



# Installation regulations

CO<sub>2</sub>-sensor  
English



*Air for Life*

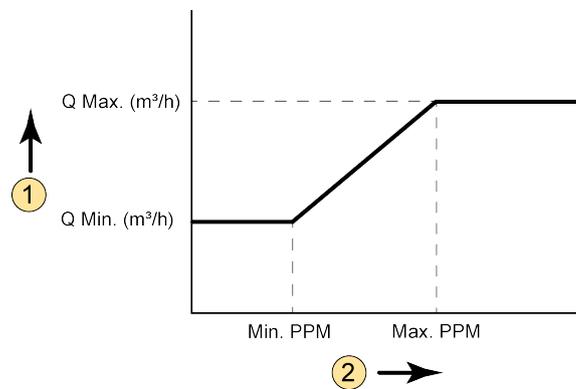
# CO<sub>2</sub>-sensor general

The eBus CO<sub>2</sub> sensor can be connected to all “plus versions” of the Renovent Excellent an Sky and Flair appliances. A maximum of 4 CO<sub>2</sub> sensors can be connected

The CO<sub>2</sub> sensors ensure optimum ventilation in the dwelling by automatically adjusting the air flow rate on the basis of the CO<sub>2</sub> content. The air flow rate is determined by the CO<sub>2</sub> sensor that requests the highest level.

The CO<sub>2</sub> sensor(s) only regulate the appliance if the position switch / Air Control, if fitted, is in position 1, 2 or 3; when the position switch is at position 0 or fan symbol (holiday mode) the CO<sub>2</sub> control does not work.

Depending on the minimum and maximum (set) PPM value, the CO<sub>2</sub> control adjusts the air flow between the setting 1 (set low) and setting 3 (set high).



1 = Air flow rate

2 = Amount of CO<sub>2</sub> in area where CO<sub>2</sub> sensor is situated

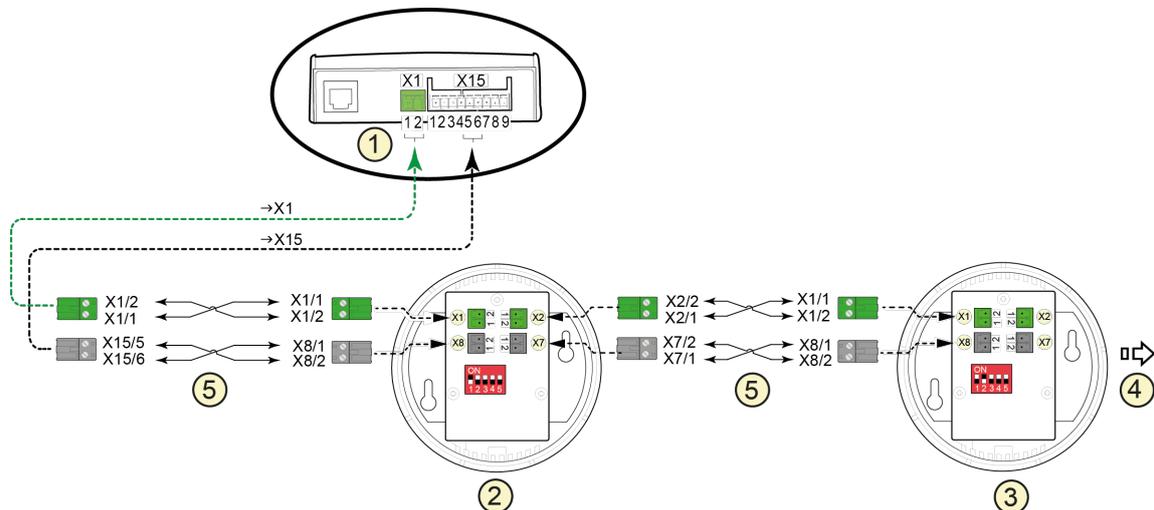
Q Min = Minimum air flow setting 1; for example Flair 325 (Plus) factorysetting step no1.2 = 100 m<sup>3</sup>/h

Q Max = Maximum air flow setting 3; for example Flair 325 (Plus) factorysetting step no1.4 = 250 m<sup>3</sup>/h

Min. PPM = Minimum (set) PPM value; for example Flair 325 (Plus) factorysetting step no. 6.2 = 400 PPM

