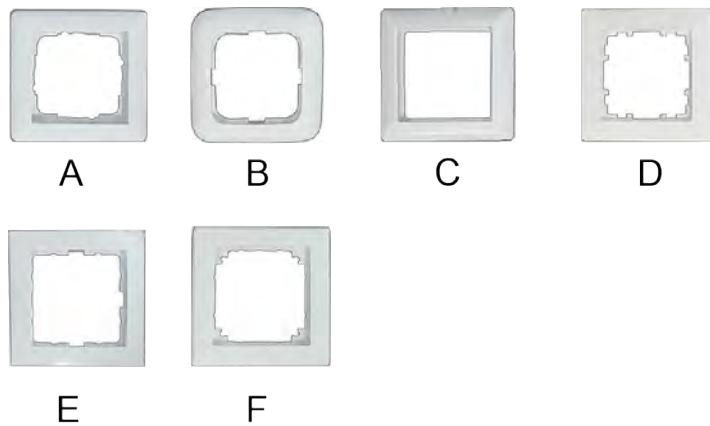
A. Gira - System 55
B. Busch Jaeger Balance/Reflex SI
C. Jung AS
D. Siemens Delta
E. Berker S.1
F. Merten System M

The above mentioned alternative frames are not included in the Brink delivery program!

4 Put into use

4.1 Connecting with USB Transceiver (Pairing)

When the Wireless Controller with CO_2 sensor is mounted on the wall and the USB transceiver is placed in the HRU appliance (see image on the right), the two can be connected (pairing).
For a HRU appliance equipped with a display, the USB symbol (▭) is visible as confirmation that the USB transceiver has been "recognised"; for a HRU appliance without a display, this USB symbol will be visible in the app. If the USB symbol is not visible, your HRU appliance is probably equipped with a software version before July 2022 and it is not possible to connect the Wireless Controller with CO_2 sensor.
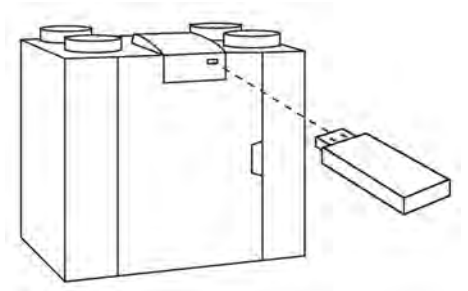
Follow the steps as described below:

Step 1
Apply mains supply to the HRU appliance.

Step 2
Press the pairing button of the USB transceiver (more than 3 seconds and less than 10 seconds).
The green LED on the USB transceiver starts flashing (1x per second). The pairing mode is active for 10 minutes.
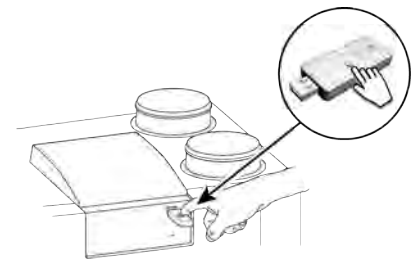
Step 3
Press the pairing button (>2 sec & < 10 sec) on the bottom of the controller (through a small hole), for example with the end of a paper clip. When the pairing button is properly pressed , one feels a "click".

Pairing enabled when four LEDs light in turn (0.5 sec. ON and next will ON when previous is OFF).
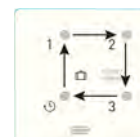
Pairing disabled when Filter/service LED is ON for two seconds; go back to step 3.
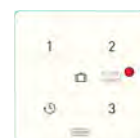
Step 4

Choose under which number the sensor should be registered by configuring a "NODE ID"; press any of the four buttons on the Wireless Controller with CO_2 sensor (do not use the holiday button ⬚). For example press button 2; LED 2 will flash once. Top left is no.1; clockwise no.2, no.3 and no.4 respectively.
When there are more Wireless Controller with CO_2 sensor to connect with the HRU appliance, press different buttons; the number of the button is the number of connected CO_2-sensor in the menu of the HRU appliance.
If pairing is not successful go back to Step 3. Check also the USB transceiver.
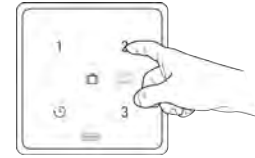
For settings of the CO_2-sensor(s) see → <u>Settings of CO_2-sensor on ventilation appliance</u> page 15 .

