Smart Air Quality Monitor User Manual

M420-107Ever1.0

*please read the user manual carefully before operation.
The guide picture is for reference only. Please in kind prevail.

01/Product introduction

This high-stable indoor air quality monitor (hereinafter referred to as the monitor) is used for detecting the air quality in the indoor environment, including CO2, temperature and humidity (temperature and humidity are optional features) .As a versatile and smart air quality monitor, the monitor adopts advanced sensor with high stability, small sensitivity drift and long service life, free from calibration operation.Aided by advanced Zigbee wireless technology(Zigbee is optional feature), the monitor can report environmental data in real time stably and reliably. Once the monitor detects that the indoor air quality deteriorates excessively, the monitor will sends alarm concentration information to the smart gateway, which will push alarm message to the mobile APP through the cloud server in real time remotely. So the user could learn about the home air environment at anytime, anywhere, and keep the home air quality at its best. The monitor is applicable in indoor environments such as residential houses, offices, etc.

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02/Packing List

Air Quality Monitor x1	Micro USB cable x1	Adapter x1
User manual x1	Accessories package x1	Bracket x1
Positioning mark x1		

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03/Product Pictures

- Air Quality Indicator
- Display Area
- Return/Mute Button
- Setting/Power Button
- " - " Button
- "+" / Networking Button

Front View

- Air Inlet
- Micro USB Port
- Bracket
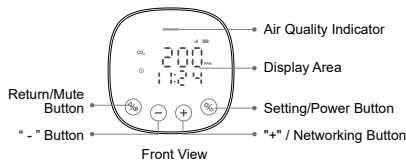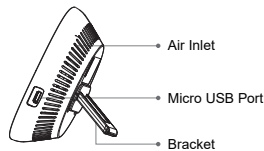
Side View

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04/Product Features

1. Large LED display shows CO2 level, temperature, humidity, date and time.
2. 30 degree tilt angle makes the display easy to see and read.
3. Indoor air quality level indication: Good, Normal, and Poor.
4. Stable NDIR sensor for CO2 detection.
5. Visible and audible CO2 warning alarm.
6. ABC (Automatic Baseline Calibration) CO2 calibration.
7. Maximum or minimum CO2 level,temperature, humidity alarm setting function.
8. Do not disturb setting function.

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05/Technical Parameters

1. Power supply: AC adapter Input: AC 100~240V
   Output DC 5V/1A Micro-USB
2. Built-in battery: Lithium-ion Battery
3. CO2 Sensor type: non-dispersive infrared (NDIR) sensor
4. CO2 Sensor lifespan: max.10 years
5. Networking: Zigbee 3.0 (optional feature）
6. Operating temperature: -10°C to 40°C
7. Humidity: 10% to 95% (non-condensing)
8. Installation location: Wall or desk-stand
9. CO2 Measurement Range:400-5000ppm
10. CO2 Accuracy: 100 ppm or 10% of the measured values, Whichever is higher
11. Air Quality / CO2 Concentration:
    Good: <600ppm   Normal: 600~1200ppm   Poor: >1200ppm
    Values can be adjusted on the CO2 setup page
12. Alarm triggering: Poor: >1200ppm(can be adjusted on the CO2 setup page)
13. Dimension: 90x90x26mm （Without bracket）

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06/Tips

Before using the monitor for the first time, please read the following instructions carefully and observe all warnings, even if you are familiar with the use of electronic devices.

1. Store and operate the monitor in a dry place out of direct sunlight to protect the components inside the monitor .
2. Before using the monitor for the first time, set it up in a well-ventilated environment.
3. In order to make sure the monitor more stable. it is recommended the monitor start to work after 24 hours of charging.
4. Do not cover the monitor and in particular do not block the air inlets while the monitor is active
5. Keep water and other liquids away from the monitor as it is not waterproof.
6. Do not insert sharp, flammable or metallic objects into the air inlets as this can result in an electric shock or burns.
7. Power should be supplied via the micro-usb cable and the AC adapter; the internal, built-in battery is only used for emergency power supply.
8. If the device has been dropped or otherwise damaged, it may not be used anymore.

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07/Quick Setting For Network Configuration

1. How to connect the monitor
Connect the USB cable to power adapter, and insert the adapter into the socket to power on the monitor. Make sure that the mobile phone is connected to Wifi (and the WIFI is connected to the available network), open the APP in your mobile phone, register an account and log in.
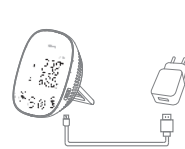
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2. Network configuration
Open APP, select gateway and click "+" on my gateway page to add Zigbee device, select "Air Quality" and continue the following steps according to the APP prompt until the connection success.

