Entro-V – Commissioning

– Quick guide –

Before proceeding, if a unit has already been commissioned, the fan speeds (register ID: 100, 105, 106, 107, 108, 115, 116, 117, 118, 119, 170), set temperature (register ID: 128), and filter reminder (register ID: 135, 136) settings should be written down. If any other settings were changed according to the commissioning sheet / customers' requirements, please note them down for re-commissioning (i.e., after a PCB replacement).

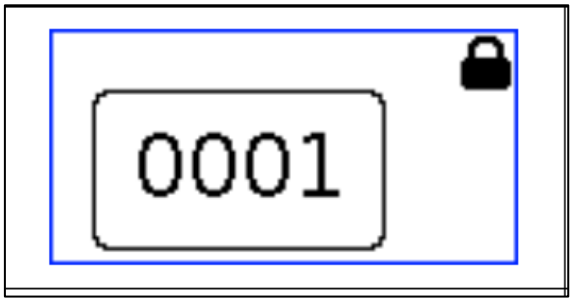
This document covers:

0. **Service menu and how to use the digital controller's buttons**
1. **Fan speed control**
2. **Boost function control**
3. **Filter function control**
4. **Temperature control and main screen symbols**
5. **VOD (Ventilation On Demand) function control (optional)**

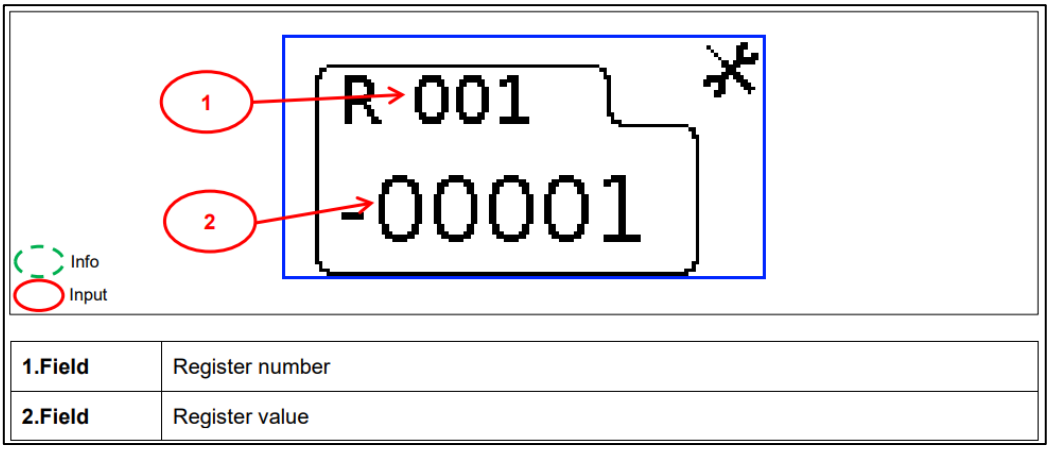
0. Service menu and how to use the digital controller's buttons

Using the **digital controller**, to get into the service menu, press both buttons simultaneously for 3 seconds.

Then insert 1919 as the password, using the + - buttons:



Then insert the register ID number and read or write its value, again using the + - buttons:



1.Field	Register number
2.Field	Register value

Press the button on the right to confirm changes or move from one setting to another. Press the button on the left to go back to the previous screen.

Note: In case the power is turned off and back on and there is no controller connected to the unit, to ensure the unit is ON and remains active, running at the same fan speed as set during commissioning, the following registers should be checked and set to 1:

ID	Description	Multiplier	Access	Unit	Limit	Default	Explanation
1	Unit ON / Off	1	rw	-	[0,1]	0	0-Stop / 1-Start
150	Unit status when power on	1	rw	-	[0,1]	1	0-Passive / 1-Active
151	Unit start when power on	1	rw	-	[0,1]	1	0-Passive / 1-Active

1. Fan speed control

There are 3-speed levels (L, M, H) and 1 "boost" speed, in total 4-speed levels.
The medium speed "M"; is calculated from the arithmetic mean of the low “L” and high “H” speeds.
These speed step values can be changed using a digital controller.

The fan speed can be adjusted according to the following options:
Alternative 1: Manual control

- Single fan mode. Operating only fresh air or exhaust fan (except basic controller)
- Separate speed control of 2 fans (except basic controller)

Alternative 2: Automatic

- VOD mode with humidity, CO2, or different sensors. Check register ID 100 (Mode selection: 0 = Standard fan speed or 1=VOD).

