

Indoor Air Quality Monitor (MFA-200) User's Manual



MAXFOR Technology Inc.

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1. Notification

Note:

- ▷ The following document is not contractually binding. MAXFOR Technology Inc. reserves the rights to revise the document at any point, following the any potential successful upgrade of the product;
- ▷ First-time user, or whomever responsible for the repairing of the product, must read this manual thoroughly before operation.
- ▷ For the product to perform at its best, repairing or maintenance must be under the directives of personnel of, or those appointed by MAXFOR Technology Inc.

Responsibility

- ▷ MAXFOR Technology Inc. will not be held responsible for any damages such as physical damages occurred on users, if the cause is the inappropriate use of the product against the manual description.
- ▷ MAXFOR Technology Inc. does not appoint any agency or men, the legal rights to represent the company regarding our business.
- ▷ MAXFOR Technology Inc. will not be held responsible for damages or legal prosecution, caused by sales or se of products not approved by us.

Caution

1. Equipment listed in the data sheet allowed range of temperature, humidity and air pressure in use. When used in an environment that exceeds the tolerance of the device can cause malfunction or failure.
2. Gas concentrations are measured using the local temperature, pressure, humidity, etc. may appear differently depending. Thus, the device is used according to the environmental conditions must be used to compensate.
3. Move indoors to the outdoors, such as the use of devices that measure the concentration of a sudden temperature changes may cause the hunting value gas concentrations must be used after steady.
4. Equipment, such as shock or vibration is applied the measured concentration values may cause the hunting should be used after steady measurements. Excessive shock sensor and may cause malfunction of the unit should be used with caution.
5. Use provided adaptor. When using other adaptors, make sure to use proper rating and standard product. It may causes damage and measurement error.

2. Introduction

The MFA-200 indoor air quality monitor features a simple-to-use, LCD display along with triple monitoring of indoor air quality parameters (carbon dioxide or carbon monoxide, plus temperature and humidity).

The monitor has been designed for ease of installation and versatility in use. CO₂ or CO concentrations can be measured for demand-controlled ventilation. Temperature and humidity can also be monitored. Indoor air quality parameter values can be confirmed via ZIGBEE and LCD.

3. Features

- Field-mounted products CO₂ concentration measurement and the temperature and humidity measurements.(Option : CO)
- Stable NDIR sensor for CO₂ detection
- 2.4GHz wireless transmission of sensor values
- With built-in blue backlight character LCD.
- Using Internal and external antenna.
- Low-power operation.

4. Product & Sensor Specification

4.1. Product specification

Categories	Specification
Screen Display	Character LCD (16x2)
Operating Range	0°C ~ 50°C, 0~95% RH(Non-condensing)
Operating Voltage	DC 9V, AC/DC adaptor
Power Consumption	0.5W
Dimension	112(W) X 112(D) X 35(H)mm

