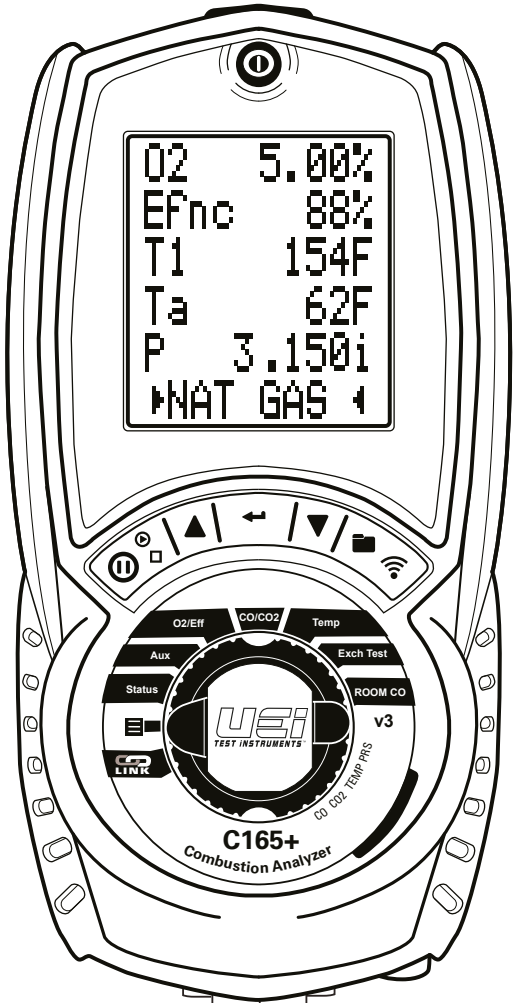
TEST INSTRUMENTS™

C165+ Quick Start Guide



BACKED BY

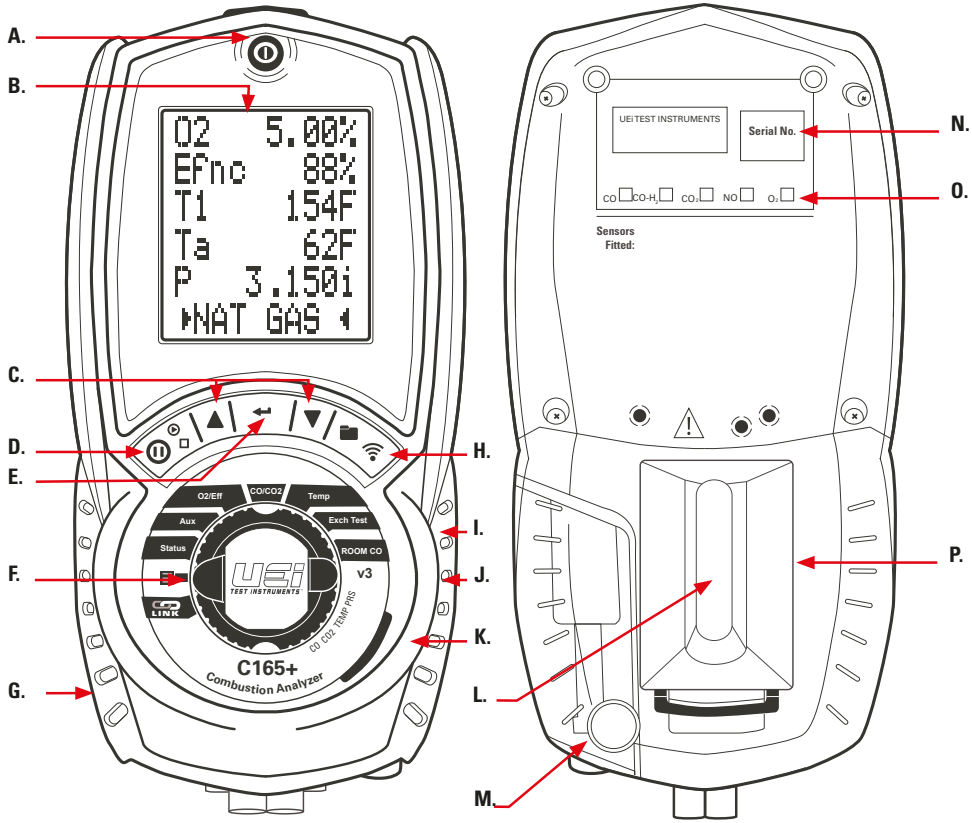
SERVICE+

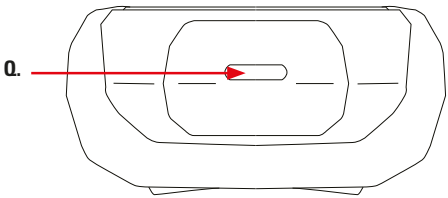
6 YEAR WARRANTY

24 HR SERVICE

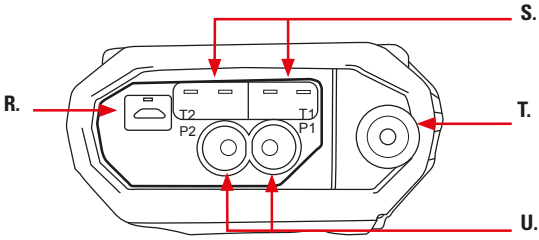
FREE SHIPPING

C165+ OVERVIEW





[Top View]



[Bottom View]

A. **On/ Off (Power) Button**
B. **6 Line Backlit Display**
   - Press any button to turn Back light on (backlight duration can be set in Menu/ Screen/Backlight)
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-H_2, CO_2, NO, O_2)
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 10 second purge. This should be done in fresh air.

Rotate Selector Dial to **MENU** to set up or customize your settings.

