FINLAND

Designed in Finland

LIFAair

LAM05 Smart Air Quality Monitoring Controller
Please read this user manual before using the product, and keep securely for future reference.

Preface

Thank you for selecting LIFAair! You are about to enjoy superior Finnish technology and innovation for quality living.

Important safety information

• Please do not let children assemble the product to avoid accidents.
• For personal safety, please do not drag the power cord when the product is connected.
• To ensure the PM2.5 reading is accurate, please do not block the air inlet.
• Please do not expose the product to moisture, liquids or high temperature environment.
• Please do not place the product directly under the air conditioner to avoid condensed water.
• Protect the power cord from being twisted, bent, or pinched.
• To avoid electric shock or void of warranty, never open the power adapter.
• Never sit on or place items on top of product to ensure personal safety and optimum use.
• Refer all servicing to qualified service personnel. Except for the professional maintenance personnel, others should not break down or maintain the product to avoid fire and/or electric shock.

For wireless product:
1. Wireless product may generate shortwave radio frequencies and interfere with the normal use of other electronic devices or medical equipment.
2. Turn off the product when it's disallowed. Do not use the product in medical facilities, on airplane, at gas stations, near automatic gates, automatic fire alarm system or other automated devices.
3. Do not use the product in the vicinity of a pacemaker within a 20cm range. The radio waves may affect the normal operation of the pacemaker or other medical devices.

⚠ WARNING!
Danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type.
For products with removable battery, the battery must be properly recycled or disposed. For products with built-in battery, disassembling is prohibited.
Never disassemble, hit with force, squeeze batteries or dispose of batteries in fire. Do not expose batteries in conductive materials, liquid, fire or heat. Do not let metal object contact two battery poles. If the battery looks swollen, leaking, discolored, having odor or any abnormal appearance, stop using it. Do not use the battery after immersed in water.
Improper use of battery may lead to explosion or leakage, causing skin burn or other injuries; in the event of battery leakage, handle it with care and immediately dispose of the battery in the manner in compliance with applicable laws and regulations in your locality.

Correct disposal of this product. This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.
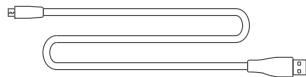
Monitoring controller × 1   USB adapter cable × 1   Power adapter × 1   Instruction manual / Certificate × 1
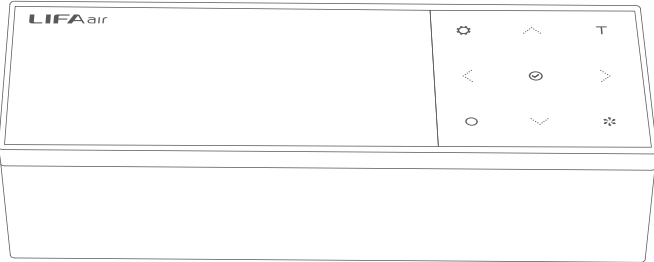
Monitoring controller
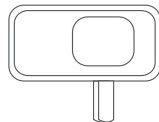
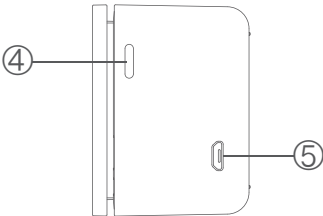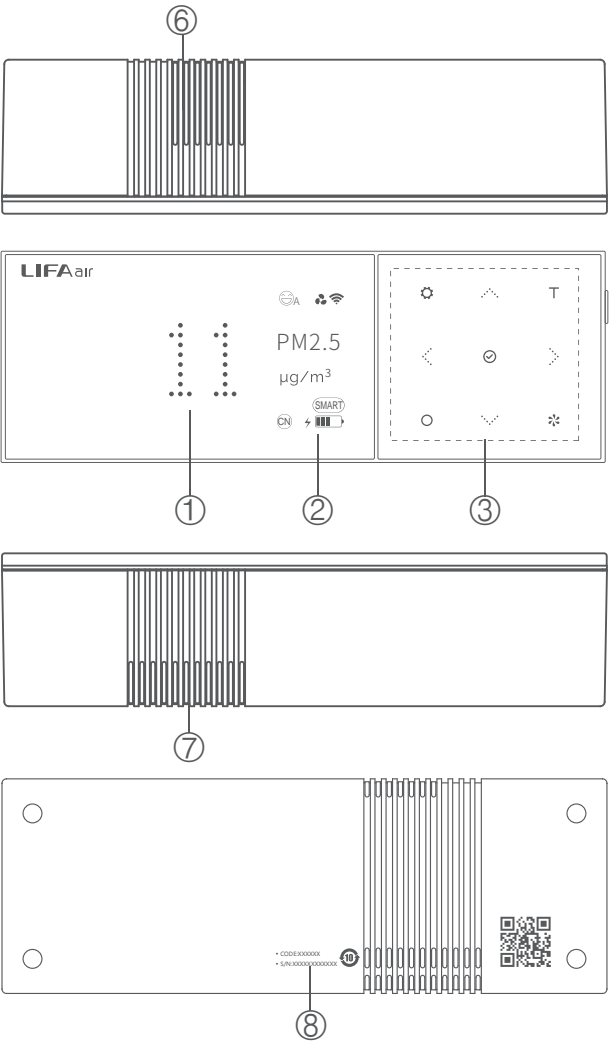Power adapter

