



M-WRG-HBE Remote Control Terminal

M-WRG-HBE	Part -Nr.: 5041-0
M-WRG-HBE-F	Part -Nr.: 5041-1
M-WRG-HBE-FC	Part -Nr.: 5041-2
M-WRG-S/Z-A	Part-Nr.: 5006

Part.-Nr.: 5302-05-01 06/2011

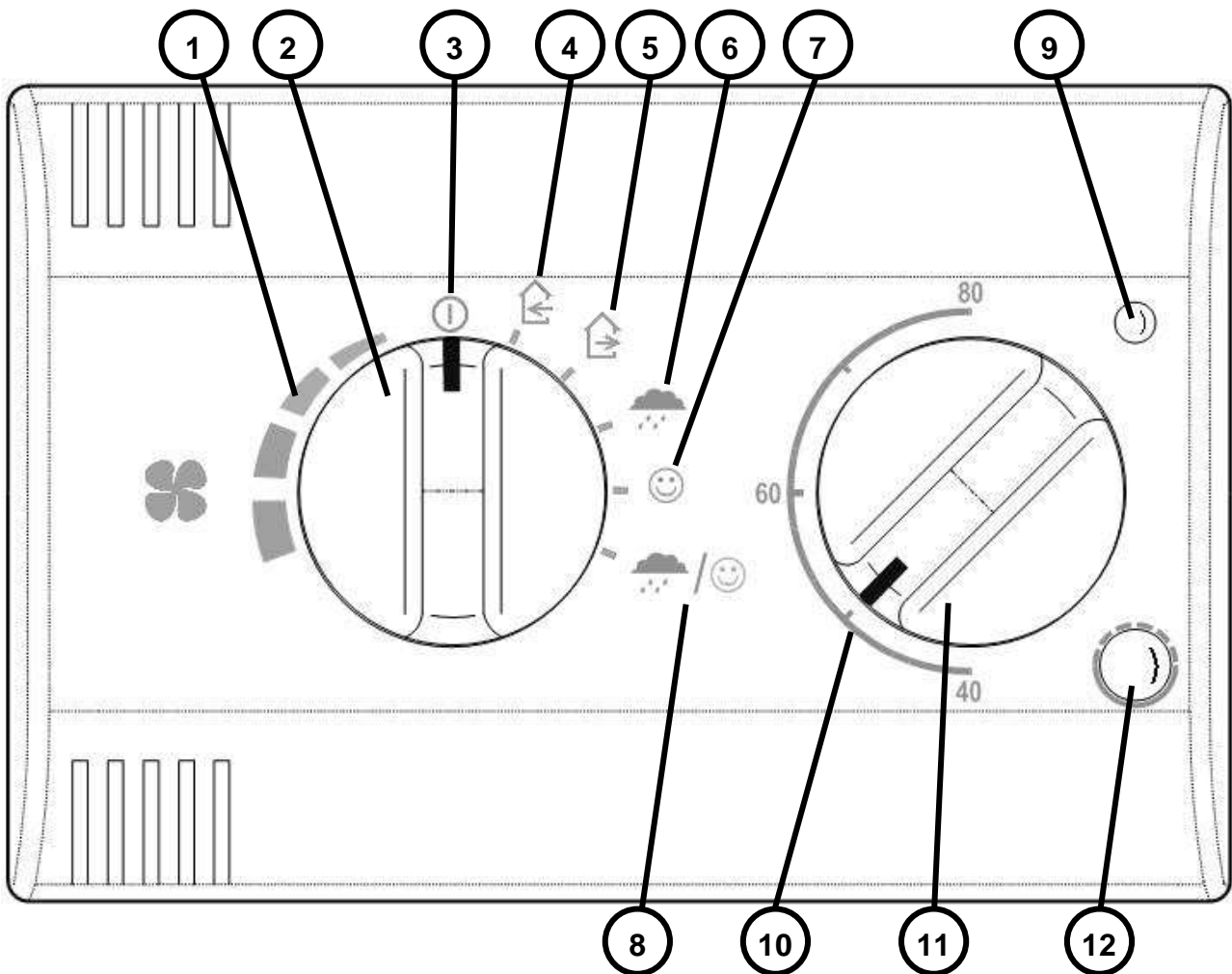


Contents

1	<i>Overview of Control Elements of M-WRG-HBE</i>	3
2	<i>Operation</i>	4
3	<i>Activation</i>	Fehler! Textmarke nicht definiert.
4	<i>Overview of operating modes</i>	4
5	<i>Selection of ventilation rate</i>	5
6	<i>Operating Mode Supply Air</i>	5
7	<i>Operating Mode Exhaust Air</i>	5
8	<i>Operating Mode Air Humidity Control (</i>	6
9	<i>Operating Mode Air Quality Control</i>	7
10	<i>Operating Mode Air Quality and Air Humidity Control</i>	8
11	<i>Boost Ventilation</i>	9
12	<i>Adjustment of Indicator Light (LED) Brightness</i>	9
13	<i>Timer</i>	10
14	<i>Overview of Indicator Light (LED) signals</i>	11
15	<i>Operating Modes Overview</i>	12



1 Control Elements Overview

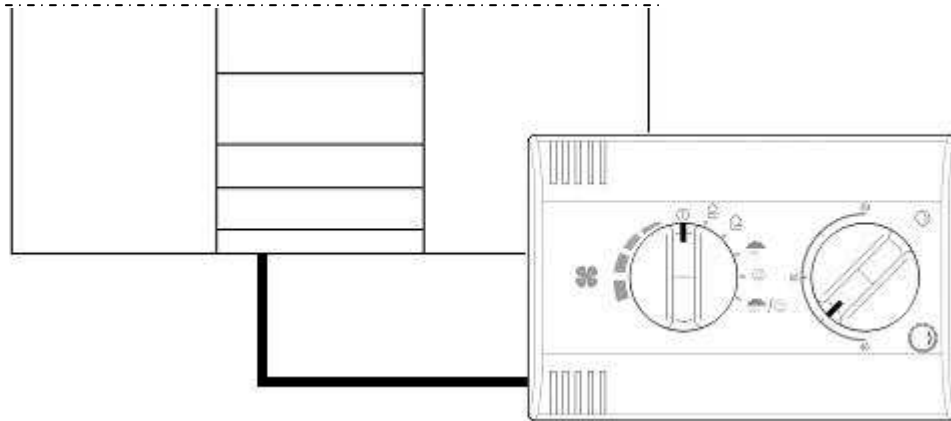


- 1 – Scale for ventilation rate selection
- 2 – Turn-Switch to select operating modes
- 3 – Stand-By
- 4 – Operating Mode Supply Air
- 5 – Operating Mode Exhaust Air
- 6 – Operating Mode Air Humidity Control
- 7 – Operating Mode Air Quality Control
- 8 – Operating Mode Air Quality and Humidity Control
- 9 – Multicolor Status Indicator Light (LED)
- 10 – Scale for nominal value setting of humidity and air quality levels
