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PCO2MT05

Smart Indoor Air Quality Meter

Digital Carbon Dioxide / Air Pollution Sensor Detector
(Measures co2/Temperature/Humidity)

TABLE OF CONTENTS

INTRODUCTION

This rechargeable desktop CO2 monitor and data logger is designed to measure carbon dioxide, temperature, and humidity making it ideal for measuring indoor air quality in homes, businesses, offices, and classrooms. Poor air indoor air quality can lead to drowsiness, inability to concentrate, and even illness (see "Sick Building Syndrome").

Visit our website www.PyleUSA.com to download the PCO2MT05 Software.

BEFORE YOU START

1. This monitor contains sensors and microprocessors that use precision electronics. It must be kept away from water, heat, fire, combustible liquids and strong electromagnetic interference to prevent damage.
2. For accurate results do not block the air sampling inlets. Avoid strong or hot winds blowing towards the air sampling inlets.
3. Wet cotton cloth or 95% alcohol should be used to clean the monitor. Do not use abrasive agents or corrosive liquid for cleaning to avoid damage or scratching the surface.
4. Do not dismantle or modify the monitor.
5. This device can be powered and charged simultaneously using either a PC USB port or the supplied 5.0V DC power adapter. Only use the power adapter that comes with the monitor.

BUTTON FUNCTIONS

℃/℉ ALM ▶ REC MODE
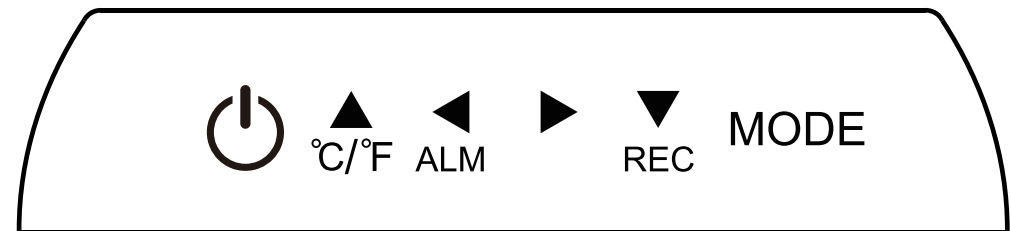
 Power Button – turns the power ON/OFF

 Up Arrow Button – change between degrees Fahrenheit and Centigrade. When **MODE** pressed, used as up arrow or to increase the value.

 Left Arrow Button - turns alarm ON/OFF. When MODE pressed used as left arrow.

▶ **Right Arrow Button -** when **MODE** pressed, used as right arrow.

REC **Down Arrow Button -** starts manual data logging. When **MODE** pressed, used as down arrow or to decrease the value.

MODE **MODE Button -** hold down for 2 seconds to enter **SETTINGS**.

READING THE DISPLAY

1. Carbon Dioxide Display Area

▭ **:** Battery level indicator

PPM: Concentration units (parts per million)
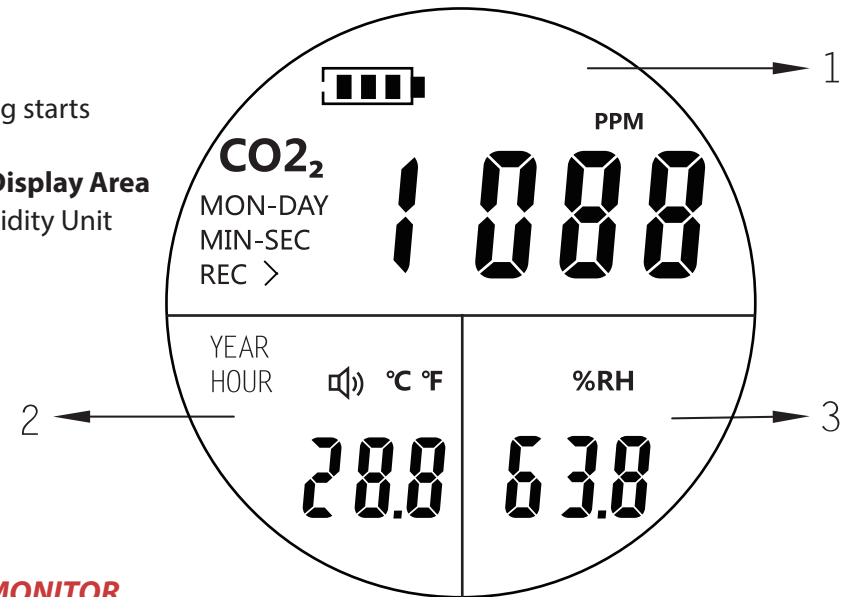
CO2: Chemical symbol for carbon dioxide