USB adapter cable

Instruction manual / Certificate

Note: Above diagrams are for reference only, please prevail in kind.

PM2.5
μg/m³
SMART
CN

⑥ ④ ⑤ ① ② ③ ⑦ ⑧

1. Main display screen
2. Secondary display screen
3. Touch button

∧∨ To move selection box or alter the value

⚙ Setting: press and hold: enter into setting interface
press: return to previous menu
T Test: press and hold to check air quality for 5 minutes
⊘ Confirm: click to confirm
○ Filter: click to enter into filter use and filter reset interface
❄ Main unit speed control: click to select purifier's fan
speed mode (note 1)
4. Turn ON/OFF: press and hold
5. 5V DC microUSB power connector
6. PM2.5 sensor air inlet (note 2)
7. PM2.5 sensor air outlet (note 2)
8. Model identifications
S/N code: serial number of monitoring controller
(required for warranty)
CODE code: The last six digits of MAC address. It is the unique
identification code for every network interface
device, and the password to APP remote control.
Not case-sensitive.

Note 1: It is only enabled when connected with LIFAair smart air purifier.
Note 2: To avoid effecting sensor accuracy, avoid blocking the intake and exhaust area. Using plush fabric cushioning may clog exhaust.
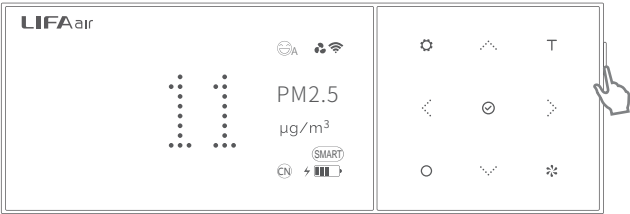
Pairing

Monitoring controller works collaboratively with the main unit through a special Bluetooth wireless connection, can be paired with LIFAair smart air purifiers within certain distance.

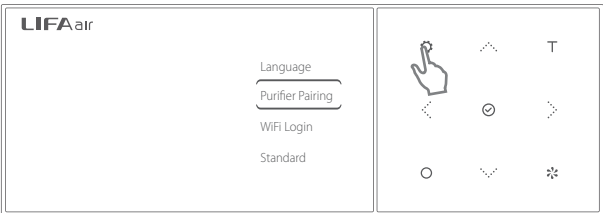1. Press and hold the monitoring controller ON/OFF button to turn it on.

Note: In this manual, LIFAair LA350/LA500 purifiers are used as an example. Pairing methods of main unit may differ depending on product models. If the monitoring controller is paired with previous models, there may be function limitations.

2. Slide anticlockwise on the touch circle of purifier main unit to let the main unit blink green slowly, with one finger press and hold " ⭘ " icon on the touch circle for over 5 seconds until the green light flashes rapidly. The main unit will then enter pairing mode for 30 seconds.

