



## UEi TEST INSTRUMENTS C165 Residential Combustion Analyzer User Guide

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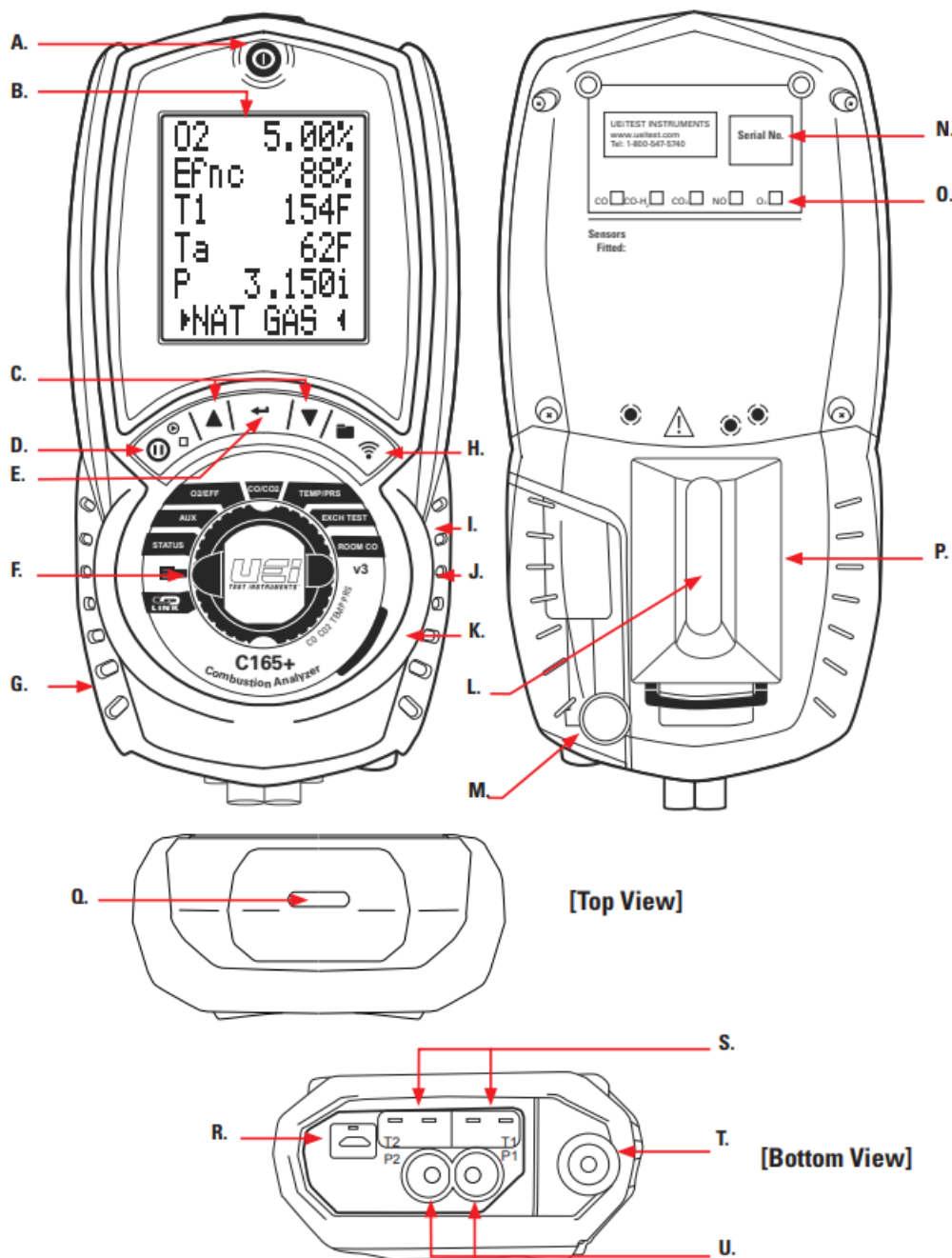
C165 Quick Start Guide



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## 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 ① 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.