- 11 – Rotary knob for nominal value setting of humidity and air quality levels
- 12 – Push-Button for boost ventilation



2 Initial Operation

M-WRG-HBE is a remote control terminal for the ventilation unit M-WRG-S/Z-A. The control terminal and the ventilation unit should both be installed in the same room. The control terminal does not have a separate power supply it is powered by the ventilation unit. Therefore the ventilation unit has always to be switched on first, before the control terminal can be used.



3 Start-Up

The ventilation unit has to be switched on first. In case of a malfunction (Control Terminal gets no response from the ventilation unit) the Status Indicator Light (LED) will start flashing (white)

The position of the turn switch determines the operating mode of the ventilation unit. Dial the Turn-Switch (2) into Position ① to enter the standby mode of the ventilation unit..

4 Overview of operating modes

The selection of the operating modes will be done with the Turn-Switch (2). The following modes are available:

- Ventilation rate
- Supply Air (fresh air will be ventilated into the room)
- Exhaust Air (stale air will be extracted from the room)
- Air Humidity Control
- Air Quality Control
- Combined Air Quality and Air Humidity Control
- Standby

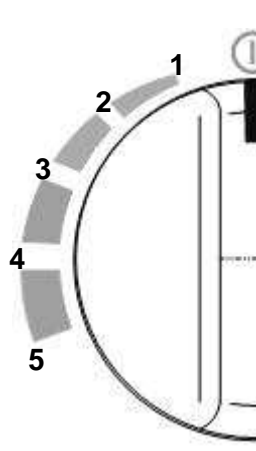
The selected operating mode will be stored automatically. After a power failure the selected mode will be resumed.