4.2 Back to factory setting Wireless Controller with CO_2 sensor

It is possible to set the Wireless Controller with CO_2 sensor back to factory settings.
Perform the following actions for both controller(s) and the USB transceiver:

Factory setting Wireless Controller with CO_2 sensor

- Press the pairing button (for example with end of a paperclip) for more than 20 seconds. When the pairing button is properly pressed , one feels a "click".
- To confirm this reset all 5 LED's will flash two times (0,5 second on and 5 seconds off).
- All the pairing information has been deleted from the Wireless Controller with CO_2 sensor.

Factory setting USB transceiver

- Press the button on the USB transceiver for more than 20 seconds.
- To confirm this reset, the green LED on the USB transceiver will flash two times.
- All the pairing information has been deleted from the USB transceiver.
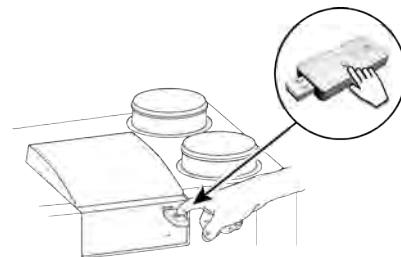
5 Information additional Wireless Controller with CO$_2$ sensor

5.1 Connecting additional controller/ sensor with USB Transceiver (Pairing)

For connecting another controller or sensor to the HRU appliance follow the steps as described below:

Step 1
Apply mains power supply to the HRU appliance.

Step 2
Press the pairing button on the USB transceiver (more than 3 seconds and less than 10 seconds).
The green LED on the USB transceiver starts flashing (1x per second). The pairing mode is active for 10 minutes.
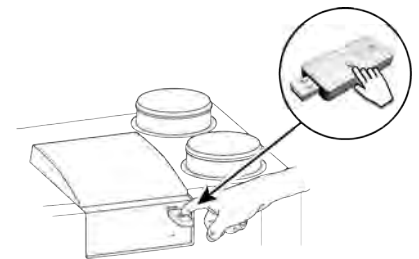
Step 3
Press the pairing button (>2 sec & < 10 sec) on the bottom of the controller (through a small hole), for example with the end of a paper clip. When the pairing button is properly pressed , one feels a "click".
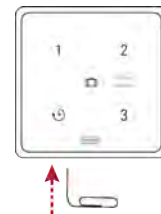
Pairing enabled when four LEDs light in turn (0.5 sec. ON and next will ON when previous is OFF).
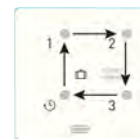
Pairing disabled when Filter/service LED is ON for two seconds.
When pairing is not succesfull set Wireless Controller with CO$_2$ sensor back to factory setting and try to pair Wireless Controller with CO$_2$ sensor again.
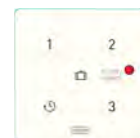
Step 4

Choose under which number the additional controller or sensor should be registered by configuring a "NODE ID"; press any of the buttons on the controller (do not use the holiday button ⬜) or sensor. For example press button 2; LED 2 will flash once.
Top left is no.1; clockwise no.2, no.3 and no.4 respectively.
When there are more additional controllers or sensors to connect with the HRU appliance, press different buttons; the number of the button is the number of connected CO_2 sensor in the menu of the HRU appliance.
If pairing is not successful go back to step 3. Check also the USB transceiver is in pairing mode.

