UEi TEST INSTRUMENTS C165 Combustion Analyzer User Manual

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UEi TEST INSTRUMENTS C165 Combustion Analyzer

Product Information

Specifications

- **Manufacturer:** UEi TEST INSTRUMENTS
- **Model:** C165+
- **Sensors Fitted:** O2/EFF, CO/CO2 TEMP/PRS
- **Display**: 6 Line Backlit Display
- **Power Source:** Battery
- P**rinter Port**: Infrared

Product Usage Instructions

Before Testing

Follow the checklist below before conducting any tests:

- Clean the particle filter.
- Ensure the water trap and probe line are free of condensate.
- Ensure all hose and thermocouple connections are properly secured.
- Check that the water trap is fitted correctly.
- Power on the device and zero it.
- Make sure the flue gas probe is sampling ambient fresh air.

Water Trap Maintenance

To maintain the water trap, follow these steps:

1. Remove the rubber boot and red drain plug.
2. Allow the water to drain out.
3. Re-insert the rubber plug and replace the boot cover.

Particle Filter Replacement

To replace the particle filter, follow these steps:

1. Remove the protective rubber boot.
2. Remove the water trap from the analyzer.
3. Remove the particle filter from the water trap and replace it with a new one.
4. Reattach the trap and boot.

Auxiliary Screen Customization

The auxiliary screen allows you to customize the parameters displayed on any display line. You can assign any of the following parameters: CO2, CO, NO (if fitted), NOx (if fitted), O2, TF, Ti, Ta, Delta (), Loss, EFg, Xair, Ra (CO/CO2 Ratio), PI, Fuel Type, PRS or Blank. Follow these steps to customize the settings:

1. Rotate the dial to the MENU position.
2. Scroll or press the ARROW BUTTONS to select SCREEN. Press ENTER.
3. Scroll or press the ARROW BUTTONS to select AUX. Press ENTER.
4. Scroll or press the ARROW BUTTONS to select the line you want to change. Press ENTER.
5. Scroll or press the ARROW BUTTONS to change parameters. Press ENTER to select.

FAQ

Q: What sensors are fitted in the C165+?

A: The C165+ comes with O2/EFF and CO/CO2 TEMP/PRS sensors fitted.

Q: How do I change the fuel type?

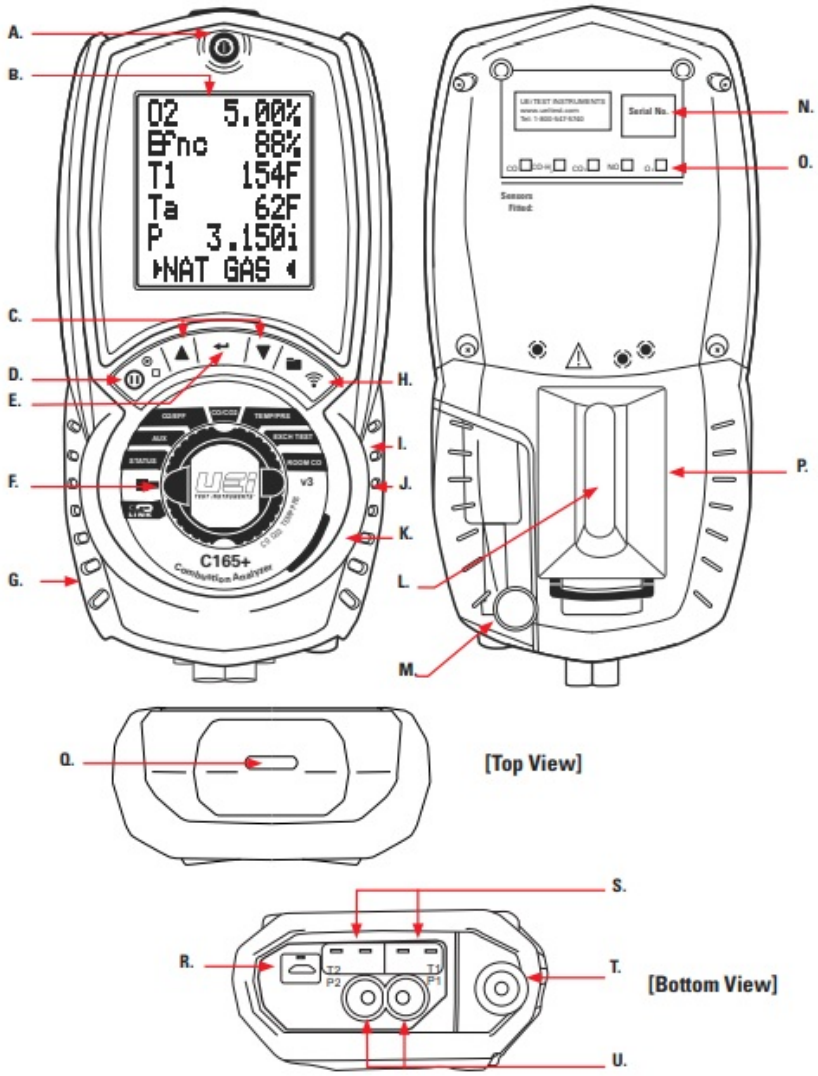
A: On the STATUS screen, select the first line and press the ARROW BUTTONS to change the currently selected fuel type.