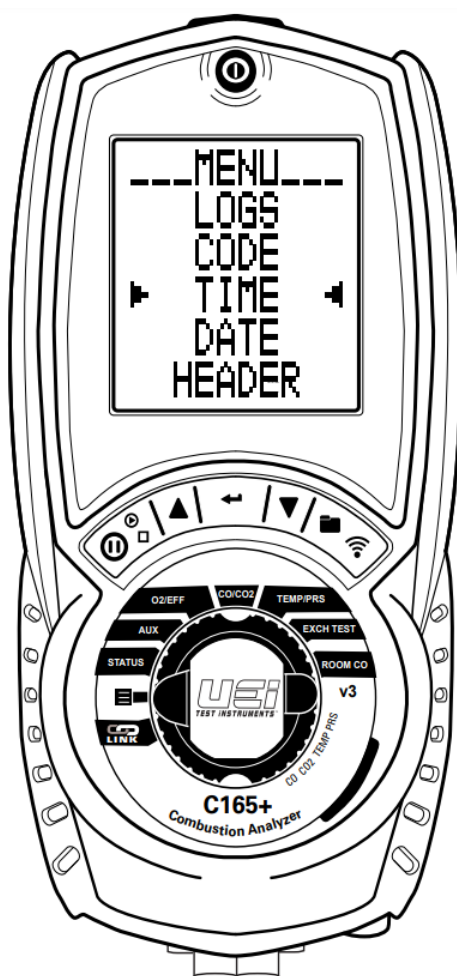
Selected parameter are centered, highlighted with arrow icons on either side.

Use ▲ and ▼ buttons to scroll menu options, Press ← to select and edit a parameter.

Press ▲ and ▼ buttons to change contents of a field.

Press ← button to scroll fields.

Press ← to enter content and move to next field.



## STATUS SCREEN

Rotate Selector Dial to STATUS to view parameters

Ta

ATM

CAL

SERIAL NUMBER

DATE

TIME

BATTERY LEVEL

Change Fuel Type

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

NAT GAS

H OIL

PELLETS

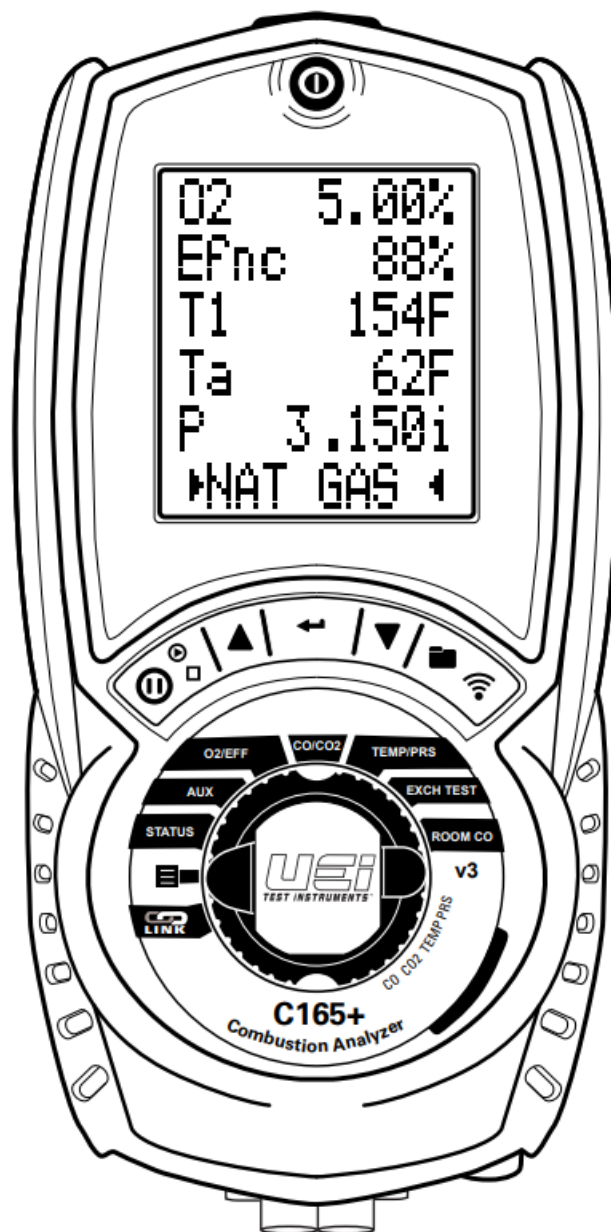
L OIL

LPG

BUTANE

PROPANE

Press  Button to select.