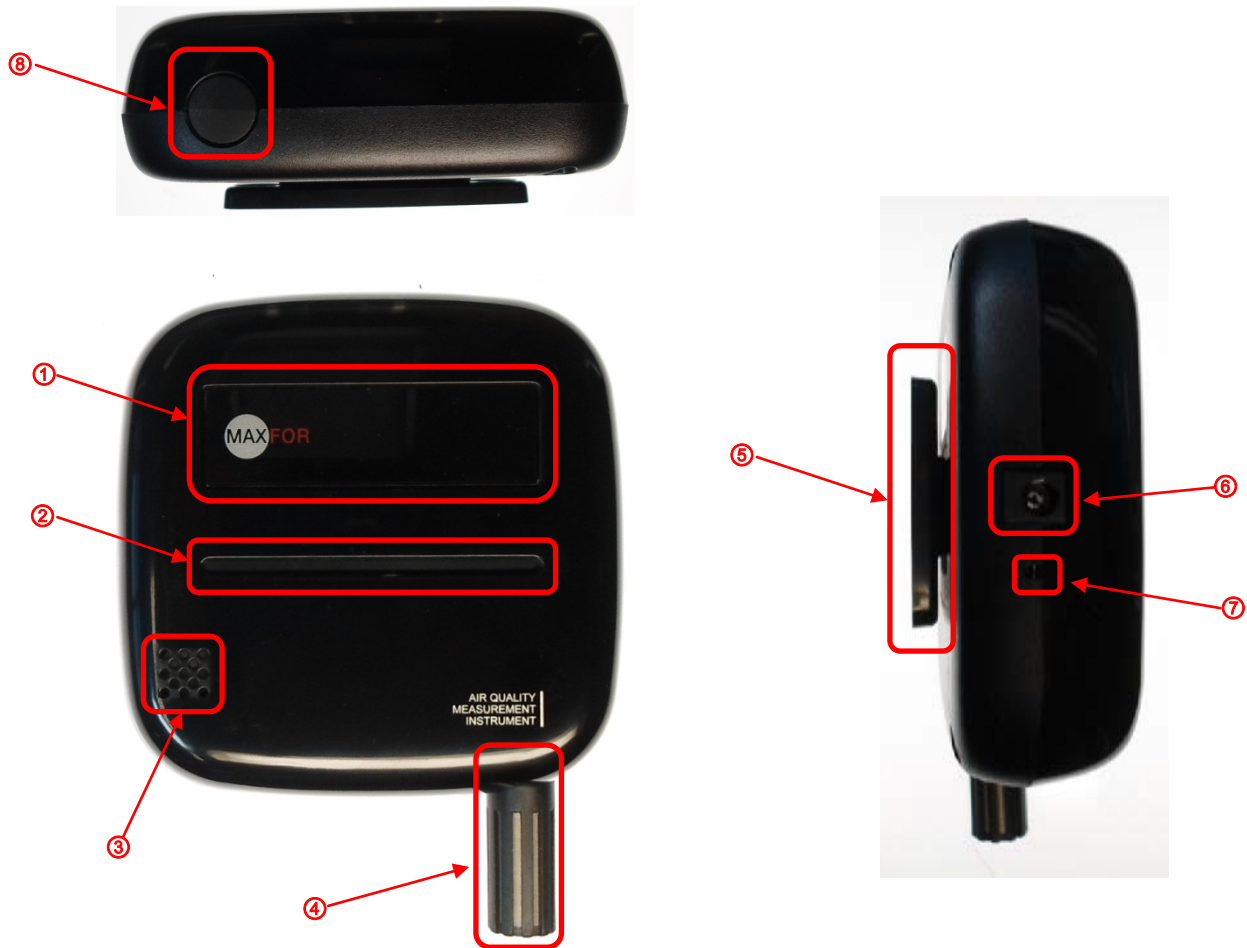
4.2. Wireless Specification

Category	Specification
Freq. band	2.405G~2.480GHz
RF power	-55dBm~8dBm
Antenna	Dipole Antenna or Intenna

4.3. Sensor Specification

Category		Specification
Temperature	Range	-40 ~123.8 °C
	Resolution	0.1 °C
	Accuracy	± 0.3 °C
Humidity	Range	0 ~ 100 %RH
	Resolution	0.1 %RH
	Accuracy	± 3.0 %RH
CO ₂	Range	0 ~ 3000 PPM
	Resolution	1 PPM
	Response Time	0~80% ≤30 sec
	Accuracy	±2%(Full Scale) @10~50°C
	Warm-up Time @25°C	<90 Sec
Expansion		
CO	Range	0 ~ 100 PPM
	Resolution	Temperature and pressure
	T90 Response Time	< 30 seconds for 90% response

5. Designation



NO.	Description
1	LCD
2	CO ₂ Sensor
3	CO Sensor (Option)
4	Temperature and Humidity Sensor
5	Bracket
6	DC Jack
7	RESET Switch Hole
8	ANTENNA(Dipole antenna)

6. Operation

1) Power ON/OFF

Plug in the adaptor and MFA-200 turns on automatically with LCD display. For meter warm up, then enters normal mode with current CO₂, temperature and humidity readings displayed.

2) Taking Measurement

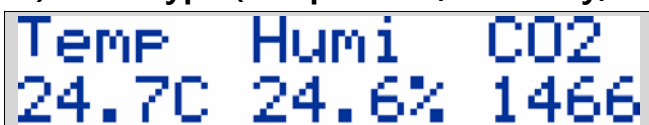
MFA-200 starts taking measurement after power on and updates readings every setting period. In the condition of operating environment change (ex. from high to low temp.), it takes 30 sec to respond for CO₂, temperature and humidity sensor.

7. LCD screen configuration

1) Initial Screen



2) Basic Type (Temperature, Humidity, CO₂)



- At the top of the sensor type, the value is displayed on the bottom.
- 'Temp' is displayed in the temperature °C.
- 'Humi' the humidity is expressed in% RH.
- 'CO₂' is displayed in the ppm.

3) Expansion Type (Temperature, Humidity, CO₂, CO)



- Before the colon (:) displays the type of sensor, and displays the value of the back.
- 'T' is the temperature expressed in units of °C.
- 'H' and the humidity is expressed in% RH.

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- 'CO2' is displayed in the ppm.
- 'CO' is displayed in the ppm.

8. Contact information

Web site: <http://www.maxfor.co.kr>

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FCC Part 15.105 statement

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.

FCC Part 15.21 statement

Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

FCC Part 15.19 statement

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This device complies with part 15 of the FCC Rules. 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.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum 20 cm between the radiator and your body. This transmitter must not be collocated or operating in conjunction with any other antenna or transmitter unless authorized to do so by the FCC.