MON: Month

2. Temperature Display Area

°C / °F: Degree centigrade, Fahrenheit degree

YEAR: Year

HOUR: Hour

🔊 **:** Sound Alarm Enabled

DAY: Day
MIN: Minute
SEC: Seconds
REC: Recording starts

3. Humidity Display Area

% RH: Humidity Unit

USING THE MONITOR

Power and Charging

The first time you use the monitor, use the wall adapter or a powered PC port and the USB cable to plug it in. The monitor has a built-in rechargeable battery. When the screen displays low battery, it should be recharged. The monitor can be used while charging.

Turning the Monitor ON/OFF

Press the power button to turn the power on or off. When powered on, the display will show a 30 second count down. After the countdown is complete, you can change settings.

Setting the CO2 Alarm Level, Date and Clock

Press the **MODE** button for two seconds to begin. The first setting is the CO2 alarm level. Press the left and right arrow buttons to select the digit to change. The selected digit will flash. Press the up and down arrows to change it.

Press and hold the **MODE** button again for 2 seconds to move to the date and clock values. Again, use the **MODE** button to change between values and the up and down arrows to change them. When complete, press the MODE button to save your changes and return to the normal display. The CO2 Alarm Level, Date and Clock can also be set using the software. See instructions at the end of this manual.

Using the CO2 Alarm

The CO2 alarm can warn you if carbon dioxide levels are too high. If the CO2 level goes over the level you set, a buzzer will sound. Press the left arrow button to turn the buzzer on or off. The factory default carbon dioxide concentration alarm value is 2,000ppm. See below for recommended CO2 levels

CARBON DIOXIDE LEVELS AND GUIDELINES

| CO2 Level	Description
400ppm	Normal outdoor air level.
400-1000ppm	Typical level indoors with good ventilation. NOTE: If CO2 levels are low when building is sealed and occupied, check for over-ventilation (too much fresh air = energy wasted).
1,000ppm	ASHRAE and OSHA recommended maximum level in a closed room. Considered maximum comfort level in many countries.
> 1,200ppm	Poor air quality - requires ventilation
2,000ppm	According to many studies this level of CO2 produces a significant increase in drowsiness, tiredness, headache lower levels of concentration and increased likelihood of spreading respiratory viruses like colds, etc.
> 5,000ppm	OSHA and NIOSH first threshold for safety. maximum allowed concentration within a 8 hour working period

Guidelines are average CO2 levels over time.

SOFTWARE INSTALLATION

• Download the '**PC02MT05**' PC software directly from our website.

• Visit **www.PyleUSA.com** and search by model number ' **PC02MT05**'