5 Selection of ventilation rate

Select the ventilation rate by dialing the turn switch left to the desired position on the scale for ventilation rate.

rate	Air volume
1	15 m ³ /h
2	30 m ³ /h
3	40 m ³ /h
4	60 m ³ /h
5	80 m ³ /h



6 Operating Mode Supply Air


Dial the Turn-Switch to the symbol 

Two ventilation rates may be selected by turning the rotary knob:

Positions on the scale for nominal value setting smaller than 60 (Rate 1) will result in an air volume flow of 50 m³/h for supply air and 15 m³/h for stale air.

Settings above 60 will result in an air volume flow of 100 m³/h for supply air and 15 m³/h for stale air.

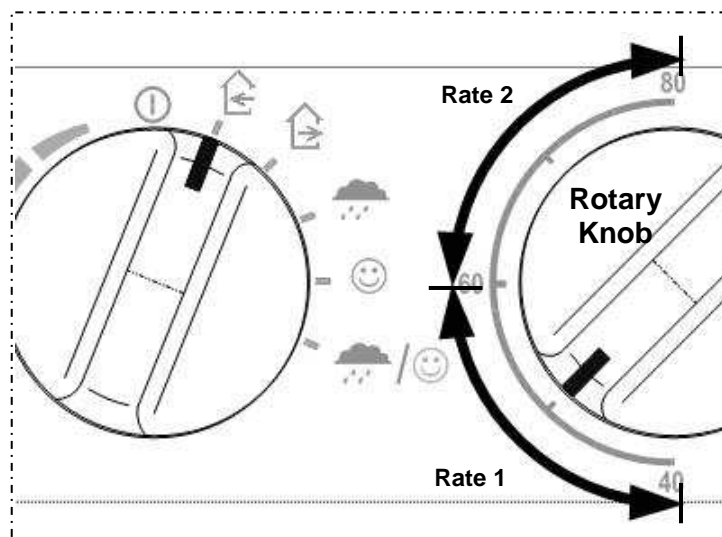
7 Operating Mode Exhaust Air

Dial the Turn-Switch to the symbol 

Two ventilation rates may be selected by turning the rotary knob:

Positions on the scale for nominal value setting smaller than 60 (Rate 1) will result in an air volume flow of 15 m³/h for supply air and 50 m³/h for stale air.

Settings above 60 will result in an air volume flow of 15 m³/h for supply air and 100 m³/h for stale air.



8 Operating Mode Air Humidity Control (

This operating mode is only available for the M-WRG-HBE-F and M-WRG-HBE-FC control terminals.

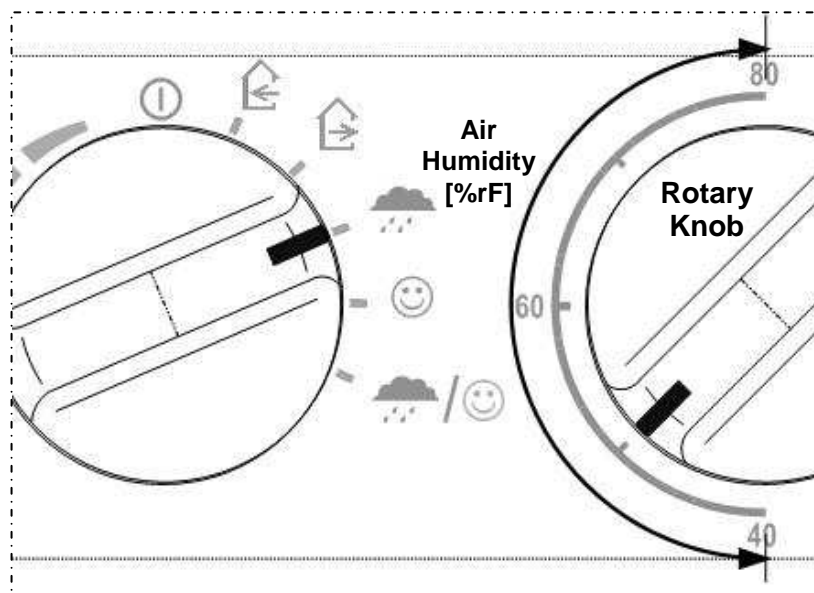
Dial the Turn-Switch to the symbol ☔

The desired air humidity level can be preset with the rotary knob to values between 40%rF and 80%rF. The control terminal compares the actual and preset air humidity values and calculates automatically the appropriate ventilation rate.