Q: How do I perform a 60-second purge on the analyzer?

A: Press and hold the Power Button for 2 seconds to perform a 60-second purge in fresh air.

OVERVIEW

C165+ OVERVIEW



- **A**. On/ Off (Power) Button
- **B.** 6 Line Backlit Display
  - Press any button to turn Back light on
- **C.** UP/DOWN Button
  - Short press to navigate “UP” or “DOWN”
- **D.** Pump Toggle button: Long press to pump on/off, short press holds the readings and the screen flashes
- **E.** ENTER Button
  - Short press select current option displayed
- **F.** Rotary Dial
- **G.** Protective Rubber Boot With Magnets
- **H**. Printing and log button: Long press to saving logs and Short press to print on/off
- **I.** Water Trap (under Protective Boot)
- **J.** Particle Filter (inside water trap)
- **K.** LED Water Trap Indication: LED is active while the pump is on to bring user awareness to any condensate building up in the water trap
- **L**. Grip Indentation: Indentation for fingers to grip analyzer
- **M.** Water Trap Drain Plug: (Red plug; take caution NOT to damage plug when removing protective boot)
- **N.** Serial Number QR Code
- **O.** Sensors Fitted: (label under Protective Boot) Indication of sensors installed when shipped (CO, CO-H2, CO2, NO, O2)

- **P.** Battery Compartment (under Protective Boot)
- **Q**. Infrared Printer Port
- **R.** Battery Charge USB Adapter Connection
- **S.** Temperature Connections
    - **Flue Probe Temperature:** T1
    - **Inlet Temperature:** T2
- **T.** Flue Gas Inlet Connection
- **U.** Pressure Connections
    - **Pressure**: P1
    - **Differential Pressure:** P2

MENU SCREEN – C165+ START UP

Press ”Power” Button for 2 seconds. The analyzer will perform a 60 second purge. This should be done in fresh air.

- Rotate Selector Dial to MENU to set up or customize your settings.
- Selected parameter are highlighted with Display Line Lights on either side.
- Rotate Selector Dial to MENU to set up or customize your settings.
- Selected parameter are highlighted with Display Line Lights on either side.
- Use ▲ and ▼ ARROW BUTTONS to scroll menu options.
- Press ↵ Button to edit a parameter.

- Press ▲ and ▼ ARROW BUTTONS to change contents of field.
- Press ↵ Button to enter content and move to next

STATUS SCREEN

Rotate Selector Dial to STATUS to view parameters

- Ta
- ATM
- CAL
- SERIAL NUMBER
- DATE
- TIME
- BA
- BATTERY LEVEL

Change Fuel Type

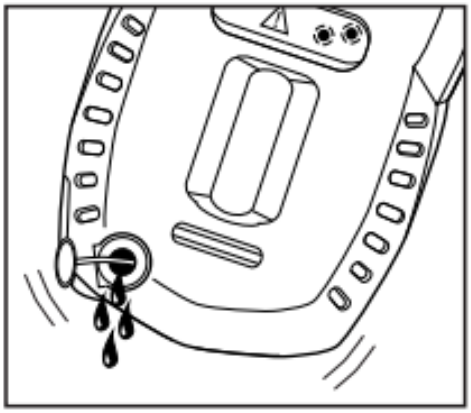
With the first line selected press and ARROW BUTTONS to change currently selected Fuel.