• Navigate to '**Manuals and Download**' > Click on the software file to download
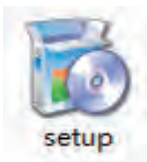
• Double-click the file to start the installation. Click "**Next**" to begin:
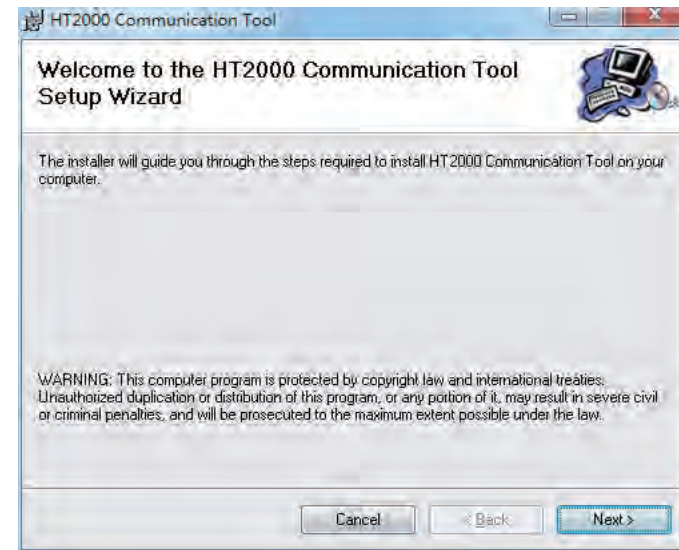
• Accept the default installation folder on your hard drive or click "**Browse**" to create a new one.
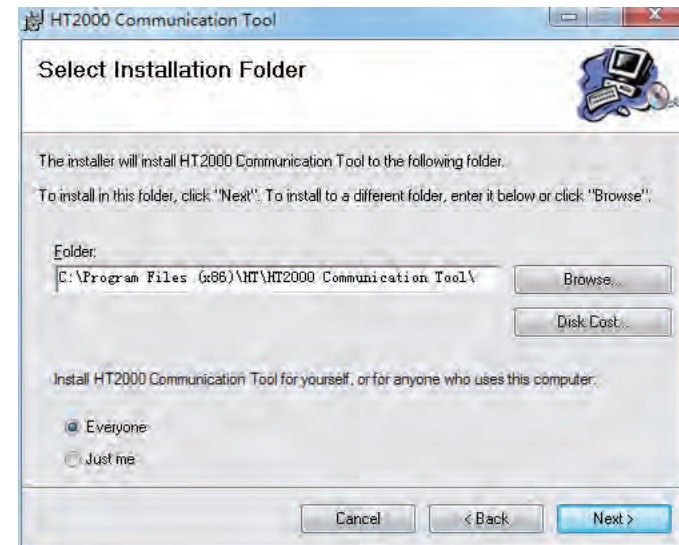
• Click "**Nex**t" after confirmation and click "**Next**" again to start the installation.

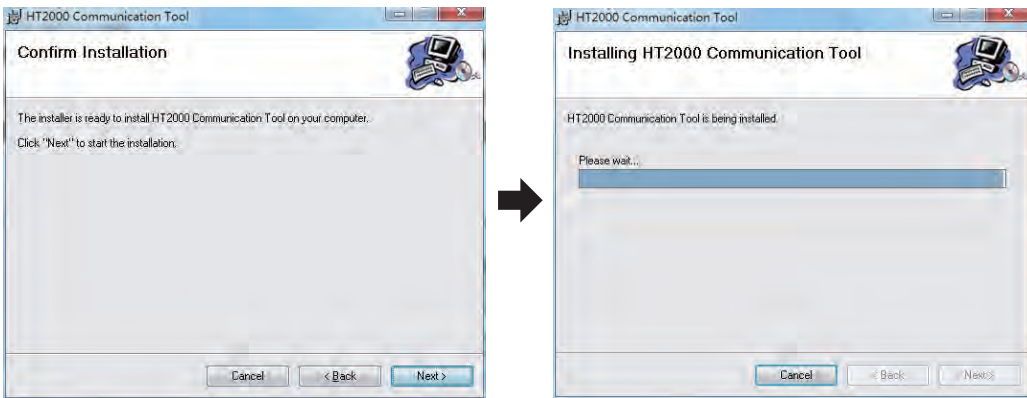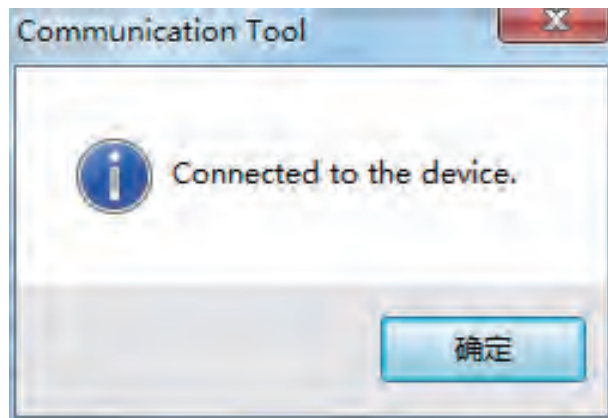After completion of installation, click "**close**" and the software is installed

SOFTWARE APPLICATION

Connect/Disconnect Monitor

Use the Micro USB cable to connect the computer and the CO2 monitor. Click to ▨ connect. The following prompt indicates successful connection. Click ▨ to disconnect.


