【UNOnext indoor air quality monitor】

Quick start guide ver 1.2

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【Overview】

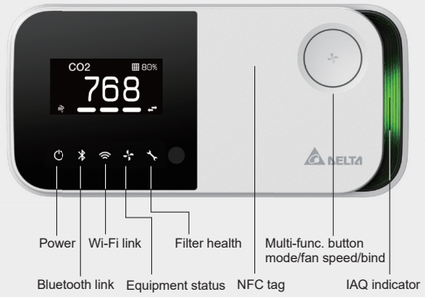
UNOnext is an all-in-one air quality monitor that can detect temperature, humidity, carbon dioxide, PM2.5, PM10, total volatile organic compounds (VOCs), formaldehyde, carbon monoxide, and ozone, which can all be monitored visually through sensors. It can be directly connected to a fresh air system to 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.

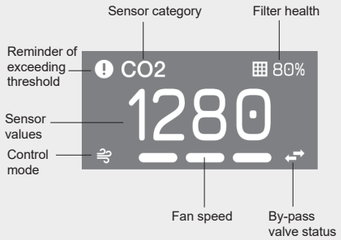
It provides NFC tags for easy opening of the APP and viewing real-time information on the site's air quality.

【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".

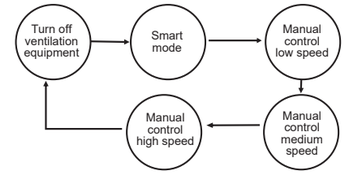
Function	Screen layout	Button function
Smart control	Sensor values, control status and mode, filter health	Switch control mode and fan speed
IAQ sensing	Sensor values iteration	Screen and indicator on/off switch

Smart control layout

IAQ sensing layout

【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 sets of 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 "smart control" 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	If it exceeds the threshold, the equipment will change fan speed relying on the changing rate of the IAQ index to achieve low noise, power saving and health.

【Note】The default activation standard for CO_2 is 1,000 ppm, PM2.5 is 28 ug/m3, PM10 is 60ug/m3, which can be selected in the APP. The color of the indicator light is based on the default range.

- 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, the sensor needs to warm-up for 10 seconds or less for PM2.5, PM10, and carbon dioxide, and 5 minutes for formaldehyde, carbon monoxide, ozone, and TVOC. Sensor data is updated every 3 to 6 seconds (depending on the type of sensor).
- The CO_2 component is a precision instrument that provides automatic calibration. This product was calibrated at the factory before shipping. After a week of continuous operation, it will automatically calibrate every week. If the component encounters vibration when it is reinstalled in a different place, the data values may drift.

【Note】Follow the instructions below to facilitate the automatic calibration of CO_2 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

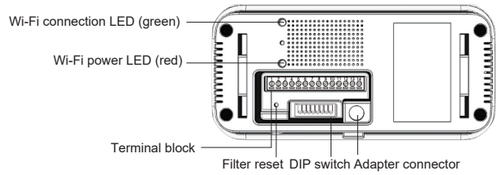


Table1. Terminal block pin function definition

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 host B
11	A1	Modbus host 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

【Installation precautions】

【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 power adapter in the box. The output voltage Vout is the same with input voltage Vin. Output voltage should be 12V when using a 12V power adapter.

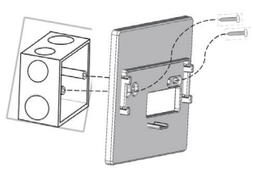


Fig1.

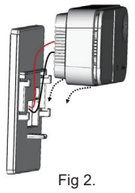


Fig 2.

Fig3.

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.

