

## 1. General description

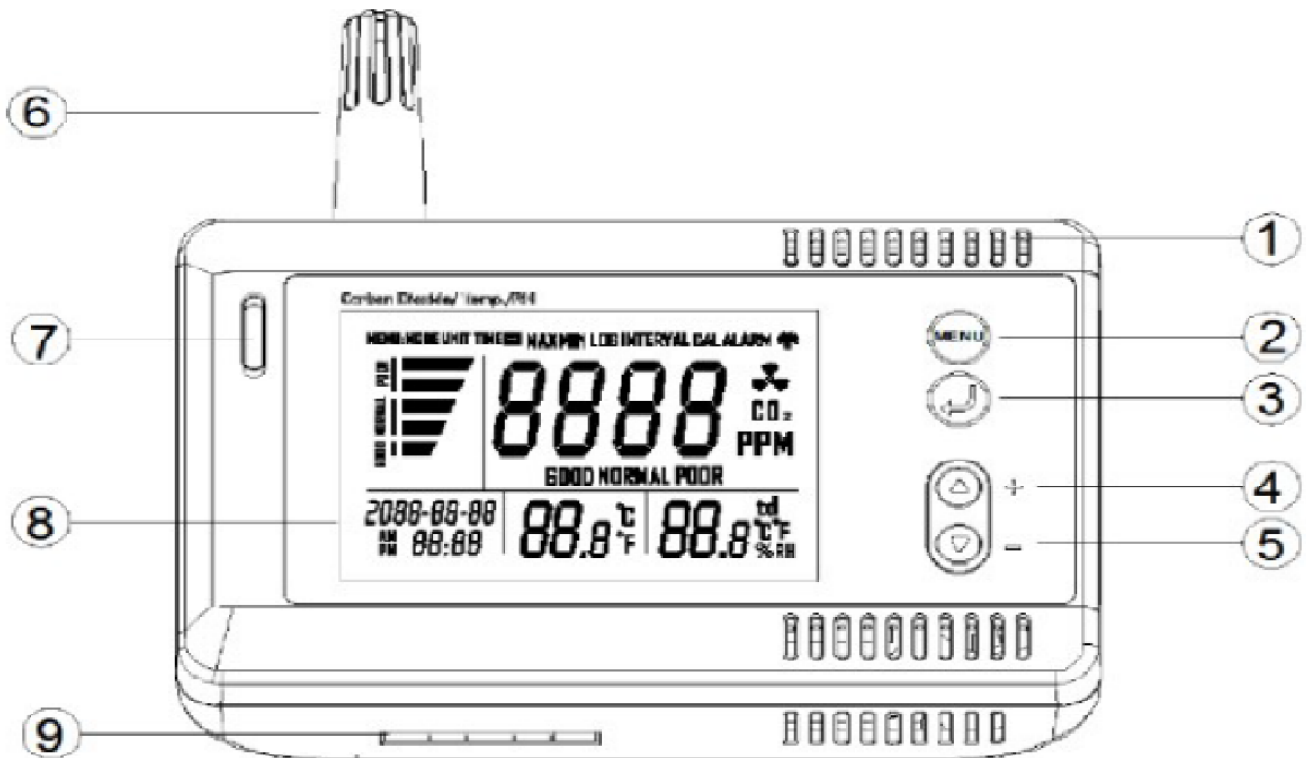
The device measures temperature, relative humidity, carbon dioxide (CO2). It is used for indoor air quality determination. The display shows the date and time which is used to timestamp the measurements. The device has a SD socket and can be connected to a computer via USB and Bluetooth (B).

## 2. Notice for use

Please follow the manual to use the device properly. Do not operate the device in the neighborhood of explosive gas, vapor, dust and water. Do not operate the device when the housing is opened. Make sure the rated voltage and rated current is suitable before connecting the relay to external equipment. When the real-time clock is not functioning properly, please follow the manual to change the battery.