Setting the Date/Clock

After connecting to the computer, click "**Set Time**" to automatically set the clock. The monitor will sync with the computer's built-in clock.
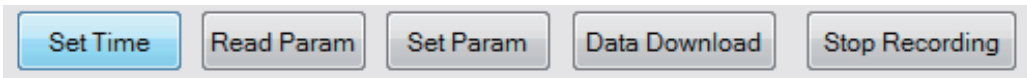
DATA LOGGING

Option 1: Tethered Data Logging

Tethered data logging lets you record CO2 levels while connected to the PC. This option is useful for testing the logging functions or to creating several data logs at one time. Click "**Set Param**" to setup the data logging parameters. Set the parameters as appropriate for your application. Click the "**Immediately**" button to tell the software you want to log data from the software, then click "**OK**" to begin data logging.
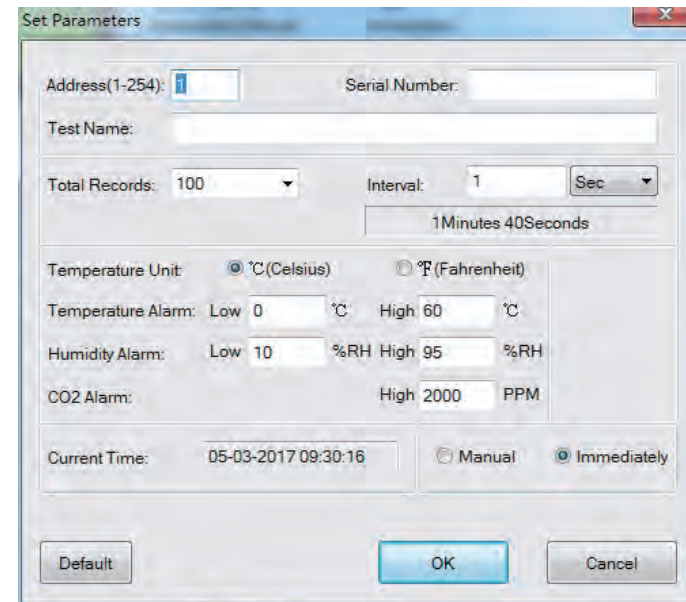
While logging, "**REC**" will flash on the display. The flashing frequency is the same as the recording interval you set in the "**Param**" screen. When you are done data logging, click "**Stop Recording**". The data log cannot be observed until it is downloaded to your PC. To download, click "**Data Download**" and the following window pops up.

