



【 UNOnext indoor air quality monitor 】

Quick start guide ver 1.3



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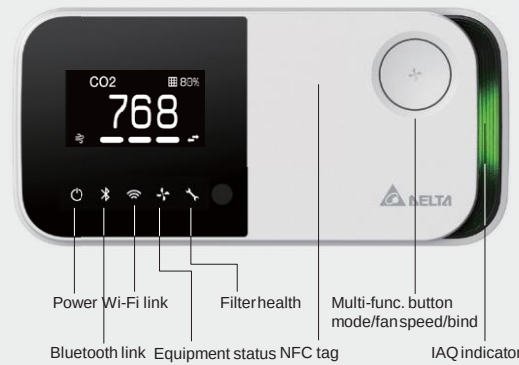
【 Overview 】

UNOnext is an all-in-one air quality monitor that can detect temperature, humidity, carbon dioxide, PM2.5, PM10, total volatile organic compounds (VOCs), formaldehyde, carbon monoxide, and ozone, which can all be monitored visually through sensors. It can be directly connected to a fresh air system to improve air quality, which not only saves energy, but also lets users breathe fresh air with peace of mind. It is suitable for many different types of environments, including residential buildings, commercial buildings, medical institutions, and places sensitive to air quality, such as nursing homes and day care centers.

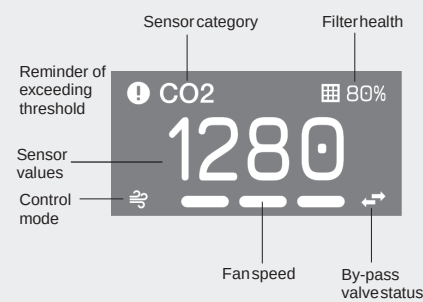
This product detects various types of air pollution that may have an adverse effect on the human body.

【 Display and button functions 】

Appearance



Display layout



Indoor air quality indicator description

Indoor air quality indicator color (status)	PM2.5 (ug/m ³)	PM10 (ug/m ³)	CO ₂ (ppm)
Green (Good)	0- 28	0-60	400-800
Yellow (Moderate)	29- 35	61-75	801-1000
Red (Bad)	36- 140	76-300	1001-4000
Purple (Polluted)	>140	>300	>4000

Function definition

The product has two functions which are "smart control" and "IAQ sensing", default is "IAQ sensing".

Function	Screen layout	Button function
Smart control	Sensor values, control status and mode, filter health	Switch control mode and fan speed
IAQ sensing	Sensor values iteration	Screen and indicator on/off switch



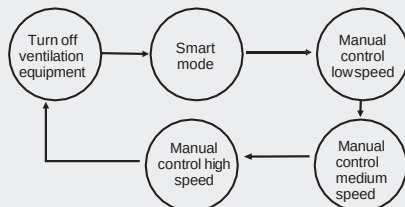
Smart control



IAQ sensing

【 Detailed description 】

- The power indicator lights up after power is connected. If the power indicator does not light up, please make sure that the power cord is firmly installed.
- The air quality indicator turns blue after the device is turned on, which means that it is booting up. After booting is complete, it changes color according to the air quality status, in which green is good, yellow is moderate, red is bad, and purple is polluted.
- The product has built-in multiple sensors, and the values are displayed in rotation. If the value of a sensor exceeds the threshold, the warning icon is been displayed in the upper left of the screen.
- In "smart control". double-press the button (within 5 seconds) to change the fan speed and control mode. The default is "IAQ sensing" and may be switched into the following modes. If the interval between key presses is more than five seconds, the equipment is turned on and off. It will enter "smart control" when it is turned on again. In "IAQ sensing", the button can turn on/off night mode (the screen and indicators on/off).



"Smart mode" will turn ventilation equipment on and off depending on whether the air quality exceeds the threshold or not. There are two control modes: Turbo and UNOECO. Users can set a threshold on the APP to determine activation conditions.

Icon	Smart mode plan	Description
	Turbo	If it exceeds the threshold, the equipment will operate at full speed and exchange air until the air quality improves.
	UNOECO	It's smart and balanced control strategy by using self-learning from historical IAQ trend, it will turn the equipment on earlier and try to keep IAQ index under the threshold.

【 Note 】 The default activation standard for CO₂ is 1,000 ppm, PM2.5 is 28 ug/m³, PM10 is 60 ug/m³, which can be selected in the APP. The color of the indicator breathing light is pre-defined by it.

- Use the APP for Wi-Fi configuration. The APP provides instructions on operating procedures. Please verify that the controller you purchased is the Wi-Fi version. The Wi-Fi connection indicator turns on after connecting to Wi-Fi.
- The product was calibrated in the factory, and no additional calibration is required. If a sensor value is affected by the environment at your site, please contact the distributor for manual calibration.
- This controller has built-in multiple sets of precision sensors. Collision and vibration during transportation may affect its readings. It is recommended that you turn it on and install it, and then wait for about one hour until the chamber reaches balance.

