Perfect Prime

CO2/Temp. /RH DATA LOGGER
User Manual

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Product Introduction

This CO2 / TEMP / RH DATA LOGGER can be used for measuring CO2 concentration, temperature, humidity.

The product packing comes with :

- CO2 / Temp. / RH DATA LOGGER
- AC Power Adaptor (110-240V AC Input, DC 6V Output)
- USB Data Cable
- PC Software CD ROM

(AA Batteries are NOT included)

Our product shipment uses MINIMAL material packing method to help reduce impact to the environment, please be considerate.

Operating Instruction

Connect AC Power Adaptor to the electrical power, the DC output to DATA LOGGER (Right Hand Side of case – under the rubber cover)

Push the POWER button to switch on the product and the LCD will display 30s and count down, meaning the CO2 sensor is preheating now.   After countdown is finished, the product would be functioning and showing the CO2 concentration, temperature and humidity respectively. (Main Display mode)

Battery Operation

When operating the product with no electrical power, it can be powered with alkaline batteries, AA X 4. Consideration should be taken as to the battery life because of power consumption of CO_2 sensor. (If operating with battery and the CO_2 reading show zero – this is an indication of not enough current is available from batteries and AC Power Adaptor should be used)

Modify Settings

During Main Display mode, press MODE key shortly to go into CO_2 concentration alarm, press MODE again to go to Date and Time setting screens respectively.

MODE (Pressed for ~ 2 sec) -> CO_2 Concentration -> Date -> Time

At each of these setting screens press LEFT or RIGHT key to select the digit to be adjusted, and press UP or DOWN key to adjust the data digit, after each screen's setting, press MODE key to advance to next setting screen, and then to the Main Display mode.

PC Software for setting data logging and upload

The product would operate as a CO2 / Temp. / RH meter when powered up as described above. Using the PC software, more functions including data log setup and upload data for analysis can be achieved.
In order to set the product using the PC software, please install the PC software on PC (Windows OS) as described separately.
After installation and running PC software, please refer to HELP manual inside PC software for data log settings and upload etc.

Start Data Log Manually

In cases we may want to use this product for data logging off-site after setting with the PC software, this require setting it to start logging data manually – this is done by selecting the "Manual" instead of "Immediately" button. The Data Logger can be disconnected and when the data logging location is reached, press the REC button to start data log.

Product Outlook and Functions

Button Function

1. **Power : ON / OFF**
2. **°C /°F and UP :**
   a. Toggle between °C and °F display
   b. During setting – act as UP (or Increase) the digit being set
3. **ALM and LEFT :**
   a. At Main Display Mode – turn ON / OFF CO_2 concentration alarm function
   b. During setting – act as LEFT key for selecting the digit to be set
4. **Backlight and RIGHT :**
   a. At Main Display Mode – turn ON / OFF display backlight
   b. During setting – act as RIGHT key for selecting the digit to be set
5. **REC and DOWN**
   a. After data log is set to Manual start, press this key to start measurement and log
   b. During setting – act as DOWN (or Decrease) the digit being set
6. **MODE**

a. **At Main Display Mode : Press for ~ 2 sec to modify setting**

b. **At different setting screen : Press to confirm setting**

Product Features

- **Super large LCD display with Backlight ON/OFF fucntion**
  - **CO_2 / Temperature / Relative Humidity**
  - **Calendar**
  - **Time**
- **12700 data log memory**
- **CO_2 level warning alarm**
- **NDIR Sensor (Non-Dispersive Infrared)**
- **Waveguide technology with Automatic Background Calibration (ABC)**

Product Specifications

- **Carbon Dioxide (CO_2)**
  - **Range : 0 ~ 9999 ppm (Out of scale)**
  - **Accuracy : ± 50ppm ± 5% reading (0~ 2000)**
  - **Response time : 10 sec**
- **Temperature**
  - **Range : - 10 ~ 70°C (14 ~ 158°F)**
  - **Resolution : 0.1°C**

- o **Accuracy : ± 0.6°C / ± 0.9°F) – (0~50°C / 32 ~ 122°F), others ± 1.2°C**
- **Humidity**
  - o **Range : 0.1 ~ 99.9%**
  - o **Resolution : 0.1 %**
  - o **Accuracy : ± 3% (10 ~ 90%)**
- **Operating Condition : 0 ~ 50°C, 0-95% RH (without condensation)**
  - o **Storage Temperature :   0 ~ 70°C**

Battery Replacement and Notes

When battery reaches a low level as indicated by LCD not bright or if the CO2 reading is zero, replace the AA X 4 batteries by opening the battery cover. Operate the product using AC power adaptor mostly as mentioned in Operating Instruction / Battery Operation section.

Notes :

This product is not a waterproof nor drop resistant instrument, so please take good care of it after use. Put it in a place where children cannot access.

Carbon Dioxide Reading (General Guideline – Reference only)

- **250 ~ 350 ppm – Normal level outdoor air**
- **350 ~ 1,000 ppm – Typical good living environment**
- **1,000 ~ 2000 ppm – Level of possible oxygen shortage**
- **2,000 ~ 5,000 ppm – Level of bad air quality, may cause headache, sleepiness, less concentration, faster heartbeat and mild nausea.**
- **> 5,000 ppm – May cause severe health issues, possibly lead to brain damage, coma and even casualties.**