8   9
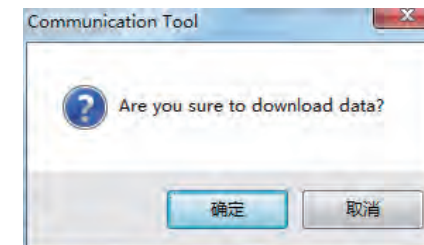
Save the data as a file to your PC as shown:
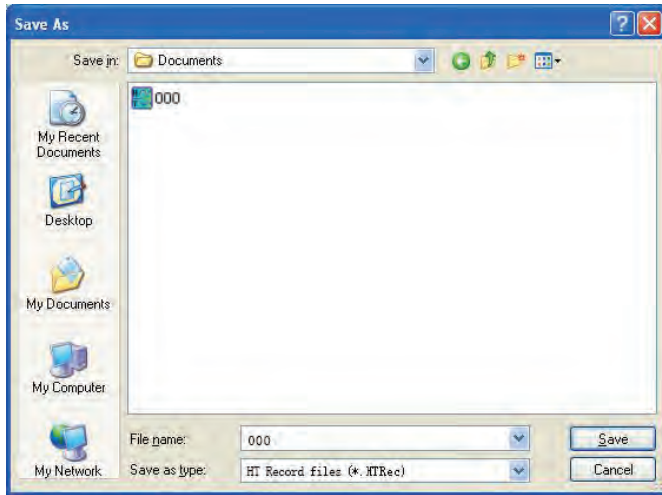
After the data log is saved, it can be reviewed using the graphing function as shown
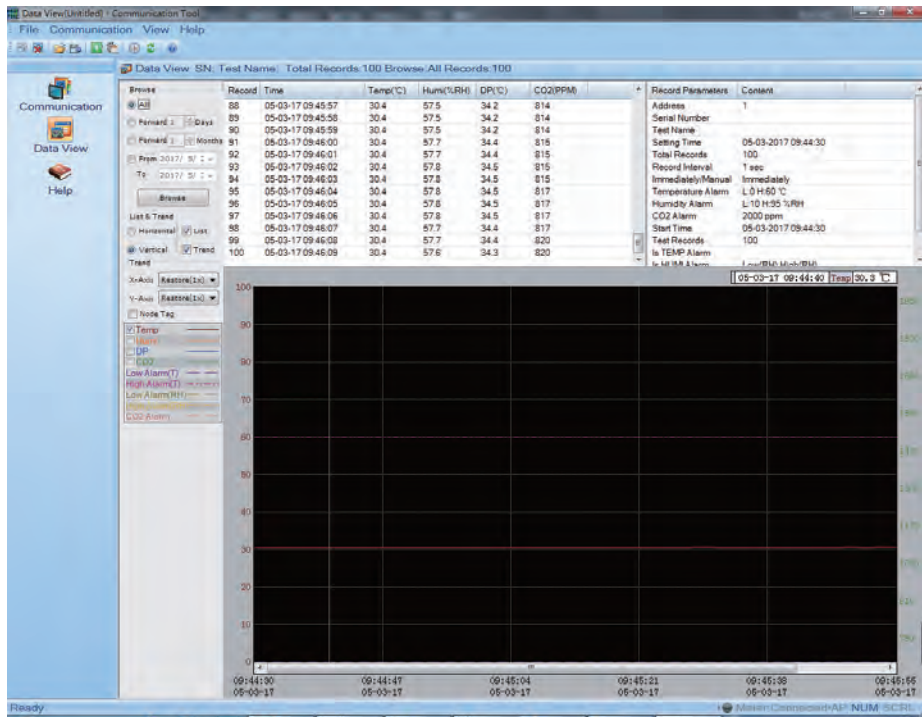
Option 2: Remote Data Logging
Remote data logging lets you place the monitor in a room, start recording, then come back later and retrieve the monitor and download the data. This is useful for measuring air quality in a room over time. Start by connecting the monitor to a PC and running the software. After connecting click the "**Set Param**" button to enter the parameter setting interface as shown in the figure below:

Click "**Set Param**" to setup the data logging parameters. Set the parameters as appropriate for your application. Click the "**Manual**" button to tell the software you want to log data later by pressing the **REC** button on the monitor. Click "**OK**" to save your settings, then disconnect the monitor from your PC.

When you are ready to record, press the **REC** button on the monitor. It will log CO2 levels according to the parameters you set in the softwar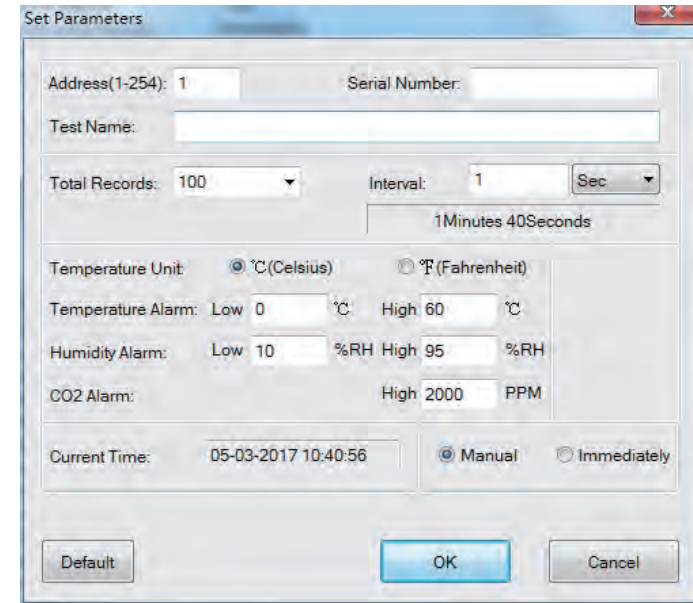e. "**REC**" will flash on the display. The flashing frequency is the same as the recording interval you set in the "**Param**" screen.

