CE OMEGA®

·1 YEAR WARRANTY CE

AQM-101
IAQ Formaldehyde (HCHO) Logger

FEATURES
1) Super large LCD simultaneously display of HCHO level, Temp., Relative humidity, Calendar (Y/M/D) and Time (clock).
2) Three (3) smiley icons indicate indoor air quality levels (0/0.08/0.8ppm), easy to understand HCHO concentration.
3) Stable Electrochemical type sensor for HCHO detection.
4) High alarm threshold is selectable.
5) Manual 0ppm calibration.
6) Audible/Visible LED warning for high HCHO concentration

INTRODUCTION
Thank you for purchasing desktop HCHO meter.
It is used to measure HCHO concentration,air temperature and relative humidity with visible and audible alarms.
This HCHO meter is an ideal instrument for indoor air quality (IAQ) diagnosis and HVAC system performance verification.

MATERIAL SUPPLIED
(1) Meter
(2) Universal Adaptor
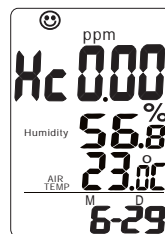(3) Operation manual
(4) 4 pcs batteries.
(5) USB cable

POWER SUPPLY
The meter is powered by Super heavy duty batteries AAA x 4 pcs (Recommended) or an AC adaptor(9V/0.5 A output)

LCD DISPLAY
Symbols:
1) ppm : HCHO unit
2) icon ☺ : 0ppm ~ 0.08ppm
3) icon ☺ : 0.08ppm ~ 0.8ppm
4) icon ☺ : 0.8ppm ↑
5) Air Temp.: Ambient Temperature
6) MD : Month / Date
7) HM: Hour / Minute
8) TWA: Time Weighted Average (8 hours)
9) STEL: Short-Term Exposure Limit (15 minutes weighted average)
10) Logging: When it is in the recording mode
11) VOC, NO2, WBGT, hpa, mbar ,EXT TEMP,lps%,cfm/p are not available in these models

KEYPAD (CONTROLS)
1) MODE : HCHO mode,MAX,TWA,STEL
2) SEL./R : Edit alarm function
    Logger mode: Long press to key start/off.
3) TRH.M. : Temp. Humidity mode. Setting/ Next
4) UNIT : Select Temp. unit
5) POWER: Turn meter on/off, alarm on/off.

OPERATION

Warning: Remove batteries when not in use to prevent battery leakage (Out of warranty) and power consumption.

(a) POWER ON/OFF
Put battery or plug in adaptor, meter turns on automatically . LCD shows current HCHO, RH & Temperature, Date and Time. Three(3) smiley icons indicate the indoor air quality level and appear on the top of first layer display.

Note:
(1) When low battery, meter will restart and logger will stop if user switch to adaptor.
(2) Please use properly power source, input voltage: 100~240 VAC,50-60Hz
   Output voltage: DC 7.5~9.0V
   Output current: 0.5A,or the meter will be damaged.
(3) Battery life approx. 120 hours when continuous used

(b) TAKING MEASUREMENT
The meter starts the measurements when powered on and response time is less than 30 sec.

Note: Do not hold the meter close to any other source of HCHO.

(c) HCHO MODE
In the HCHO Mode, press **MODE** button to switch HCHO display. The top layer of display will cycle from HCHO, Maximum, TWA, STEL.

Note 1:
1) MAXIMUM:
   The unit automatically records maximum reading and minimum reading after powered on.(MINIMUM is always 0.00ppm for HCHO meter)

2) TWA: (Time Weighted Average 8 hours)
   The meter keeps updating the reading every minute. If the meter has been powered on for less than 8 hours, the TWA value will be the weighted average of readings since powered on.

3) STEL: (Short-Term Exposure Limit in 15 minutes weighted average)The meter keeps updating readings every minute. If the meter has been powered on for less than 15 minutes, the STEL value shows the weighted average of reading taken since powered on.
4) RESET MAX:
   Press **MODE** button to get MAX reading and switch TWA or STEL.Under MAX mode, Long press **MODE** button to clear all the values.

(d) TRH MODE : Temperature / Relative Humidity mode
In the **TRH** Mode, the meter displays both related humidity and air Temperature simultaneously.

(e) Temperature unit (°C or °F) selection
Press **UNIT** button to toggle the temperature unit (°C or°F).

