

# CO<sub>2</sub>, HUMIDITY, TEMPERATURE WALL MOUNT/DESKTOP DATALOGGER



## QUICK GUIDE

1

Power up the meter through USB type-C



2

You can start using the logging function 30 minutes after booting



3

Plug & Play . Using Windows computer to setup the logging feature fits you



4

After hanging on the position you like, press ▶/|| long time to start logging.



## INTRODUCTION

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This is an accurate, fast, smart and easy-to-use air quality datalogger. In addition to measure the CO<sub>2</sub> concentration, it also displays the hazardous level and monitor ambient temperature and relative humidity. This monitor not only provides instant value but also record measurement for future check.

### Features:

- Large LED displays CO<sub>2</sub> value, humidity and temperature.
- 12000 times auto logging. USB2.0 plug and play. No need to operate through specific software.
- Wall mount display with 3-color light bar to provide hazardous level indicator from far distance
- Touch panel to program the setting
- NDIR (non-dispersive infrared) waveguide CO<sub>2</sub> technology
- 3-color lightbar (green / yellow / red) gradually changes color for CO<sub>2</sub> concentration.
- CO<sub>2</sub> automatic background calibration(called ABC) for long time drift compensation
- Buzzer alarm function is included
- Areas of application: Widely used in the office building, school, exhibition hall, shopping mall, meeting room, fitness center, restaurant and other public places where energy cost, personal comfort and healthy are important.

## MATERIAL SUPPLIED

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The standard package contains below:

- CO<sub>2</sub> Datalogger x 1pc
- USB-C cable x 1pc

**NOTE: provided USB-C cable is for both data transfer and power charging.**

- Operation manual x 1pc
- Sticker & Screws for wall mount hanging x 1 pack

## POWER UP

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This meter is designed as wall mount & desktop use. It is powered up by 5VDC through USB-C cable. For mobility, you may also use power bank for temporary use. Once meter is powered, the LED will auto turn on.



## CAUTION

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Please take off the AC power adapter when this monitor left idle for long. Please use a standard USB power supply (such as PC's USB port, universal AC adapter with USB port). Improper power supply can cause serious damage to the device, or result in injury or death to the user.

The vents allow the air circulation liquid for measurement of the CO<sub>2</sub> concentration and the ventilation should not be blocked.

# DISPLAY , KEYPAD, SPECIFICATION



- ① CO2 concentration, parts per million (ppm). NDIR CO2 sensor, display up to 9999ppm
- ② Ambient temperature. °C/F switchable. Range -10.0~60.0°C (14.0~140.0°F)
- ③ Relative humidity. Range 0.1~99.9%RH
- ④ 12000 times record auto logging function
- ⑤ CO2 alarm buzzer. Buzzer is default as OFF and can be activated through keypad
- ⑥ Three color light bar. The status of measured CO2. Default: ■ <800ppm ■ 800~1000ppm ■ >1000ppm

## SET

-Setting modes. Long press to enter setting mode

## MUTE / +

-While buzzer sounds, short press to mute  
 -While in setting mode, press to adjust value

## > / ||

-Press longer time to start or stop logging



## SPECIFICATION

Measuring range		Response time	
CO2	0~9999 ppm,	CO2	<30 seconds (63% step change)
Temperature	-10.0~60.0°C (14.0~140.0°F)	Tair	<2 mins (90% step change)
Humidity	0.1~99.9% RH	Humidity	<20 minutes (90% step change)
Resolution	1ppm,1ug/m <sup>3</sup> , 0.1°C/°F, 0.1%RH	Auto Logging	12000 times record
Accuracy		Operating	0~50°C , 0~95% RH (avoid condensation)
CO2	+50ppm±5% of reading(0~2000ppm) Other range is 10% of reading	Storage	-20~ 50°C,0~95%RH(avoid condensation)
Temperature	±0.6°C/±0.9°F	Power supply	5VDC USB type C port
Humidity	+5%RH (at 25°C, 10~90%RH) ; +7%RH (at 25°C , other range )	Power consumption	<500mA
		Meter size	226 x 152 x 45 mm (L x W x T)
		Weight	450g
		Standard package	Meter, manual, USB type C cable ,Hanging accessories.

