

6-Line Display

See all your readings on one screen.

EOS Technology

Lower cost-of-ownership over your analyzer's lifetime.

NOx Filtered

Better accuracy, avoids cross contamination.

Water Trap Indication

Alerts you when the water trap is getting full.

High Altitude Compensation

Automatically compensates readings for altitude.





Features	C161	C162	C163	C164	C165KIT
Replace part #	C85	C85KIT	C155	C157	C155KIT
CO sensor	✓	✓	✓	✓	✓
CO2 EOS sensor	✓	✓	✓	✓	✓
O2 calculated	✓	✓	✓	✓	✓
Temperature (Differential)	✓	✓	✓	✓	✓
Heat Exchange Test	-	✓	✓	✓	✓
Over-Range Pump	-	-	✓	✓	✓
Pressure (Differential)	-	-	✓	✓	✓
Wireless Module	-	-	✓	✓	Optional
NO sensor	-	-	-	✓	Optional
CO Room Test	-	-	-	-	✓
Commissioning Test	-	-	-	-	✓
Includes					
Analyzer/Probe	✓	✓	✓	✓	✓
Batteries/USB Charging Cable	✓	✓	✓	✓	✓
Carrying Case	-	✓	✓	✓	✓
K-type Probes/Spare Filter	-	✓	✓	✓	✓
Tubing Kit	-	-	✓	✓	✓
Printer/Spare Paper Roll	-	✓	-	-	✓



Flue Gas Analyzer with Direct CO₂ Measurement



- ✓ **6-Line Display**
See all your readings on one screen.
- ✓ **EOS Technology**
Lower cost-of-ownership over your analyzer's lifetime.
- ✓ **NOx Filtered**
Better accuracy, avoids cross contamination.
- ✓ **Water Trap Indication**
Alerts you when the water trap is getting full.
- ✓ **High Altitude Compensation**
Automatically compensates readings for altitude.

Functions

- Measures: CO, CO₂, Flue and Ambient Temperature
- Calculates: O₂, Efficiency (Net or Gross), Excess Air, CO/CO₂ Ratio and Differential Temperature

Features

- 8 preprogrammed fuels
- IR printer port
- Low flow detection
- Auto-purge at shut down
- Protective rubber boot w/ magnet
- 30 memory positions
- 1-Year limited warranty



Includes

- Flue Gas Combustion Analyzer (C161)
- Flue Probe w/ Cone & Hose (CP2)
- USB Charging Cable
- Quick Start Guide
- 3 AA Rechargeable Batteries

Downloads



Manual



Data Sheet



Made in UNITED KINGDOM





Flue Gas Analyzer with Heat Exchanger Test



Functions

- Measures: CO, CO₂, Flue and Inlet Temperature
- Calculates: O₂, Differential Temperature, Efficiency (Net, Gross), Excess Air, Losses, CO/CO₂ Ratio



Features

- EOS Technology
- NO_x Filtered CO Sensor
- Heat Exchanger Test
- Large 6 Line backlit Display
- Water Trap Indicator
- High Altitude Compensation
- Low Flow Detection

Includes

- Gas Analyzer (C162)
- Flue probe (CP2)
- IRP-2 Printer (IRP-2)
- 3 Rechargeable batteries (AA)
- USB Charging cable (WIR00067)
- Particle Filter (17631)
- Hardcase (AC504)
- 2 K-type probe (ATT29)
- Quick Start Guide (201991)
- Spare Paper Roll (16646)

Dynamic Warranty

- 1-Year Limited Warranty
- Warranty is extended one year with each annual recertification, up to 6 years

See Our Complete Line of Combustion Analyzers

	C161	C162	C163	C164	C165
CO sensor	✓	✓	✓	✓	✓
CO ₂ EOS sensor	✓	✓	✓	✓	✓
O ₂ calculated	✓	✓	✓	✓	✓
Heat Exchange Test	-	✓	✓	✓	✓
Over-Range Pump	-	-	✓	✓	✓
Pressure (Differential)	-	-	✓	✓	✓
Wireless Module	-	-	✓	✓	Optional
NO sensor	-	-	-	✓	Optional
CO Room Test	-	-	-	-	✓
Commissioning Test	-	-	-	-	✓

Downloads



Manual

Data Sheet



Made in UNITED KINGDOM





Flue Gas Analyzer with Differential Pressure



Functions

- Measures: CO, CO₂, Pressure, Flue and Inlet Temperature
- Calculates: O₂, Differential Temperature, Efficiency (Net, Gross), Excess Air, Losses, CO/CO₂ Ratio, Differential Pressure