1

2

3

MAINTENANCE
Cleaning and storage:
1). The meter should be cleaned with a damp cloth and mild detergent when necessary.
2). Store the meter in an area with moderate temperature and humidity.

MANUAL CALIBRATION TO ZERO
Before start HCHO manual calibration make sure the area is ventilation and no HCHO environment. Ensure the calibration completed, to use adaptor during calibration is recommended.

▶ HCHO meter is completed calibration in factory before packed. Manual calibration is only for meter inaccuracy.

When power on, long press **UNIT** button more than 6 seconds, the value will turn into "00000" and flash **60** seconds.

After calibration completed, display will show full LCD icon for a second. Meter will restart automatically to return normal measurement.

BATTERY INDICATION
When battery is low (HCHO consumes power),the reading of HCHO will be terribly high, could be couple thousand in ppm. "LO BAT" is flashing at the bottom of the screen, near calendar and time. Replace new battery when LO BAT shows.

SETTING DATE & TIME
a) Real time and date:
   The meter shows Mo./Date and Hr/Min on the 3rd layer of display, and each cycle is 16 seconds.
b) Month/Date and Hour/Min
   Press **MODE+POWER** button to enter the real date and time setting. The time default is 24-hours format.

SETTING DATE & TIME
The meter interchangeably shows current date and time on the 3rd layer of display, and each cycle is 6 seconds.
The time default is 24-hours format.
MODE+POWER-->Enter date/time mode
SEL/R--> Number goes up.
TRH/M--> Number goes down.
MODE-->Edit Month/date or Hour/Minute.
UNIT-->Select to edit Month or date, Hour or Minute.
After set up, press **MODE+POWER** to save and exit.

ALARM SETTING
Set up alarm function:
In normal measurement, press **SEL/R+POWER** buttons , bell will appear alarm function. Once set up, the red LED will flash if the data exceeding the setting data.

HCHO Hi alarm setting.
SEL/R+POWER- -> Enter HCHO alarm setting.
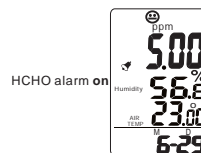**UNIT**- -> Change digit.
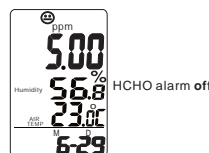**SEL/R** - ->Number goes up.
TRH/M - ->Number goes down.
After set up **SEL/R+POWER** to save and exit setting.

HCHO alarm ON/OFF:
In normal function, short press **POWER** bell icon appear alarm on, short press **POWER** again to turn off.

HCHO alarm **on**

HCHO alarm **off**

TEMP. HUMIDITY OFFSET
Make sure the meter is off, press **SEL/R+TRH/M** button then plug in the adaptor at the same time to enter offsetting mode.
WARNING: DO NOT USE THIS FUNCTION WITHOUT STANDARD INSTRUMENT.
Example: Standard instrument is 30.2°C, meter shows 30.0°C.Enter temp. offset mode, press **TRH/M** till 0.2 appear.

Offset range of Temp.and RH as below:
Temp.:-9.9°C to +9.9°C / -9.9°F to +9.9°F
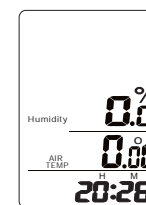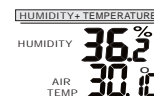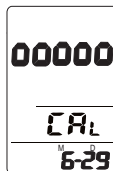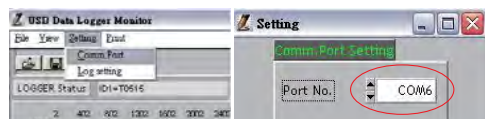**RH%**:-9.9% to +9.9%

a) Humidity offset:
MODE → Increase value
SEL/R → Decrease value

b) Air temp. offset
TRH/M → Increase value
UNIT → Decrease value

After setting up **,** short press **POWER** to save setting and **"%"** icon will flash a second. Then replug adaptor to return normal measurement.

Logger setup:
When using datalogger function, please use batteries and adaptor at the same time to avoid power outages and data loss.
A. Install logger driver for Windows
The PL2303_Prolific_DriverInstaller_v110.exedriver is for Windows operation system, follow the installation steps hereunder:

1.Put the CD into CD driver, click PL2303_Prolific_DriverInstaller_v110.exe for installation the driver.
2.The set up status.
3.Click "NEXT" to continue.
4.After complete the installation, press "Finished".

