

Introduction

The C100 is a portable solid state unit that is designed to enable technicians to quickly check and adjust oil, natural gas, propane, and coal fired residential and commercial appliances.

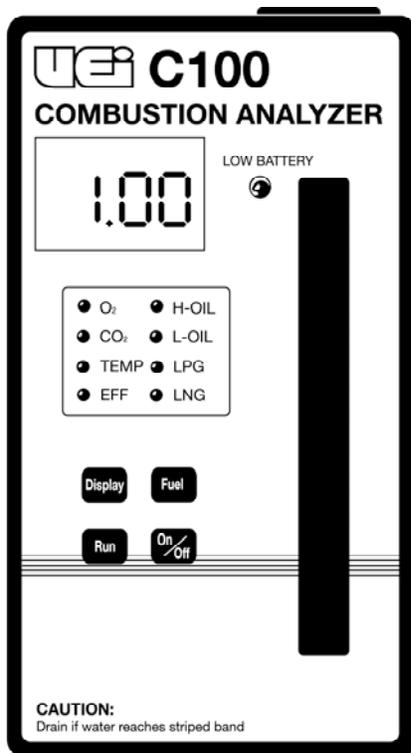
The hand held UEi C100 is powered by four AA batteries. It is used to give spot check readings. Measuring only 6.7" x 3.9" x 2.1" it can easily be carried in a tool box or coat pocket. The self-draining, color-coded water trap and low battery light provide indications of any abnormal conditions. A washable, reusable sponge filter is used as a particulate trap.

By comparing the percent O₂ reading against the net stack temperature, and fuel selected, the efficiency reading is calculated by the C100.

Features include

- Measures oxygen and stack or ambient temperature
- Calculate carbon dioxide and efficiency from 4 fuel types
- Air filter and self draining water trap
- Extended battery life

Controls and Indicators



1. **On/Off Push-button:** Turns the C100 on and starts the O₂ reset function.
2. **RUN Push-button:** Starts the sampling process of the C100. When pressed, the C100 will run for approx. 48 seconds and then automatically stop the pump and display the measured values of the sample gas. The C100 will display the percentage of O₂ stack temperature, computed CO₂ and computed efficiency.
3. **Display Push-button:** Switches the displayed reading through the functions of O₂, CO₂, Temperature and Efficiency.
4. **FUEL Push-button:** Selects the type of fuel being used in the burner being used. (Always make sure that the correct fuel is selected. If the incorrect fuel is selected, the readings of CO₂ and Efficiency will not be correct)
5. **Display Window:** O₂%, CO₂%, Temperature, and Efficiency is displayed numerically by LED's.
6. **FUNCTION Display Panel:** Shows fuel selected and what function is being displayed in the display window.
7. **Gas Sampling Probe:** Stainless steel sampling probe conveniently folds away when not in use.
8. **Filter Cap:** Simply unscrew the cap to change or clean the filter as required. The cap should be hand tightened only.
9. **LOW BATTERY LIGHT:** Low battery light signals the need to replace batteries.
10. **Water Trap Sight Window:** This sight glass provides visual indication of excess moisture build up. Should the moisture reach the striped bands, discontinue use of the C100 and empty the trap. Also check the automatic drain to insure that it is not plugged.
11. **Stand Off (on back of instrument):** The stand off prevents damage to the C100 by preventing contact with the hot stack during use.
12. **Temperature Input Jack:** (Yellow plug on top of instrument) is for the high temperature probe that is inserted into the stack.
13. **Battery Eliminator Input:** Enables the user to plug in the AACA1 to run on AC power instead of batteries.

Operating Instructions

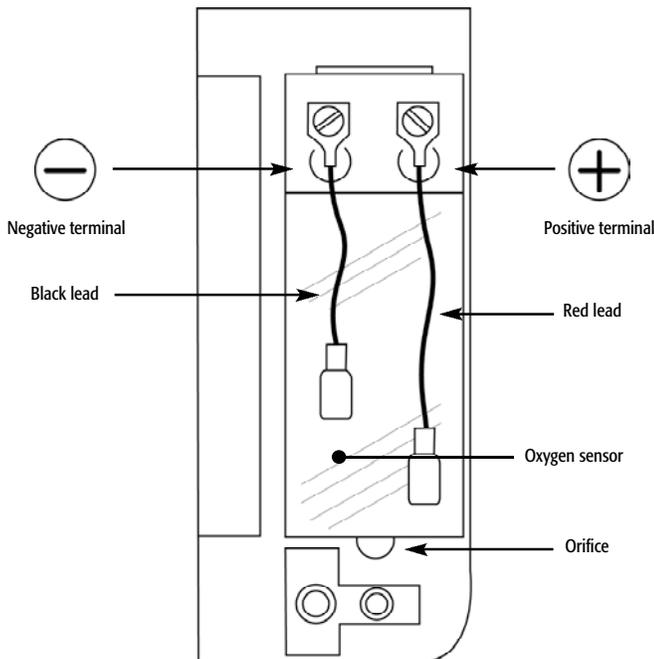
Press the **"ON/OFF"** push-button and allow the unit to warm up for approximately 30 seconds (in room air). Press the **"RUN"** push-button (while still in room air) and read the digital display. The display should read **"20.9"**, this is the percentage of O₂ in the room air. If the display doesn't read **"20.9"**, turn the instrument off and then back on to recalibrate