Add a device

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1. When the device is not added to network: press and hold " ⊕ " for approx. 5 seconds to enter the network inclusion interface. The network icon" ılıl " will flash , and monitor will display a countdown from1:00 (1 minute) on till network inclusion is done.

2. When the device has been added to network: press and hold " ⊕ " for approx. 5 seconds to enter the networking interface. Monitor will display the network icon " ılıl " , setting icon" ✿ "and " ON LINE ", press " ⊕ " once again, the device will quit the network firstly and then start networking again. The network icon " ılıl " will flash , the screen will display a countdown from 1:00 (1 minute) on till network inclusion is done.

Note: During the network inclusion process, press " ⊕ " again will stop the process, and the network icon " ılıl " will keep on, monitor will display " OFF LINE " and return to the homepage after 1s; the network icon " ılıl " on the homepage is off.

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08/Installation

Wall installation
1. Tear off the back film, adhere the positioning mark to an appropriate position.

40mm

2. drill the holes with a Φ 5 mm drill bit.
Important: do not damage any cables when drilling and keep the detector away from drilling dust!
3. push the plastic dowels into the drilled holes and screw in the screws until the screw heads protrude approx. 5 mm.
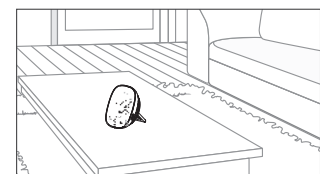

5mm

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4. Then hang the product on the screws to complete the installation.

Desk-stand
1. Fold out the table base on the underside of the housing and place the monitor on a flat and dust-free surface.
2. Ensure that the monitor is stable and that no objects interfere with the penetration of CO2 into the monitor.

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09/Operating Buttons

⊖	⊕	%ᴀ	%
1. In normal state, switch display with a short press.	1. In normal state, switch display with a short press.	1. In normal state, enter mute mode with a short press. Shortly press it once again to exit mute mode.	1. Power on/off with a long press((approx. 5 seconds).
2. In setup mode, move on position to the left.	2. In setup mode, move on position to the right.	2. In setup mode, return to previous page with a short press, exit current setting.	2. When powered via AC adaptor, in normal state, turn off/on the screen display with a short press.
3. In setup mode, decrease value by one.	3. In setup mode, increase value by one.		3. Press and hold "%ᴀ" and "%" at the same time for approx. 2 seconds, the device will enter setup mode.
	4. Enter network inclusion state with a long press (approx. 5 seconds).		4. In setup mode, save settings by pressing shortly.

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10 / Display symbols

CO_2 Carbon dioxide (CO2)

PPM   CO2 content in parts per million (proportions of CO2 per million molecules in the air)

🌡   Air temperature

°F   Degrees Fahrenheit

°C   Degrees Celsius

💧   Relative humidity

%   Percent

🕐   Time and date

🔇   Mute

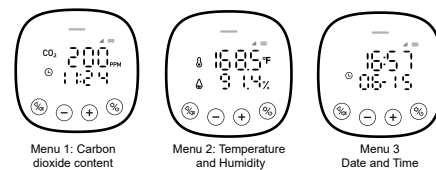🔋   Battery power
(Green: > 61%; Yellow:21-60%; Red: < 20%)

📶   Zigbee (optional feature)

⚙   Setup

MAX   maximum value

MIN   minimum value

⧖   End time

—   Air quality indicator
(Green:good；Yellow:normal；Red:poor)

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11 / Menu pages of the display

1.When the detector is switched on, the "CO2" menu will be appear first.

2.In standby mode, press the "+" or "-" button to go to the next / previous page.

Menu 1: Carbon dioxide content

Menu 2: Temperature and Humidity

Menu 3 Date and Time

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12 / Edit menu settings

1. Press and hold "💧" and "%" at the same time for approx. 2 seconds, the device will enter setup mode and setup icon "⚙" is lighted on.

2. Short press "+" or "-" to switch on display. Short press "%" to enter the setup state for current display page.

CO2 setup page

1. Set max. value for CO2 alarm: MAX and max. value flash, short press "+" or "-" to increase/decrease the value.

2. Set min. value for CO2 alarm: MIN and min. value flash, short press "+" or "-" to increase/decrease the value.

3. Short press "%" to switch between max. and min. value setting.

4. Short Press "💧" to save set values and go back to previous page.

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Temperature setup page

1. " °C/°F " icon flashes, short press "+" or "-" to switch between ℃ and °F unit.