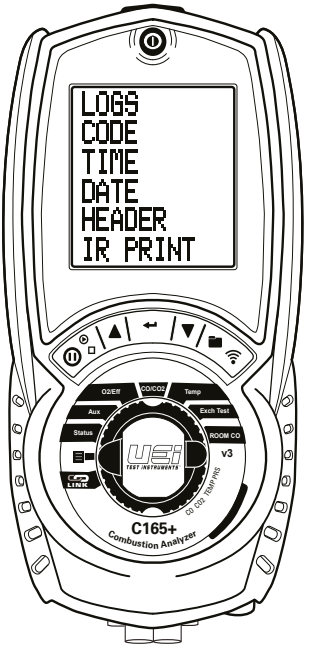
Selected parameter are highlighted with Display Line Lights on either side.

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 field.



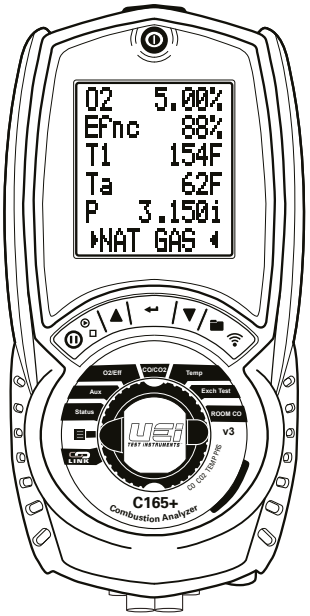
STATUS SCREEN

Rotate Selector Dial to **STATUS** to view parameters

Ta
ATM
CAL
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, mmHG, PSI, kPA, PA, mmH2O, mBar)

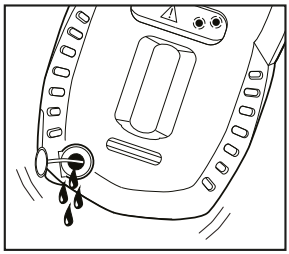
Press ↵ **Button** to select.



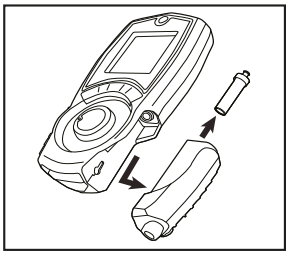
BEFORE TESTING

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

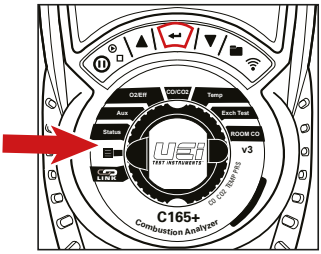


Remove the rubber boot and red drain plug. Allow the water to drain out. Re-insert the rubber plug and replace boot cover.