# OPERATION

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## 1. Power on and Measure:

- Connect the USB-C cable to a PC or 5VDC wall adapter or power bank to power on the device.
- After power on, the LED count down for 10 seconds during warm-up.
- The device will start to measure CO<sub>2</sub> concentration, ambient temperature and relative humidity after warm-up.
- Suggest to power on for at least 30 minutes before using the logging function.

## 2. Light bar :

Besides the value display, this meter is also equipped with programmable light bar color feature. There are 3 different light bar color for CO<sub>2</sub>: Green, Yellow and Red. The color auto switches according to the measured value. Yellow color will be skipped if red light setting is identical to yellow.

	CO <sub>2</sub>
From Green turns into Yellow	Adjustable from 700 to 3000 (default as 800)
Yellow turns into flashing Red	Adjustable from 700 to 3000 (default as 1000)

## 3. Buzzer & How to turn off buzzer:

Buzzer function is default OFF in case of using in quiet places. It is required to activate buzzer function in setting mode while audible alarm is needed. While buzzer is activated and measured CO<sub>2</sub> is over alarm threshold, buzzer sounds once a second till pressing "MUTE" key to stop.

## 4. Setting:

Long pressing "SET" key to enter the settings. And then press "SET" key to select setting modes in sequence: AL (CO<sub>2</sub> Alarm color), Unit (temperature unit), Buzzer, ABC (auto background calibration), and bL (Brightness of light bar),  
Press "+" key to adjust the parameters.

**\*Note: During the setting process, the device will return to the main screen after 25 sec of idle time.**

4.1 Alarm(AL): For CO<sub>2</sub>, green turns into yellow, adjustable from 700ppm to 3,000ppm, default 800. Yellow turns into red, adjustable from 700 to 3000ppm, default 1000. Red should be larger than yellow, yellow color will be skipped if red light setting is intentionally identical to yellow. Interval is 100ppm. This red light threshold is related to buzzer alarm trigger and red light bar trigger.  
To adjust alarm threshold value, Press "+" key.

4.2 Temperature unit: Press "+" to switch between °C and °F

4.3 Buzzer activation: Buzzer is default OFF for using in quiet places. Press "+" to turn it to ON.

4.4 CO<sub>2</sub> ABC function: ABC means the lowest measured CO<sub>2</sub> value in past 7 days will be used as 400ppm to auto calibrate the CO<sub>2</sub> sensor to reduce the long term drift. It is default as ON.

However, **it is not suggested to turn on ABC feature in hospital, green house, winery or any less ventilated places where CO<sub>2</sub> has no chance to get low.** Press "+" to switch between ON and OFF.

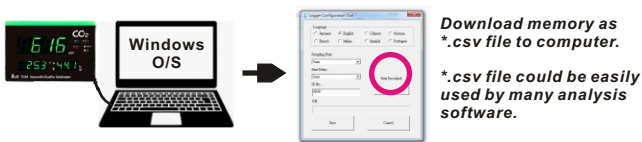
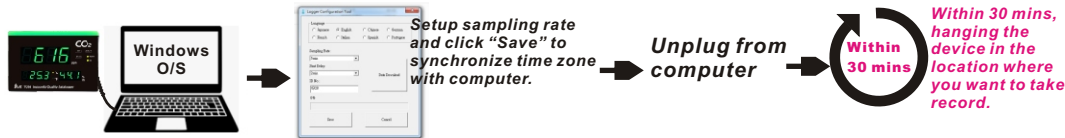
4.5 Brightness of light bar (bLt): The brightness of light bar is adjustable. From off to strong is 0 to 10, 0 is turned off and 10 is the strongest. Default as 6. Press "+" to adjust the brightness of light bar to fit your need. Though light bar might be set to off, it will still blink at weakest level 1 brightness while measured CO<sub>2</sub> is higher than alarm threshold.

## 5. Datalogging

In addition to be a real time monitor, you can also setup a recording sampling rate per your need to log the measured value and download the data later for future analysis use.