2. Set max. value for temperature : MAX and max. value flash, short press "+" or "-" to increase/decrease the value.

3. Set the Min. value for temperature: " MIN " and value flashes, Short press "+" or "-" to increase/decrease the value.

4. Short press "%" to switch between max. and min. value setting.

5. Short Press "💧" to save set values and go back to previous page.

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Humidity setup page

1. Set max. value for humidity : MAX and max. value flash, short press "+" or "-" to increase/decrease the value.

2. Set min. value for humidity : MIN and min. value flash, short press "+" or "-" to increase/decrease the value.

3. Short press "%" to switch between max. and min. value setting.

4. Short Press "💧" to save set values and go back to previous page.

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Time and date setup page

1.Number flashes, short press "+" or "-" to adjust the time and date.

2.Short press "%" to switch between time and date setting.

3.Short Press "💧" to save set values and go back to previous page.

"Do Not Disturb" setup page

1.Number flashes, short press "+" or "-" to adjust the time and date.

2.Short press "%" to switch between max. and min. value setting.

3.Short Press "💧" to save set values and go back to previous page.

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13 / LED display and tones

1. When powered via AC adapter

Status	LED	Display	Sound
Screen off, CO2, content good	flashes green every 5 seconds	-	-
Screen on, CO2, content good	lights up green	Normal	-
Screen off, CO2, content normal	flashes yellow every 5 seconds	-	-
Screen on, CO2, content normal	lights up yellow	Normal	-
Screen off, CO2, content poor	flashes red every 5 seconds	-	-
Screen on, CO2, content poor	lights up red	Normal	-
CO2 content from good to normal	flashes yellow 30 seconds	Data flashing 30 seconds	-
CO2 content change to poor	flashes red 30 seconds	Data flashing 30 seconds	Alarm tone for 30 seconds

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2. Powered
When the carbon dioxide level changes to " poor ", the display turns on, the red LED and the display flash, and the alarm tone sounds for 30 seconds. After that, the red LED and display continue to light for 1 minute; then the screen turns off.

The red LED will flash every 5 seconds until the CO2 level returns to normal, then the yellow LED Will flash every 5 seconds until the CO2 level returns to good, and then the green LED Will flash every 5 seconds.

3. When "Do Not Disturb" is active :
When the carbon dioxide level changes to "poor", the display will turn on, the red LED and the display Will flash for 30 seconds. After that, the red LED and display continue to light for 1 minute; then the screen turns off.

The red LED will flash every 5 seconds until the CO2 level returns to normal, then the yellow LED Will flash every 5 seconds until the CO2 level returns to good, and then the green LED will flash every 5 seconds.
The default time for "Do not disturb" is 22: 00-08: 00
The time can be adjusted in the settings.

4. Temperature and humidity
When the temperature and humidity values fall below or exceed, there are the same displays as for the CO2 content, but without an alarm sound.
Default values temperature: min. 19℃, max. 27℃
Default values humidity: min. 30%, max. 80%.
The default values can be adjusted in the settings.

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14 / information on the battery

This product contains a built-in lithium-ion battery. Built-in batteries may only be replaced or removed by professional. Do not charge or use the product in environments where there is a risk of explosion, e.g. from flammable liquids, gases or dust. Never burn the product! The battery may explode in the fire. This would also release toxic substances. Only use the micro USB cable provided and a suitable charging device (power supply unit 5V DC) to charge the device. Do not leave the device unattended while it is charging.

Built-in battery: It can support device normal operation for about 6 hours, and there is a built-in charger protection design. Charge for at least 24 hours if it's for the first time.(The battery life value here is for reference only, as it varies in different conditions.)

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15 / Cleaning

- Dusty monitors have to be cleaned. Dust deposits in the air inlets of the monitor can be vacuumed or blown out.
- If necessary, you can remove the dust with a brush.
- The surface can be cleaned using a cloth lightly moistened with soapy water.
- Do not allow Water to enter the inside of the device!
- Do not clean the device in a dishwasher!
- Do not use sharp, pointed, abrasive, or corrosive cleaning materials or hard brushes!
- Do not use chemicals and do not clean the monitor with highly flammable liquids!

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16 / Fault Analysis And Troubleshooting

Faults	Troubleshooting
The device will not switch on	Check that the power supply unit is powered and that the meter is firmly plugged in.
Low battery power	Charge the battery for more than 24 hours.
Slow response	Check that the airflow channels on the back of the meter are not blocked.
The detector displays "Err "	Contact your dealer.

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17 / Statement

1. The information in the user manual is for reference only and does not constitute any form of commitment.
2. Without the written permission of the manufacturer, any individual or organization shall not extract or copy part or all of the contents of this user manual, and shall not spread it in any form.
3. As the technology is constantly updated, the manufacturer reserves the right to modify the user manual without prior notice. If the user manual and the actual operations is inconsistent, the final interpretation is reserved to the manufacturer herein.