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



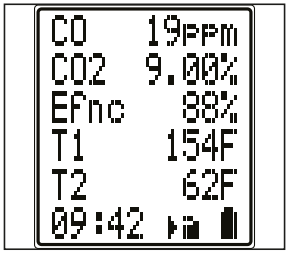
The **AUX** screen allows you to assign any of the following parameters on any display line. CO_2, CO, NO (if fitted), NOx (if fitted), O_2, TF, Ti, Ta, Delta T, Loss, EFg, Xair, Ra (CO/CO_2 Ratio), PI, Fuel Type, PRS or Blank.

To customize the settings displayed on screen.

Rotate dial to ☰.

Scroll ▲ or ▼ to **SCREEN**.
Press ↵.

Scroll ▲ or ▼ to **AUX**.
Press ↵.

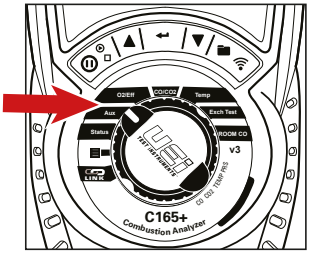


Scroll ▲ or ▼ to select the line to change.
Press ↵.

Highlighted line shows current selection.

Scroll ▲ or ▼ to change parameters.
Press ↵ to select.

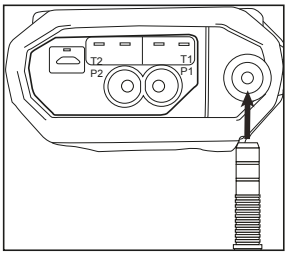
Scroll ▲ or ▼ to select another line to customize and repeat.
When finished, scroll ▲ or ▼ to **BACK**.
Press ↵.



When performing a combustion Test.

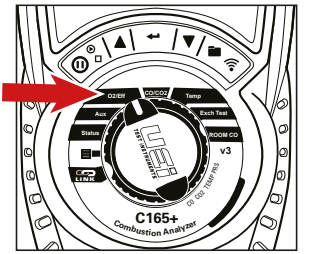
Rotate function rotary dial to **AUX** to Test while viewing custom parameters that you selected.

BASIC CO/COMBUSTION ANALYSIS



Insert Flue probe into stack. Adjust cone so end of the probe is approximately at the center of the stack.

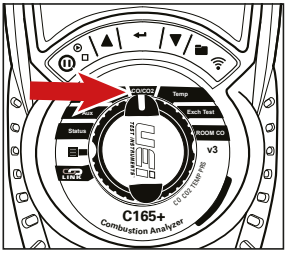
NOTE: *You will have to drill a hole at least 3/8". Use appropriate sealing method after testing.*



Rotate selector dial to **O2/Eff** to view:

CO2
O2
Efgc
T1
Ta
(Status Bar - NAT GAS)

Fuel type can be changed via ☰ or **STATUS** setting

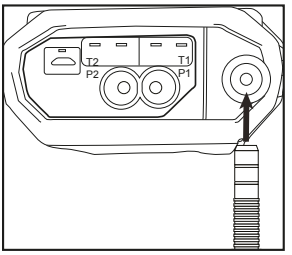


Rotate selector dial to **CO/ CO2** to view:

CO
COa
LOSS
XAIR O2++
P
(Status Bar - NAT GAS)

Fuel type can be changed via ☰ or **STATUS** setting.

Make any adjustments as needed for proper combustion and wait for analyzer to display change in readings. (Repeat as necessary).

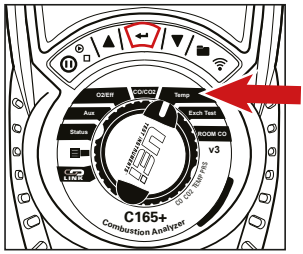


Once complete, remove probe from stack, allow analyzer to purge in fresh air until CO sensor readings return to ZERO (0) and O_2 readings reading return to 20.9%.

Continue to the next test or power analyzer off by pressing ⏻ , if finished.