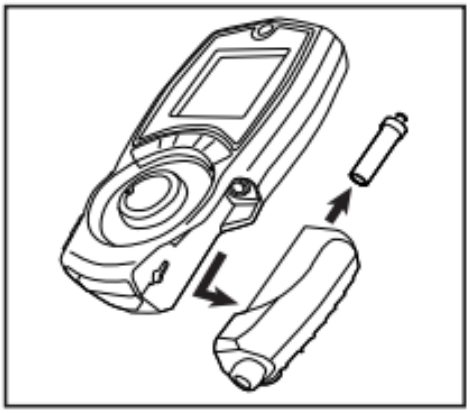
- NAT GAS
- H OIL
- PELLETS
- L OIL
- LPG
- BUTANE
- PROPANE
- Press ↵ Button to select.

BEFORE TESTING

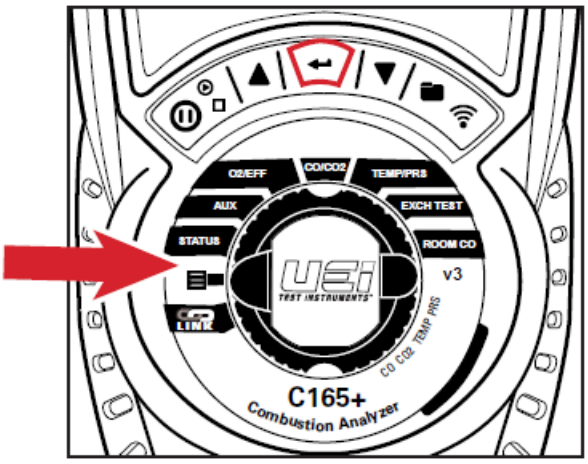
CHECKLIST

- Clean particle filter
- Water trap and probe line are free of condensate
- All hose and thermocouple connections are properly secured
- Water trap is fitted correctly
- Power on and zero
- Flue gas probe is sampling ambient FRESH air



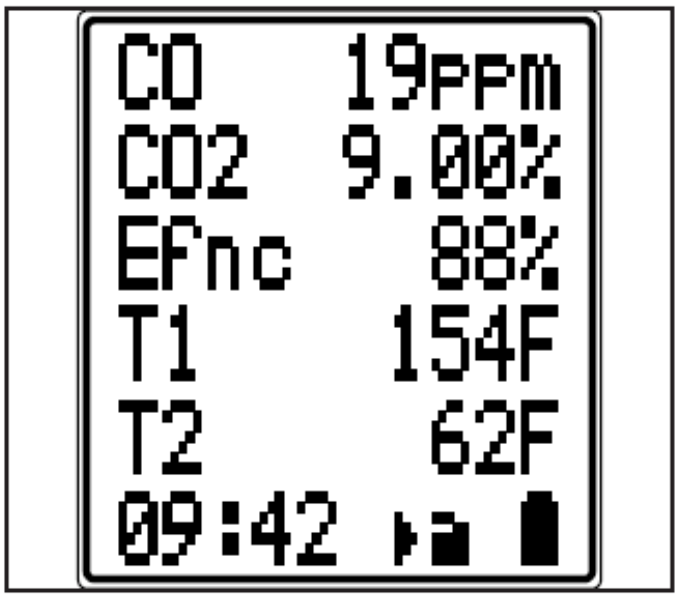


AUXILIARY SCREEN

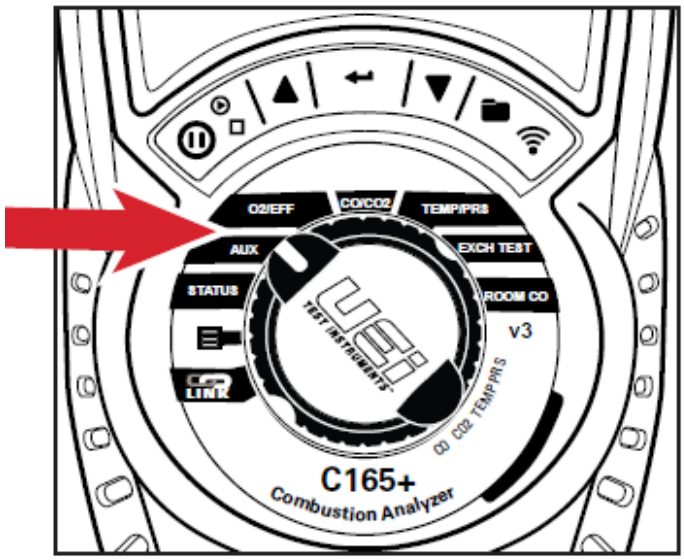


The AUX screen allows you to assign any of the following parameters on any display line. CO2, CO, NO (if fitted), NOx (if fitted), O2, TF, Ti, Ta, Delta (Δ), Loss, EFg, Xair, Ra (CO/CO2 Ratio), PI, Fuel Type, PRS or Blank.
To customize the settings displayed on screen.

