

Before Use

Thank you for purchasing a MANN+HUMMEL Duct Air Quality Monitor. Before using the product, please read this operating manual and follow the instructions carefully to prevent any accidents.

Warranty and Service

Scope of Warranty:

- The product is used according to the instructions in the operating manual;
- The product is handled properly according to its intended usage;

The MANN+HUMMEL warranty does not apply if the product is damaged due to accidents, errors, normal wear and tear, or inappropriate usage.

Please refer to the MANN+HUMMEL website at www.mann-hummel.com for more information or assistance.

Important Information



Caution: To prevent accidents or damages to property, please follow the guidelines and instructions below.

- Do not operate the device or touch the power plug if your hand is wet as you may get an electric shock.
- Do not wet the device as this may cause short circuits and electric shocks.
- Keep the device away from flammable substances or fire sources.
- Do not use the device in any possibly explosive environment.
- Do not operate the device if any of the parts, including the power plug or the body is damaged. The damaged parts must be replaced by the manufacturer or authorized service center in order to avoid hazards.
- Do not disassemble, repair or alter the device without authorization. Unauthorized disassembly or repair may cause failure and danger. Unauthorized alteration may result in fire or breakdown.
- Unless under supervision by persons responsible for their safety, persons who are not familiar with the operating instructions, are not allowed to operate the device.
- If the rated voltage of the product is different from the local standard voltage, do not connect the device to the power source. Otherwise, it may cause damage to the product or fire.
- The installation place of the device should be stable enough to bear its weight with considering the influence of strong wind, typhoon and earthquake to avoid its falling and the damage it may cause.
- Parts and components intended for the installation should be used. Do not use parts and components other than those provided in the packaging or recommended.
- The filter should be used to reduce the occurrence of failures and prolong the service life of duct device, and the filter should be changed after hundreds of hours working.
- Do not block the air inlets and outlets of the device as it may cause damage to the device.
- Do not connect the device to power source until all installation work are finished.
- The max operating temperature of the product is 40°C and shouldn't be lower than 0°C.
- Do not use the SPB 358 in dusty environments. Otherwise the sensitivity, accuracy and lifetime of the device will be affected seriously.
- The sensors and chips used in this device are high tech precision instruments; to minimize interference to the precision components, please prevent the unit from being exposed to high temperature, high humidity, combustible gases and liquids.
- RF Power (Output power): 16dBm (2412MHz – 2462MHz)

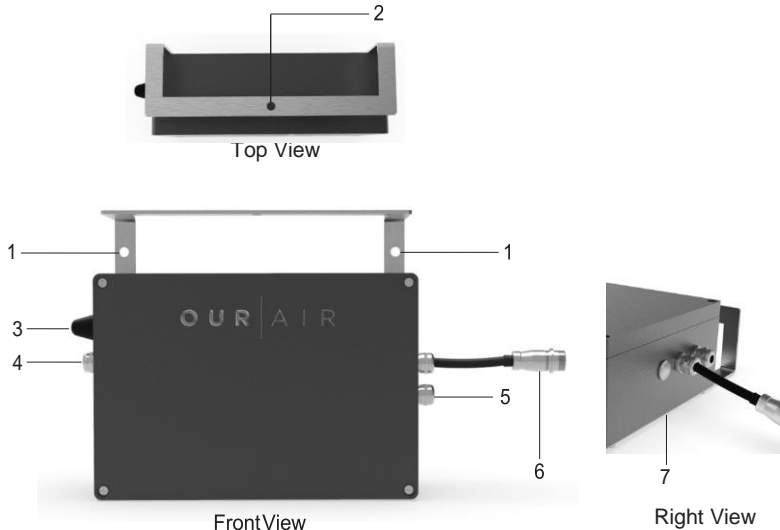
Declaration of Conformity

- This device complies with the essential requirements in Directive 2014/53/EU, and can be used across EU member states or regions.
- This device complies with part 15 of the FCC Rules (FCC ID: 2AQ3Q-SPB358). Operation is subject to the following two conditions:
 - (1) This device may not cause harmful interference, and
 - (2) This device must accept any interference received, including interference that may cause undesired operation.Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- This device 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.
- This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.



1. Overview

SPB 358 is a highly integrated air quality monitoring device which could detect multiple parameters of PM2.5, CO2, TVOC, Temperature and Humidity. It could be widely used in the duct air quality monitoring and performance evaluation of ventilation air system and air purifier.



