SD Card real time data recorder, Patent
CO2, CO, O2, Humidity, Temp. , 6 in 1

AIR QUALITY METER

Model : AQ-9901SD *ISO-9001, CE, IEC1010*

O₂ probe CO probe

CO_2 probe Humidity probe

Lutron

LUTRON ELECTRONIC ***The Art of Measurement***

SD card real time Data Recorder
CO2, CO, O2, Humidity, Dew point, Temp. 6 in 1

AIR QUALITY METER

Model : AQ-9901SD

FEATURES

* Real time recorder, save the data into the SD memory card and can be down load to the Excel, extra software is no need. User can make the further data or graphic analysis by themselves. under the Excel software.
* At the same time, the SD memory card can record 3 probe's data (%RH/CO2/O2/Temp. or %RH/CO2/CO/Temp.) along with the time information into the one Excel file at the same time.
* Manual datalogger is available, during execute the manual datalogger function, it can set the different location no. (position 1 to position 99).
* Air quality measurement application, multi-function : CO2 (Carbon dioxide), CO (Carbon monoxide), O2 (Oxygen in air), Humidity, temperature measurement.
* CO2 range : 0 to 4,000 ppm x 1 ppm.
* O2 range : 0 to 30.0 % x 0.1 %.
* CO range : 0 to 1,000 ppm x 1 ppm.
* Humidity range: 10 to 95 %RH.
* Dew point Temp. and Wet bulb Temp. measurement.
* Temp. range : 0 to 50.0 ℃, ℃/℉.
* CO2 sensor : NDIR, long term reliability.
* CO, O2 sensor : Galvanic cell type.
* Humidity sensor : Precision capacitance sensor
* Alarm setting with the beeper sound output.
* Sampling time for data recorder is 2 seconds to 8 hours.
* Complete set with 4 probes : CO2/Temp. probe, O2/Temp. probe, CO/Temp. probe, Humidity/Temp. probe, main meter and the hard carrying case.
* Separate probe, easy for remote measurement.
* Meter can cooperate with 2 GB to 16 GB SD card, SD card is optional.
* RS232/USB computer interface.
* Patented.

GENERAL SPECIFICATIONS

Circuit	Custom one-chip of microprocessor LSI circuit.	
Display	LCD size : 52 mm x 38 mm LCD with green backlight (ON/OFF).	
Measurement	CO2 (Carbon dioxide) CO (Carbon monoxide) O2 (Oxygen in air) Humidity Dew point Temp., Wet bulb Temp. Temperature	
Sensor structure	CO2	NDIR * Nondispersive infrared sensor
	Humidity	Precision capacitance sensor
	O2	Galvanic cell type
	CO	Galvanic cell type
	Temp.	Precision thermistor
Datalogger Sampling Time Setting range	Auto	2 sec to 8 hour 59 min. 59 sec. *@ Sampling time can set to 1 second, but memory data may loss.*
	Manual	Push the data logger button once will save data one time. *@ Set the sampling time to 0 second.* *@ Manual mode, can also select the 1 to 99 position (Location) no.*
Data error no.	0.1% of total saved data max.	
Memory Card	SD memory card. 1 GB to 16 GB.	
Advanced setting *@ main setting*	* SD memory card Format * Set clock time * Set sampling time * Auto power OFF management * Set beep Sound ON/OFF * Decimal point of SD card setting * Temp. unit setting * Alarm value setting	
Data Hold	Freeze the display reading.	
Memory Recall	Maximum & Minimum value.	
Sampling Time of Display	Approx. 1 second.	
Data Output	RS 232/USB PC computer interface. ** Connect the optional RS232 cable UPCB-02 will get the RS232 plug.* ** Connect the optional USB cable USB-01 will get the USB plug.*	
Power Supply	**.*Alkaline or heavy duty DC 1.5 V battery (UM3, AA) x 6 PCs, or equivalent.	
	**.*DC 9V adapter input. (AC/DC power adapter is optional).	
Power Current	CO2 measure-ment	Normal operation (w/o SD card save data and LCD Backlight is OFF) : *Approx. DC 136.5 mA.*
		When SD card save the data and LCD Backlight is OFF) : *Approx. DC 166 mA.*
	Humidity measure-ment	Normal operation (w/o SD card save data and LCD Backlight is OFF) : *Approx. DC 10.5 mA.*
		When SD card save the data and LCD Backlight is OFF) : *Approx. DC 40 mA.*
	O2 or CO measure-ment	Normal operation (w/o SD card save data and LCD Backlight is OFF) : *Approx. DC 12.5 mA.*
		When SD card save the data and LCD Backlight is OFF) : *Approx. DC 42.5 mA.*
	**.If LCD backlight on, the power consumption will increase approx. 12 mA.*	
Operating Temperature	0 to 50 ℃. (32 to 122 ℉).	
Operating Humidity	Less than 80% R.H.	
Weight	350 g/0.77 LB.	