- Rotate dial to
- Scroll ▲ or ▼ to SCREEN.
- Press ↵.

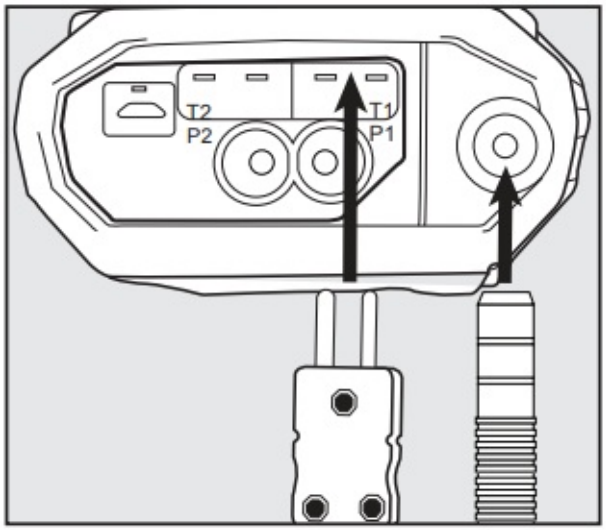


- Scroll ▲ or ▼ to select the line to change.
- Press ↵.
- Highlighted line shows current selection.
- Scroll ▲ or ▼ to change parameters.
- Press to select ↵.
- Scroll ▲ or ▼ to select another line to customize and repeat.
- When finished, scroll ▲ or ▼ to BACK.
- Press ↵.

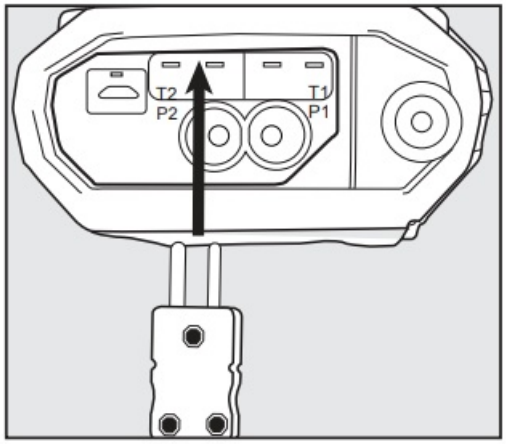


- When performing a combustion Test.
- Rotate function rotary dial to AUX to Test while viewing custom parameters that you selected.

BASIC CO/COMBUSTION ANALYSIS

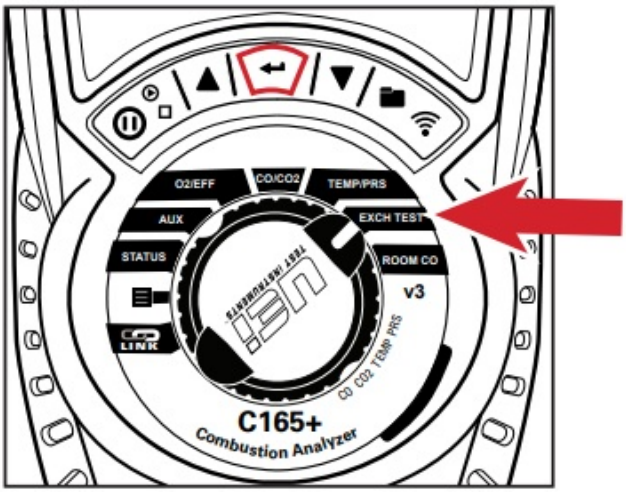


- Connect probe to T1. Compatible with any K-Type thermocouple probe or clamp

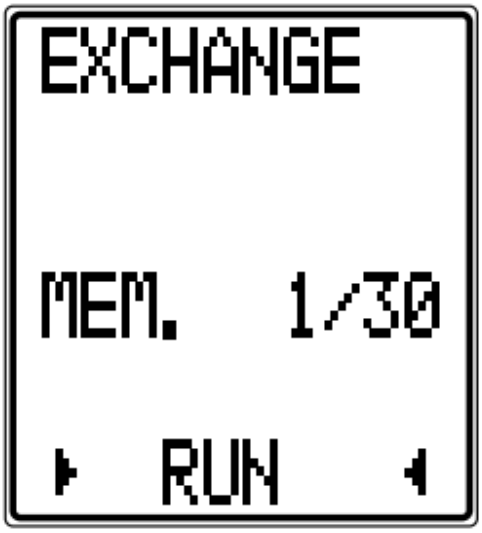


- Connect second probe to T2.
- Compatible with any K-Type thermocouple probe or clamp