【 Note 】 The temperature module built into this product has been calibrated in the factory, but the accuracy may be impacted by the installation environment, such as nearness to a heat source or high air flow. To get more accuracy, calibrate the product after installation. Wait for one hour after installation for calibration. Please contact dealers and local sales for detailed information.

- After you turn on the device, these sensors needs to warm-up for 5 minute or less for PM2.5, PM10, and carbon dioxide, and 5 minutes for formaldehyde, carbon monoxide, ozone, and TVOC. Sensor data is updated every 10 seconds.
- The CO₂ sensor uses an Automatic Baseline Calibration (ABC) algorithm to maintain accuracy. If the component encounters vibration when it is reinstalled in a different place, values may drift. Please keep operation for weeks to find the baseline in this case.

【 Note 】 Follow the instructions below to facilitate the automatic calibration of CO₂ components.

- This product needs a continuous power supply, please install it in a fixed position
- The indoor environment reaches the level of the outdoor environment for four consecutive hours each week

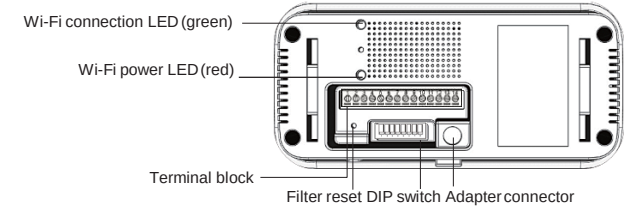


Table1. Terminal block pin function definition

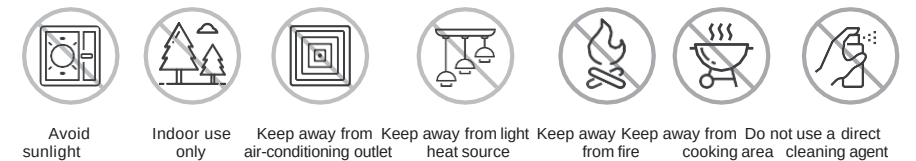
Pin	Pin name	Definition
1	GND	Ground
2	AI1	Analog input-1 External temperature sensor
3	AI2	Analog input 2
4	NO4	Digital output - HF
5	NO3	Digital output - MF
6	NO2	Digital output - LF
7	NO1	Digital output - ON/OFF
8	B2	Modbus slave B
9	A2	Modbus Slave A
10	B1	Modbus master B
11	A1	Modbus master A
12	GND	Ground
13	Vin	9-24V DC input
14	Vout	9-24V DC output

Table2. DIP switch function definition

Number	Switch Definition	ON	OFF
1	Modbus terminal resistor		☒
2	Modbus slave position [3]		☒
3	Modbus slave position [2]		☒
4	Modbus slave position [1]		☒
5	Modbus slave position [0]		☒
6	Maximum fan speed [1]		☒
7	Maximum fan speed [0]		☒
8	Control mode selection		☒

* The above are the default states of the DIP switches

【 Layout Considerations 】



For any Delta's indoor air quality monitors, we recommend an area coverage of 160 m² with the area of enclosed space calculated individually. For example:

- One open space of 160 m² requires one monitor.
- Three conference rooms of 80 m² each requires three monitors, one in each room.

Space over 160 m² should consider installing multiple monitors throughout the room to achieve optimal coverage. It is also recommended to align the sensor deployment area with the HVAC thermal zoning plan.

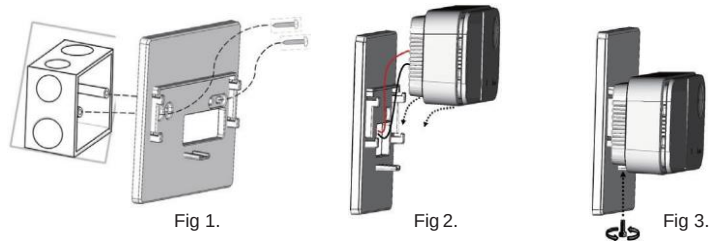
【 Installation guide 】

Installation steps

- The product is recommended to be installed at a height of 80-150 cm (31.5-59 inches).
- Use the wall mount included in the box to install it on the wall, or install in a power box. The wall mount has screw hole spacing (60mm and 84mm) suitable for power boxes in multiple countries, but the power box must be installed horizontally as shown in Figure 1.
- Verify that the power supply and data lines are laid out according to specifications before installation
- As shown in Figure 2, install it on the wall mount and verify that all four buckles are installed and fixed.
- As shown in Figure 3, use a hexagonal screwdriver to fasten the M4 hex socket screws to complete the installation

【 Note 】 Power source notice

This product uses a 9-24V DC power supply. AC power must be converted to the required power source or use the specified power adapter . The output voltage Vout is the same with input voltage Vin. Output voltage should be 12V when using a 12V power adapter.