After the C100 has calibrated, the unit is ready to test stack gasses. Insert the sampling probe and temperature probe into the stack and press the **"RUN"** push-button to start the sampling process. During the sampling process the C100 will continuously read out the stack measurements and then stop after approximately 50 seconds. To read the different functions, press the **"DISPLAY"** push-button (this can be done while the C100 is taking a sample).

AOS1 Installation Instructions

When installing the AOS1 oxygen sensor, care must be taken to avoid touching the orifice as dirt and skin oils may effect the sensors performance.

1. Remove the sensor housing cover.
2. Install the sensor with the orifice facing down and away from the terminal screws.
3. Connect the red wire to the positive (+) terminal. Connect the black wire to the negative (-) terminal. Screws should be snug.
4. When properly installed, the wires will run back over the body of the oxygen sensor to the terminal screws.
5. Replace the sensor housing cover. (Fig. 1)



(Fig 1)

Maintenance

IMPORTANT: To prolong the life of the oxygen sensor, the sponge filter should have the moisture squeezed out whenever it is saturated. This will vary with the moisture content of the flue sample and should be checked after every 20 samples. Also, if the C100 is not going to be used for an extended period of time (more than 2 weeks), the sensor should be removed from the C100, put back into the protective bottle (making sure that the leads do not touch each other) and stored in a cool place. **DO NOT** freeze the oxygen sensor as this could destroy it.

The sponge filter may be washed in ordinary soap and water. Be sure to thoroughly rinse and dry the filter before reinstalling it. After extended use, the lead pellets may corrode and deteriorate. When this occurs, remove the bottom cap from the sight tube and replace them. During the periods of short term storage (up to one month) the batteries may be left in the unit. The C100 should never be stored where it will be exposed to temperatures below 32°F for extended periods of time, remove the batteries and store in a cool, dry location. The C100 should be kept in a location where it will not be subject to temperature extremes.

Specifications

Measurement limits

Frequency (Hz)	1 Hertz minimum to 400 Megahertz maximum
ACV (at 50 to 500 hertz)	750 V CAT II (600 V CAT III)
DCV	1000 V CAT II (600 V CAT III)
DC mV	400 Millivolts
Continuity (••))	400Ω - Tone sounds at approximately 30Ω or less
Diode Test (→ ←)	3 V DC (voltage drop)
Resistance (Ohms/Ω)	40MΩ
Capacitance	40,000 Microfarads
DC μA	Center left port - 400 Micro amps
DC mA	Center left port - 400 Micro amps
DC 10A	Far left port - 10 Amps
AC μA	Center left port - 400 Micro amps
AC mA	Center left port - 400 Milliamps
AC 10A	Far left port - 10 Amps

Optional Accessories

Optional

Battery 1.5V alkaline, set of 4 (NEDA #15A)	AB4
Carrying case	AC115
Oxygen sensor	AOS1
Stack temp probe	ATT100
Battery eliminator	AACA1



C100

Oxygen Analyzer

Limited Warranty

The C100 is warranted to be free from defects in materials and workmanship for a period of three years from the date of purchase. If within the warranty period your instrument should become inoperative from such defects, the unit will be repaired or replaced at UEi's option. This warranty covers normal use and does not cover damage which occurs in shipment or failure which results from alteration, tampering, accident, misuse, abuse, neglect or improper maintenance. Batteries and consequential damage resulting from failed batteries are not covered by warranty.

Any implied warranties, including but not limited to implied warranties of merchantability and fitness for a particular purpose, are limited to the express warranty. UEi shall not be liable for loss of use of the instrument or other incidental or consequential damages, expenses, or economic loss, or for any claim or claims for such damage, expenses or economic loss. A purchase receipt or other proof of original purchase date will be required before warranty repairs will be rendered. Instruments out of warranty will be repaired (when repairable) for a service charge. Return the unit postage paid and insured to:

1-800-547-5740 • FAX: (503) 643-6322
www.ueitest.com • Email: info@ueitest.com

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