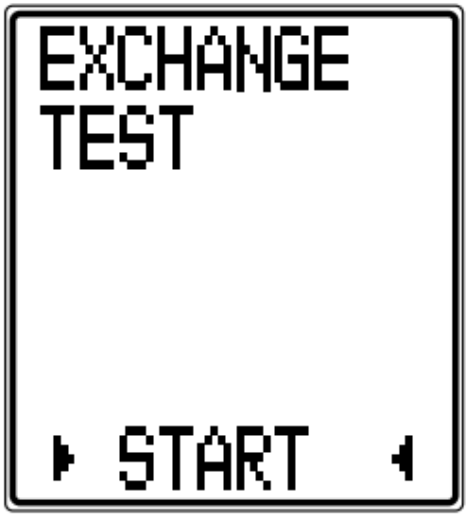
HEAT EXCHANGER TEST



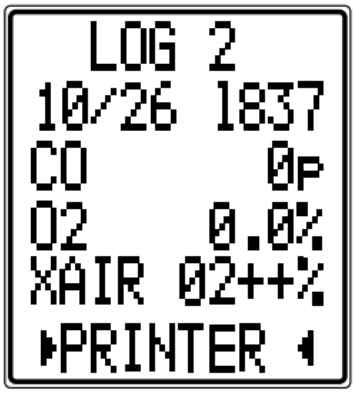
- Rotate dial to EXCH TEST.
- Press ↵ to start.

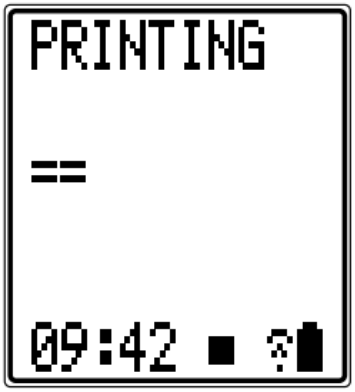


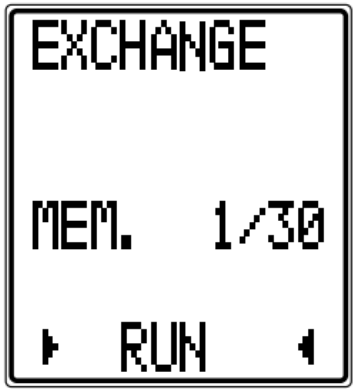
- Scroll ▲ or ▼ to select FUELTYPE.
- ↵ Press



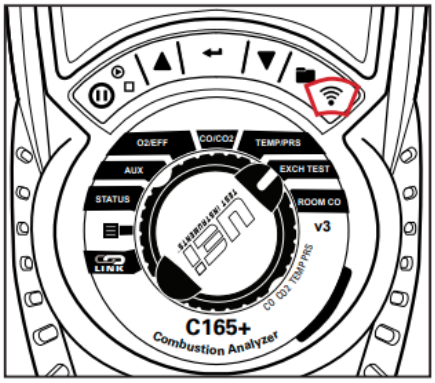
- Call for heat on the system.
- Observe and wait for O2 readings to stabilize.
- After the blower turns on, ↵ press the to start the Post-Blower test

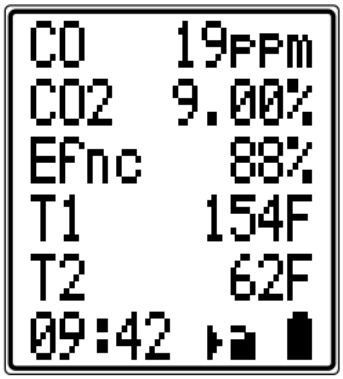






- The analyzer will wait 60 seconds and then record the Post-Blower values for CO, 02 and Excess Air.

