

# ABSOLUTE OZONE® AOM3000

## Ozone + Temperature +Humidity Monitor and Alarm

## User Manual

Specification	
Model	ABSOLUTE OZONE® AOM3000
Sensing Element	Electrochemical sensor
Temperature sensor / Humidity sensor	NTC 5K thermistance / HS series capacitive sensor
Power Supply	24VAC/VDC ( A 24VAC/VDC power adaptor could also be used on the power socket at the side of unit )
Consumption	2.8 W
Warm up Time	<60 seconds
Temperature Measurement Range	5°C~60°C (41°F~140°F)
Humidity Measurement Range	0~80%RH
Ozone Measuring Range	0~5000ppb (0-5ppm)( 0~9.81mg/m <sup>3</sup> )
Display Resolution	1ppb (0.001ppm) (0.01mg/ m <sup>3</sup> )
LCD Backlight	Green—ozone level <1500ppb Yellow—1500ppb< ozone level <3500ppb Red— 3500ppb < ozone level ( default )
Sound Alarm	When the LCD backlight is red, the Inner buzzer alarm will be activated
Control output	a. Analog output: 1x 0~10VDC or 4~20mA output The voltage output or current output can be selectable by jumpers b. Relay output: two dry-contact outputs max switching current 3A (220VAC/30VDC), resistance load
Working condition / Storage conditions	5°C~60°C (41°F~140°F)/ 0~ 80% RH
Net Weight	190g
Dimensions	130mm(height)×85mm(width)×36.5mm(D)
Installation standard	65mm×65mm or 2"×4" wire box
Wiring standard	Wire section area<1.5mm <sup>2</sup>
Interface Connection (Max)	9 terminals
Quality System	ISO 9001 Certified
Housing	PC/ABS fireproof plastic material, protection class: IP30
Compliance	EMC Directive 89/336/EEC
Version	AOM3000

### Important Safety Information

- ◆ Always cut off power before mounting, removing, and cleaning the alarm.  
Notice the supply power voltage: 24 VAC/VDC.

### Mounting and Wire Connection

- ◆ Do not mount it behind the door, in the corner or near heat source, diffuser or any steam source, in direct sunlight
- ◆ If the monitor uses the power adaptor to supply the 24VAC/VDC power, plug the output end of the adaptor into the power socket at the side face of the alarm. (see figure 1)

Figure1 Adaptor power supply

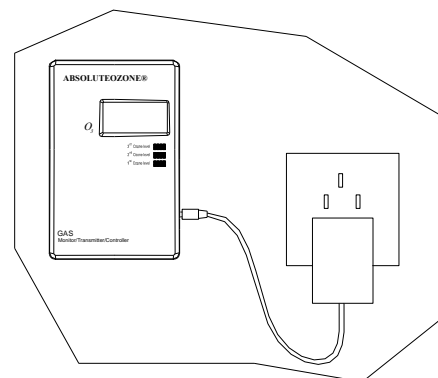
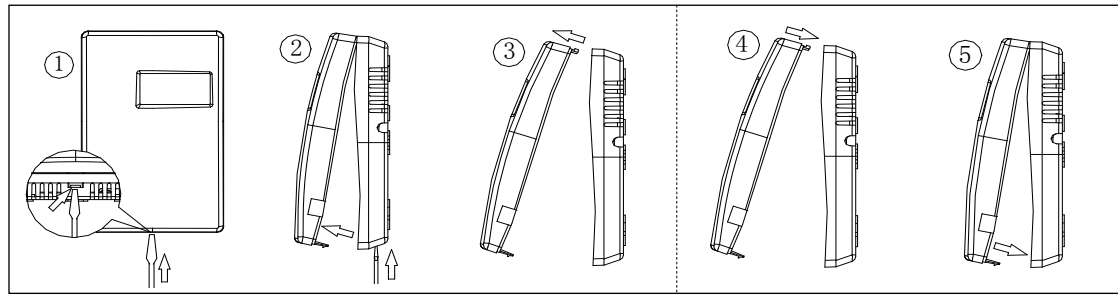


Fig.2



◆ For wall mounting:  
Follow the step 1-3 in figure 2.  
Cut off power and put a flat head screwdriver deep inside of the hole on the bottom of the alarm housing, then

depress the clip lightly to remove the face plate from the wall plate; move the top of the house apart.  
Mount the unit on the wall, please see the mounting dimension and fixing hole in figure 3.  
Connect wires to terminal strips, (see figure 4) Make sure wiring connection correct and secure.  
After finishing the mounting, follows the step 4-5 in the figure 2 to close the cover.