## 3. Panel & Connections

1. Vent openings
2. "MENU" key pad
3. "ENTER" key pad
4. "+" add key pad
5. "-" decrease key pad
6. Temperature and humidity sensor
7. Alarm light
8. LCD display area
9. SD card socket



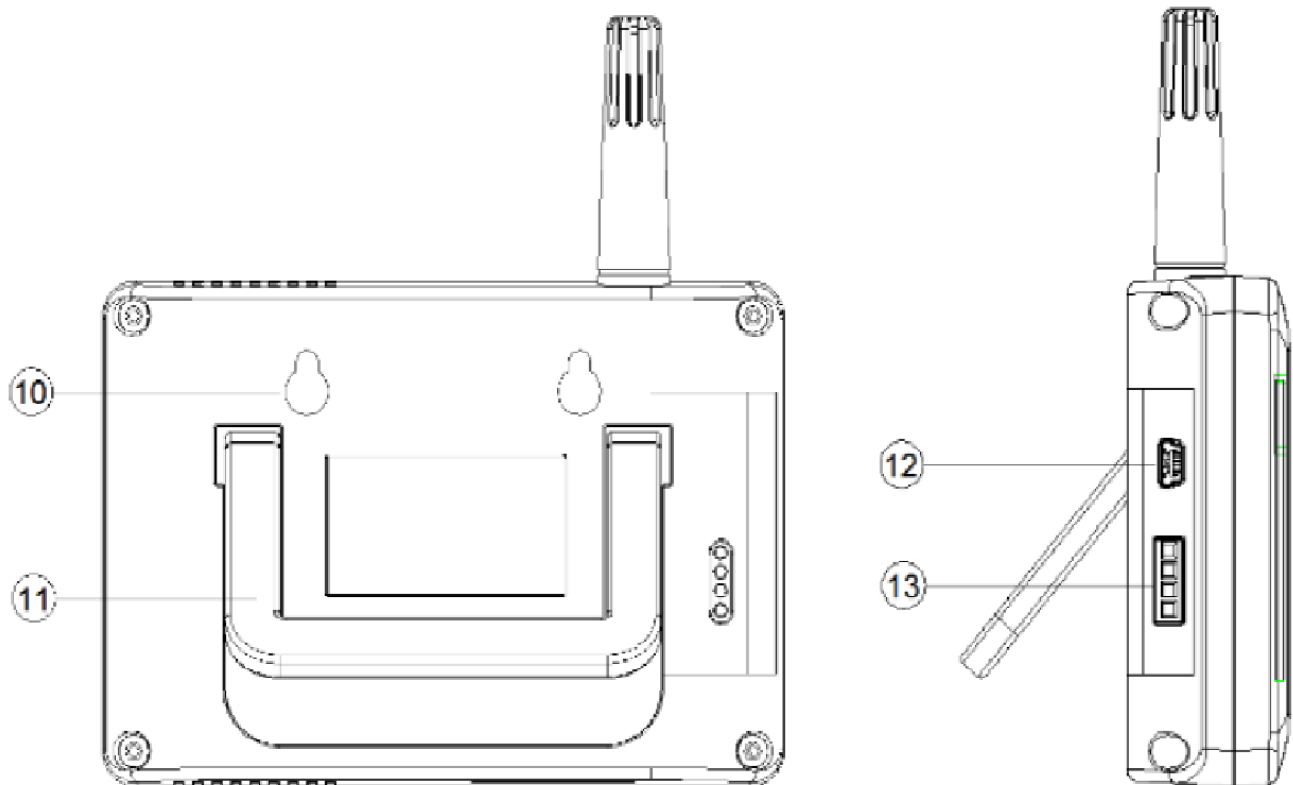
Backside housing:

10. Hook hole

11. Carriage Socket:

12. Mini-USB port use for power input or communication.

13. Relay output (30VDC 1A MAX.)

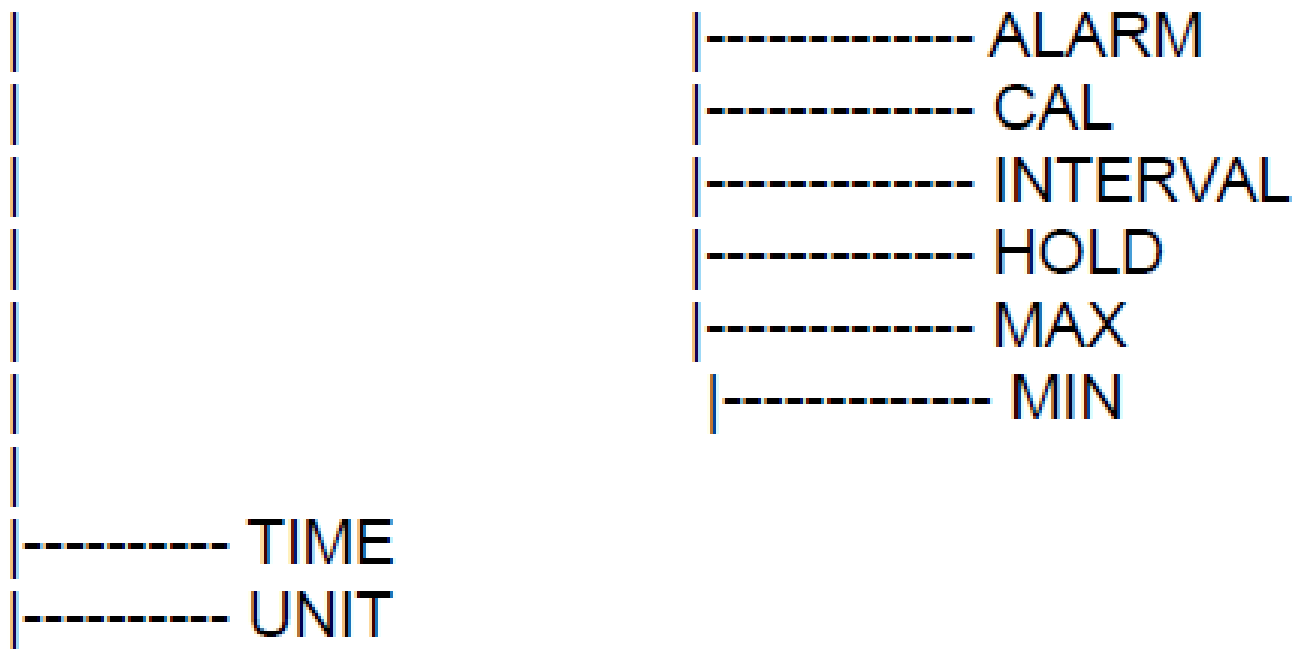


## 4. Operation instructions

When press the "MENU" key, it will enter system setting.

MENU tree:

## MENU-----MODE



### CO2 Alarm setting:

1. Press "MENU" key to enter system settings, Press "+" or "-" key and display "MENU:MODE".
2. Press "ENTER".
3. Press "+" or "-" key and display "MENU:MODE-ALARM".
4. Press "ENTER" key
5. Then press "+" or "-" key to set alarm limit. (min. adjustment: 100ppm)
6. Press "MENU" key to exit system settings.

### CO2 calibration:

1. Press "MENU" key to enter system settings. Press "+" or "-" key and display "MENU:MODE".
2. Press "ENTER".
3. Press "+" or "-" key and display "MENU:MODE-CAL".
4. Press "ENTER".
5. Then press "+" or "-" key to set calibration data. (min. adjustment 10ppm)
6. Press "MENU" key to exit system settings.

### Unit change::

1. Press "MENU" key to enter system settings. Press "+" or "-" key and display "MENU-UNIT".
2. Press "ENTER" and display "MENU:UNIT-CAL".
3. Then press "+" or "-" key to set unit.
4. Press "MENU" key to exit system settings.