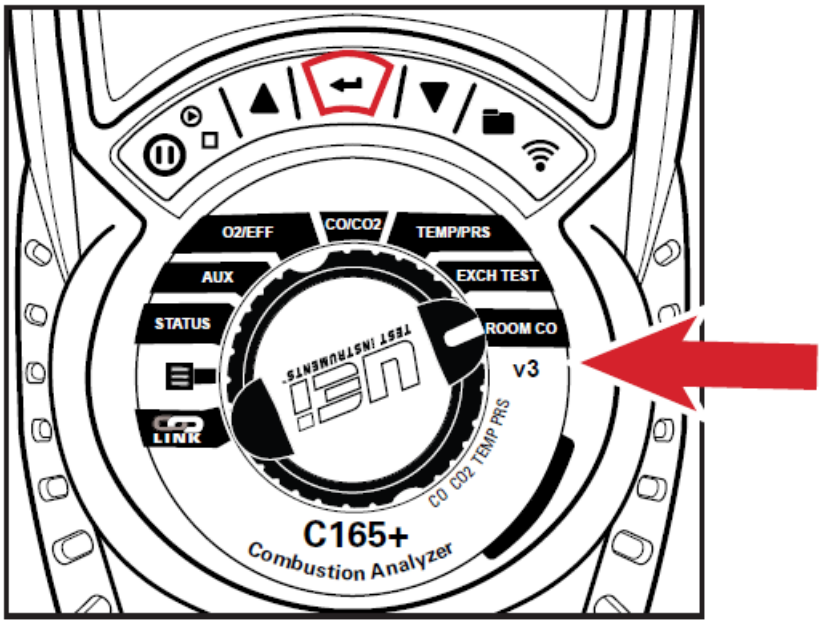




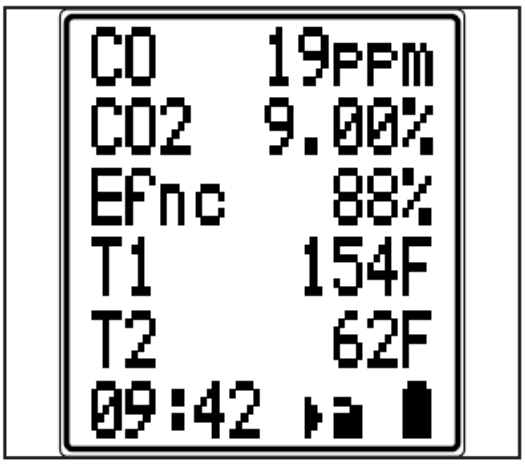
Test results and LOG number will display when done.

- Press to print the results.
- This LOG will be stored in REPORTS/EXCHANGE in the MENU screen.
- Call for heat on the system.

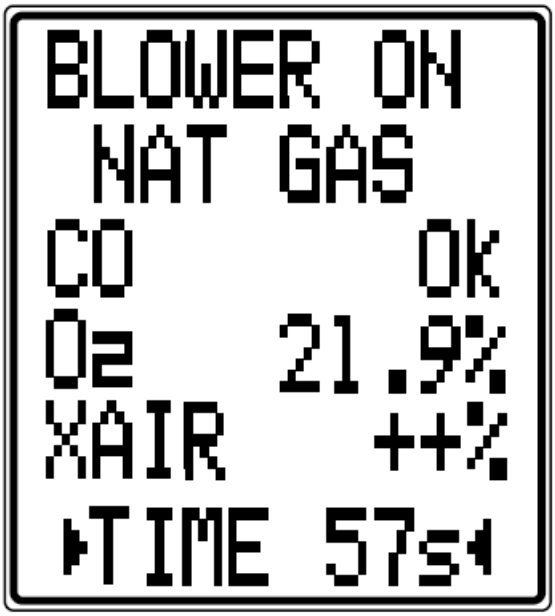
ROOM CO TEST



- No probes or hose
- connections required for this test.
- Rotate dial to ROOM CO.
- Press to select GENERAL test type

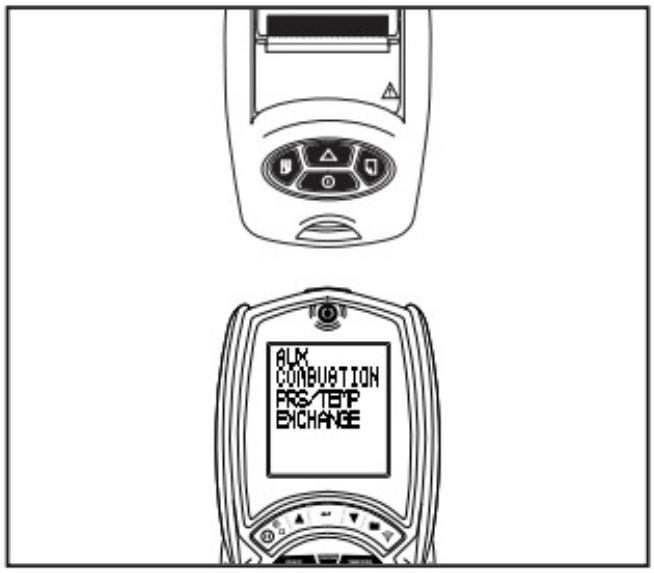


- CO reading will be logged every minute for 30 minutes.
- Readings will be stored once the 30 minute test is completed.