Note: When pairing, the main unit must be in standby mode (green light slowly flashing; when the main unit flashes white, it has been successfully paired with the controller).
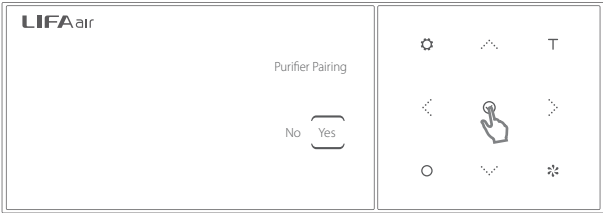
3. Press and hold " ⚙ " on the controller, touch " ∴ " to select main unit paring, then click " ⊘ " to confirm.

Language
Purifier Pairing
WiFi Login
Standard

4. Touch " ∴ " to move selection box to "Yes" and press " ⊘ " to confirm the monitoring controller and main unit will enter auto pairing mode.

Purifier Pairing

No   Yes

5. After the pairing is successful, the main unit indicator light will turn white, and the monitor will display "Pairing successful". The " 🌀 " icon will appear at the top of the secondary display. If pairing is unsuccessful, please repeat the above steps.

Purifier Pairing

Pairing successful
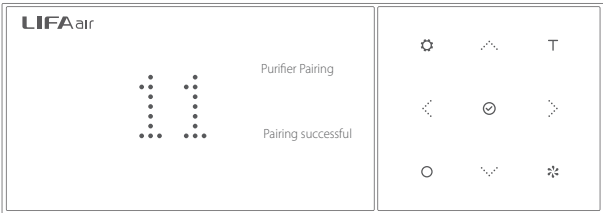
Monitoring controller testing items

Your smart air purifier monitoring controller can monitor carbon dioxide (only for LAM05), PM2.5, PM10 (only for LAM05V) and TVOC concentration. When paired with LIFAair smart air purifiers, it can automatically control purifier main unit and maintain PM2.5 concentration in a healthy range. It can also monitor temperature and humidity.
The monitoring controller will monitor air quality. There are six levels: good, moderate, unhealthy for sensitive groups, unhealthy, very unhealthy, and hazardous. American standards will be more stringent.

CO_2 measurement (only for LAM05)

In the main interface press " ∴ " " ∴ " to switch to "CO_2" interface.
CO_2 concentration will display on the monitoring controller, ≤ 1000ppm is good.
When the concentration is over the standard level, it is recommended to open window for ventilation.
It takes about 40 seconds for the value to stabilize.
The average CO_2 concentration in outdoor air is about 400ppm.

CO_2
ppm
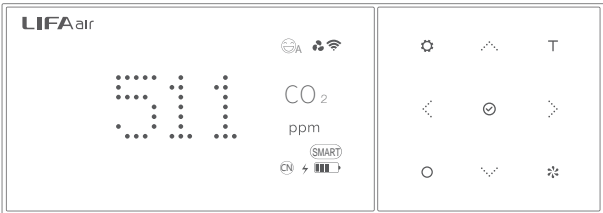
PM2.5 measurement

In the main interface press ".·⌒·." and ".·⌒·." to switch to "PM2.5" interface.
The Chinese standard requires PM2.5 level to be below 35µg/m³. American standard requires PM2.5 to be under 12µg/m³. It takes about 40 seconds for the value to stabilize.

PM10 measurement (only for LAM05V)

In the main interface press ".·⌒·." ".·⌒·." to switch to "PM10" interface.
Less than 150µg/m³ is good, the monitoring controller does not judge air quality by PM10. It takes about 40 seconds for the value to stabilize.
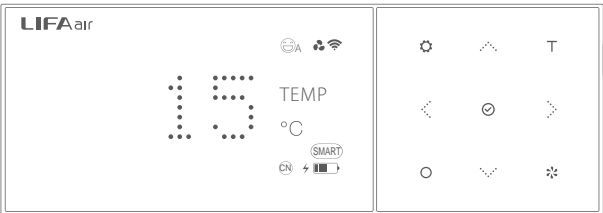
TVOC measurement

In the main interface touch ".·⌒·." ".·⌒·." to switch to "TVOC" interface.
According to national standards, AQI (air quality index) measurement doesn't account for TVOC. Thus, when the monitoring controller displays "good", it doesn't indicate TVOC is under national standard level. It takes about 40 seconds for the value to stabilize.

