

The Value+ Model VT22H, VT22J and VT22K, formaldehyde monitor (the equipment), is for providing the environmental information including formaldehyde level, temperature and humidity. The equipment can also display icons indicating the conformability for easy understanding. These series of products are suitable for both professional and home users.

With careful use, the equipment will provide years of reliable service.

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READ BEFORE USE – SAFETY INFORMATION

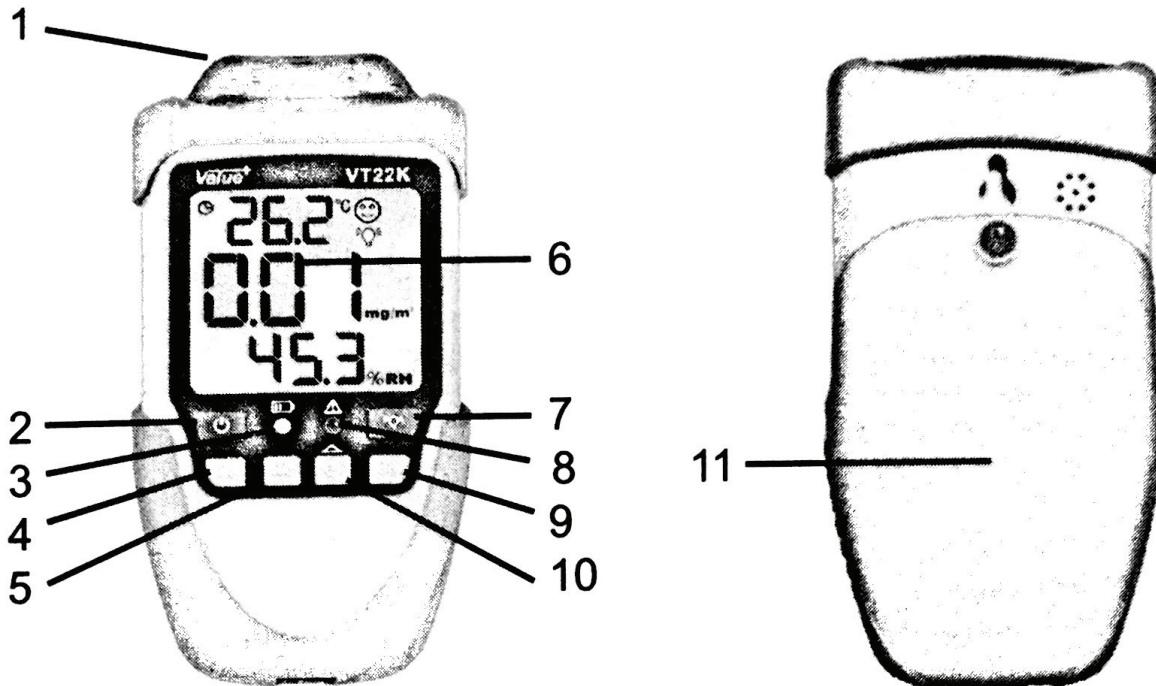
WARNING

To ensure safe operation and service of the equipment, please follow these guidelines:

- This equipment is not designed to be used in laboratory test for formaldehyde samples, and replaces any formal test. If it is required to get accurate result of the composition of the gas samples, please use appropriate laboratory equipments instead of relying only on the result displayed of the device.
- Do not use the equipment just before, during or just after an electrical storm (electrical shock / high energy overvoltage!). Please make sure that your hands, your shoes, your clothing, the floor, switches and switching components are dry.
- Do not use the equipment if they look damaged and / or wet.
- Never use the equipment if it just brought from a place with great temperature and humidity difference.
- Avoid to use the equipment in the environment with strong magnetic fields, strong electrostatic fields and strong RF fields.
- Read the instruction before use and follow all safety instructions.
- Use the equipment only as specified in the instruction manual; otherwise, the equipment's safety features may not protect you.
- Clean the case with a damp cloth and mild detergent only. Do not use abrasives or solvents.
- Replace the battery(ies) if the low battery indicator is flashing.
- Remove the batteries if the equipment planned to be stored for long period.