5.2 CO₂-sensor general

The Wireless Controller with CO₂ sensor(s) ensure optimum ventilation in the dwelling by automatically adjusting the air flow rate on the basis of the CO_2 content. The air flow rate is determined by the Wireless Controller with CO₂ sensor that requests the highest level.
Depending on the minimum and maximum (set) PPM value, the Wireless Controller with CO₂ sensor adjusts the air flow proportionally between the setting 1 (set low) and setting 3 (set high).
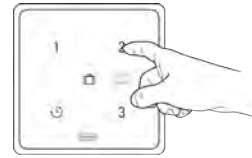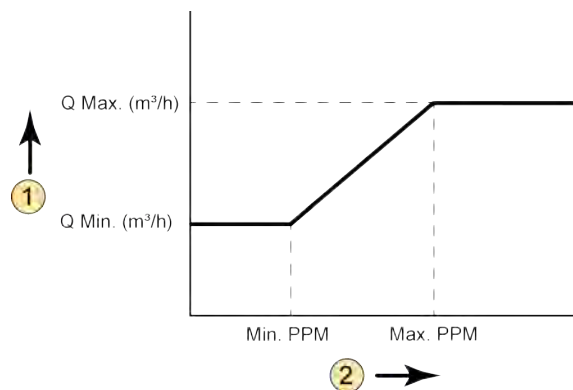

1	=	Air flow rate
2	=	Amount of CO_2 in area where Wireless Controller with CO₂ sensor is situated
Q Min	=	Minimum air flow setting 1
		For example Wireless Controller with CO₂ sensor factory setting step no. 1.2 = 100 m^3/h
Q Max	=	Maximum air flow setting 3
		For example Wireless Controller with CO₂ sensor factory setting step no. 1.4 = 250 m^3/h
Min. PPM	=	Minimum (set) PPM value
		For example Wireless Controller with CO₂ sensor factory setting step no. 6.2 = 400 PPM
Max. PPM	=	Maximum (set) PPM value
		For example Wireless Controller with CO₂ sensor factory setting step no. 6.3 = 1200 PPM

5.3 Settings of CO_2-sensor on ventilation appliance

To activate the connected Wireless Controller with CO_2 sensor(s), the setting of the Wireless Controller with CO_2 sensor must be set to "ON" in the settings menu of the relevant HRU appliance. To change settings in the settings menu, see the installation instructions for the appliance in question. If desired, the minimum and maximum PPM values on which the Wireless Controller with CO_2 sensor(s) are controlled can also be set in the settings menu.

CO_2- settings at Flair appliance				
Step no.	Description	Factory setting	Setting range	Step
6	Wireless Controller with CO_2 sensor			
6.1	Switching ON and OFF Wireless Controller with CO_2 sensor	OFF	ON - OFF	-
6.2	Minimum PPM Wireless Controller with CO_2 sensor 1	400	400 - 1200	25
6.3	Maximum PPM Wireless Controller with CO_2 sensor 1	1200		
6.4	Minimum PPM Wireless Controller with CO_2 sensor 2	400		
6.5	Maximum PPM Wireless Controller with CO_2 sensor 2	1200		
6.6	Minimum PPM Wireless Controller with CO_2 sensor 3	400		
6.7	Maximum PPM Wireless Controller with CO_2 sensor 3	1200		
6.8	Minimum PPM Wireless Controller with CO_2 sensor 4	400		
6.9	Maximum PPM Wireless Controller with CO_2 sensor 4	1200		

5.4 Check CO_2 values on ventilation appliance

In the information menu (for all Flair appliances) the values of the connected Wireless Controller with CO_2 sensor(s) can be read out. With this you can also check the proper operation of the connected Wireless Controller with CO_2 sensor(s). Values can only be read in this information menu; changing of settings is not possible. For more information regarding the information menu, see the installation instructions for the appliance in question.

Information menu at Flair appliances:
Press the info button ⓘ on the display and use the ∧ and ∨ button to go to the reading values of the Wireless Controller with CO_2 sensor(s).