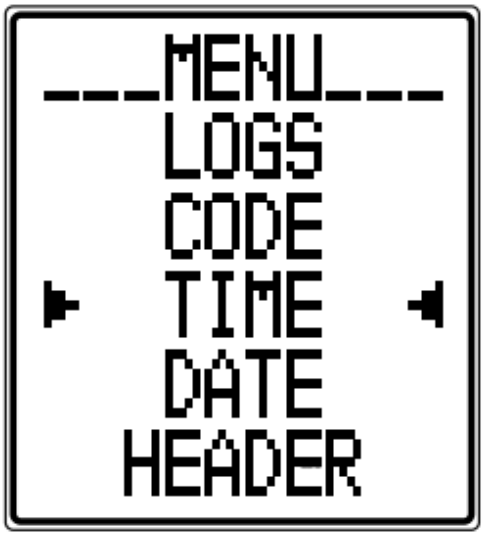


- Test results and LOG number will display when done.
- Press to print the results.
- This LOG will be stored in REPORTS/ROOM CO in the MENU screen.

PRINTING AND LOGGING

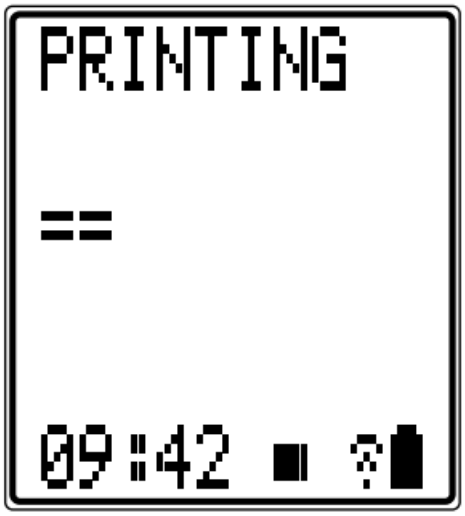


Align Printer in line above analyzer



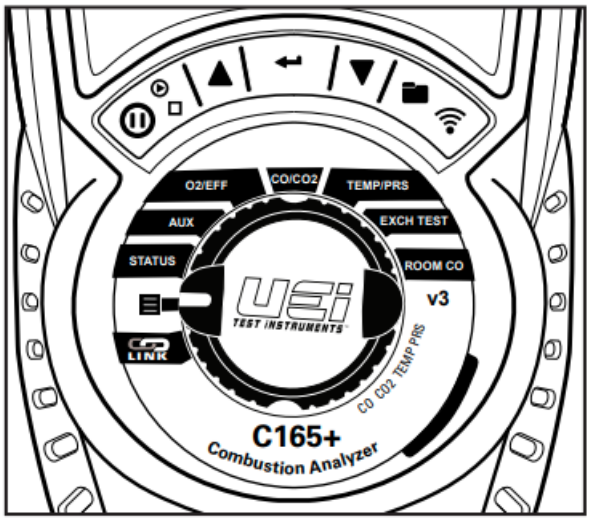
- Rotate rotary dial to Menu.
- Press ▲ or ▼ Buttons to select Report.
- Press ↵ Button to select Report.

- Press ▲ or ▼ Buttons to view types of Reports.
- Press ↵ Button to select Report type.
- Press ↵ Button to View.