Fig.4 wiring connection

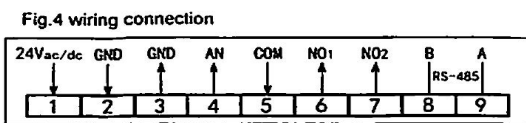


Fig.5 LCD display

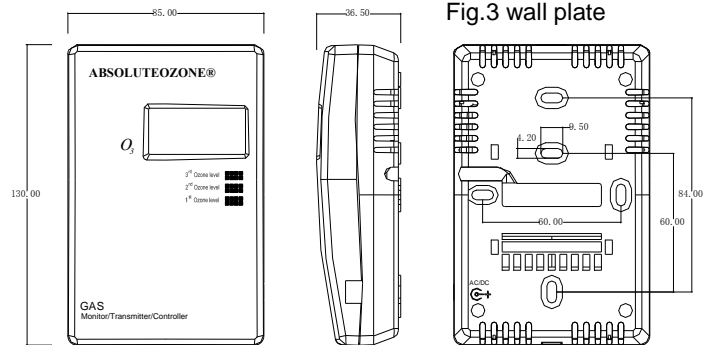
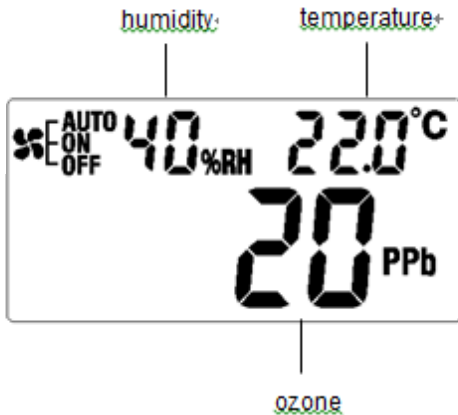


Fig.3 wall plate

## Operation

- ◆ Turn on the power, a red spotlight at lower position on the cover can be seen, meanwhile the LCD screen activated in green. The measured temperature and the relative humidity displays on the upper line of the LCD and the second line is the ozone level. See the fig.5

## Analog output selection

If you want to change the analog output, please follow the below steps:

- Power off and remove the back cover, you can see two jumpers S1 and S2 in the middle of the circuit board. Connect the right two pins of the S1 and S2, the analog output is voltage output; connect the left two pins of S1 and S2, the analog output is current output.
- There is another two jumper J1 and J2 in the upper left of the circuit board. When the J1 is connected the analog output is 2-10VDC or 4-20mA output, when the J1 is disconnected, the analog output is 0-10VDC or 0-20mA output.
- The J1, J2 is just for testing before leaving factory, the default is 4-20mA. Do not change them !

## Parameter Setup

Cut off power and remove the face cover, there is a set of 4 Dip switches on the upper left corner on the circuit board.

DIP1	OFF – volume concentration	ON- mass concentration	Leaving factory (default): OFF
DIP2	OFF - Celsius	ON-Fahrenheit	Leaving factory: OFF
DIP3	OFF- relay 1 control valid at the first setpoint		Leaving factory: OFF
	ON- relay 1 control valid at the second setpoint		

DIP4 OFF- relay 2 control valid at the first setpoint  
 ON- relay 2 control valid at the second setpoint

Leaving factory: OFF

### Jumpers

**J1:** connected (short circuit)— analog start-value at 2V/4mA; disconnected— analog start value at 0V/0mA;

**J2:** connected — test of analog output bottom limit; disconnected— analog output work normally

**J3:** connected — test of analog output upper limit, relay outputs, backlight& buzzer alarm;  
 disconnected—all work normally