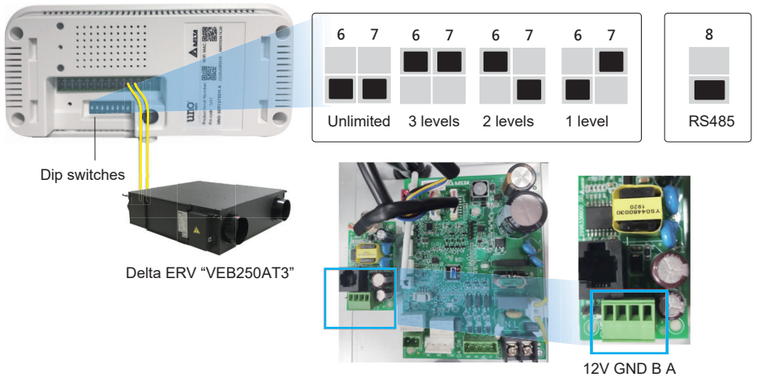
【Wiring diagram – Connect the equipment via RS485.】

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

【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.

Wiring diagram | **Fan speed levels** | **Control interface**

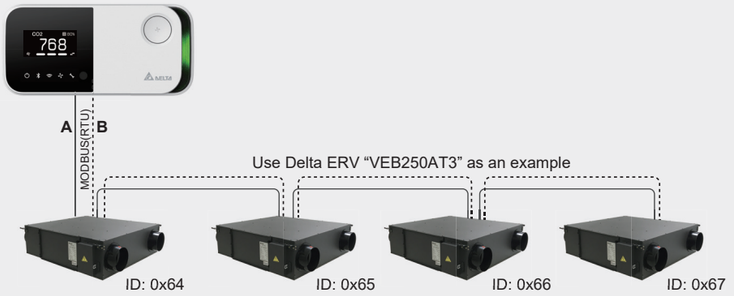


【Connect multiple devices】

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

【Note】

To connect multiple devices you must set different Modbus slave address. Please reference the user manual of the device to config slave address.



Trial run with the equipment

- Switch function to smart control, turn all the DIP switches up, press the multi-func. button to 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 or off when the equipment is on or 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 of time, 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.

【Care and maintenance】

Place in an appropriate environment

- This product is not waterproof. The installation location should be away from water sources, such as beverages, basins, bathtubs, bathrooms and so on. Protect it from moisture in wet weather such as rain, snow or fog.
- To ensure the accuracy of the detector, the installation position should not be in the vicinity of sunlight or other heat sources.
- The interior has a variety of precision detectors. Avoid violent vibrations, which may cause the detector reading values to shift, and a stable balance may take a longer time.
- Operate at temperatures between 0°C and 50°C (32°F to 122°F). Do not expose the product to extreme heat sources, such as radiators or fireplaces, that exceed 100°C (212°F).
- Covering the device, or placing it in an enclosed space may cause it to inaccurately detect the air quality of the room.

Using 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.

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

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 UNOnext.

https://isdweb.deltaww.com/resources

iOS APP | Android APP | UNOweb | Doc. & Resources

【Order listings】

Product number	Model number	BLE Wi-Fi	temp./ humid.	CO_2	PM	Lux	TVOC	CO	Ozone*
UNO-6SR	UNO-C01X001		●	●	●	●			
UNO-7TR	UNO-C01X001		●	●	●	●	●		
UNO-6SW	UNO-C07X011	●	●	●	●	●			
UNO-9SW	UNO-C07X011	●	●	●	●	●	●	●	●
UNO-7HW	UNO-C07X011	●	●	●	●	●		●	

* Not available currently

【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.).

【NCC statement 】

「取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前述合法通信，指依電信管理法規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。」

Federal Communication Commission Interference Statement

FCC ID: H79-UNOC07X011
Contains FCC ID: SH6MDBT50Q

【Caution】

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

【Canada: Industry Canada (IC) Statement】

IC ID: 26414-UNOC07X011

Warning:

This device complies with Industry Canada licence-exempt RSS standard(s).

Operation is subject to the following two conditions:

- this device may not cause interference, and
- this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- l'appareil nedoit pas produire de brouillage, et
- l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.