To adjust the fan speeds, change the register values shown below using the digital controller.

ID	Description	Multiple	Access	Unit	Range	Default
106	PWM reference value (low) for fresh air fan	1	rw	%	[20,High]	30
107	PWM reference value (high) for fresh air fan	1	rw	%	[20,100]	80
108	PWM reference value (low) for exhaust air fan	1	rw	%	[20,High]	30
109	PWM reference value (high) for exhaust air fan	1	rw	%	[20,100]	80

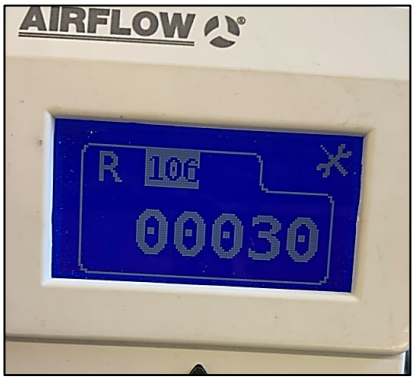
Mid speed is 55% (calculated $M = \frac{H+L}{2} = \frac{80+30}{2} = 55$)

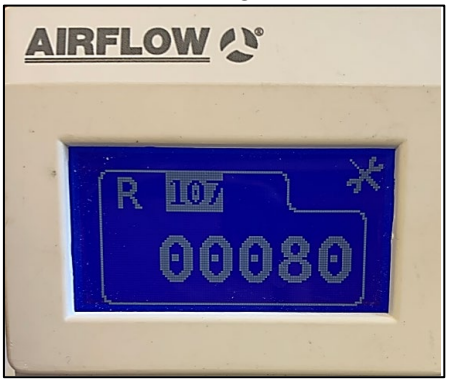
Steps to follow:

Press ⏻ ▢ at the same time for 3 sec. Insert the 1919 password using the + - buttons then press ▢ to confirm. If a list of settings is shown (see image below), then press + to go to the register ID screen or press – to go back to the previous screen.

Once you are on the register ID screen, press ▢ then using + - to go to the relevant register ID. Once you found the relevant register ID, press ▢, change the value of the register using + or – then press ▢ to confirm the change.
Long press + or – to move through the IDs faster.

To come out of the service menu, press ⏻ twice. Follow the same steps for all following functions.





2. Boost function control

The Boost function is used to increase the fan speed via the boost button on the controller or via dry contact boost switches / light switches (wiring on the PCB board required – [BST] terminal).

The dry contact is a volt-free contact which is used to boost the unit.

There is one dry contact relay input on the PCB. If the input is activated by a switch installed (turn on the switch), the unit will run at “boost” speed. When the input is passive again (turn off the switch), the unit runs at the speed value it was set before the switch was turned on.

Whenever required, the fan speed can be set to boost temporarily:

Manual: Activate the boost by pressing the button on the controller. The fans run at the highest speed (boost speed) for a defined time. It then continues at normal operating speed.

Automatic: Fans will run at the highest speed when a signal is received from an input [BST] for a defined time. It then continues at normal operating speed.

Modbus	Log	ID	Definition	Multiplie	Access	Unit	Limit	Default	Description
		115	Boost Controller status	1	rw	-	[0,1]	1	0-Passive / 1-Active
		116	PWM value (boost) for Controller	1	rw	%	[50,100]	100	-
		117	Boost duration for Controller	1	rw	min	[1,30]	15	-
		118	PWM value (boost) for Control Board [BST]	1	rw	%	[50,100]	80	-
		119	Boost duration for Control Board [BST]	1	rw	min	[1,30]	1	-
		170	Control Board DI1 Selection	1	rw	-	[0,7]	1	0:---, 1:BST, 2:BMS, 3:FRE, 4:HTI, 5:FI1, 6:DXH, 7:DXL, 8:FI2, 9:CWI, 10:DXI, 11:SDI

3. Filter function control

This function records the run time of the unit and when the set time expires, the controller indicates an alert for filter change.