B. Install the logger software for Windows XP (win7/win8/VISTA)
Please follow the following steps to install the software
1. Put CD into CD driver, click "Setup.exe" to install

setup.exe Installer

2.Select the destination folder you are go to save by click "Browse"button
3.Once you finish selecting ,press "Next".
4.Select "I accept the License Agreement:(s)" and press NEXT button.
5.Click NEXT button when you see the following.
6.Press FINISH button to complete the installation.
7.Restart the Windows XP system

C. Run the software from Windows XP
1. Plug the USB cable into USB port, since you have already Installed the USB driver, computer will automatically detect logger ,
2. Find "Datalogger" in START → PROGRAMS
3.Select logger software folder.

DataLog.exe
USB Link Data Logger Software
Meter Industrial Company

Reminder:
Software is installed completed,"Get Datalog's Identifier"shows next page(pic.1), then press SETTING button to enter Log setting

(Pic.1)

Note: If logger is not plugged in USB port, the warning message "Reminder: Data Logger is not plugged in USB port!" shows next page(pic.2) Make sure logger is plugged in and choose the correct COM port.
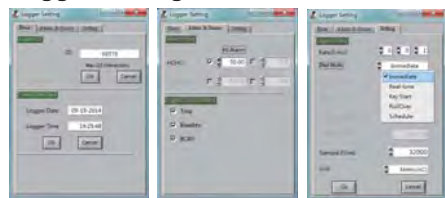
4

5

6

7

(Pic.2)

NOTE:
If software message box show as Pic2.Follow the next steps.
1.Click "My computer""Content" in hardware content, click "Device manager" to find the listed (COMx) listed under Ports (COM & LPT as below with red line. If you may Prolific USB-to-Serial Comm. Port , it means the logger is connected to computer properly.

連接埠 (COM 和 LPT)
Prolific USB-to-Serial Comm Port (COM6)

2. Remember the Comm port number and go back to software.
3. Click "Setting" "Comm port " select the port number as you see from step 1, then press OK button.

Logger Setting:

(Pic.3)   (Pic.4)   (Pic.5)

8

BASIC:(Pic.3)
1:ID setting
Maximum 20 characters , name your logger press OK button to confirm
▲ Please type in capital. Space is unacceptable.
2:Current Date/Time
Clock setting, the system automatically shows current date and time of your pc. Press OK to confirm.
(Note: Schedule date & time refer to current pc date and time)
▲ Please click OK to sync the meter's date and time every time.

ALARM&SENSOR:(Pic.4)
1.Appear the parameter.
HCHO model default with Temp. and RH sensor.

SETTING:(Pic.5)
1. Set sample point (K=1,000 multiple basis within total memory points).
2.Set sample rate, start mode to record:
Select "hour(1~6), "minute(0~59)","second(0~59)" time interval.
Select 5 start modes from:
Immediate (Logger start recording immediately)
Real-time(PC is always connected with the logger)
Key start/off (Start/stop recording by long pressing SEL/R button)
Roll-over (when memory are full, logger covers the earliest memory automatically)
Schedule (Select the date and time meter will start recording.)

3.Select Unit : Select Temperature unit °C/°F for recording, press OK to confirm.

9

■Schedule start mode:
Select the date and time meter will start recording.
The recording start time as software's current time not meter's. Please set up the current time correctly.
■Real-time start mode:

1.After set start mode at real-time,datalogger starts login records. When logger records, the green fan at left corner shows it is under recording.(Meter should be connected with pc all the time, under this mode.)
2.In real-time mode, it shows "STOP" button instead of "DOWNLOAD" at the right corner. Press STOP to stop real-time recording.
▲ Before exit software data has to be downloaded.
Key-start/off mode:
Select the mode to record once long press SEL/R button for 3 seconds. Long press SEL/R button again to stop recording. Data has to be downloaded before next key-start. LCD display appear "Logging" at left corner.
NOTE: After key off the recording, the data has to download before restart the Key-Start function.

Long press

■ Roll-over mode:
After Roll-over mode is selected. Press OK, the meter will start to record. When the data is full, it will cover the earliest memory. After download the data , long press **SEL/R** button to record without reset up each parameter and selection.
Logger Status:
Before download data, press **LOGGER status** to show ID, Records, Sample rate, Unit.
NOTE: Once **Download** button is pressed, recording is inactivated.