Features

- EOS Technology
- Over-range protection pump
- NO_x Filtered CO Sensor
- Heat Exchanger Test
- Large 6 Line backlit Display
- Water Trap Indicator
- High Altitude Compensation
- Wireless Module
- Low Flow Detection



Includes

- Gas Analyzer (C163)
- Flue probe (CP2)
- 3 Rechargeable batteries (AA)
- USB Charging cable (WIR00067)
- Particle Filter (17631)
- Tubing with connector (11000)
- 2 K-type probe (ATT29)
- Hardcase (AC504)
- Quick Start Guide (201991)
- Carrying case (AC509)

Dynamic Warranty

- 1-Year Limited Warranty
- Warranty is extended one year with each annual recertification, up to 6 years

See Our Complete Line of Combustion Analyzers

	C161	C162	C163	C164	C165
CO sensor	✓	✓	✓	✓	✓
CO ₂ EOS sensor	✓	✓	✓	✓	✓
O ₂ calculated	✓	✓	✓	✓	✓
Heat Exchange Test	-	✓	✓	✓	✓
Over-Range Pump	-	-	✓	✓	✓
Pressure (Differential)	-	-	✓	✓	✓
Wireless Module	-	-	✓	✓	Optional
NO sensor	-	-	-	✓	Optional
CO Room Test	-	-	-	-	✓
Commissioning Test	-	-	-	-	✓

Downloads



Manual

Data Sheet



0 53533 50835 2

Made in UNITED KINGDOM





Flue Gas Analyzer with Nitric Oxide Measurement



Functions

- Measures: CO, CO₂, NO, Pressure, Flue and Inlet Temperature
- Calculates: O₂, Differential Temperature, Efficiency (Net, Gross), Excess Air, Losses, CO/CO₂ Ratio, Differential Pressure

Features

- EOS Technology
- Over-range protection pump
- NO_x Filtered CO Sensor
- Heat Exchanger Test
- Large 6 Line backlit Display
- Water Trap Indicator
- High Altitude Compensation
- Wireless Module
- Low Flow Detection



Includes

- Gas Analyzer (C164)
- Flue probe (CP2)
- 3 Rechargeable batteries (AA)
- USB Charging cable (WIR00067)
- Particle Filter (17631)
- Tubing with connector (11000)
- 2 K-type probe (ATT29)
- Hardcase (AC504)
- Quick Start Guide (201991)
- Carrying case (AC509)



Dynamic Warranty

- 1-Year Limited Warranty
- Warranty is extended one year with each annual recertification, up to 6 years

See Our Complete Line of Combustion Analyzers

	C161	C162	C163	C164	C165
CO sensor	✓	✓	✓	✓	✓
CO ₂ EOS sensor	✓	✓	✓	✓	✓
O ₂ calculated	✓	✓	✓	✓	✓
Heat Exchange Test	-	✓	✓	✓	✓
Over-Range Pump	-	-	✓	✓	✓
Pressure (Differential)	-	-	✓	✓	✓
Wireless Module	-	-	✓	✓	Optional
NO sensor	-	-	-	✓	Optional
CO Room Test	-	-	-	-	✓
Commissioning Test	-	-	-	-	✓



Manual



Data Sheet



0 53533 50854 3
Made in UNITED KINGDOM





Specifications

Temperature Measurement

Parameter	Range	Resolution	Accuracy
Flue Temperature	32° to 1112°F (0° to 600°)	0.1°F (0.1°C)	±0.5°F (0.5°C)
Inlet Temperature (internal Sensor)	32° to 1112°F (0° to 600°)	0.1°F (0.1°C)	±1°F (1°C)
Inlet Temperature (External Sensor)	32° to 1112°F (0° to 600°)	0.1°F (0.1°C)	±0.5°F (0.5°C)

Flue Gas Measurement

Parameter	Range	Resolution	Accuracy
Carbon Monoxide	0 to 2000 ppm	1 ppm	±3 ppm or ±5% rdg (whichever is greater)
Carbon Dioxide	0 to 20%	0.1%	±0.3% volume
Nitric Oxide (if fitted)	0 to 600 ppm	1 ppm	±5 ppm or 5% (whichever is greater)