Note: The monitoring controller uses a semiconductor sensor to measure TVOC, it cannot replace professional instruments.
TVOC is divided into five levels:

Good: ☐ ☐ ☐ ☐   Moderate: ☐ ☐ ☐ ■   Unhealthy: ☐ ☐ ■ ■   Very unhealthy: ☐ ■ ■ ■   Hazardous: ■ ■ ■ ■

Temperature measurement

In the main interface touch ".·⌒·." ".·⌒·." to switch to "Temperature" interface.
It displays the temperature at which the purifier main unit is located.

Note: To enable this function, please ensure the monitoring controller is connected with LIFAair purifier main unit.

Humidity measurement

In the main interface touch ".·⌒·." ".·⌒·." to switch to "Humidity" interface.
It displays the relative humidity at which the purifier main unit is located.

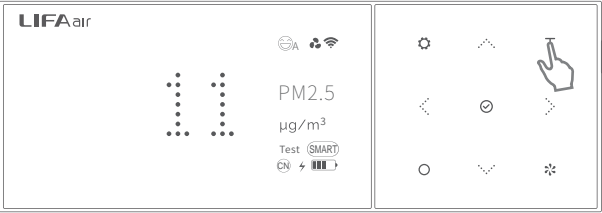Note: To enable this function, please ensure monitoring controller is connected with LIFAair purifier main unit.
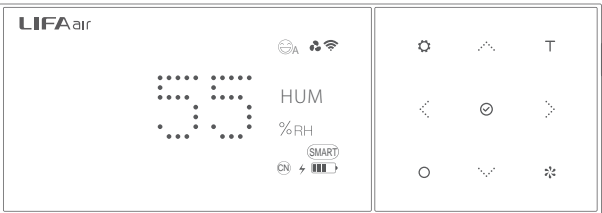
Short time and continuous monitoring of monitoring controller

Press and hold " T ", the controller will continuously monitor air quality and will display for 5 minutes. The "Test" icon will blink on the secondary display.

Note: After pairing with the unit (main unit indicator light is white), the controller will regularly monitor air quality and auto-control the operation of the main unit, even when the monitor display is on standby (either black or only displays time).

Note: Due to product and software upgrades, operation interfaces shown on this manual may be slightly different from actual product. If any difference is found, the actual product prevails.
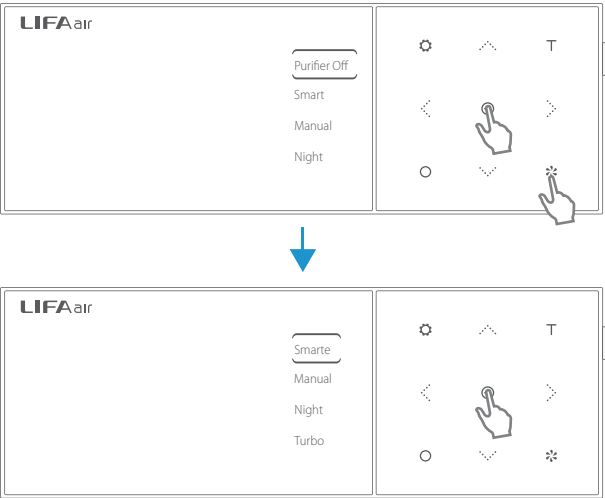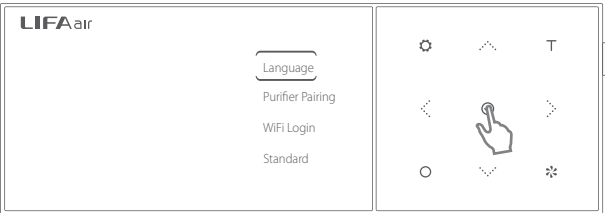
1. Control the main unit: Touch " �֎ " to enter into speed mode selection interface (paired with the main unit), touch " ⌃ " " ⌄ " to move selection box and click " ⊘ " to select different purification mode.