A yellow Status Indicator Light (LED) signals, that the actual air humidity level is higher than the preselected level. A yellow flashing Status Indicator Light (LED) signals, that the actual humidity level is higher than 80%rF. In both cases the ventilation rate will be stepwise increased to the maximum rate to achieve an optimal air dehumidification.

A green Status Indicator Light (LED) signals, that the actual air humidity level is less than the preselected level. A green flashing Status Indicator Light (LED) signals, that the actual air humidity level is less than 40%rF. In these cases the ventilation rate will be stepwise decreased to minimum level to keep the preselected values for air humidity.

A red flashing Status Indicator Light (LED) signals an error of the air humidity sensor or, that this operating mode is not available for this control terminal



9 Operating Mode Air Quality Control

This operating mode is only available for the M-WRG-HBE-FC control terminals as it requires a dedicated CO₂-sensor.

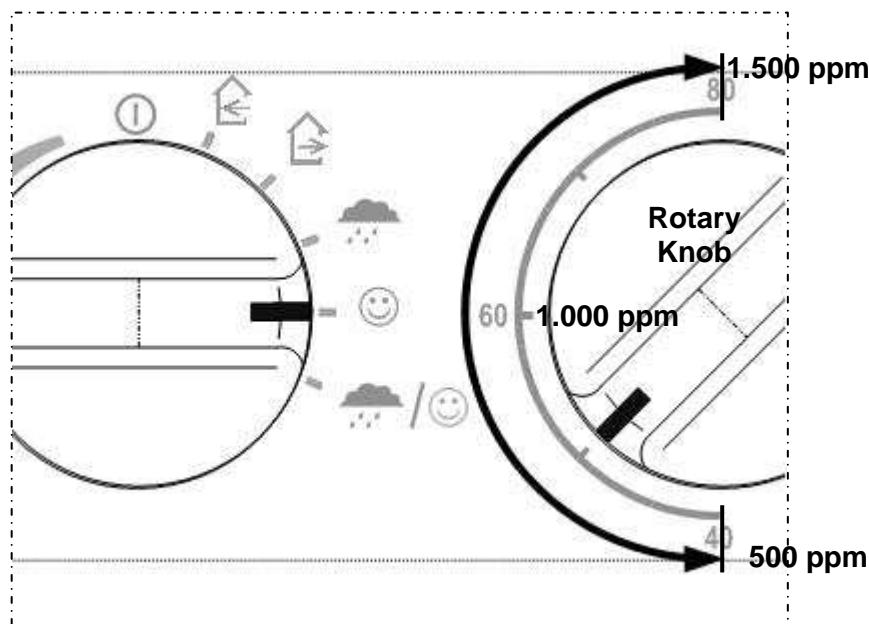
Dial the Turn-Switch to the symbol ☉

The desired air quality level can be preset with the rotary knob to values between 500 ppm (≅40 on the Scale for nominal value setting) and 1500ppm (≅80 on the Scale for nominal value setting). The control terminal compares the actual and preset air quality values and calculates automatically the appropriate ventilation rate. Air quality is determined by the concentration of carbon dioxide CO₂.

A yellow Status Indicator Light (LED) signals, that the actual air quality level is higher than the preselected level.
A yellow flashing Status Indicator Light (LED) signals, that the actual air quality level is higher than 1500 ppm
In both cases the ventilation rate will be stepwise increased to the maximum rate to achieve an optimal air quality.

A green Status Indicator Light (LED) signals, that the actual air quality level is less than the preselected level.
A green flashing Status Indicator Light (LED) signals, that the actual air quality level is less than 500 ppm
In these cases the ventilation rate will be stepwise decreased to minimum level to keep the preselected values for air quality.

A red flashing Status Indicator Light (LED) signals an error of the air quality sensor or, that this operating mode is not available for the control terminal



Caution: When first starting up the control terminal it needs to stay powered on for at least 4 hours for the calibration of the CO₂-sensor! After calibration the air quality control function will be activated.