5.5 Failure

For errors concerning the CO_2 sensor(s), see chapter 8 "Fault" in the installation instructions of the connected appliance.

6 Maintenance

6.1 General maintenance

⚠️ **Careful!**
Clean the Wireless Controller with CO_2 sensor with a soft cloth.
Never apply water and/or (cleaning) liquid to the Wireless Controller with CO_2 sensor.

7 Environment

Take note!

The Wireless Controller with CO_2 sensor may not be removed as unsorted urban waste, but should be treated separately.

Make enquiries within your own region, where the Wireless Controller with CO_2 sensor can be handed in when use has been terminated. Do not throw away electrical devices or parts, but check if (parts of) the Wireless Controller with CO_2 sensor cannot be handed in, recycled or re-used.

RoHS-compliance

This product meets Directive 2011/65/EU of the European Parliament and the Council of 27 January 2003 regarding using certain environmentally hazardous substances in electronic equipment (RoHS) and the amendments to the directive.

WEEE-notification

The WEEE-directive (Waste Electrical and Electronic Equipment), which came into force, as European law, on 13 February 2003, has resulted in an important change in treating electronic equipment at the end of their use cycle. This directive's objective is, firstly, preventing electronic equipment in waste and moreover promoting re-use, recycling and other forms of recovering such waste in order to limit the amount of waste.
The WEEE-logo on a product or on the packaging indicates that this product may not be disposed of or thrown away with domestic waste. You should dispose of all your old electronic or electrical equipment via special collection points for such dangerous waste. Separate collection and correct treatment of our old electronic and electrical equipment help us to maintain our natural resources.
Moreover, correct recycling guarantees the safety and health of humankind and the environment. For more information on processing electronic and electrical equipment, re-use and collection points, please contact you municipality, your local waste disposal company, the supplier from whom you purchased the device or the device's manufacturer.

WEEE logo

Handing in and recycling

Make enquiries within your own region, where the Wireless Controller with CO_2 sensor can be handed in when use has been terminated. Do not throw away electrical devices or parts, but check if (parts of) the Wireless Controller with CO_2 sensor cannot be handed in, recycled or re-used.

8 Troubleshooting and guarantee

8.1 Guarantee

The Wireless Controller with CO_2 sensor has been manufactured by Brink Climate Systems B.V. with care and in accordance with high quality standards. The Wireless Controller with CO_2 sensor operation is guaranteed for a period of two years from the time of delivery. This guarantee is granted in accordance with Brink Climate Systems B.V. General Terms and Conditions.
These can be found on www.brinkclimatesystems.nl.

Do you want to claim under the guarantee?
You then have to make that known, in writing, via:
Brink Climate Systems B.V.
P.O. Box 11
NL-7950 AA, Staphorst, The Netherlands

The right to guarantee lapses in case of incorrect or improper use of the Wireless Controller with CO_2 sensor and failure to follow the user indications in this user's manual.

Warning!
Making changes to the Wireless Controller with CO_2 sensor hardware or software is not permitted. This can have an effect on the Wireless Controller with CO_2 sensor proper operation and it that case all guarantees lapse.

You are not permitted to open or repair the Wireless Controller with CO_2 sensor or parts of the Wireless Controller with CO_2 sensor by yourself. In that case guarantees lapse.

9 Conformity declaration

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: **Wireless Controller with CO_2 sensor**

The product described above complies with the following directives:

- 2014/53/EU   (EMC directive)

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

- EN 301 489-3:   V2.1.1:2019-03

- EN 300 220-2:   V3.2.1:2018-06

- ETSI EN 300 220-1:   V3.1.1 (2017-02)

- EN 62479:   2010

- EN 60669-2-5:   2016

- EN 60669-2-1:   2004 + A1:2009

- EN 50428:   2005 + A1:2007 + A2:2009

EU-Type Examination Certificate 40056587; VDE Testing and Certification Institute (0366).

Staphorst, 15-04-2023

A. Hans
Managing Director