### HOLD/MAX/MIN mode setting:

1. Press "MENU" key to enter system settings. Press "+" or "-" key and display "MENU:MODE".
2. Press "ENTER".
3. Press "+" or "-" key and display "MENU:MODE-H" means hold-reading. "MENU:MODE-MAX" meaning maximum reading. "MENU:MODE-MIN" meaning minimum reading.
4. Press "MENU" key to exit system settings.

### Backlight setting:

1. Exit system settings. Press "-" key to enable or disable the backlight.

### Date and time adjustment:

1. Press "MENU" key to enter system settings. Press "+" or "-" key and display "MENU:TIME".

2. Press "ENTER".
3. Press "+" or "-" key to select adjust option (Year, Month, Date, Hour, Minute".
4. Press "ENTER" and display "MENU:TIME-CAL".
5. Then press "+" or "-" key to set time data.
6. Press "MENU" key to exit system settings.

SD card record: (Disable record function before removing the SD card, or else recorded data will be lost)

1. Exit system settings. Press "+" key to enable or disable SD card record.
2. When recording is finished, disable the SD card function, remove the SD card from device and insert SD card into computer to open the recorded files in spreadsheet program.

SD card interval sample rate setting :(min. 1 minute, max. 24 hour)

1. Press "MENU" key to enter system settings. Press "+" or "-" key and display "MENU:INTERVAL"
2. Press "ENTER".
3. Press "+" or "-" key to select adjust option (Hour and Minute)
4. Press "ENTER" and display "MENU:INTERVAL\_CAL"
5. Press "+" or "-" key to select adjust sample rate data.
6. Press "MENU" key to exit system settings.

## 5. Power supply / Output signal

Power connection: Connect the USB cable to the power adapter (included) and plug into 220VAC, USB connection: Use the USB cable to connect the mini-USB port at the left side of device to the computer. When installing the driver on the computer, it will create a virtual COM port. Use the virtual port to communicate to the device. The device has a single Output relay, which operates as a switch between the 2 screws on top of the connector. Rated voltage max. 125VAC@0,5A, 30VDC@1A. When the device reaches the control limit, the relay will be activated.

## 6. Communication protocol

For more detailed information please contact us.

## 7. Product specifications

MODEL AX-CO2-1

Extra functions SD card memory and Bluetooth

Display LCD and touch key pad

Measurement

Tempertature: -30 — 50°C

Humidity: 0 — 100%

CO2: 0 — 3000ppm

Accuracy

Temperature: +/-0,5°C

Humidity: +/-3% RH

CO2: +/- 50 ppm + 3%

Sensor

Humidity: Capacitance type

Co2: Dual channel NDIR sensor

Respond time

Co2: (T90) < 60s;

Temperature and humidity: 1/e(63%)<10s, 2m/s flow

USB port Support

Power supply 100-220VAC

Limit set User setting

Relay 1 channel (125VAC@0,5A / 30VDC@1A)

Power 5W (MAX) 3,5W (average)

Warm-up 2 minutes (first use for 2 hours)

Operating environment Temp: 0 — 50 °C, RH: 0 — 95% (No condensation)

Protection IP40

Storage environment Temp: -40 — 70 °C RH: 0 — 95%RH

Size 135 x 91 x 36 mm

## 8. Maintenance

When the device is not functioning properly please contact the supplier for support. To avoid electrical shock or damage the instrument, do not wet the inside of the instrument. Before opening the housing, all connections to the device should be disconnected. Please use a soft cloth for cleaning the display and housing. Do not use organic solvents which have corrosive and dissolving effect. Always protect the device against moist. Replace the internal battery. The device has an internal battery to save date and time when the power supply is off. When the real time clock is not correct after power shutdown, then this battery needs to be replaced. Follow these steps to replace the battery:

1. Remove all cables from the device.
2. Remove the four screws in the back cover.
3. Remove the old battery
4. Place a new battery (CR1220 3V)
5. Replace the back cover and fix the four screws.