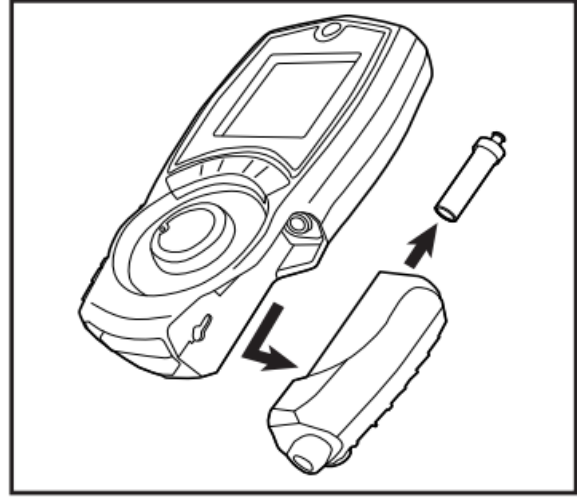
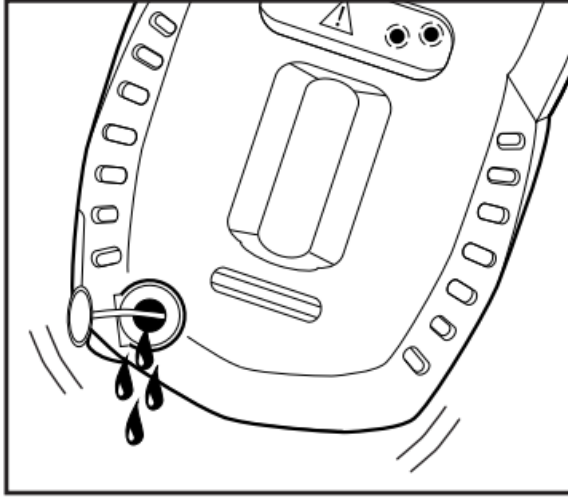


## BEFORE TESTING

### 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



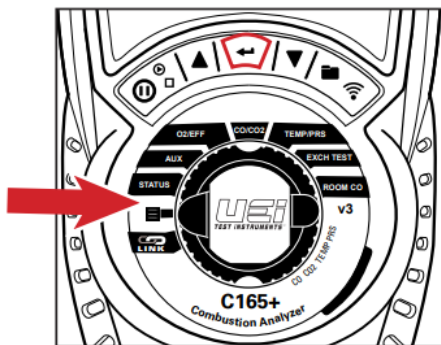
Remove the rubber boot and red drain plug. Allow the water to drain out. Re-insert the rubber plug and replace boot cover.

Remove protective rubber boot.

Remove water trap from analyzer.

Remove particle filter from water trap and replace with new one. Reattach trap and boot.

## **AUXILIARY SCREEN**



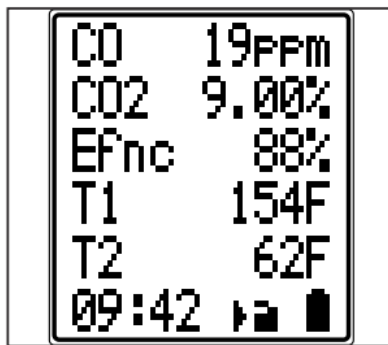
The **AUX** screen allows you to assign any of the following parameters on any display line. CO<sub>2</sub>, CO, NO (if fitted), NO<sub>x</sub> (if fitted), O<sub>2</sub>, TF, T<sub>i</sub>, T<sub>a</sub>, Delta (Δ), Loss, EF<sub>g</sub>, Xair, Ra (CO/CO<sub>2</sub> Ratio), PI, Fuel Type, PRS or Blank.

To customize the settings displayed on screen.

Rotate dial to .

Scroll ▲ or ▼ to **SCREEN**.  
Press ◀.

Scroll ▲ or ▼ to **AUX**.  
Press ◀.

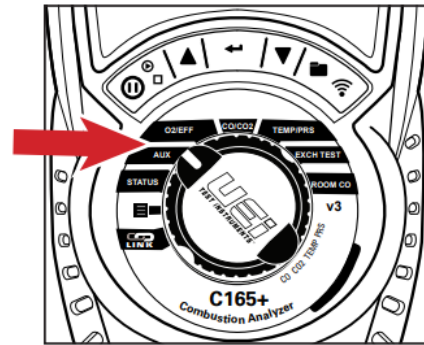


Scroll ▲ or ▼ to select the line to change.  
Press ◀.

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

UEi TEST INSTRUMENTS C165 Residential Combustion Analyze - AUXILIARY 2

Once complete, remove probe from stack, allow analyzer to purge in fresh air until CO sensor readings return to ZERO (0) and O<sub>2</sub> readings reading return to 20.9%. Continue to the next test or power analyzer off by pressing , if finished.