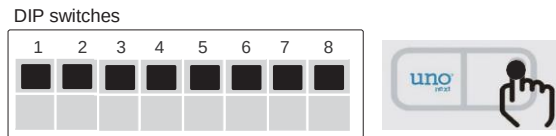


Power on verification

- After the product has been installed, the power indicator lights up after the power is connected, and the air quality indicator turns blue, which means the device is turning on at this time. If green or yellow appears, it means that the device has completed booting and the current air quality status is displayed. If the power indicator does not light up, please verify that the power cord is properly connected and that there is a supply of power.
- Wireless model has Bluetooth and Wi-Fi functionality. Users can go to the iPhone app store or Android play store to download the APP.

Enable smart control function

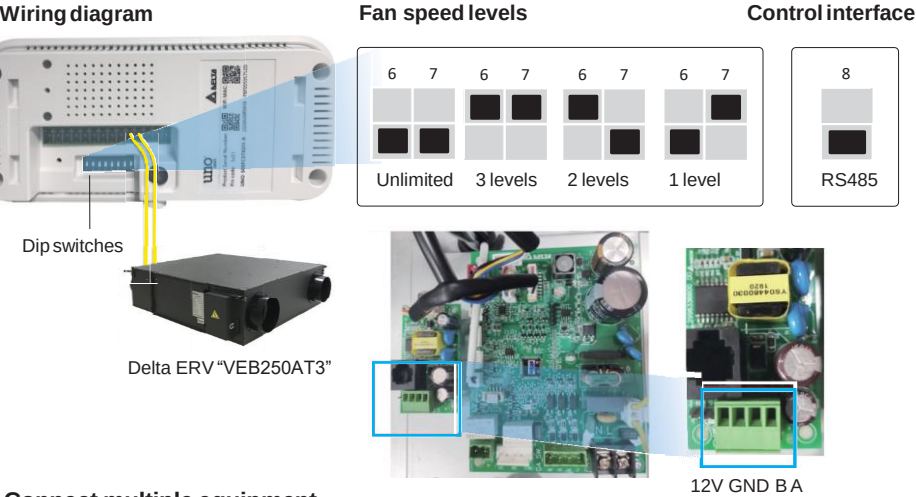
- Turn all the DIP switches up, press the multi-func. button then power on, release the button after the filter health LED blinks, and confirm that the screen has changed successfully after restarting, and then restore the DIP switches as previously stated.



- In RS485 control mode, if the equipment is successfully connected, the equipment status indicator is static on/off . If it is not correctly connected, the equipment status indicator will keep blinking.
- The installer can verify ventilation volume by switching to manual mode and corresponding fan speed.
- After a period, the health of the filter will return to zero. At this time, it is recommended to replace the filter. After the replacement, you can press and hold the filter reset button on the back of the product to reset.

【 Wiring diagram – Connect the equipment via RS485 】

Connect A1 and B1 with the equipment's A and B, the recommended wire to use is 22AWG Shielded Foil Twisted-Pair (SFTP)



Connect multiple equipment

- The product can connect to the 4 same equipment via RS485 in series through daisy chain - linear topology. At this time, each device will follow the same control mode and fan speed level.