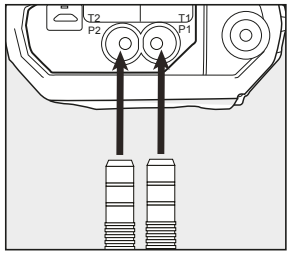
NOTE: *Print and store functions may be used at any time during testing.*

PRESSURE TEST

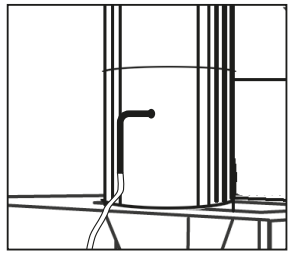


Rotate the selector dial to **PRS/TEMP.**

Press ↵ to Zero Pressure sensor. No connections when zeroing pressure.



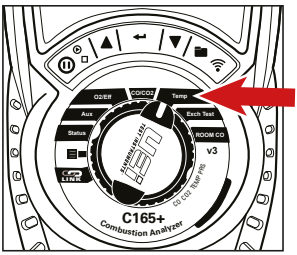
Connect true draft hose to P1. Connect second probe to P2 for differential pressure.



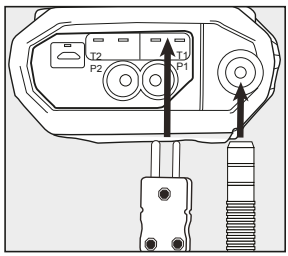
Place combustion probe or true draft probe tip in the flue to measure draft.

Connect static pressure hose to measure differential pressure.

TEMPERATURE TEST

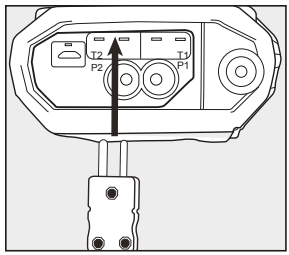


Rotate the selector dial to **PRS/TEMP**



Connect probe to T1.

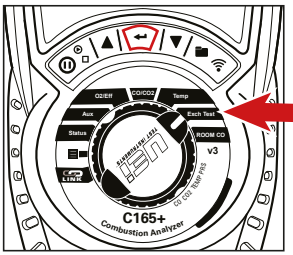
Compatible with any K-Type thermocouple probe or clamp.



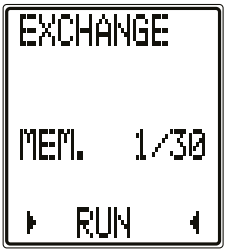
Connect second probe to T2.

Compatible with any K-Type thermocouple probe or clamp.

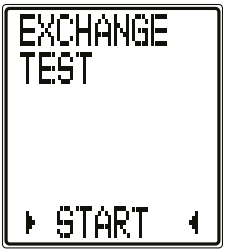
HEAT EXCHANGER TEST



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

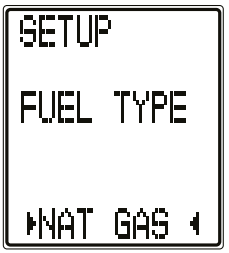


Scroll ▲ or ▼ to select **FUELTYPE**.
Press ↵

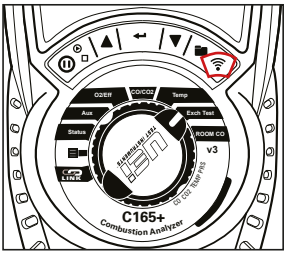


Call for heat on the system. Observe and wait for O_2 readings to stabilize.

After the blower turns on, press the ↵ to start the Post-Blower test

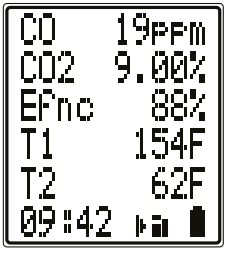


The analyzer will wait 60 seconds and then record the Post-Blower values for CO, O_2 and Excess Air.

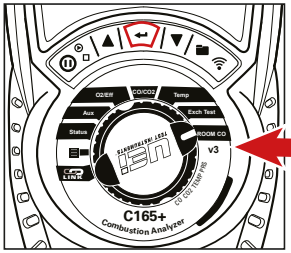


Test results and **LOG** number will display when done.

Press 📶 to print the results. This **LOG** will be stored in **REPORTS/EXCHANG**E in the **MENU** screen.