Purifier Off: Enable this setting to turn on the product or make it enter standby.
Smart Mode: According to real-time indoor air quality, the monitor will auto-adjust the main unit's fan speed (recommended mode)
Manual Mode: Manually adjust the fan speed of the main unit; the fan speed will be held at set value.
Night Mode: Fan will run at ultra-low noise level, to ensure a comfortable sleeping environment. Fan speed will remain at constant speed.
Turbo Mode: Maximum fan speed, rapid purification

```
LIFAair                              ⚙   ⌃   T
              Purifier Off
              Smart
              Manual
              Night                      ⊙   ⌄  ֎
```

```
LIFAair                              ⚙   ⌃   T
              Smarte
              Manual
              Night
              Turbo                      ⊙   ⌄  ֎
```

2. Press and hold " ⚙ " to enter settings interface, touch " ⌃ " " ⌄ " to select and " ⊘ " to confirm modification, then touch " ⚙ " again to return to main interface.

Language: CN → Chinese mandarin;
                    EN → English;
                    "CN" is default.
Purifier Pairing: Can be paired with LIFAair smart air purifier. "No" is default
WiFi Login: Download LIFAair mobile APP to facilitate process. Refer to P12-P14 for details.
Standard: Select the air quality standard (Chinese or American) as the purification standard; If American standard is selected, the fan will operate at higher levels, especially at night. Default is Chinese standard.

```
LIFAair                              ⚙   ⌃   T
              Language
              Purifier Pairing
              WiFi Login
              Standard                   ⊙   ⌄  ֎
```

Display Brightness: Adjust the screen brightness. Default is "low"
Display Control: When setting is turned off, the main and secondary screen will turn off between 22:00 to 6:00. The power indicator will also be off. "ON" is default. (Note 1)
Nightlight: If this function is enabled, at night when the controller enters time display, touch any button the main display screen will all be lit and remain at the highest brightness for 3 minutes, at this moment touch any button again the main display screen will exit full-light to show corresponding content. "ON" is default.
APP Control: Permit or forbid mobile phone APP to control the main unit. If "OFF" is selected, APP can only view monitor display, it will not be able to control the monitor.
Purifier Lock: Toggle touch control functionality on/off. To avoid accidental touch, turn touch control off. "ON" is default.
Night Eco: When turned on, the main unit will automatically decrease fan speed between 22:00-6:00 to reduce noise level and conserve energy. "ON" is default.
Time Setting: Select "Yes" and manually touch " ⌃ " " ⌄ " " ⌃ " " ⌄ " buttons to adjust time. "No" is default. (Note 2)
Factory Setting: Select confirm, the monitoring controller will be restored to factory settings. "No" is default.
CO$_2$ Calibration (only for LAM05): Please follow the screen prompt to calibrate CO$_2$ value to zero, so as to ensure its accuracy. Generally, it is unnecessary to calibrate. "No" is default and see P11 for details.

```
LIFAair                              ⚙   ⌃   T
              Display Brightness
              Display Control
              Nightlight
              APP Control                ⊙   ⌄  ֎
```

```
LIFAair                              ⚙   ⌃   T
              Purifier Lock
              Night Eco
              Time Setting
              Factory Setting            ⊙   ⌄  ֎
```

```
LIFAair                              ⚙   ⌃   T
              Night Eco
              Time Setting
              Factory Setting
              CO2 Calibration            ⊙   ⌄  ֎
```

Note 1: If monitor is paired with non-default air purifier, it will not be able to minimize light pollution; the indicator light on the main unit will not turn off.
Note 2: When the controller is connected to Wi-Fi, the time will automatically sync to local time, accounting for time zones as well.

3. Filter checking

LIFAair series smart purifiers all implemented advanced filter life-span calculation algorithm, it accurately calculates filter usage. Press " ◯ " to enter filter monitoring surface, use " ⌃ " " ⌄ " to separately view each filter's life statues. The filter should be replaced when the monitor indicates the filter's capacity is less than 5%.

Pre Filter
Activated Carbon Layer
HEPA Filter
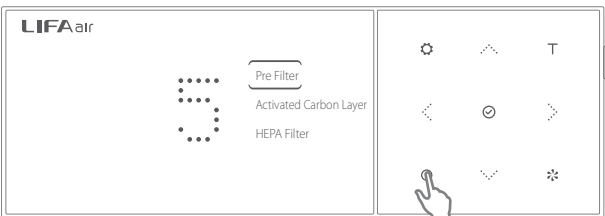
After cleaning or replacing the filter, please press " ⊘ " to enter filter reset interface. Select "Yes" to reset, the monitor will then restart the monitoring process.