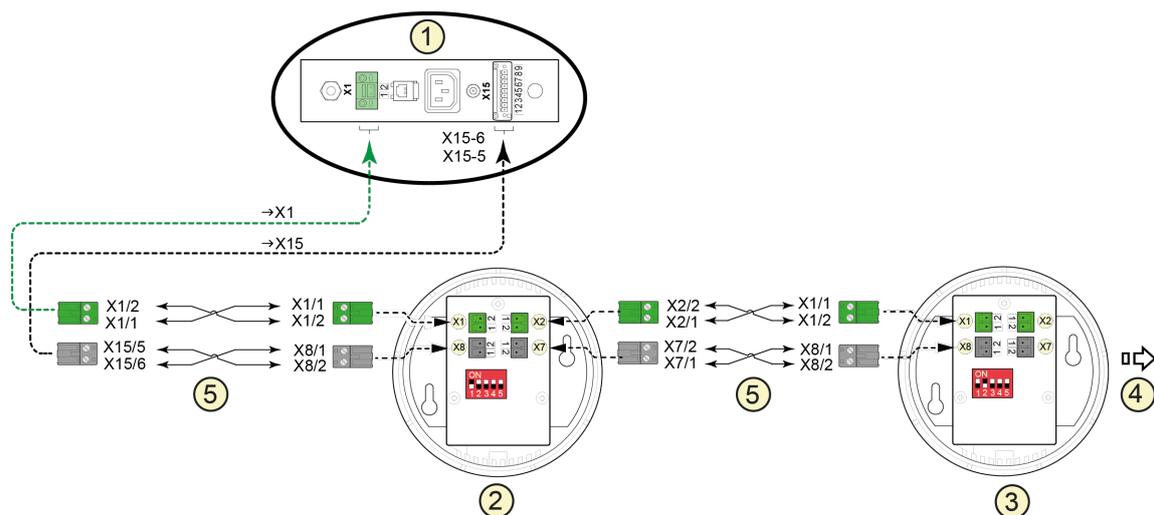
Max. PPM = Maximum (set) PPM value; for example Flair 325 (Plus) factorysetting step no. 6.3 = 1200 PPM

## Step 1a Connect CO<sub>2</sub>-sensor to Renovent Excellent appliance



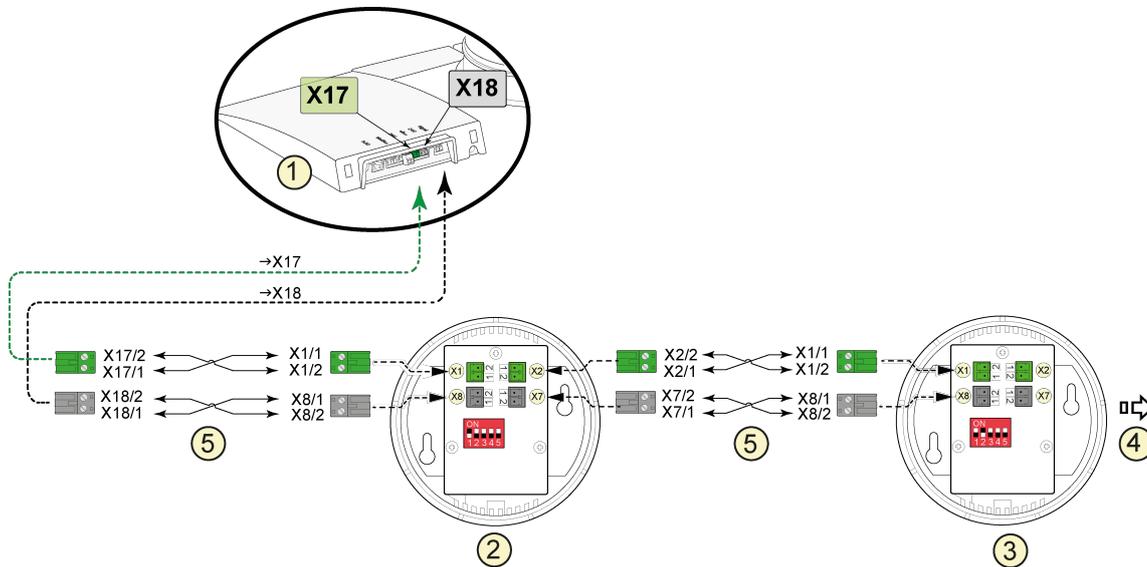
- 1 = Renovent Excellent appliance
- 2 = First connected CO<sub>2</sub> sensor
- 3 = Second connected CO<sub>2</sub> sensor
- 4 = Optionally, 3rd and 4th connected CO<sub>2</sub> sensors (A maximum of 4 CO<sub>2</sub> sensors can be connected)
- 5 = 2-wire control cable (Green plugs = eBus connection; black plugs = 24V.)

