Formaldehyde (HCHO or CH₂0) and Total Volatile Organic Compounds (TVOC) Tester

Model VFM200

Introduction

Thank you for selecting the Extech Instruments Model VFM200. The VFM200 measures HCHO (formaldehyde) and TVOC (Total Volatile Organic Compounds).

This device is shipped fully tested and calibrated and, with proper use, will provide years of reliable service. Please visit our website (www.extech.com) to check for the latest version of this User Guide, Product Updates, and Customer Support.

Features

- Fuel Cell Formaldehyde Sensor Technology
- High accuracy measurements
- Backlit LCD display
- Real-time display of HCHO (formaldehyde) concentration in air
- Real- time display of TVOC (Total Volatile Organic Compounds) concentration in air
- Two unit selections (PPM, mg/m³)
- Audio-visual High and Low Alarms
- Auto power off

Description

METER DESCRIPTION

1. HCHO sensor (front)
2. AC Adaptor jack (under flap)
3. Down arrow and Alarm Setup button
4. Battery compartment (rear)
5. ON-OFF button (also used in Alarm Setup)
6. Up arrow and UNIT selection button
7. Backlit Display
8. TVOC sensor (rear)
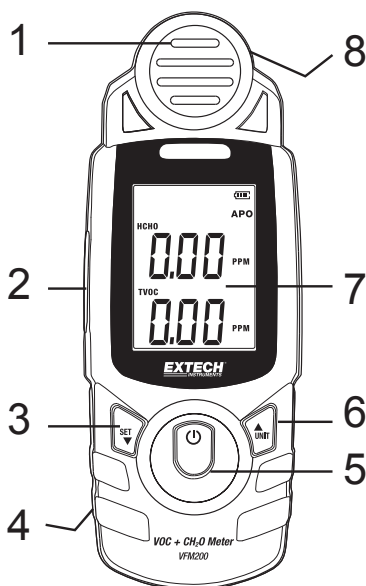
LCD DISPLAY

1. HCHO reading
2. TVOC reading
3. Selectable units of measure
4. Alarm Beeper symbol
5. Auto Power OFF reminder
6. Rechargeable Battery status
7. High and Low Alarm symbols
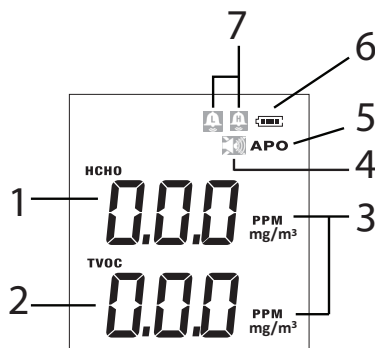
Operation

POWER THE METER

Press the ⏻ button to turn on the meter. The battery symbol informs the user as to the battery strength. Connect the battery charger to recharge the battery. Long press the ⏻ button to power off.   The LCD will count down: 3, 2, 1, then OFF before switching off.

AUTO POWER OFF

The meter will switch off after 30 minutes of inactivity. Press any function button to prevent the meter from powering off; the auto power off timer will be then be reset. The APO display symbol reminds the user that Auto Power OFF is always active.

GERNERAL USE

- All LCD display lines will switch ON when power is applied to the meter. The bottom TVOC display will count down from 10 seconds or from 90 seconds (depending on the environment) to zero. When countdown is complete the meter is ready for use.
- In normal mode, the top display indicates the HCHO concentration in PPM or mg/m³. The bottom display indicates the TVOC concentration in PPM or mg/m³.
- Use the **UNIT** button to switch units between PPM and mg/m³.
- With the meter on, if the measured HCHO concentration exceeds the high or low user-programmable Alarm thresholds, the LED display will flash red in color and the audible beeper will sound (unless it has been disabled with the **SET/▼** button). Press **SET/▼** to silence the alarm beeper (when it is sounding) or to disable the beeper entirely. When disabled, the displayed beeper symbol is switched off.

ALARM SETUP (HCHO only)

Low Alarm Setup

1. Long press the **SET/▼** button to enter the setup mode.
2. The low alarm icon will display and the LCD will show the low alarm threshold.
3. Use the ▲ and ▼ buttons to adjust the low alarm threshold.
4. Press the ⏻ button to go to the high alarm setup screen.

High Alarm Setup

1. Use the ▲ and ▼ buttons to adjust the high alarm threshold.
2. Press the ⏻ button to return to the normal measurement mode.

CONTROL BUTTONS

1. Short press the **▼SET** button to silence the beeper (when it is sounding) or to disable/enable the alarm beeper. This button is also used as a down arrow to change the high and low Alarm threshold values in the Alarm Setup mode.
2. Long press the **▼SET** button to enter the Alarm Setup Mode (See Alarm Setup section).
3. Short press the **▲ UNIT** button to change the unit of measure (PPM or mg/m³) or to use it as an up arrow to set the alarm threshold values in the Alarm Setup mode.

SAFETY

- Do not store or use the instrument in an environment where corrosive gas is present.
- Do not obstruct the sensors when in use.
- Use only the supplied lithium-ion battery to power the meter.
- Use only the supplied AC adapter/battery charger to charge the lithium-ion battery.

MEASUREMENT REFERENCE TABLE

0.03 ppm	Average outdoor level
0.10ppm	Recommended upper limit for residences by ASHRAE, ANSI, EPA, NIOSH
0.40ppm	Recommended upper limit for manufactured homes
0.50ppm	OSHA workplace limit
0.75ppm	OSHA TWA limit
0.80ppm	Level at which most people first detect odor
2.00ppm	OSAL STEL limit

BATTERY CHARGE and REPLACEMENT

1. When the battery requires charging, plug the supplied battery charger into the meter (left side, under flap) and to a source of AC power. A full charge requires 2 hours.
2. To replace the battery, open the rear battery compartment and replace the Polymer lithium-ion battery (7.4V 1300mAh). Re-assemble the meter before use

Battery Safety Notes: Please dispose of batteries responsibly; never dispose of batteries in a fire, batteries may explode or leak. If the meter is not to be used for 60 days or more, remove the battery and store separately.

Never dispose of used batteries or rechargeable batteries in household waste.
As consumers, users are legally required to take used batteries to appropriate collection sites, the retail store where the batteries were purchased, or wherever batteries are sold.

Disposal: Do not dispose of this instrument in household waste. The user is obligated to take end-of-life devices to a designated collection point for the disposal of electrical and electronic equipment.

CLEANING AND STORAGE

Periodically wipe the case with a damp cloth and mild detergent; do not use abrasives or solvents. Please remove the battery if the meter is stored for a long period of time.

Specifications

Sensor	Professional Fuel Cell technology
HCHO Range	0.00 to 5.00 mg/m³ (or PPM)
HCHO Resolution	0.01 mg/m3 (or PPM)
HCHO Basic Accuracy	±5% FS
TVOC Range	0.00 to 9.99 mg/m³ (or PPM)
TVOC Resolution	0.01 mg/m³ (or PPM)
TVOC Basic Accuracy	±5% FS
Response Time	≤ 2 seconds
Operating Temperature	0°C to 40°C (32 to 104°F)
Storage Temperature	-10°C to 60°C (14 to 140°F)
Power Supply	Rechargeable Polymer lithium-ion battery (7.4V 1300mAh)
Battery Charge Time	Approx. 3 hours with AC adapter
Dimensions	165 x 60 x 25mm (6.5 x 2.4 x 1.0 in.)
Weight	584g (20.6 oz.)