Pre Filter Reset

No   Yes
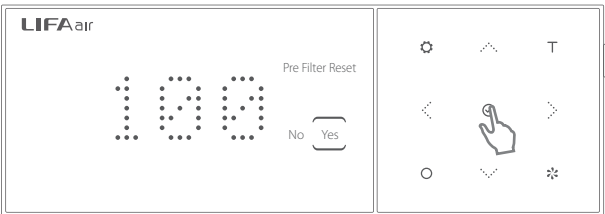
Note:
* When the internal battery is used to power the monitor, after each monitoring cycle the monitor will automatically enter standby mode.
   The main and secondary display will be off, until the main power supply is connected.
* In standby mode, if the monitor is paired with the main unit, the monitor will still control and operate the main unit, despite the display being off.

How to calibrate CO2:

CO_2 sensors have been pre-calibrated. If there appears to be a systematic error, proceed to recalibrate.
Calibration method:
Place the monitoring controller outdoors, ensure sufficient ventilation. After 10 minutes, turn on the monitoring controller and perform two "Continuous measurement" procedures. After the second "Continuous measurement", wait for 3 minutes. Press and hold " ⚙ " to enter main interface, touch " ⌃ " " ⌄ " to move selection box to "CO_2 Calibration" and press " ⊘ " to enter selection interface, then press " ‹ " " › " to select "Yes" and press " ⊘ "again to calibrate CO_2 value to 400ppm.

Night Eco
Time Setting
Factory Setting
CO2 Calibration

CO2 Calibration

No   Yes
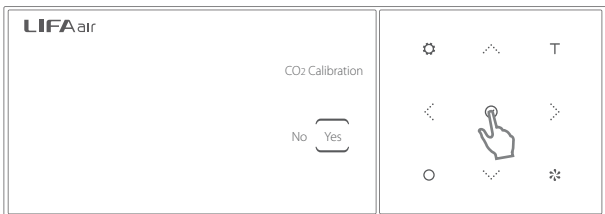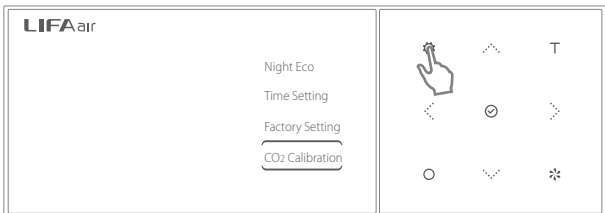
Note: If maloperation occurs, please select "factory settings" in the main menu to restore to default factory settings.

Warning

Main unit tilting:

Do not tilt main unit during operation. If it is tilted over 45 degrees, the monitor screen will display such warning, and the main unit will stop operating until it is restored back to upright position. The warning icon will then also disappear.
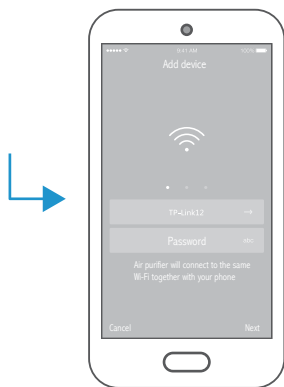

Main Unit Tilting
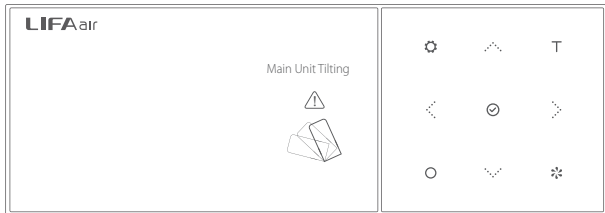
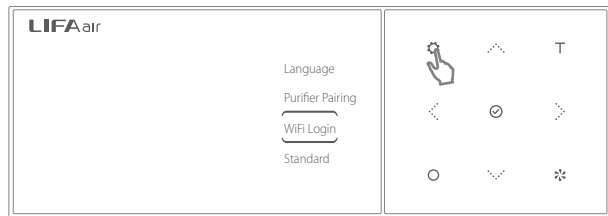Scan QR code using a mobile phone or scan QR code at the bottom of monitoring controller
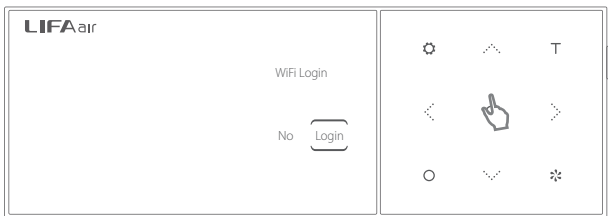
Download and install APP