Dimension	Meter	177 x 68 x 45 mm
	Humidity probe	197 mm in length.
	CO2 probe	190 x 38 x 28 mm
	O2 probe	150 x 38 x 38 mm
	CO probe	150 x 38 x 38 mm
Accessories Included	Instruction manual..... 1 PC Hard carrying case, CA-08.....1 PC CO2 probe..... 1 PC Humidity probe..... 1 PC O2 probe..... 1 PC CO probe..... 1 PC	
Optional Accessories	SD memory card (2 GB) AC to DC 9V adapter. USB cable, USB-01. RS232 cable, UPCB-02. Data Acquisition software, SW-U801-WIN.	

ELECTRICAL SPECIFICATIONS (23± 5 ℃)

CO2 (Carbon dioxide)

CO2 (Carbon dioxide) 23 ± 5 ℃.	Range	0 to 4,000 ppm
	Resolution	1 ppm
	Accuracy	± 40 ppm ** ≦1,000 ppm.* ± 5% of reading ** > 1,000 ppm ≦ 3,000 ppm.* ± 250 ppm typically ** > 3,000 ppm, reference only*
	Repeatability	± 20 ppm ** ≦ 3,000 ppm.*
Temperature	Range	0 ℃ to 50 ℃,32 ℉ to 122 ℉.
	Resolution	0.1 degree
	Accuracy	℃ : ± 0.8 ℃ ℉ : ± 1.5 ℉.

CO (Carbon dioxide)

CO ** Carbon monoxide*	Range	0 to 1,000 ppm
	Resolution	1 ppm
	Accuracy	± (5% + 2 ppm)
	Response time *	< 30 seconds
	Repeatability	< 2%
	Zero drift in long term	< 5 ppm
	Sensitivity drift	< 5% per year
	** The response time value is specified to reach the 90% reading value.*	
Temperature	Range	0 ℃ to 50 ℃,32 ℉ to 122 ℉.
	Resolution	0.1 degree
	Accuracy	℃ : ± 0.8 ℃ ℉ : ± 1.5 ℉.

O2 (Air oxygen)

O2 ** Air oxygen*	Range	0 to 30 %O2.
	Resolution	0.1 %O2.
	Accuracy	± (1 % reading + 0.2 % O2). *@ After calibration*
	Response time	≦ 15 seconds. *@ t 90*
	Overload protection	100 %O2.
	Environment pressure range	0.9 to 1.1 atmosphere.
	Expected life time	≧2 years.
	Alarm	If the measurement Air oxygen value < 18.0 %O2, the buzzer will sound for warning.
Temperature	Range	0 ℃ to 50 ℃,32 ℉ to 122 ℉.
	Resolution	0.1 degree
	Accuracy	℃ : ± 0.8 ℃ ℉ : ± 1.5 ℉.

Humidity/Temperature

Humidity	Range	5 % to 95 % R.H.
	Resolution	0.1 % R.H.
	Accuracy	≧70% RH : ± (3% reading + 1% RH). < 70% RH : ± 3% RH.
Temperature	Range	0 ℃ to 50 ℃,32 ℉ to 122 ℉.
	Resolution	0.1 degree
	Accuracy	℃ ± 0.8 ℃. ℉ ± 1.5 ℉.

Dew Point Temp. (Humidity)

℃	Range	-25.3 ℃ to 48.9 ℃
	Resolution	0.1 ℃
℉	Range	-13.5 ℉ to 120.1 ℉.
	Resolution	0.1 ℉.

Remark :
* Dew Point display value is calculated from the Humidity/Temp. measurement automatically.
* The Dew Point accuracy is sum accuracy value of Humidity & Temperature measurement..

Wet bulb Temp. (Humidity)

℃	Range	-21.6 ℃ to 50.0 ℃
	Resolution	0.1 ℃
℉	Range	-6.9 ℉ to 122.0 ℉.
	Resolution	0.1 ℉.

Remark :
* Wet bulb display value is calculated from the Humidity/Temp. measurement automatically.
* The Welt bulb accuracy is sum accuracy value of Humidity & Temperature measurement..

* Appearance and specifications listed in this brochure are subject to change without notice.