Calculations

Parameter	Range	Resolution	Accuracy
Oxygen	0 to 21%	0.1%	±0.3% volume
Efficiency (Net or Gross)	0 to 99.9%	0.1%	±1% rdg
Efficiency High (C)	0 to 119.9%	0.1%	±1% rdg
Excess Air	0 to 119.9%	0.1%	±0.2% rdg
CO/CO ₂ Ratio	0 to 0.9999	0.0001	±5% rdg

	Range	Resolution	Accuracy
Pressure (Differential)	±80 mBar	0.1 mBar	±0.5% FSD

Preprogrammed Fuels	Pellets, Light Oil, LPG, Butane, Propane, Natural Gas, Bio Oil, Heavy Oil
----------------------------	---------------------------------------------------------------------------

Battery Life	>8 hours (continuous with pump on)
---------------------	------------------------------------

Certification	The C160 Series is TUV-tested and certified to EN 50379, Parts 1-3 in accordance to 1st German Federal Emission Control Ordinance (BimSchV)
----------------------	---------------------------------------------------------------------------------------------------------------------------------------------

Operating Conditions

Temperature	32° to 113°F (0° to 45°C)
Humidity	15% to 90% R.H.
Power Supply	Rechargeable Batteries, USB Charging

Dimensions	8.54" x 4.18" x 1.86"
Weight	1 lb., 5.1 oz.

Backed by Industry-Leading Service

- 2-Business day turnaround on standard recertification
- Flat rate pricing
- ISO/IEC Accredited Facilities (Indianapolis and Vancouver B.C.)
- NIST and ISO Accredited Service
- Factory-certified technicians



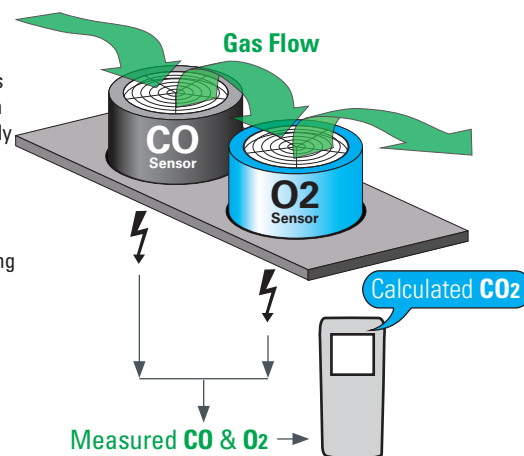
No O₂ Sensor - What it means to you

The Challenge

Direct contact between flue gases and O₂ sensors will eventually wear down the sensor and force costly replacement.

Even when your analyzer is "off" the O₂ sensor is still in Oxygen, accelerating the process.

Over your analyzer's lifetime, the cost adds up.

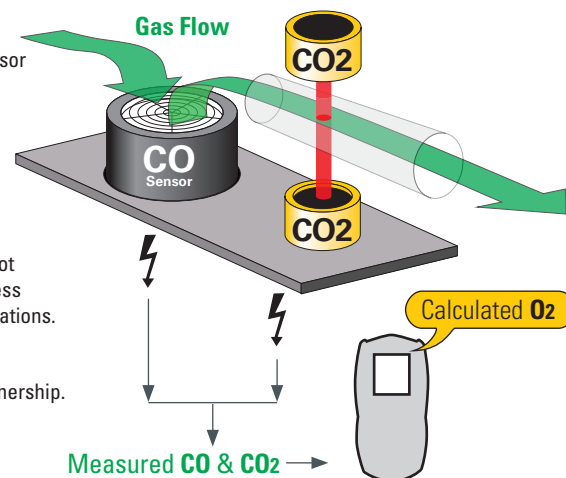


The Solution

Replace the Oxygen sensor with UEI's "EOS" Carbon Dioxide (CO₂) sensor. Our technology protects the sensor because flue gases don't make direct contact with it.

Because the sensor is not wearing down, there's less risk of inaccurate calculations.

No O₂ sensor to replace means lower cost of ownership.



One Less Sensor to Worry About!



6-Line Display Combustion Analyzer with NO Oxygen Sensor



Award-Winning EOS Sensor Technology

HVAC professionals have benefitted from UEi's EOS technology for over 10 years.

NO Oxygen Sensor to Replace

This lowers cost-of-ownership with one less sensor to maintain. Over the lifespan of an analyzer this saves hundreds of dollars.