**NOTE:** Print and store functions may be used at any time during testing.

## PRESSURE TEST

UEi TEST INSTRUMENTS C165 Residential Combustion Analyze -PRESSURE

## TEMPERATURE TEST

UEi TEST INSTRUMENTS C165 Residential Combustion Analyze -PRESSURE 1

## HEAT EXCHANGER TEST

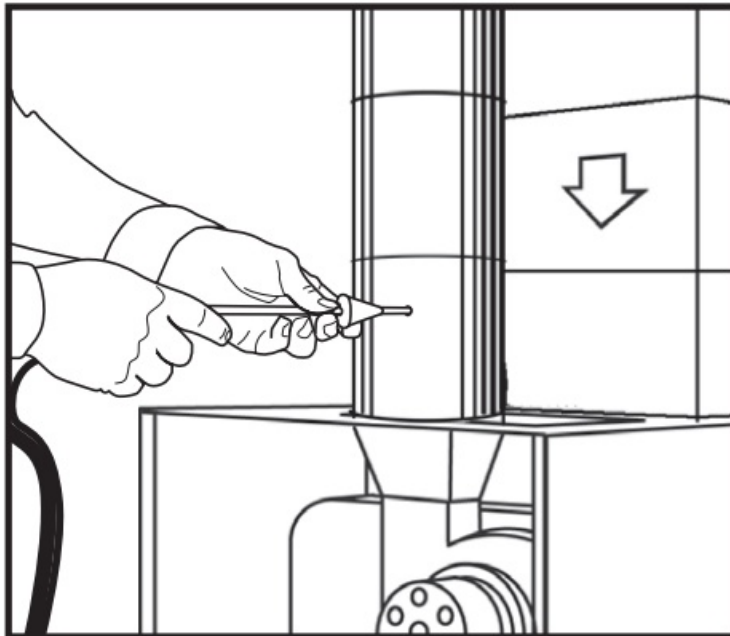
## ROOM CO TEST

UEi TEST INSTRUMENTS C165 Residential Combustion Analyze -PRESSURE 3

## SETUP USER FUEL

UEi TEST INSTRUMENTS C165 Residential Combustion Analyze -USER FUEL

## POST TESTING



Remove the probe from the flue and allow analyzer to purge with fresh air until readings return to zero. O<sub>2</sub> to 20.9%

**CAUTION:** probe tip will be HOT.

### POWERING OFF

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



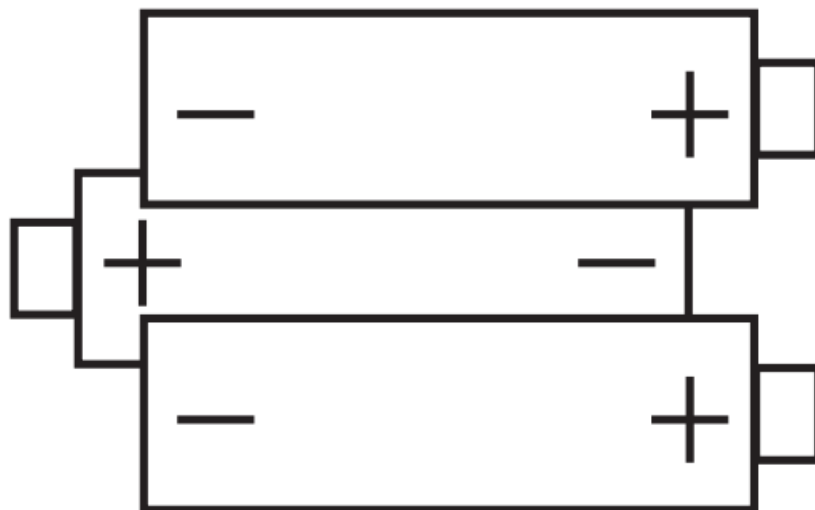
### CAUTION

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.



<https://qrs.ly/jhcypcq>

Download the full Owners Manual at [UEiTEST.COM](http://UEiTEST.COM) or SCAN THIS CODE

#### **WARRANTY**

The C163 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.

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](http://www.ueitest.com/service) within 12 months from either the date of purchase or the date of the last recertification will receive reduced service pricing 1 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 your 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 your analyzer by providing some product information and uploading a proof-of-purchase. When it's time to request recertification, just log into your account, select the analyzer, select the service and place your order.

[WWW.UEITEST.COM](http://WWW.UEITEST.COM)

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## Documents / Resources



[UEi TEST INSTRUMENTS C165 Residential Combustion Analyzer](#) [pdf] User Guide  
C165 Residential Combustion Analyzer, C165, Residential Combustion Analyzer, Combustion Analyzer, Analyzer

## References

-  [Kane USA](#)
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