No.	Description
1	Installation Hole (Φ 6 mm)
2	Installation Hole (Φ 8 mm)
3	Wi-Fi Antenna
4	Air Inlet
5	Air Outlet
6	Power
7	Configuration

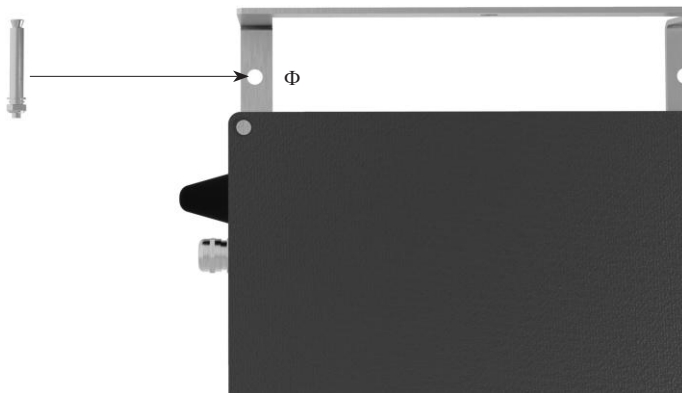
2. Installation



Caution: Do not use parts and components other than those provided in the packaging or recommended.

2.1 Option 1: Wall-mounting

Drill the holes and install the device on the wall through the 2 reserved holes (Φ 6mm) with expansion screws. Tighten the self-locking nuts to secure the device. Please only use the expansion screws (Φ 6 mm) provided in the packaging to do the installation. Alternatively, the nylon expansion screws could be used depending on the wall conditions. The schematic is shown below:

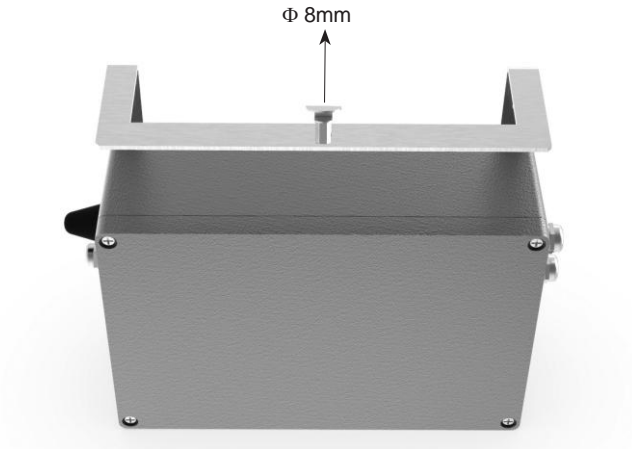


2.2 Option 2: Ceiling Installation

The users could use the hanging bolt on-site to install the device on the ceiling through the reserved hole (Φ 8mm) on the top of the device.



Caution: Secure the device through double nuts to prevent sliding.



3. Connectivity

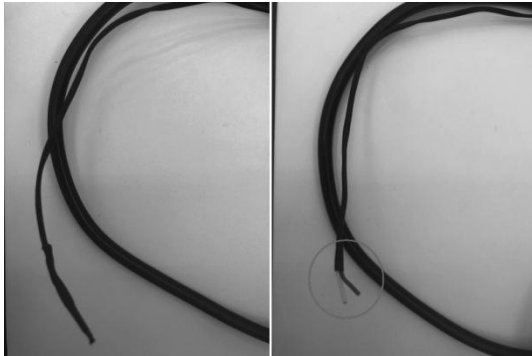
Connect the power cord to the aviation socket and tighten the lock nut.



Caution: Do not force to connect the socket to avoid any damage.

3.1 Modbus Connection (RS 485)

Users could transmit data through the reserved 485 communication wire. Before connection, remove the protection layer of a heat-shrinkable tube and 2 wires of yellow and blue color will be shown as below:

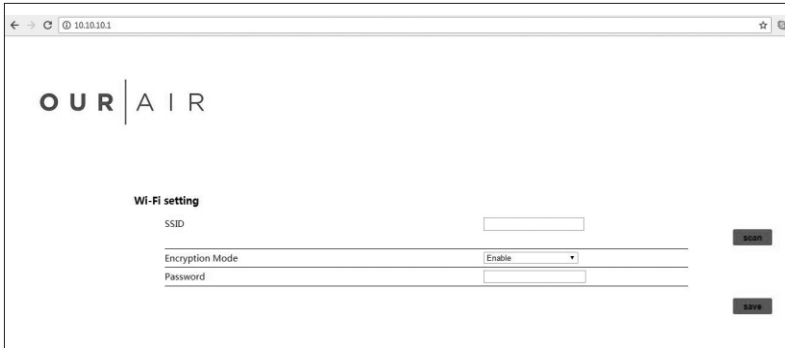


3.2 Wi-Fi Connection

1. After power on, press the “Configuration” button for around 8 seconds to initiate a Wi-Fi hotspot starting with “Ourair_xxxxxx”.
2. For personal computer or laptop with Windows OS, click on Wi-Fi setting and connect to Wi-Fi of the “OurAir_xxxxxx”; For iOS and Android mobile phone, go to setting and connect to the Wi-Fi of the “OurAir_xxxxxx”.



3. Open Internet browser like IE, Firefox, Safari or Chrome. Enter the IP address 10.10.10.1 in the address bar, then we will see the configuration interface for Wi-Fi.



4. Enter Wi-Fi Encryption information and click save to save your settings. The device will restart to complete the Wi-Fi configuration. If the front LED is on, the Wi-Fi is connected successfully.



Caution: It will take up to 3 seconds to restart the device. Please do not click on any other commands during reboot to avoid errors.

4. On-Boarding with the OurAir App

4.1 Download the OurAir App

- 1 For **Android users**, go to Google Play store to search and download the mobile app “OurAir” or scan the QR-code.



- 2 For **iPhone users**, go to App store to search and download the mobile application “OurAir” or scan the QR-Code.

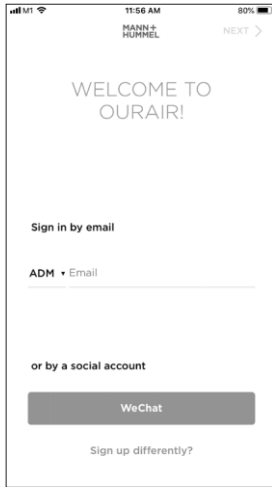


- 3 For **China Android users**, go to Tencent store to search and download the mobile application “OurAir” or scan the QR-Code.



4.2 Adding the SPB 358 device to your account

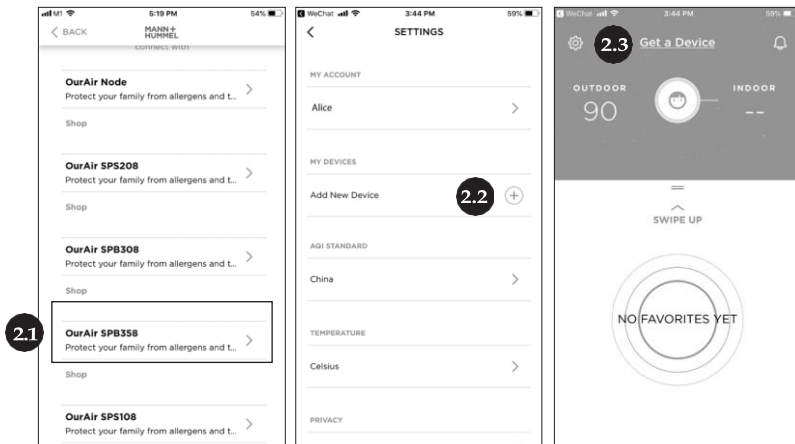
1. Log-in to the OurAir App only by Email



2. Adding device to your account

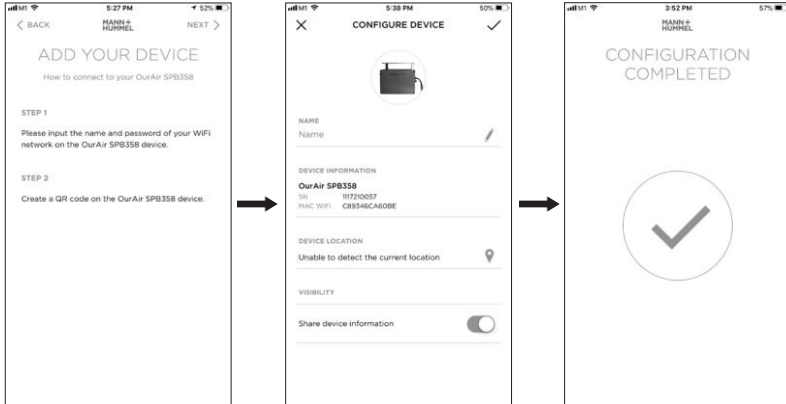
Ways to add your first OurAir device

- 2.1 – After you've logged in successfully for the first time, you can select the device that you want to add
- 2.2 – Alternatively, you can go to the settings of OurAir App and tap the "+" symbol to add new device
- 2.3 – You can also add the device at home screen (if no device was added previously)



3. Pair a device with the OurAir App

Scan the QR code with OurAir App to pair the device.