Before operation this function, **strongly suggest to power on the device for 30 minutes.**

Plug the USB port to any Windows O/S computer, it is plug and play, no need to install specific software ahead. Computer will recognize logger as a CD-ROM and pop up a new screen for configuration. If not, you may go to file management to click a recognized CR-ROM called "PDF Logger "

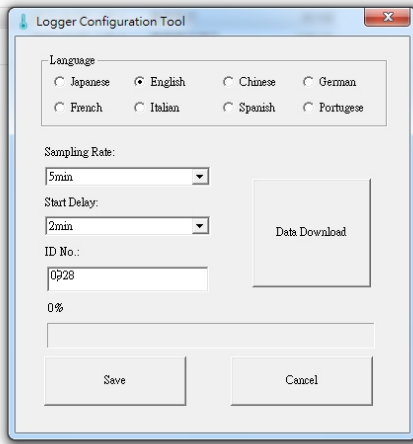


Double click "Logger configuration tool" to setup the logger. The logger configuration screen offers 8 languages to help you setup easily. The programmable parameters are sampling rate , start delay time and Logger ID.

\*The programmable sampling rate is from 1 min to 2 hours.

\*The start delay time is from 0 min to 12 hours. By choosing 5 mins, it means the first record will be taken into memory file 5 mins after you pressing the start key.

\*Logger ID is a 4 digit number you can use to give each logger a unique property code, such as 0928.



After setting, click "Save" to synchronize the setting and your PC time zone to this datalogger.

Finally, close the setup screen and disconnect logger with computer. Within 30 minutes, Install the logger to the place where you want to monitor and record the indoor air quality.

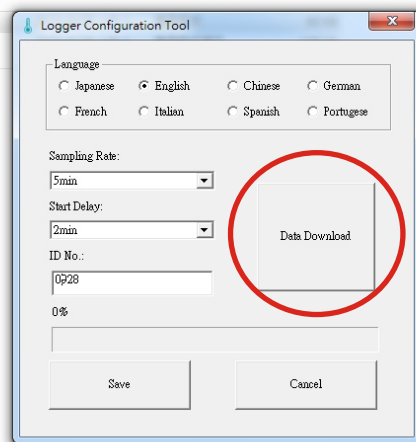
Long press "Start" key to activate the logger till "REC" LED flashes. If the logger is programmed as start delay 5 mins, the "REC" LED will consistant display and then turn into flashing after 5 minutes.

To stop recording before memory ID is full, press "STOP" key longer time till "REC" LED went off. There are 12000 records memory. While memory is full, FULL icon will appear on display to remind user.

Connect to computer to read out. The procedure is the same like connecting to setup.

Click **“Data Download”** button on setup screen and choose where to save the logged file to.

The read out csv report can be opened by windows excel.



The saved report contains:  
 Configuration Time, Start Time, Start delay, Sampling rate, ID no. and Total records number.

Each record contains Date and time, CO<sub>2</sub>, TA and RH(%)

	A	B	C	D	E	F
1	Config. Time	2023/4/27	16:33:33	Start Time	2023/4/27	16:46:53
2	Start Delay	0:05:00		Sampling Rate	0:01:00	
3	ID No.	168		Total Records	36	
4						
5	Index	Date	Time	CO <sub>2</sub> (ppm)	TA(°C)	RH(%)
6	1	2023/4/27	16:51:54	665	25.3	48.9
7	2	2023/4/27	16:52:54	665	25.4	48.9
8	3	2023/4/27	16:53:54	664	25.3	49.1
9	4	2023/4/27	16:54:54	665	25.3	49.1
10	5	2023/4/27	16:55:54	671	25.3	49.2
11	6	2023/4/27	16:56:54	677	25.4	49.2
12	7	2023/4/27	16:57:54	677	25.5	49.0
13	8	2023/4/27	16:58:54	677	25.5	49.1

## MAINTENANCE

### CO<sub>2</sub> CALIBRATION

The meter is calibrated at standard 400ppm CO<sub>2</sub> concentration in factory. While you turn on the meter for the first time, simply leave it in fresh air condition to check if it is within specification. If it is, no need to do re-calibration.