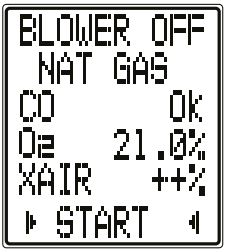


ROOM CO TEST



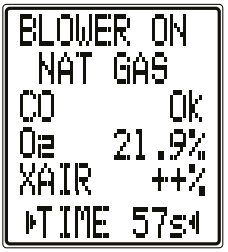
No probes or hose connections required for this test.

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.

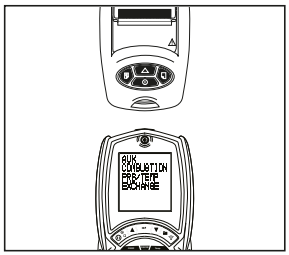


Test results and **LOG** number will display when done.

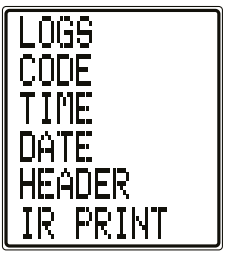
Press (wifi) to print the results.

This **LOG** will be stored in **REPORTS/ROOM** CO in the **MENU** screen.

PRINTING AND LOGGING



Align Printer in line above analyzer.



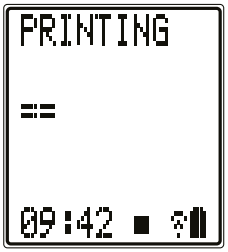
Rotate rotary dial to **Menu**. Press ▲ or ▼ Buttons to select **Report**.

Press ↵ Button to select **Report.**

Press ▲ or ▼ Buttons to view types of **Reports**.

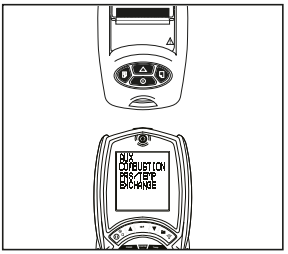
Press ↵ Button to select Report type.

Press ↵ Button to **View**.



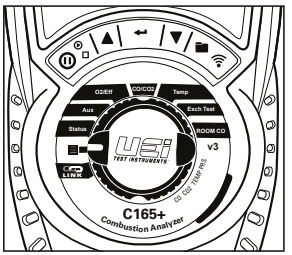
Press ▲ or ▼ Buttons to select Log number of that type of Report.

Scroll ▲ or ▼ to **PRINT.**

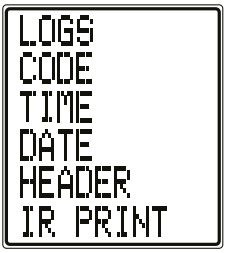


Press ↵ Button to print Report Log Number.

SETUP USER FUEL

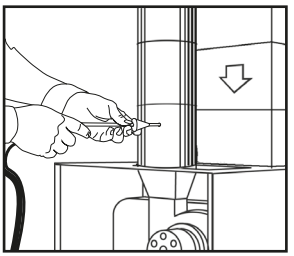


Rotate dial to **Menu**



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. O_2 to 20.9%

CAUTION: probe tip will be HOT.

POWERING OFF

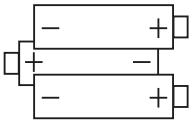
When you power off the C165+, there is a 10 second purge.

⚠ 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.

WARRANTY

The C165+ combustion analyzer is warranted for one year. Warranty is a manufacturing defect identified within the product's warranty period. Warranty does not cover batteries, fuses, test leads, probes, consumables physical damage and misuse. For full warranty details please refer to the Owner's Manual on the C165+ product page (see the link above). If a UEi product fails under warranty, we will replace it but we need the unit back so we can identify and fix the problem.

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 C160 series combustion analyzer.

BACKED BY UEi SERVICE+

When you:

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

UEi will:

6 YEAR WARRANTY

6-Year Warranty: All UEi combustion analyzers have a standard 1-year warranty. Each recertification includes a 30-point inspection and extends the warranty for 1 more year for up to 6 years from the date of warranty.

24 HR SERVICE

24-hour Service: Analyzers received for standard recertification and service through UEi Service+ are shipped back on the next business day.

FREE SHIPPING

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.

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.