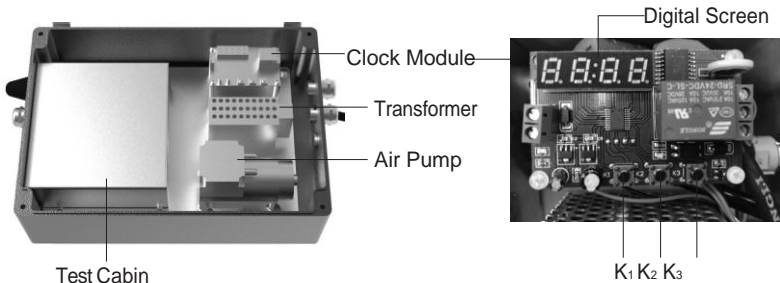


5. Clock Module Configuration



Caution: consult the dealers or professionals to open the front cover of the device to set the timer.

The interior structure of the device is as shown below:



5.1 The 4 modes of the clock module

P₁: To set the daily working period of device.

E.g. The device automatically start working at 7:30 am and shut down at 5 pm daily (Select the P₁ mode, enter the numeric value of 0730 and 1700 in turn).

P₂: To set the pulse signal. It is not recommended for common users. Consult the dealers or professionals if needed.

P₃: To set the date and month on which the device will start to work and shut down.

E.g. The device automatically start working on 1st Oct and shut down on 25th Dec (Select P₃ mode, enter the numeric value of 1001 and 1225 in turn).

P₄: To set the local date and time.

E.g. The SPB 358 device is used in Germany, and the local date & time is 15th Jun, 2:15pm (Select P₄ mode, enter the numeric value of 0615 and 1415 in turn).

5.2 Functions of the buttons on the clock module

K₁: To select the mode.

K₂: To enter the mode or confirm the numeric value input.

K₃: To adjust the numeric value.

Press K₁ for around 2 seconds to activate the mode selection. Continue to press K₁ shortly to select the specific mode from P₁ to P₄. Enter K₂ to confirm the selected mode, and the digital screen will start to flicker waiting for the numeric value input. Press K₃ to enter the numeric value of you desired to key in, and then press K₂ to confirm the values input.



Caution: The default time zone of the clock module is set at UTC+8, and the working time is from 7:00 am to 7:00 pm daily.



Caution: When setting the numeric values, the first two digits of the nixie tube start to flicker first. After confirming the input value, the last two digits will start to flicker.

6. Product Specification and Packaging

Packaging list

Items	Qty
Packaging box	1
SPB 358 unit	1
Power cable	1
Power adapter (if any)	1
Sampling tube (8mm OD x 5mm ID)	1
Sampling connector & washer	1
Expansion screw M6 (stainless steel)	2
Expansion screw (nylon)	2
Nut (for hanging bolt)	2
Operating manual	1
Warranty card	1
Quality card	1

Product Specification

Certification	RESET™ (Grade B), RoHS,CE,FCC
Net Weight	3 Kg
Dimensions	265mm x 185mm x 95mm
Input Voltage	100-240V AC
Rated Voltage	24V DC
Rated Current	1 A
Connectivity	Wi-Fi (2.4GHz) / Modbus
Air quality parameters measured	PM2.5 (0-500 µg/m ³) CO2 (400 – 2000 ppm) TVOC (125 – 600 ppb) Temperature (0 – 40 °C) Rel. Humidity (0 – 99 % RH)
Sampling frequency	1 min
Peak Air Flow	2.2 l/minute
Average Air Flow	2 l/minute
Air Pump Vacuum Degree	75 KPa
Air Pump Negative Pressure	≈ -24 KPa
Sensor calibration frequency*	12 Months

*Offered as part of OurAir service package.

7. Environment



Please play a part in preserving the environment by not discarding the indoor air quality monitor with usual household waste at the end of its lifespan. Please bring it in to a recycling collection point instead.