To save your data log, connect the monitor to your PC, start the software and click "**Data Download**". You can then view the data log as a graph on your PC

NOTE: Every time you click "**Set Param**" the previously logged data in the monitor's memory is cleared. Therefore, you should get in the habit of saving your data files every time you create one.

AUTOMATIC BASELINE CALIBRATION
Automatic baseline calibration is useful in areas that are regularly unoccupied and CO2 level return to 400ppm every few days. ABC is turned off by default. To enable ABC:

Step 1: Turn the power **OFF**.

Step 2: While pressing the ▲ and ▼ buttons at the same time, press the "**Power**" button.

Step 3: Release the power button, then release ▲ and ▼ . The screen will show 0PPM (ABC off) or 1PPM (ABC on).

Step 4: Use the ▲ or ▼ buttons to change between ABC off (0PPM) and ABC on (1PPM).

Step 5: Press the MODE button to confirm. The display will flash 30 if ABC is turned off or 31 if ABC is turned on.

Step 6: If the next screen shows 1PPM, this indicates the change was successful. If it shows 0PPM, the change failed.

Step 7: Press **MODE** again to restart the monitor normally.

MANUAL CALIBRATION
Manual calibration uses fresh, outdoor air to calibrate the monitor to 400ppm.

Step 1: Turn the power **OFF**. Put the monitor in fresh air for 5-10 minutes so the interior of the monitor is filled with fresh air.

Step 2: While pressing ◄ the ► and buttons at the same time, press the Power button.

Step 3: Release the Power button first, and then release the ◄ and ► buttons. The screen will show 400ppm.

Step 4: Press the MODE button to start the manual calibration process. The screen should show approximately 400ppm.

Step 5: Walk away from the monitor so that your breath does not influence the manual calibration. Manual calibration will take between 5-10 minutes to complete.

Step 6: After calibration is complete, read the display. "**1**" means manual calibration was a success. "**0**" means it failed – usually because the CO2 level was not stable during calibration. If it fails, retry the manual calibration again. If it fails repeatedly, contact us for support.

Step 7: Press the **MODE** button to return to normal operation.

What's in the Box:
- Digital Air Quality Meter
- USB Cable
- Wall Power Adapter

Features:
- Universal Indoor Air Quality (IAQ) Meter
- Measures Carbon Dioxide, Temperature, Humidity
- Ensure Household Safety with Carbon Dioxide Gas Monitoring
- Accurate & Reliable Data Readout
- Laboratory Tested for Safety Level Pollution Detection
- Target Meter Setting: Audible & Visual Alarm Notifications
- Built-in Memory: Saves Thousands of Daily Data Records
- Easy-to-Read Digital LCD Display Interface
- Simple, Hassle-Free Operation
- Sleek & Stylish Modern Design
- Compact & Portable Desktop Style
- Removable Stand for Wall Mount Ability
- Built-in Rechargeable Battery (or Powered via USB Cable)
- Also Features Standard Digital Clock/Calendar Functions: Time & Date Display
- Button-Activated 'Record' Function Saves Real-Time Meter Readings
- Includes Computer Software for Data Analysis Review (Windows PC Only)
- Used for Home, Office, School, Business, Warehouse Applications
- *For Indoor Use

Technical Specs:
- Selectable Temperature Unit Display: Fahrenheit / Celsius
- Built-in Memory: Saves Up to 12,700 Data Readings
- Gas Measurement Technology: Non-Dispersive Infrared Detector (NDIR)
- co2 Measurement Range: 0~9999 PPM
- co2 Accuracy: +/-70 PPM (+/-3% of Reading 0~5000 PPM)
- co2 Measurement Resolution: 1 PPM
- Temperature Measurement Range: (-10~70° Celsius)
- Temperature Resolution: (0.1° Celsius)
- Temperature Readout Accuracy: (+/- 0.3° Celsius)
- Humidity Measurement Range: 0% ~ 99.9% (Relative Humidity)
- Humidity Resolution: 0.1%
- Humidity Readout Accuracy: ± 3% (10~90%)
- Operating Conditions: (0~50° Celsius)~85% RH
- Construction Material: Engineered ABS
- Built-in Rechargeable Battery: 3.7V Li-iOn, 2000mAh
- Power Supply: 110/220V AC to DC 5V USB Wall Adapter
- Dimensions (L x W x H): 4.2" x 4.2" x 2.3" - inches