OPERATION MANUAL *Model:77294*

CO_2, HUMIDITY, TEMPERATURE WALL MOUNT/DESKTOP DATALOGGER



QUICK GUIDE

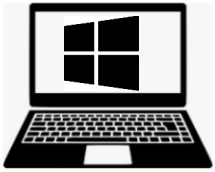
1 Power up the meter through USB type-C



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 ▶/II long time to start logging.



INTRODUCTION

This is an accurate, fast, smart and easy-to-use air quality datalogger. In addition to measure the CO_2 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_2 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_2 technology
- 3-color lightbar (green / yellow / red) gradually changes color for CO_2 concentration.
- CO_2 **a**utomatic **b**ackground **c**alibration(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

The standard package contains below:

- CO_2 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

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

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_2 concentration and the ventilation should not be blocked.

DISPLAY , KEYPAD, SPECIFICATION



1. CO_2 concentration, parts per million (ppm). NDIR CO_2 sensor, display up to 9999ppm
2. Ambient temperature. C/F switchable. Range -10.0~60.0C(14.0~140.0F)
3. Relative humidity. Range 0.1~99.9%RH
4. 12000 times record auto logging function
5. CO_2 alarm buzzer. Buzzer is default as OFF and can be activated through keypad
6. Three color light bar. The status of measured CO_2. 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

▶/ II

-Press longer time to start or stop logging



SPECIFICATION

Measuring range	
CO_2	0~9999 ppm,
Temperature	-10.0~60.0°C (14.0~140.0°F)
Humidity	0.1~99.9% RH
Resolution	1ppm,1ug/m^3, 0.1°C/°F, 0.1%RH
Accuracy	
CO_2	±50ppm±5% of reading(0~2000ppm) Other range is 10% of reading
Temperature	±0.6°C/±0.9°F
Humidity	±5%RH (at 25°C, 10~90%RH) ; ±7%RH (at 25°C , other range)
Response time	
CO_2	<30 seconds (63% step change)
Tair	<2 mins (90% step change)
Humidity	<20 minutes (90% step change)
Auto Logging	12000 times record
Operating	0~50°C , 0~95% RH (avoid condensation)
Storage	-20~ 50°C,0~95%RH(avoid condensation)
Power supply	5VDC USB type C port
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

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_2 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_2: 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_2
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_2 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_2 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_2, 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_2 ABC function: ABC means the lowest measured CO_2 value in past 7 days will be used as 400ppm to auto calibrate the CO_2 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_2 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_2 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 “





Setup sampling rate and click “Save” to synchronize time zone with computer.

Unplug from computer



Within 30 mins, hanging the device in the location where you want to take record.



Press start key longer time to activate the recording.

Do not start it while still connected with computer





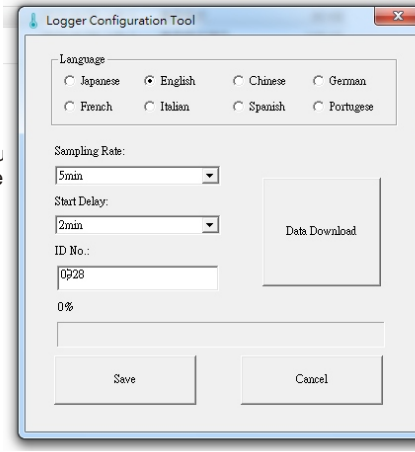
Press stop key longer time to stop the recording.





*Download memory as *.csv file to computer.*

**.csv file could be easily used by many analysis software.*



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.

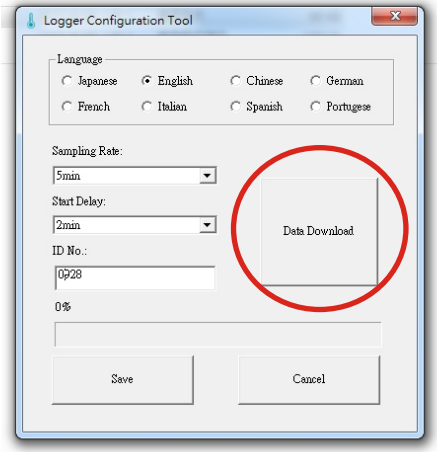
Long press “**Start**” key to activate the logger till “**REC”** LED flashes. If the logger is programmed as start delay 5 mins, the “**REC”** LED will consistent display and then turn into flashing after 5 minutes.

To stop recording before memory 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_2, 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	CO2(ppm)	TA(℃)	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_2 CALIBRATION

The meter is calibrated at standard 400ppm CO_2 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_2 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_2 level is around 400ppm. Do not calibrate in rainy day because high humidity will affect the CO_2 level in air. Do not calibrate in places crowded with people or close to where exist high CO_2 such as ventilating outlets or fireplaces.

ERROR CODE AND SOLUTIONS

CODE	PROBLEM	SOLUTION
E01	CO_2 or PM2.5 sensor is damaged	Send back to repair
E02	Measured reading is under the lower limit	For CO_2 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_2 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_2 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_2 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_2 products:

Portable:

a. Model 7752, 7755, 77532, 77535 Temp./CO_2 /RH meter

b. Model 77596 portable CO/CO2/Temp. Logger. high performance

c. Model 77597 portable CO/CO2/RH/Temp. Logger. high performance

Wall mount

a. Model 7710 PM2.5/CO2/RH/T datalogger

b.Model 7729 CO2/RH/T monitor

c.Model 7721/7722/77231/772332 wall mount Temp./CO_2 /RH meter

d.Model 7530 Wall mount CO_2 controller.

e.Model 7730 hard wired CO2/RH/T monitor

Desktop:

a.Model 7787/7788 deskop Temp./RH/CO_2 meter, general purpose.

b.Model 7798 desktop Temp./RH/CO_2 Logger, with relay.

c.Model 7727 deskop Temp./RH/CO_2 7 backlight meter.



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Data logger

Temp./RH datalogger

Wireless datalogger .....

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