BENETECH®

Model: GM8801

Formaldehyde Monitor Instruction Manual

Version: GM8801-EN-00

I. Introduction

Formaldehyde (molecular formula: HCHO) is the simplest aldehyde,which is generally combustible, colorless and irritant gas and solublein water, alcohol and ether. 35-40% formaldehyde solution is calledformalin. As important organic raw material, formaldehyde is mainlyused in plastics industry (such as making of phenol-formaldehyde resinand urea-formaldehyde plastics), synthetic fiber (such as synthesis ofvinylon-polyvinyl formal), leather industry, medicine and dye, etc.However, its odor is irritant and is very harmful to human body. Harmof formaldehyde is connected with contact time, as well as age, genderand physique of the contactpopulation, which has a relatively strongimpact on infants, the elderly and women.

As a brand new indoor formaldehyde concentration monitoring instrument, the latest imported electrochemical sensor andhigh-precision operational amplifying chip are adopted for the formaldehyde tester, which can continuously and directly convert the formaldehyde concentration signal in the air to electric signal in real time and display and reflect the measuring result in LCD digits after microcomputer data processing. It has broken the bottlenecks of the traditional formaldehyde tester that must be operated by the professional and is expensive in detection cost, and it can automatically provide 24-hour continuous real-time monitoring of indoor formaldehyde concentration. The formaldehyde tester can detect indoor formaldehyde gas rapidly, display date, detection time,temperature and humidity data at the detection site. It is featured by simple structure, small volume, ease of carrying and using and visual display. It can widely apply to site quantitative and qualitative detection of formaldehyde in living room, indoor and residential area,public place, living place and factory and workshop. The indoor portable formaldehyde tester is designed and made according to principles in the national standard GB/T18204.26-2000 Methods forDetermination of Formaldehyde in Air of Public Places.

The product possesses the following functions:
1. Charging function
2. Sound-light alarm setting
3. Low battery indication function
4. LCD backlight display
5. Temperature unit switch.
6. Date and time setting
7. Supporting formaldehydegas detection
8. Maximum, minimum valuesand data hold
9. Date display format: YMDor MDY switch

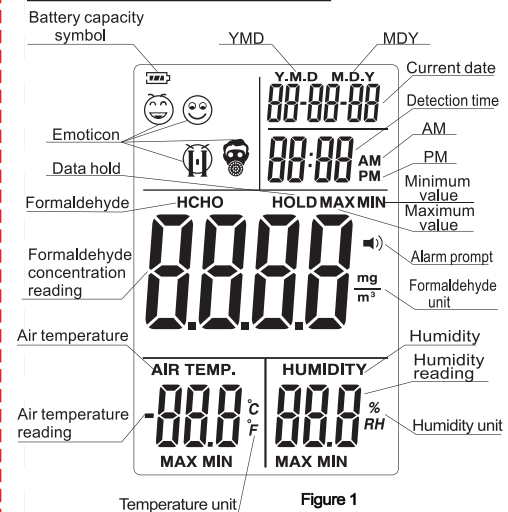## II. Safety instruction

To know and understand toxic properties of formaldehyde
► Suction volume: 60-120mg/m^3: bronchitis and serious injury of lung;
► Suction volume: 12-24mg/m^3: severe burns of mucosa of nose and pharynx, lacrimation and cough;

► Suction volume: 20-70mg/m^3 (long time): appetite loss, loss of weight, asthenia, headache and insomnia;
► Suction volume: 12mg/m^3 (long-term exposure): sleepiness, asthenia, headache, tremor of fingers and visual deterioration.

III. LCD display (as shown in Figure 1)

Figure 1

IV. Operating instructions

1.Startup and shutdown
Press the power key to start it up and long press the power key to shut it down.
2.Read the formaldehyde concentration
When the screen displays 30s countdown after startup, it can display the formaldehyde concentration as well as temperature and humidity of current environment. Keys other than the backlight key are invalid for operation before completion of 30 seconds countdown. The measured formaldehyde concentration will be displayed by four emoticons on the LCD display:

☺ ≤ 0.05mg/m^3
☺ > 0.05mg/m^3, ≤0.10mg/m^3
😐 > 0.10mg/m^3, ≤0.20mg/m^3
😷 > 0.20mg/m^3