## Step 1b Connect CO<sub>2</sub>-sensor to Sky appliance



- 1 = Sky appliance
- 2 = First connected CO<sub>2</sub> sensor
- 3 = Second connected CO<sub>2</sub> sensor
- 4 = Optionally, 3rd and 4th connected CO<sub>2</sub> sensors (A maximum of 4 CO<sub>2</sub> sensors can be connected)
- 5 = 2-wire control cable (Green plugs = eBus connection; black plugs = 24V.)

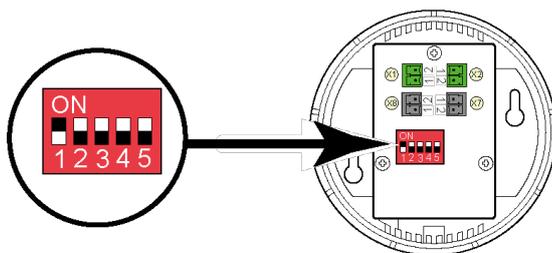
## Step 1c Connect CO<sub>2</sub>-sensor to Flair appliance



- 1 = Flair appliance
- 2 = First connected CO<sub>2</sub> sensor
- 3 = Second connected CO<sub>2</sub> sensor
- 4 = Optionally, 3rd and 4th connected CO<sub>2</sub> sensors (A maximum of 4 CO<sub>2</sub> sensors can be connected)
- 5 = 2-wire control cable (Green plugs = eBus connection; black plugs = 24V.)

## Step 2 Setting CO<sub>2</sub>-sensor

The CO<sub>2</sub> sensors are fitted with five DIP switches at the backside. Set the DIP switches according to the table below so that each CO<sub>2</sub> sensor has its own unique set combination.



Sensor	Dipswitch				
	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

It is advisable to mark the CO<sub>2</sub> sensors as soon as dip switches are set (for example, by recording the number with a using waterproof marker on the inside of the CO<sub>2</sub> sensor) and to fill in the list below where the CO<sub>2</sub> sensor in question will be placed. When reading the PPM values of CO<sub>2</sub> sensors it is then easy to deduce for which area the read value applies.

	Area in which CO <sub>2</sub> -sensor is placed
<b>CO<sub>2</sub>-sensor 1</b>	
<b>CO<sub>2</sub>-sensor 2</b>	
<b>CO<sub>2</sub>-sensor 3</b>	
<b>CO<sub>2</sub>-sensor 4</b>	

## Step 3 Settings of CO<sub>2</sub>-sensor on ventilation appliance

To activate the connected CO<sub>2</sub> sensor(s), the setting of the CO<sub>2</sub> sensor must be set to "ON" in the settings menu of the relevant ventilation 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 CO<sub>2</sub> sensors are controlled can also be set in the settings menu.

<b>CO<sub>2</sub>- settings at Renovent Excellent and Sky appliance</b>				
Step no.	Description	Factory setting	Setting range	Step
35	Switching ON and OFF eBus CO <sub>2</sub> sensor	OFF	ON - OFF	-
36	Minimum PPM eBus CO <sub>2</sub> -sensor 1	400	400 - 1200	25
37	Maximum PPM eBus CO <sub>2</sub> -sensor 1	1200		
38	Minimum PPM eBus CO <sub>2</sub> -sensor 2	400		
39	Maximum PPM eBus CO <sub>2</sub> -sensor 2	1200		
40	Minimum PPM eBus CO <sub>2</sub> -sensor 3	400		
41	Maximum PPM eBus CO <sub>2</sub> -sensor 3	1200		
42	Minimum PPM eBus CO <sub>2</sub> -sensor 4	400		
43	Maximum PPM eBus CO <sub>2</sub> -sensor 4	1200		