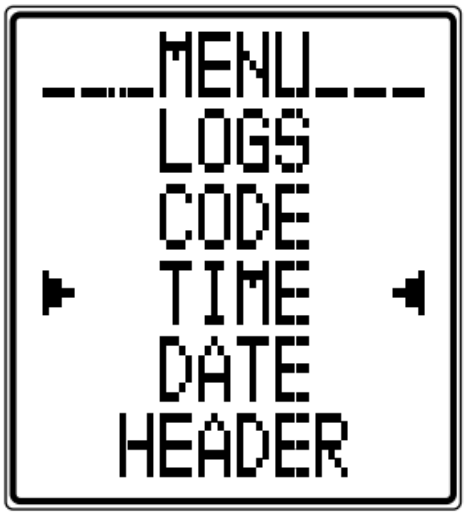


- Press ▲ or ▼ Buttons to select Log number of that type of Report.
- Scroll ▲ or ▼ to PRINT

SETUP USER FUEL

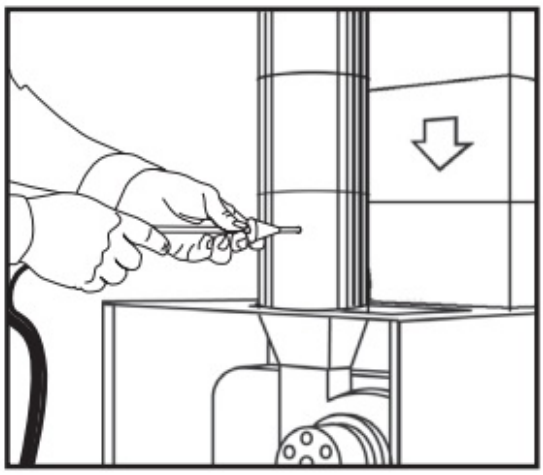


Rotate dial to Menu



- UNITS shows press ↵ to proceed.

POST TESTING



Remove the probe from the flue and allow analyzer to purge with fresh air until readings return to zero. O2 to 20.9%
CAUTION: probe tip will be HOT.

POWERING OFF

When you power off the C165+, there is a 10 second purge.

CAUTION

Make sure you do not exceed the analyzer's operating specifications.

- Do not exceed the flue probes maximum temperature (1112˚F)
- Do not exceed the analyzer's internal temperature range 112°F (50°C)
- Do not put the analyzer on a hot surface
- Do not exceed the water trap's level
- Do not let the particle filter become dirty and blocked

BATTERIES

The analyzer is fitted with 3 (AA) size rechargeable batteries. Observe correct polarity when replacing.

Always check operation immediately after battery replacement.

Do not leave batteries in unit for extended periods of non-use.

WARNING

Do not recharge with Alkaline batteries fitted. Alkaline batteries are not rechargeable. Attempting to recharge alkaline batteries may result in product damage and create a fire risk.
Time and Date will need to be reset after changing batteries.

Always dispose batteries using approved disposal methods that protect the environment.

Download the full Owners Manual at **UEiTEST.COM** or SCAN THIS CODE

WARRANTY

The C165+ combustion analyzer is warranted for one year including sensors. 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 (calibration). 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. Warranty only covers hardware and does not extend to software applications or accessories. Contact UEi for specific warranty and service information.

UEi Test Instruments

- 1-800-547-5740
- info@ueitest.com

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

ANNUAL RECERTIFICATION SERVICES

Complete Care for Your Combustion Analyzer

When you:

- Request Recertification or Service Online Within 1 Year of Purchase or Last Service

UEi will

- **10 Year Warranty:** All UEi combustion analyzers have a standard 1-year warranty. Each recertification extends the warranty for 1 more year for up to 10 years from the date of purchase.

- Contractors who book recertification of a C160 series analyzer at www.ueitest.com/service within 12 months from either the date of purchase or the date of the last recertification will receive reduced service pricing1 that lowers the cost of ownership and 2 additional benefits:

Same Day Service

- All qualifying analyzers received for recertification through UEi Service+ are returned on the same business day, GUARANTEED.2

Free Shipping

- UEi Service+ offers free shipping both to and from our service center. When customers book their recertification, they receive a prepaid UPS Ground shipping label.

1. Pricing subject to change without notice.
2. Analyzers that include the additional NO (Nitric Oxide) sensor requires 48-hour turnaround.

Register Online

Registering you analyzer online is quick and easy. Just log in or setup an account, it only takes a couple of minutes. Once logged in you can register you analyzer by providing some product information and uploading a proof-of-purchase. When it's time to request recertifcation, just log into your account, select the analyzer, select the service and place your order.

- WWW.UEITEST.COM
- **USA:** 1.800.547.5740
- **CANADA:** 1.877.475.0648

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Documents / Resources

	UEi TEST INSTRUMENTS C165 Combustion Analyzer [pdf] User Manual C165 Combustion Analyzer, C165, Combustion Analyzer, Analyzer

References

- Kane USA
- Kane USA
- About Our Service | Kane USA
- User Manual