3.Backlight
It is on when the backlight key is pressed after startup, and will be automatically off when backlight key is not pressed in 3 seconds.
4.Temperature unit switch
When temperature unit switch key is long pressed, the temperature unit will be switched between Celsius degree and Fahrenheit degree. And the default unit after startup is Celsius degree.
5.Time and date setting
Long press clock key to enter clock mode, and hour will flicker; press + or - to increase or decrease the digit. Then press clock key, and minute will flicker. In this manner, repeatedly press the clock key to set in the sequence of H-M-Y-M-D-Y.M.D. When Y.M.D flickers, press + or - to switch between Y.M.D and M.D.Y., to select the required date display format of year-month-day or month-day-year. Long press clock key to exit clock mode after completing setting.
6.Data hold, maximum value and minimum value
The screen will display HOLD marking when the data hold/maximum value/minimum value key is pressed, to lock formaldehyde concentration, air temperature and humidity, etc. Press again the key, the screen will display MAX marking, which is the maximum value reading. Press it again, the screen will display MIN marking, which is the minimum value reading. Press it again, the screen will display the current value. When the data hold/maximum value/minimum value key is pressed, the instrument will repeatedly display locked current value, maximum value, minimum value and current value.
7.Alarm setting
Long press alarm key to display " 🔊 " and switch on the alarm. The formaldehyde safe value stipulated by the state is not over 0.10mg/m^3: it will beep and display red backlight when the displayed formaldehyde concentration exceeds the standard, and the beep and red backlight will not disappear until it does not exceed the standard. If sound-light alarm is not required, long press again the alarm key to cancel it.
8.Charging
LCD will display " 🔋 " when the battery power is low, indicating that the battery power is insufficient, which shall be charged in time. Insertthe power adapter in the power charge hole, and connect the power scupply for charging. After completion of charging,the adapter light turns from red to green, and the adapter can be unplugged

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Please use the original power adapter for charging, and others can not be used instead.

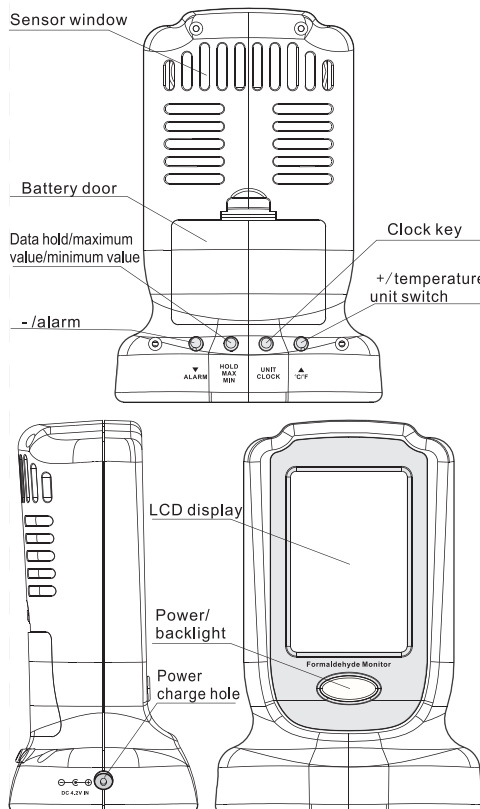## V. Name of each component (as shown in Figure 2)

Figure 2

VI. Advantages in comparison

Our advantages are obvious, as compared to products of the same type:

	Time	Precision	Charge	Usage Mode
Professional Detection Company	Appointment required, and only one time detection; if not reaching standard, re-examination is required after elimination	The equipment precision is ordinary. The data could not reflect the real result due to limitation of monitoring point and detection time	Charge according topoint: RMB 100-120 per point, 6-10 points per detection. Nearly RMB 1000 is spent for one detection.	After the detection party carries out on-site detection, they will provide relevant data the next day
	Indirect	Static	Cost much	Worrisome
The Formaldehyde Testery	24h continuous monitoring at home	Real-time monitor to ensure indoor air quality, according to feature of formaldehyde: changing with temperature and humidity	One-time investment, long-term continuously detection	The product automatically sounds alarm, which is very clear without the need to read and understand the difficult data report
	Real-time monitoring	Dynamic	Cost effective	Relieved and relaxed
Traditional Formaldehyde Self-Testing Box	The product automatically sounds alarm, which is very clear without the need to read and understand the difficult data report	Measuring relative content of indoor formaldehyde by the color chart, without precise data display		Mix two reagents by shaking, and heat them to complete dissolution by body temperature during the process, and then open it
	One-time	No precisedata	Cheap and poorquality	Worrisome

VII. Technical parameters

Detected gas	Formaldehyde (HCHO) in the Air		
Measuring range	0-3mg/m^3	Minimum reading	0.01mg/m^3
Resolution ratio	0.01mg/m^3	Basic error	± 0.03±5%
Response time	<30s		
Sensor type	Electrochemical HCHO sensor		
Working environment	0~50℃, 32~122℉; 10~90%RH		
Storage environment	−10~80℃, −14~176℉; 10~75%RH		
Dimension	91.5x64.8x135mm	Weight	152g
Power supply: 3x1.2V Ni-MH battery (weight 36.5g) or 4.2V power adapter			

Special declaration:
Our company reserves the right to modify the product design and the instruction. We will not give furthernotice for any changes!

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