10 Operating Mode Air Quality and Air Humidity Control

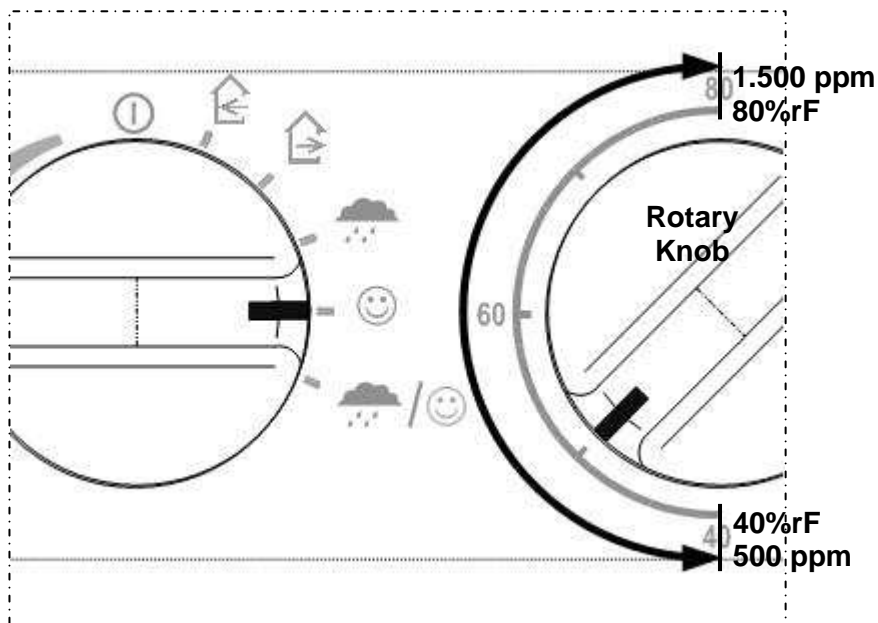
This operating mode combines Air Quality and Air Humidity Control. It is only available for the M-WRG-HBE-FC control terminals as it requires a dedicated CO₂-sensor and air humidity sensor..

Dial the Turn-Switch to the symbol ☁/☺

Preset the desired values for air quality and air humidity with the rotary knob.:

Air humidity: 40 (≡ 40%rF) to 80 (≡ 80%rF) or
Air quality: 40 (≡ 500ppm) to 80 (≡ 1500ppm)

The control terminal compares the actual and preset air quality and humidity values and calculates automatically the most appropriate ventilation rate.



Caution: When first starting up the control terminal it needs to stay powered on for at least 4 hours for the calibration of the CO₂-sensor! After calibration the air quality control function will be activated.

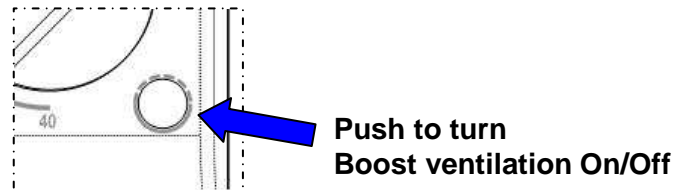


11 Boost Ventilation

Anytime the boost ventilation can be activated by pressing the Push-Button (12). This is independent of the position of the Turn-Switch (2). Pressing the button again will terminate the boost ventilation immediately.

The boost ventilation will run for 30 minutes with an hourly air volume of 100m³/h. While the boost ventilation is active, the Status Indicator Light (LED) will turn blue.

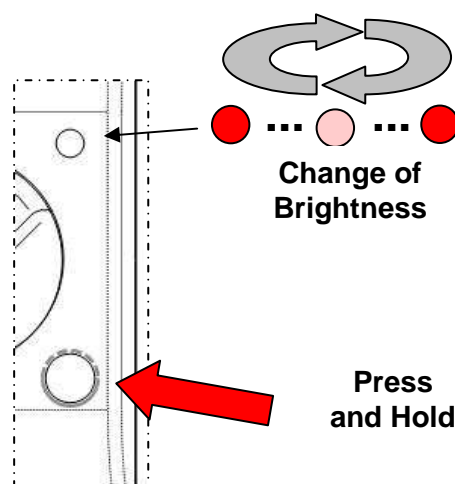
After termination of the boost ventilation the operating mode as selected by the Turn-Switch will be resumed.



