



**Environmental Sensors Co.**

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## F300 IAQ MONITOR

### Formaldehyde and Carbon Dioxide with Pump

#### FEATURES

- Real time Formaldehyde concentration as low as 0.01 ppm
- Real time Carbon Dioxide concentration
- Hand held and easy operation
- Temperature and Humidity
- Data Logging
- Internal Pump
- Rechargeable Battery



#### Product Description

Formaldehyde and Carbon Dioxide IAQ Monitor

Environmental Sensors Company's F300 Formaldehyde and Carbon Dioxide IAQ Monitor is a hand held instrument that measures formaldehyde concentration and Carbon Dioxide concentration in air simultaneously with the touch of a button and it also shows temperature and humidity. The high resolution and accuracy of this model make it ideal for indoor air quality testing. This meter comes with an internal pump and it is easy to measure even an unreachable area. With the data logging feature, the meter stores all of the exposure points for up to 12 logs (a log is created in the instrument's internal memory each time it is used). Each log contains: date, time, number of exposure points, the interval between each point, and the actual exposure points. All of the log files easily uploaded to PC using components available within the Microsoft Windows Operating System or the terminal software included with the instrument.

#### ESC Filter Technology

The Model F300 uses an active filter to eliminate potential interference from common chemicals. With no filter in place, the sensor is exposed to formaldehyde and the chemicals that may interfere. When the filter is added, the formaldehyde is removed. The instrument then accurately determines the difference in the signal from the sensor. This is proportional to the amount of formaldehyde, with elimination of potential interference from other chemicals. The procedure is automatic when the command to measure is given.

## F300 SPECIFICATIONS

## Sensor Technology

Size	8.5" L x 4.5" W x 2.5" H	
Weight	908 grams	
Sensor Technology	HCHO-Electrochemical CO2- Non-dispersive infrared (NDIR)	
Operating Hours	12 hours with full charge	
Power Source	Internal rechargeable Ni-MH battery with AC/DC adapter	
Temperature	-20 C to +50 C	
Humidity	15- 90 % non-condensing	
Alarms	Audible 80 db	
Data Logging	12 logs, more than 34,000 data points	
Sampling Pump	600 cc/min	
	<u>Formaldehyde</u>	<u>Carbon Dioxide</u>
Range	0-30 ppm	0-5000 ppm
Resolution	0.01 ppm	30 ppm
Response Time	40 seconds	15 seconds

The sensing element of the formaldehyde sensor is an electrochemical cell. The cell is a four-electrode type, which contains a working and an active auxiliary electrode. The signal from the auxiliary electrode is used for temperature compensation and to improve the selectivity of the entire sensor. The sensor response is linear with the concentration of formaldehyde in air.

The sensing technology of Carbon Dioxide is non-dispersive infrared (NDIR) sensor.

## Formaldehyde Sensor Interference

Some representative examples of the common compounds and the corresponding signals they give are shown below. Care needs to be exercised about using this instrument in the presence of large concentrations of interfering gases. Contact the manufacturer if difficulties are suspected with other gases, or with other usage problems.

In addition variations of the baseline, resulting from varying concentrations of compounds other than aldehydes or ketones, during the course of the measurement (about three minutes), can impact the reading.

### F300 Formaldehyde Meter Cross-Sensitivity Data

<u>Gas</u>	<u>Gas Concentration</u> <u>ppm</u>	<u>F300 Output with Use</u> <u>of Filter</u>
Acetone	2	2
Methylethyl Ketone	2	0
Diethyl Ketone	2	2
Acetaldehyde	12	0
Acetic Acid	0	0
Ethylene	67	0
Methanol	125	0
Ethanol	55	0
I-propanol	44	0
Carbon Monoxide	40	0