**J4:** connected-- zero point calibration

after using the ozone sensor for more than one year, the sensor need to be calibrated again. Put the monitor into the space of zero ozone ( make sure the ozone level in the space is zero), connect the jumper first and then disconnect the jumper when the buzzer stops alarming( about 30 seconds ), the ozone level at that time will be 0 ppm

**J5:** connected--single point calibration

connect the jumper first and then disconnect the jumper when the buzzer stops alarming( about 30 seconds ), the ozone level at that time will be the value as that shows in parameter -26

### Parameter Setup:

1. parameters can be set through RS485

OR

2. connect **J1& J2** at the same, DIP 1 & 2 to ON. parameters can be set through infrared remote controller (▼▲ keys to adjust values,

**MODE** key to switch items)



LCD Display	Parameter	Setting Range	Default
-01	Temperature differential value	±3.0°C/±6°F	0
-02	Manual humidity calibration	5~99%RH	50
-03	Real-time ozone value calibration	0~ upper limit of measuring range e.g. if set this value at 16 through RS485 or remote controller, the sensor will take the present ozone level as 16ppm	0
-04	First setpoint of relay 1	1~ upper limit of measuring range	1000
-05	Second setpoint of relay 1	1~ upper limit of measuring range	2000
-06	First setpoint of relay 2	1~ upper limit of measuring range	3000
-07	Second setpoint of relay 2	1~ upper limit of measuring range	4000
-08	Relay differential value	1~1000	100
-09	Relay control mode	0: to increase ozone concentration 1: to decrease ozone concentration	1
-10	Demarcation point between green backlight and yellow backlight	1~ upper limit of measuring range	1500
-11	Demarcation point between yellow backlight and red backlight	1~ upper limit of measuring range	3500
-12	Buzzer alarm	0: invalid      1: valid	1
-13	Alarm setpoint	1~ upper limit of measuring range	3500
-14	Alarm differential value	1~1000	100
-15	Alarm song album	0: Tick-tick 1: Music-For Elise 2: Music-Mariage d`amour	0
-16	Sensor warm-up time	1~ 600 seconds	120
-17	Display in ppm or ppb	1: ppm      2: ppb	2
-18	RS485 communication address	1~ 255	1

-19	RS485 Baud rate	1: 4800bps 2: 9600bps 3: 14400bps 4: 19200bps 5: 28800bps 6: 38400bps	4
-20	RS485 Parity bits and Stop bits selectable	1: None 1Stop; 2: None 2Stop 3: Odd 1Stop; 4: Even 1Stop	1
-21	Sensor detection upper limit value	1~ upper limit of measuring range	5000
-22	Self calibration	0: invalid 1: valid	1
-23	Manual zero point calibration available	Adjust the setpoint from 0 to 1, the present ozone level is deemed as 0ppm	0
-24	Manual single point calibration available	Adjust the setpoint from 0 to 1, the present ozone level is deemed as the value in -26	0
-25	Manual vernier regulation of detection value ( AD value calibration )	-9999~ 9999	--
-26	Sensor calibration, 1 <sup>st</sup> detection point	0ppb~ upper limit of measuring range	0
-27	Sensor calibration, 1 <sup>st</sup> AD value	0 ~ 32767	--
-28	Sensor calibration, 2 <sup>nd</sup> detection point	0ppb~ upper limit of measuring range	2500
-29	Sensor calibration, 2 <sup>nd</sup> AD value	0 ~ 32767	--
-30	Sensor calibration, 3 <sup>rd</sup> detection point	0ppb~ upper limit of measuring range	5000
-31	Sensor calibration, 3 <sup>rd</sup> AD value	0 ~ 32767	--

Notice: Relay 1 activated, **ON** will display on LCD; Relay 1 deactivated, **ON** will not display on LCD

Should you have any questions regarding the AOM 3000 Ozone Safety Monitor, please contact ABSOLUTE OZONE® technical support at the following contact information and we will be more than happy to assist you:

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