10

Logger function:
Download data:
Press DOWNLOAD button, data download in few seconds. Graph shows automatically
NOTE: Please do not press DOWNLOAD button if you won't stop record. You can press LOGGER STATUS button to see record points.

Retrieve file:
Press RETRIEVE FILE button to select file and show the graph.

Save data:
Press SAVE button to save txt.or csv.file. After save as txt. may print as pdf. file if needed.

View Data Table:
Press View button to get data table with details.(pic.6)

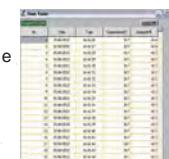### Print graph:
Press PRINT button and print graph. Follow the print setting below to print full screen graph. Press OK to print pdf file.(pic.7)

Print Table Data:
Press table data, the screen shows the record range, enter the start number to the end number (For example: 1~500 or 200~1000…or leave it blank for printing all data).(pic.8)
Save each pdf. files with different names.

(pic.6)

11

Clear Data:
The data is stored in the memory till next setting start, meter will clean previous data automatically. So if you start next data logging, there is no way you can find the data you haven't stored.

(pic.7)   (pic.8)

Line color selection:
1.Click the color beside the reading(Temp. RH. HCHO), color box appear.
2.Move mouse to review and select color.
3.Click to save, the color appear on line and bar.

Zoom in/out&Move

Hold [Ctrl] + Click [Mouse] = Screen graph zoom in

Hold [Ctrl] + Click [Mouse] = Screen graph zoom out

Hold [Ctrl] + [Shift] Click [Mouse] = Move screen graph

Press [◄] or [►] = Read each measurement .

NOTE: May follow the line color selecting, the graph size will go back to default.

12

SPECIFICATIONS

	AQM-101
Meas. Range	0.00-5.00 ppm (mg/m^3)
Audible alarm	YES (Adjustable)
Interfacce	USB
LED(Green.Red)	YES
Temp. range	0~50℃ (32~122℉)
RH%range	10 ~ 90%RH
Resolution	0.01ppm(HCHO) ,1℃/℉ , (1%RH)
Accuracy	±1℃/2℉ (Temperature), ±5% (10~90%RH)
Accuracy(HCHO)	±5% of reading + 0.03ppm (mg/m3) (Under vaccum ,ventilated standard gas chamber). Meet NOISH acceptance criterion within +/-25% of the true value at th e95% confidence level. Example: OSHA Formaldehyde regulation 0.10ppm (EPA 0.08ppm), accuracy within 0.025ppm (0.075~0.125ppm)
Response time	T90: Less than 30 seconds
Memory	32,000 points
Sensor life time	Expected 3 years

TROUBLE SHOOTING
(1) When meter appears break character, please find out if meter ever dropped to the floor. If "yes", please contact with local distributor for technical service.

(2) Error codes:
Er1 : HCHO/Temp./RH sensor is failed
Er2 : HCHO/Temp./RH Over range

13

WARRANTY
This instrument is warranted for two years from the date of purchase(One year limited warranty applies to cables). A Return Authorization letter must be issued before returning for any reason. This warranty does not apply to defects resulting from action of the user such as misuse, abuse, alteration neglect, improper wiring, improper maintenance or repair, or unauthorized modification, damage resulting from leaking batteries, operation outside of specification.

During the warranty period the manufacturer reserved the right to decide either to repair or replace the product. The meters are to be returned along with good packing to prevent any damage in shipment and insured against possible damage or loss.
The two years' warranty doesn't apply to:
■ Accessories and batteries (not covered by warranty).
■ Claims is not acceptable for improper use (including adaptation to particular applications not foreseen in the instructions manual) or improper combination with incompatible accessories or equipment, or by previous attempts for repair carried out by none skilled or unauthorized personnel.
■ Sensor damaged by user improper use (Watering,Burning,Condensation….)
HCHO LEVELS AND GUIDELINES
Non-enforced reference levels:
a) 0.03 ppm-Average outdoor level.
b) 0.10 ppm-Recommend upper limit for residences by ASHRAE , ANSI,EPA,NIOSH for STEL.
c) 0.40 ppm-Recommended upper limit for manufactured homes.
d) 0.50 ppm-OSHA workplace limit.
e) 0.75 ppm-OSHA TWA limit.
f) 0.80 ppm-Level at which most people first detect odor.
g) 2.00 ppm-OSHA STEL limit.

14