12 Adjustment of Indicator Light (LED) Brightness

The brightness of the Indicator Light (LED) can be adjusted with the following steps :

- Carefully rotate the Turn-Switch (2) left all the way to the stop (caution: do not overtighten !)
- Press and hold the Push-Button (12) for boost ventilation. The brightness of the Indicator Light (LED) will continuously increase and decrease.
- When the desired brightness is reached, release the Push-Button. Indicator Light (LED) will burn green with the adjusted brightness.



13 Timer

An external timer can be used to run the M-WRG-HBE remote control terminal in a predefinable operating mode.

The operating mode has to be entered and stored in the control terminal first:

Switch of timer

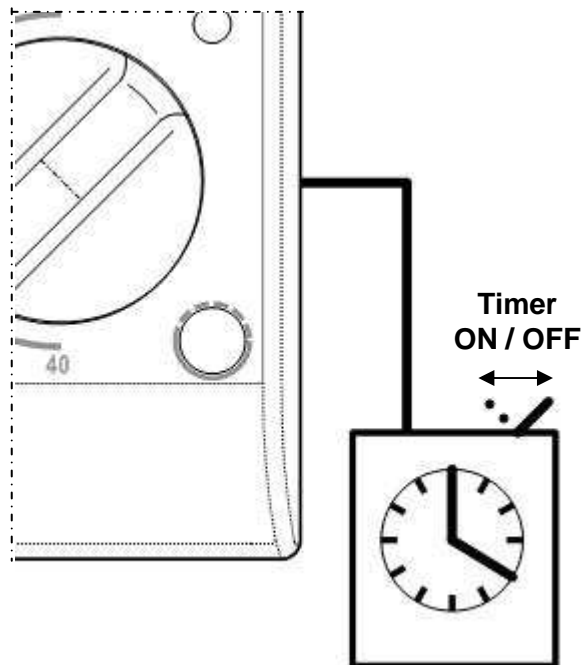
Rotate Turn-Switch to desired mode

Switch on timer, the Indicator Light (LED) starts to flash turquoise

When the flashing of the LED stops, switch of timer again




Wait 5 seconds to enable the control terminal to store operating mode

Anytime the timer switches to ON the control terminal will activate the stored operating mode. The Indicator Light (LED) starts to flash turquoise and then changes to steady light.







14 Overview of Indicator Light (LED) signals


Operating Mode

-  No response from ventilation unit
-  Operating
-  Operating mode not available or Error




Operating Mode Air Quality or Air Humidity Control

-  actual value is higher than maximum value (no preselection possible)
-  actual value is higher than preselected value
-  actual value is lower than preselected value
-  actual value is lower than minimum value (no preselection possible)

Boost Ventilation

-  Boost ventilation active

Timer

-  Control Terminal ready to store operating mode for timer operation
-  Switch off timer to store operating mode (if reprogramming required)
-  Timer active














⋮

⋮



15 Operating Modes Overview

The position of the Turn-Switch selects the operating mode, while the Rotary-Knob determines the values for the parameter for air humidity, air quality or ventilation rate for supply air and exhaust air volumes.

Turn-Switch Positions			Rotary Knob Positions		LED			
Ventilation rate 5	80 m³/h							
Ventilation rate 4	60 m³/h							
Ventilation rate 3	40 m³/h							
Ventilation rate 2	30 m³/h							
Ventilation rate 1	15 m³/h							
OFF								
Supply air output	50:15 m³/h	100:15 m³/h		Switch position 40	Switch position 80			
Stale air extraction	50:15 m³/h	100:15 m³/h		Switch position 40	Switch position 80			
Air Humidity Mode (HBE-F, HBE-FC)				Humidity concentration 40-80%r.F.	Actual< Set	Actual> Set	>80%	Actual 1.
							<40%	Actual 2.
Air Quality Mode (HBE-FC)				Air quality 500 (Position 40) up to 1500 ppm (Position 80)	Actual< Set	Actual> Se	>1500 ppm	Actual 1.
							<500	Actual 2.
Air Humidity/Air Quality Mode (HBE-FC)				Humidity concentration and air quality (Settings, same as above)	Actual< Set	Actual> Se	>80% >1500ppm	
Button Boost ventilation 100 m³/h, 30 min.								
Red flashing LED light: Operating Mode is not available!								
1.)  flashing, Actual value is above the maximum parameter 2.)  flashing, Actual value is below the minimum parameter								