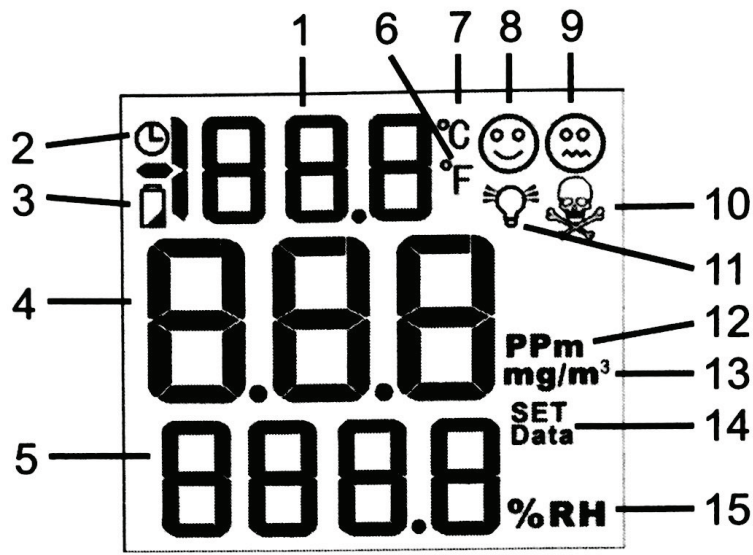
- A " **Warning**" statement identifies hazardous conditions and actions that could cause bodily harm or death.
- A " **Caution**" statement identifies conditions and actions that could damage the Meter or the equipment under test.

THE EQUIPMENT






- 1) Sensor
- 2) Power button
- 3) Low Battery indicator
- 4) Formaldehyde unit (mg/m³) select button
- 5) Formaldehyde unit (ppm) select button
- 6) LCD display
- 7) Display backlight button
- 8) Air quality indicator
- 9) Temperature unit (°C/°F) selecting button
- 10) Sleep mode / Zero drift (Noise elimination) button
- 11) Battery door

LCD DISPLAY



- 1) Temperature readings
- 2) Sleep mode is on
- 3) Battery is low
- 4) Formaldehyde readings
- 5) Humidity readings
- 6) Temperature unit – degree Fahrenheit
- 7) Temperature unit – degree Celsius
- 8) Indicate the environment is comfortable for staying
- 9) Indicate the environment is not comfortable for staying
- 10) Indicate the formaldehyde level is very high which may be harmful to health and it is not recommended to stay in the area
- 11) Display backlight is on
- 12) Formaldehyde unit – part per million (ppm)
- 13) Formaldehyde unit – milligram per cubic meter (mg/m³)
- 14) Zero drift of the formaldehyde reading
- 15) Humidity unit – %RH

INDICATORS MEANING

Symbol	Meaning	Environmental Data
	Comfort to stay in the area	Temperature : 18~36°C (64~96°F); and Humidity : <80%RH; and Formaldehyde Level : 0.30ppm / 0.30mg/m ³
	Uncomfortable to stay in the area	Temperature : <18°C (64°F) or >36°C (96°F); or Humidity : >80%RH; and Formaldehyde Level :0.30ppm / 0.30mg/m ³
	Harmful to health	Formaldehyde Level > 0.30ppm / 0.30mg/m ³
Flashing air quality indicator	Harmful to health	Formaldehyde Level > 0.30ppm / 0.30mg/m ³

OPERATING THE EQUIPMENT

A. FORMALDEHYDE LEVEL MEASUREMENT

Caution



Let the equipment be settled down for at least an hour before getting the readings if the environmental temperature had changed more than 10°C and/or relative humidity had changed more than 20%.

- 1) Switch on the equipment by holding down the power button for 3 seconds.
- 2) Wait to let the meter having self-checking. It takes 60 seconds.
- 3) The equipment will then auto detect the environmental formaldehyde level, temperature and humidity.
- 4) Stable reading, including temperature, humidity and formaldehyde level, will be obtained at around 3 minutes.
- 5) The equipment also advises the environment is comfort for human beings by showing “☺”; uncomfortable by showing “☹” and not suitable for stay by display “☠”.

- 6) If the formaldehyde level is higher than 0.30 ppm (0.30 mg/m³), high formaldehyde level indicator will flash.

B. DEVICE SETTINGS

Selecting the unit of formaldehyde

The equipment was preset to display the readings in mg/m³. To change the display of readings in ppm, simply just press  button. To return display of readings in mg/m³, press  button.


Temperature Unit Selection

The equipment allow users to select the temperature unit. Just simply press °C/°F button to switch between degree Celsius and degree Fahrenheit.