Open LIFAair, Click the "+" on the phone screen

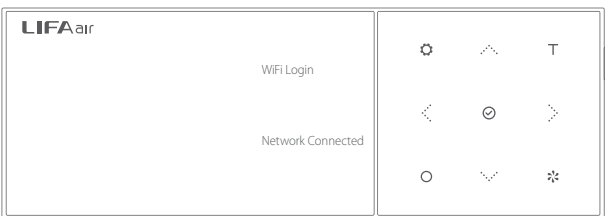Make sure your phone is properly connected to Wi-Fi network, enter Wi-Fi password

Press and hold " ⚙ " on the monitoring controller to enter the main menu, touch " ⋰ " to move selection box to "WiFi Login" and press " ✓ " to confirm.

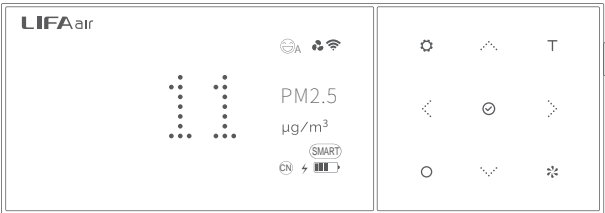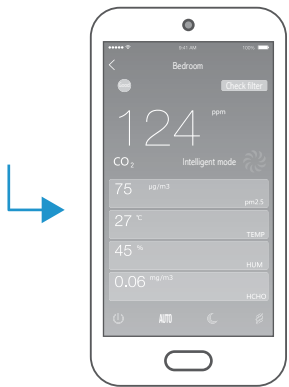Touch " ⋮ " to select " Login" and press " ✓ " to confirm.

Press the button "network connected "

Network Connected

After successfully connecting to the internet, select "connect to monitor", enter monitor password (last 6 digits of CODE, located at the back of the monitoring controller, not case-sensitive).

After successfully connecting, the main unit can be controlled via phone through the monitoring controller, and the on-screen display data will sync with that of the monitor's.

When the monitoring controller is connected successfully and returns to the main interface, " 📶 " will constantly show on the top of the secondary display, indicating it is connected.

Note: To control main unit via phone and to read data such as temperature, humidity, filter life-span etc. the monitoring controller must be connected to the main unit.

Specifications

Product Name: Smart Air Quality Monitoring Controller

PM2.5, PM10 sensor: Laser type

CO$_2$ sensor: Dual channel thermopile type (only for LAM05)

TVOC sensor: Semiconductor type

Supply voltage: 5V DC

Power connector: microUSB

Frequency Band (Wi-Fi): 2.412GHz-2.484GHz

Frequency Band (Bluetooth): 2.402GHz-2.480GHz

RF Power output: ≤20 dBm (EIRP)

There are no restrictions of use.

Battery type: 2 x 18650 lithium-ion battery, 5200mAh/3.7

Main display screen: white highlight dot matrix LED

Secondary display screen: white light OLED

Troubleshooting

Monitoring controller cannot be connected with purifier?
Please pair with the purifier main unit according to the steps "Wi-Fi network connection" in P12-P14.

Wi-Fi pairing of monitoring controller fails?
1. Please ensure that the router has enabled DHCP (Dynamic host configuration protocol) function.
2. Please ensure that the IP address number of router is not limited; needs to allow for connecting multiple devices.
3. Please ensure that the router does not use enterprise level encryption (including WPA and WPA2)
4. Please ensure that the router does not use IP binding mechanism.
5. Please ensure that the specified target network is 2.4G network.