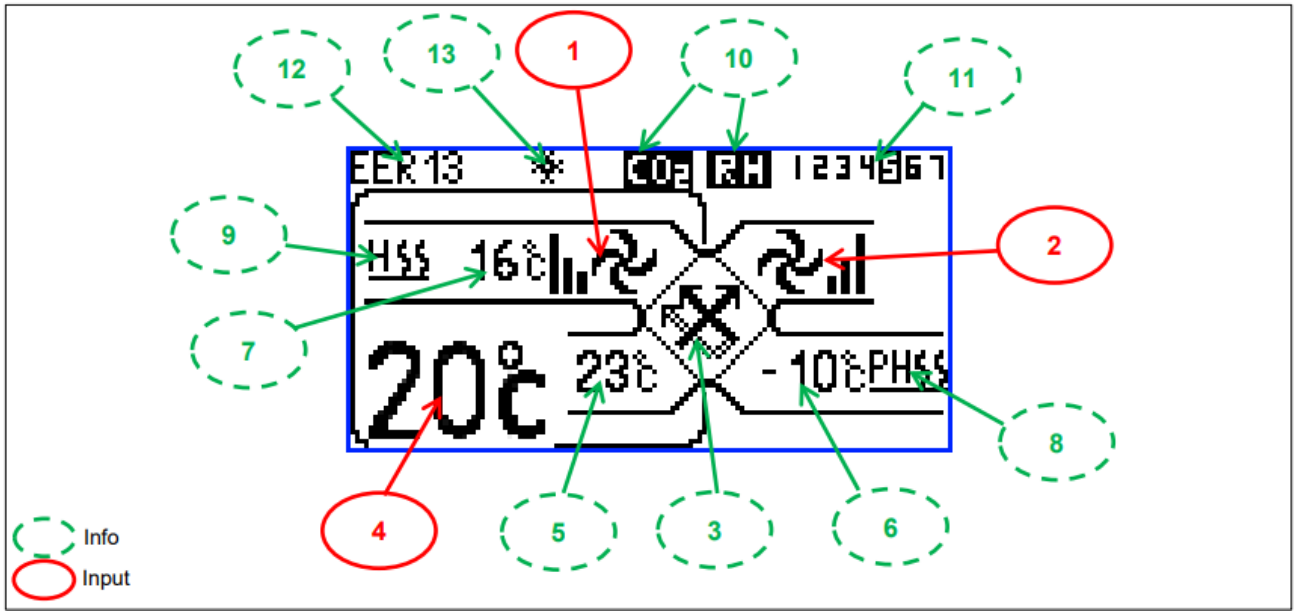
The filter maintenance time interval is set from the factory at 3000 h (3.5-4 months). The default run time set value is changeable by using the digital controller (optional controller).

Modbus	Log	ID	Definition	Multiplie	Access	Unit	Limit	Default	Description
		135	Filter-1 fouling time reference	1	rw	h	[200,6000]	3000	When the working time exceeds this value, it gives filter dirty failure
		136	Filter-2 fouling time reference	1	rw	h	[200,6000]	3000	When the working time exceeds this value, it gives filter dirty failure

4. Temperature control and main screen symbols

To set the temperature required, the main screen of the digital controller can be used by pressing ⧈ then using + or – to get to the required value then press ⧈ to confirm the change. Or use register ID 128.

"1.Screen" Symbols: Main Screen



1.Symbol: Fresh Air Fan	
	Off
	Fan speed "low"
	Fan speed "med"
	Fan speed "high
B	Fan speed "boost"
A	VOD mode is active

2.Symbol: Exhaust Air Fan	
	Off
	Fan speed "low"
	Fan speed "med"
	Fan speed "high
B	Fan speed "boost"
A	VOD mode is active

4.Symbol	Controller temperature (T_PA). Temperature set value when selected.
5.Symbol	Return air temperature (T_RA)
6.Symbol	Outdoor air temperature (T_OA)
7.Symbol	Supply air temperature (T_SA). (If sensor is available)

Modbus	Log	ID	Definition	Multiplie	Access	Unit	Limit	Default	Description
X	X	128	Set temperature	1	rw	°C	[18,28]	22	-

5. VOD (Ventilation On Demand) function control (optional)

The VOD function can only be accessed via the digital controller. It runs with a CO2 sensor, air quality sensor, or humidity sensor. The fan speed changes automatically according to the signal coming from these sensors.

Modbus	Log	ID	Definition	Multiplie	Access	Unit	Limit	Default	Description
		122	VOD Status	1	rw	-	-	0	0-Passive / 1-Active

Note: To view a complete set of instructions, please see the Entro-V Controls Instruction Manual, supplied in the box with the controller, or the latest updated version can also be found on our website: Entro Range (airflow.com)