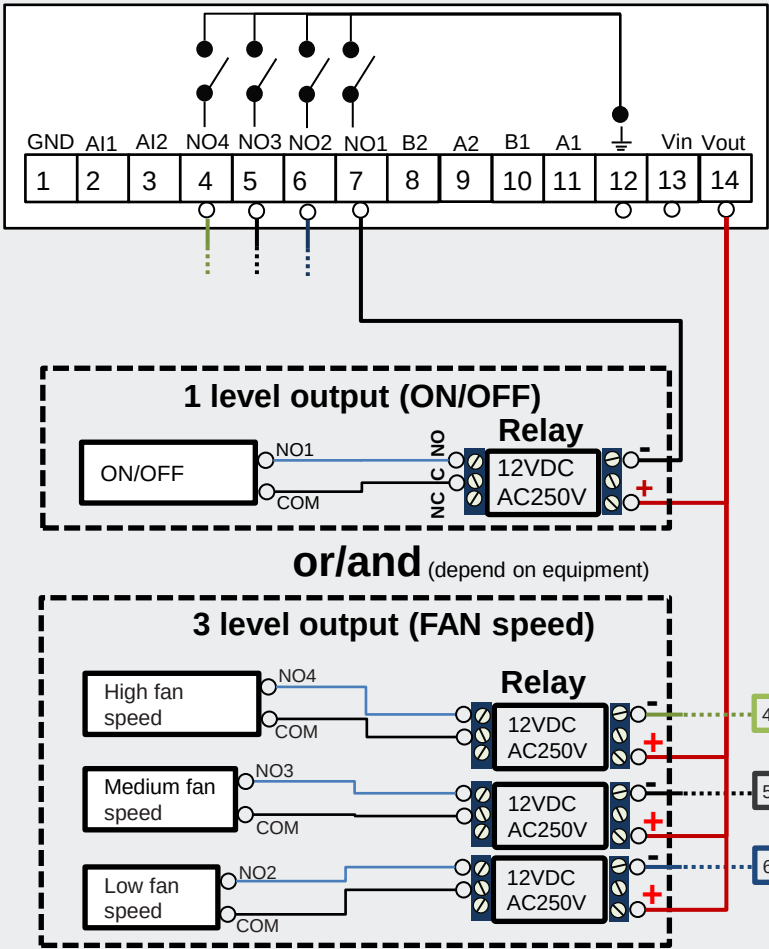
【 Note 】

To connect multiple equipment, you must set different Modbus slave address. Please reference the user manual of **that equipment** to config slave address.

【 Wiring diagram – Connect the equipment via digital output 】

【 Note 】

- DIP switches pin8 should be turned ON
- External relay requirement : AC250V resistive, and 12VDC SPDT, 15A



【 Note 】

The product supports control of energy recovery ventilation and inline fan. Regarding the compatibility of equipment brands and models, please contact your dealer and local sales for technical evaluation before purchasing. No matter RS485 or digital output, control logic is fixed for smart ventilation control, **PLEASE DON'T TO USE FOR OTHER APPLICATIONS**

【 Note 】 Not following instructions may result in damage to the product or other items.

Using right connectors and ports

- Do not force the connector into the port. Check the port for foreign objects. If the connectors and ports do not fit easily, it may be because they do not match each other. Make sure that the connector matches the port, and that the connector is aligned to the correct location corresponding to the port.
- Insert the wrong pin may result in damage to the product, it will not be responsible for the product warranty.

Prohibit live line operation

When the installer configures DIP switches and terminal connector, be sure to power off before execution and then power on after.

Cleaning the exterior of UNOnext

To clean the product, unplug the power cord and all wiring.

Wipe with a soft, cotton-free cloth. Avoid moisture at any openings on the device body. Please do not spray liquids directly onto it.

Do not inject contaminants

Do not directly inject contaminants containing gases or particulate matter. Exposure to excessive contaminants can permanently damage the sensor.

【 Note 】 Do not insert objects through the vents, which may be dangerous and damaging.

Do not repair this product yourself

The product does not have components that users can repair themselves. Do not attempt to open it. Once the warranty sticker breaks, the warranty is void.

【 APP and website links 】

The product is equipped with wireless technology and can use an APP and website to monitor the air quality status, which can be obtained using the following QR codes. (For the wireless model only). Please go to the official website to learn about how to use the product.



IOS APP



Android APP



UNOweb



Doc. & Resources

【 Place of origin 】

This product is made in Taiwan. The place of origin is No. 256, Yangguang St., Neihu Dist., Taipei City, Taiwan (R.O.C.).

【 Specification 】

Operating range	0°C to 50°C, 10-90% RH, IP20
Storage temp.	-20°C to 70°C
Power requirements	Input 1: 9-24VDC+/-10% (PIN12-13) or Input 2: power adapter 12V/1A
Power consumption	Max 500mA@12VDC
Ventilation control	RS485 or DO(low active)
Dimensions	14.2 cm(L) x 6.8 cm(W) x 4.2 cm(D)
Weight	208 g
Display	1.3" OLED
Accessories	Wall mount, NTC thermistor (Optional)
Language	Chinese, English, Japan
Connectivity	RS485, Wi-Fi 2.4G 802.11 b/g/n, BLE5.1

【 Sensor specification 】

Items	Measurement Range	Accuracy
Temperature	0 - 50 °C	± 1°C at 25 °C and 50% rH
Humidity	0-100% rH	±5% at 25 °C and 50% rH
CO ₂	400-10000 ppm	±30 ppm ± 3%
PM2.5	0-1000 ug/m ³	0 - 100 ug/m ³ ± 10 ug/m ³ 100 - 1000 ug/m ³ ± 10%
PM10	0-1000 ug/m ³	0 - 100 ug/m ³ ± 25 ug/m ³ 100 - 1000 ug/m ³ ± 25%
Luminance	0-10000 lux	For background ambient light reference
HCHO	0-5000 ppb	± 15% at 20-50 °C
CO	0-500 ppm	± 20 ppm or ± 5%
O ₃	0.5-10 ppm	0.01 ppm
TVOC	0-30000 ppb	± 15% in lab test (Ethanol)
Ext. temp.	NTC10k Thermistor	± 0.3 °C at 25 °C and 50% rH