Nevertheless, you may still do either ABC or manual calibration regularly to maintain good accuracy. Press **“SET”** + **“+”** keys at the same time till **“CAL”** is flashing. Long pressing **“SET”** key to start the calibration. During the calibration, **“CAL”** will flash on display with a 300 seconds count down. After 5 mins count down, the display return to normal measuring mode to indicate the calibration is done. During the calibration procedure, long pressing **“+”** key can quit the calibration function.

**CAUTION:** Do not calibrate the meter in the air with unknown CO<sub>2</sub> level. Otherwise, it will be taken as 400 ppm and leads to inaccurate measurement. The manual calibration is suggested to be done outdoor with good ventilation, fresh air and sunny day where CO<sub>2</sub> level is around 400ppm. Do not calibrate in rainy day because high humidity will affect the CO<sub>2</sub> level in air. Do not calibrate in places crowded with people or close to where exist high CO<sub>2</sub> such as ventilating outlets or fireplaces.

# ERROR CODE AND SOLUTIONS

CODE	PROBLEM	SOLUTION
E01	CO <sub>2</sub> or PM2.5 sensor is damaged	Send back to repair
E02	Measured reading is under the lower limit	For CO <sub>2</sub> E02: Re-calibrate. For other E02: leave the meter in room condition for 30 mins. If it not works, send back to repair
E03	Measured reading is above the upper limit	For CO <sub>2</sub> E03: put the meter in fresh air for 5 mins. For other E03: leave the meter in room condition for 30 mins. If it not works, send back to repair
E17	ABC mode of CO <sub>2</sub> sensor is fail	Send back to repair
E31 ■ 34	Temp./RH measuring circuit is in error	Send back to repair

## ? Can't power on

Check whether the adaptor is well plugged and the 5VDC power supply is working.

## ? Unexpected or expected blackout

While meter is programmed to record data, once the logging is started, blackout will cause the logging function stop. "StoP" and real time CO<sub>2</sub> value will appear in turns.

Please return to computer to download data and re-program again.

# WARRANTY & RETURN AUTHORIZATION

The meter is warranted to be free from defects in material and workmanship for a period of one year from the date of purchase. This warranty covers normal operation and does not cover misuse, abuse, alteration, neglect, improper maintenance, or damage resulting from leaking batteries. Proof of purchase is required for warranty repairs. Warranty is void if the meter has been opened.

Authorization must be obtained from the supplier before returning items for any reason. When requiring a RA (Return Authorization), please include data regarding the defective reason, the meters are to be returned along with good packing to prevent any damage in delivery and insured against possible damage or loss.

# FAMILY PRODUCTS

## Other related CO<sub>2</sub> products:

### Portable:

- Model 7752, 7755, 77532, 77535 Temp./CO<sub>2</sub> /RH meter
- Model 77596 portable CO/CO<sub>2</sub>/Temp. Logger. high performance
- Model 77597 portable CO/CO<sub>2</sub>/RH/Temp. Logger. high performance

### Wall mount

- Model 7710 PM2.5/CO<sub>2</sub>/RH/T datalogger
- Model 7729 CO<sub>2</sub>/RH/T monitor
- Model 7721/7722/77231/772332 wall mount Temp./CO<sub>2</sub> /RH meter
- Model 7530 Wall mount CO<sub>2</sub> controller.
- Model 7730 hard wired CO<sub>2</sub>/RH/T monitor

### Desktop:

- Model 7787/7788 desktop Temp./RH/CO<sub>2</sub> meter, general purpose.
- Model 7798 desktop Temp./RH/CO<sub>2</sub> Logger, with relay.
- Model 7727 desktop Temp./RH/CO<sub>2</sub> 7 backlight meter.



# **Accuracy, the Zenith of Measuring / Testing Instruments !**

Hygrometer/Psychrometer

Thermometer

Anemometer

Sound Level Meter

Air Flow meter

Infrared Thermometer

K type Thermometer

K.J.T. type Thermometer

K.J.T.R.S.E. type Thermometer

pH Meter

Conductivity Meter

T.D.S. Meter

D.O. Meter

Indoor Air Quality Meter

Manometer

Tacho Meter

Data logger

Temp./RH datalogger

Wireless datalogger .....

**More products available !**