



# **Airobot ventilation unit Modbus configuration**

**Minimum firmware version  
required: 527**

Last update: 10.2023

# Overview

Airobot ventilation units can be connected to home automation systems using Modbus RTU or Modbus TCP protocol.

## Modbus RTU

By default Modbus RTU is enabled. Connect A+B wires in the “LCD” connector (follow the marking on the board) on the Airobot controller board.

Modbus RTU Configuration:

Modbus Slave Address : 1  
Baudrate : 230400  
Stop bits : 1  
Parity : None

## Modbus TCP

Modbus TCP protocol works in local network. Airobot ventilation devices are equipped with ethernet functionality in standard. Ethernet cable must be connected to the RJ45 port on the device which usually locates on the enclosure next to the power cable input. If that port is missing, then you need to connect ethernet cable directly to the controller board “LAN” marked socket.

By default Modbus TCP is disabled. To activate:

Method 1: old VB2 controller - go to MENU – SYSTEM – MODBUS, set IP address according to your local network, default is 192.168.1.152 and port 502. Press “Set Ip” in menu. After IP address is set, set Modbus to ON to enable it. Device is rebooting once again and Modbus should be enabled now.

Method 2: new VE1 controller (since 07.2022) – go to Menu -> Settings -> Other -> Modbus TCP -> Set to ON. Device will reboot. Router assigned IP address will be set to static from now on. Device will reboot and Modbus should be enabled now.

Method 3: if no controller available, contact customer support for remote activation (internet connectivity required)

## Read data

If data is more then 16bit then it will divide into two Modbus register.

Modbus register	Description	Min	Max	Unit
1000	Device firmware version	256	999	
1001	Extract air temperature	-999	999	°C
1002	Supply air temperature	-999	999	°C
1003	Outside air temperature	-999	999	°C
1004	Exhaust air temperature	-999	999	°C
1005	Extra temperature sensor (optional, required if external humidifier)	-999	999	°C
1006	Extract air humidity	-999	999	RH %
1007	Supply air humidity	-999	999	RH %
1008	Outside air humidity	-999	999	RH %
1009	Exhaust air humidity	-999	999	RH

		999		%
<b>1010</b>	Extra humidity sensor (optional, required if external humidifier)	-	999	RH
		999		%
<b>1011</b>	Carbon dioxide level	0	5000	ppm
<b>1014</b>	Supply fan level	0	10	
<b>1015</b>	Extract fan level	0	10	
<b>1016</b>	Supply fan pulses per minute	0	9999	RPM
<b>1017</b>	Extract fan pulses per minute	0	9999	RPM
<b>1018</b>	Device working time since last reset	0	4294967295	ms
<b>1020</b>	Preheater working time since last reset	0	4294967295	ms
<b>1026</b>	Sum of errors	0	4294967295	
	FIRE_ALARM = 1	1		
	FAN1 = 2	2		
	FAN2 = 4	4		
	SENSOR_1 = 8	8		
	SENSOR_2 = 16	6		
	SENSOR_3 = 32	2		
	SENSOR_4 = 64	4		
	SENSOR_5 = 128			
	SENSOR_CO2 = 256			
	HEATER = 512			
	LOW_SUPPLY = 1024			
	FILTER = 1048			
<b>1028</b>	Server Connected	0	1	
<b>1029</b>	VOC	0	500	Index
<b>1031</b>	PM2.5 (optional sensor)	0	999999	µg/m <sup>3</sup>
<b>1034</b>	Heat recovery temperature efficiency	0	100	%

## Read & write data

It is **only allowed** to set values in Min - > Max range, otherwise it might cause unexpected behaviour or damage the device.

Modbus register	Description	Min	Max	Default value
<b>2000</b>	Device working mode 1 – Automatic mode 2 – Manual mode	1	8	1
<b>2003</b>	Wish humidity	50	950	600
<b>2004</b>	Wish CO2 level	450	2000	800
<b>2005</b>	Manual mode fan working level	0	10	5
<b>2007</b>	Overpressure (fireplace) mode fan working level	0	10	5
<b>2009</b>	Settings Flag (sum of Active Flags)	0	65535	1
	POWER_ON			1
	BOOST_ON			16
	OVERPRESSURE_ON			32
	REBOOT			64
<b>2010</b>	Boost mode timeout (seconds)	180	3600	1800
<b>2012</b>	Overpressure / Fireplace mode timeout (seconds)	180	3600	1800
<b>2014</b>	UI Flags (sum of Active Flags)	0	65535	9

	FILTER_ALERT	16			
2015	UI Flags1 (sum of Active Flags)		0	65535	8
	MODBUS_ON (Modbus TCP)	16			
2017	Filter reminder interval (hours)		720	8760	4320
2018	Filter reminder time elapsed - set value 0 to reset filter timer		0	65535	0

## Read & write Coil data

It is only allowed to set values 0-1 range.

Modbus register	Description	Min	Max	Default value
4000	POWER_ON – stops ventilation if 1.	0	1	1
4004	BOOST_ON – activates boost mode if 1	0	1	0
4005	OVERPRESSURE_ON – activates overpressure (fire-place) mode if 1	0	1	0
4006	REBOOT – reboot device if 1	0	1	0
4020	FILTER_ALERT (read only) - device will set value to 1 if filter replacement required	0	1	0
4036	MODBUS_ON - activates Modbus TCP if 1	0	1	0