<b>CO<sub>2</sub>- settings at Flair appliance</b>				
Step no	Description	Factory setting	Setting range	Step
6	CO <sub>2</sub> -sensor			
6.1	Switching ON and OFF eBus CO <sub>2</sub> sensor	OFF	ON - OFF	-
6.2	Minimum PPM eBus CO <sub>2</sub> -sensor 1	400	400 - 1200	25
6.3	Maximum PPM eBus CO <sub>2</sub> -sensor 1	1200		
6.4	Minimum PPM eBus CO <sub>2</sub> -sensor 2	400		
6.5	Maximum PPM eBus CO <sub>2</sub> -sensor 2	1200		
6.6	Minimum PPM eBus CO <sub>2</sub> -sensor 3	400		
6.7	Maximum PPM eBus CO <sub>2</sub> -sensor 3	1200		
6.8	Minimum PPM eBus CO <sub>2</sub> -sensor 4	400		
6.9	Maximum PPM eBus CO <sub>2</sub> -sensor 4	1200		

## Step 4 To check CO<sub>2</sub> values on ventilation appliance

In the readout menu (for Renovent Excellent and Sky with Plus print) or information menu (for all Flair appliances) the values of the connected CO<sub>2</sub> sensors can be read out. With this you can also check the proper operation of the connected CO<sub>2</sub> sensors.

Only values can be read in this readout menu or information menu; changing of settings is not possible. For more information regarding the readout menu / information menu, see the installation instructions for the appliance in question.

Readout menu at Renovent Excellent and Sky:

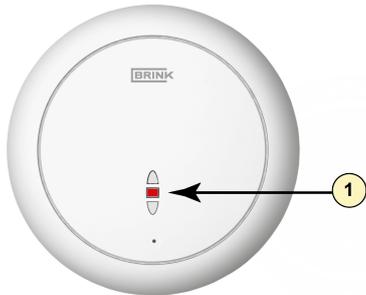
Step no. read out value	Description of readout value	Unity
10	Read out CO <sub>2</sub> -sensor 1	PPM
11	Read out CO <sub>2</sub> -sensor 2	PPM
12	Read out CO <sub>2</sub> -sensor 3	PPM
13	Read out CO <sub>2</sub> -sensor 4	PPM

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 CO<sub>2</sub> sensors.

# LED function on CO<sub>2</sub>-sensor

The CO<sub>2</sub> sensor has a red LED on the front.



1 = Red LED on front CO<sub>2</sub> sensor

This red LED on the CO<sub>2</sub> sensor has the following functions:

Led on CO <sub>2</sub> -sensor	Description
Led is constantly on:	CO <sub>2</sub> sensor is defect.
Led is constantly off:	CO <sub>2</sub> sensor is off (no power) or is operating normally.
Led lights up and phases out slowly every 4 seconds:	The CO <sub>2</sub> sensor is warming up during powerup phase.
Led lights red for a short period every half of a second:	The sensor detected a failure or it is not being read on the eBus. i.e. it has no eBus connection or heat recovery appliance is not set for reading CO <sub>2</sub> sensors or demand control 2.0 does not detect the CO <sub>2</sub> sensor.
The led blinks; the light is long on and short off every 2 seconds	This is a search option. This can be used in demand control 2.0 to easy the process of finding the right sensor during assigning it to a zone using the control unit.

# Failure

When there is a problem with the CO<sub>2</sub> sensor at a Renovent Excellent or Sky appliance, the error message E109 will appear on screen.

Multiple error messages are possible with Flair devices; this error message always comes in combination with the wrench symbol  on the display.

Fault code	Description
152	Sensor must be replaced.
160	Internal connection with sensor element is poor.
161	Sensor element is defective.

An error message can also be displayed by means of a red LED on the front of the CO<sub>2</sub> sensor (→ [LED function on CO<sub>2</sub>-sensor](#) page 8).



Brink Climate Systems BV  
P.O. Box 11 NL-7950AA Staphorst  
T +31 (0) 522 46 99 44

E [info@brinkclimatesystems.com](mailto:info@brinkclimatesystems.com)  
[www.brinkclimatesystems.com](http://www.brinkclimatesystems.com)  
[www.brinkairforlife.com](http://www.brinkairforlife.com)