Display Backlight

The equipment designed to have a backlight for easy reading in dark environments. To switch it on, just press backlight button. To switch it off, press backlight button again.



C. ELIMINATION OF THE NOISE

The equipment is very sensitive to the environments. To eliminate the environment factors, it is recommended to hold down the  button in an open area until “**SET Data**” appear.

To switch off the function, hold down the  button in an open area until “**SET Data**” disappear.

SLEEP MODE

The equipment was preset to switch off automatically if there is no function change or button press in 30 minutes. “⌚” is appeared to indicate the sleep mode is on.

To disable the sleep mode, press  button. “⌚” will disappear to indicate the sleep mode is off. To enable sleep mode, press  button again. “⌚” will appear to indicate the sleep mode is on.

SPECIFICATIONS

Temperature	Operating: -10°C~60°C Storage: -20°C~60°C
Relative Humidity	< 90%RH
Battery	1.5V (LR6) x 3
Size	125 x 64 x 32mm
Weight	177g (include battery)

	VT22H	VT22J	VT22K
Basic Functions			
Formaldehyde Level			
Range	0.00~5.00 mg/m ³		
Accuracy (At 25°C, 30~70%RH)	0.01~0.10 mg/m ³ : ±5.0%+0.03 mg/m ³ 0.10~5.00 mg/m ³ : ±10.0%+0.03 mg/m ³		
Repeatability	<0.20 mg/m ³ : 0.01 mg/m ³ 0.20~1.00 mg/m ³ : 0.02 mg/m ³ >1.00 mg/m ³ : 0.05 mg/m ³		
Display Resolution	0.01 mg/m ³		
Temperature			
Range	-10~60°C (14~140°F)		
Accuracy			
23~28°C [73~82°F]	±1.0°C [±2.0°F]	±0.6°C [±1.2°F]	±0.5°C [±1.0°F]
0~23, 28~50°C [32~73, 82°F~122°F]	±1.8°C [±3.6°F]	±1.5°C [±3.0°F]	±1.5°C [±3.0°F]
Other temperature range	For reference only		
Repeatability	0.2°C [0.4°F]		
Display Resolution	0.1°C / 0.1°F		

	VT22H	VT22J	VT22K
Humidity			
Range	n/a	0~99.9%RH	0~99.9%RH
Accuracy (At 25°C)			
30~70%RH	n/a	±3.0%RH	±3.0%RH
10~30%RH, 70~90%RH	n/a	±5.0%RH	±5.0%RH
Other conditions	n/a	For reference only	For reference only
Repeatability	n/a	0.5%RH	0.5%RH
Display Resolution	n/a	0.1%RH	0.1%RH

MAINTENANCE

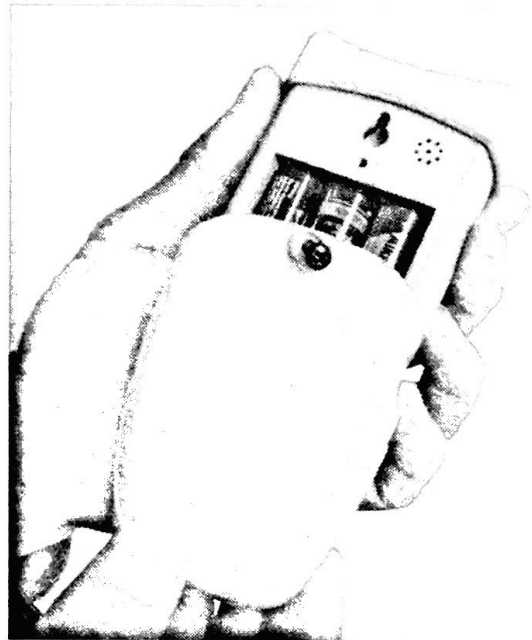
CHANGING BATTERY

Warning

To avoid damage to the Meter, switch off the Meter before opening the battery door.

Replace the battery as soon as “” is appeared on LCD and/or the low battery indicator is flash to avoid false reading.

To replace the batteries, open the battery door as shown in photo on the right. Replace the 1.5V (LR6) x 3 battery inside.



CLEANING

Caution

To avoid damaging the equipment, **NEVER** submerge them in water. **DO NOT** use abrasive cleaners, they will damage the case.

Wipe the case with a damp cloth and mild detergent. Do not use abrasives or solvents. Dirt or moisture in the jacks can affect the measurement.