Functions

- EOS CO₂ sensor
- CO sensor (NOx filtered)
- O₂ calculated
- Flue & Ambient Temperature
- Differential Temperature
- Draft
- Differential Pressure
- NO sensor (optional upgrade)
- Heat Exchange Test
- Room CO Test
- Commissioning Test

Features

- High Altitude Compensation
- No O₂ sensor replacements
- NOx Filtered CO sensor
- Purge Pump
- 160 memory positions
- Auto purge at shut off
- Built-in condensate trap w/ window
- 6 Line Display
- 15 Fuel Selections
- Optional Wireless Module for Mobile App

Warranty Expandable To 6 years

C165 analyzer comes with 1-year limited warranty that can be extended each year during the annual service to provide 6 years of protection. See reverse side for full details.

C165 Includes

- Combustion Analyzer
- 12" Flue Probe w/ 10' Hose
- Inlet tube/Probe connector
- Hard Carrying Case

C165KIT Includes

- Combustion Analyzer
- 12" Flue Probe w/ 10' Hose
- Inlet tube/Probe connector
- Particle Filter (spare)
- AC Adapter
- K-type Temperature Probes (2)
- Owners Manual
- Hard Carrying Case
- Infrared Thermal Printer
- Paper Roll (spare)

C165BTKIT Includes

- Combustion Analyzer
- 12" Flue Probe w/ 10' Hose
- Inlet tube/Probe connector
- Particle Filter (spare)
- AC Adapter
- K-type Temperature Probes (2)
- Owners Manual
- Hard Carrying Case
- Installed Wireless Module





Specifications

Parameter	Range	Resolution	Accuracy
Temp Measurement			
Flue Temperature	32-1112°F	0.1°F	+3.6°F +0.3% reading
Inlet Temperature (Internal sensor)	32-112°F	0.1°F	+1.8°C +0.3% reading
Inlet Temperature (External sensor)	32-1112°F	0.1°F	+3.6°F +0.3% reading
Flue Gas Measurement			
Oxygen* ²	0-21%	0.1%	+0.3%
Carbon monoxide * ¹	0-20ppm	1ppm	+3ppm +5% reading
	21-2,000ppm		
	Above 2000ppm Purge pump operates		Unspecified
Carbon dioxide * ¹	0-20%	0.1%	+0.3% volume
Efficiency (Net or Gross) * ²	0-99.9%	0.1%	+1.0% reading
Efficiency High (C) * ²	0-119.9%	0.1%	+1.0% reading
Excess Air * ²	0-250%	0.1%	+0.2% reading
CO/CO ₂ ratio * ²	0-0.999	0.0001	+5% reading
Pressure (differential)			
Nominal range ±80mbar Maximum over range without damage to sensor is ±400mbar	±0.08" wc (+0.2 mbar)	Maximum 0.001" wc < 9.999"wc 0.01" wc > 10.00"wc (0.001 mBar < 24.99 mbar) (0.01 mBar > 25 mbar)	±0.002" wc (±0.005 mBar)
	±0.4" wc (±1mBar)		±0.01" wc (±0.03 mBar)
	±32" wc (±80mBar)		+3% of reading
Pre-Programmed Fuels	Natural gas, Propane, Butane, LPG, Light Oils (28/35 sec), Wood Pellets, Town Gas, Coke Gas, Bio Oil, Bio Gas		
User programmed Fuels	5 user defined fuels		
Storage Capacity	60 Combustion tests		
	20 Pressure & Temperature tests		
	20 Heat Exchange tests		
	20 Temperature tests		
	20 Room CO tests		
	20 Commissioning tests		

*1 Using dry gases at STP

*2 Calculated

Annual Recertification

C165 Recertification: Calibration or Full Service	
Year 1	1-Year Limited Warranty
Year 2	Extended 1-Year
Year 3	Extended 1-Year
Year 4	Extended 1-Year
Year 5	Extended 1-Year
Year 6	Extended 1-Year

* Fixed Annual service cost: \$165.95
Prices are in US dollars as of Jan. 2019.

Annual Recertification includes:

- Full 30-point inspection by factory trained professionals
- Replacement of sensors or calibration ensuring your analyzer is up to manufacturers specifications
- Software and firmware updates
- Another 12-month warranty on the analyzer
- List of work performed, and parts replaced
- A certificate of calibration

Downloads



Data Sheet



Manual

Downloads

C165



Made in UK

C165KIT



Made in UK

C165BTKIT



Made in UK