

CA-6203 CA-CALC™ Combustion Analyzer

TSI's CA-6203 CA-CALC combustion analyzer is a practical tool for tuning burners and low NO_x systems for safe, efficient operation. This analyzer measures O₂, CO, NO, stack temperature, ambient temperature and draft pressure. The Model CA-6203 also calculates CO₂, efficiency, excess air and NO_x. Factory-set fuel parameters reduce set-up time, and user-defined fuel parameters provide flexibility.

Features

- Industry-leading service
- Large display and intuitive operation
- Real-time data provides quick tuning feedback
- Over 24 hours of battery life lowers operating costs
- Operates on C-Cell batteries or AC power
- Automatic baseline calibration of sensors
- Recalibrates easily for critical safety checks
- Quick new sensor installation
- Heavy-duty pump
- Automatically calculates sample averages
- User-adjustable sample interval
- Continuous pump operation monitoring
- Stores 100 data sets
- Concentrations displayed as ppm or mg/m³
- Emission rates calculated as lb/MBtu or ng/J



Applications

- Tune boilers for optimum efficiency and safety
- Check building combustion ventilation
- Check CO safety of appliances
- Monitor burner performance
- Supplement preventative maintenance
- Monitor NO_x output

Suitable for:

- Boiler/Burner Service and Repair Contractors
- Boiler/Furnace Maintenance Companies
- Plant Engineers
- Process Boiler Technicians
- Utility Companies
- Boiler Owners and Manufacturers

Specifications

CA-6203 CA-CALC Combustion Analyzer

Sensors

Oxygen (O₂)*

Range	0 to 25%
Resolution	0.1% O ₂

Carbon Monoxide (CO)*

Range	0 to 5,000 ppm
Resolution	1 ppm

Flue Gas Temperature Probe

Range	32 to 1,800°F (0 to 1,000°C)
Resolution	1°F (1°C)

Draft Pressure

Range	±30 in. H ₂ O (±80 mBar)
Resolution	0.01 in. H ₂ O (0.01 mBar)

Supply Air Temperature Probe (Optional)**

Range	-40 to 302°F (-40 to 150°C)
Resolution	1°F (1°C)

Nitric Oxide (NO)*

Range	0 to 4,000 ppm
Resolution	1 ppm

Calculated Data

Carbon Dioxide (CO₂)—Calculated From O₂ and Fuel Type

Range	0 to CO ₂ Max
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Excess Air (EA)

Range	0 to 1,000%
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Loss ASME

Range	-25 to 100%
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Efficiency ASME (net)

Range	0 to 125%
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Loss qA (Siegert)

Range	-25 to 100%
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Efficiency (η) Based on qA

Range	0 to 125%
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Lambda (λ)

Range	0 to 10
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CO Air Free (CO_u)

Range	0 to 99,999 ppm
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CO/CO₂ Index (CO_r)

Range	0 to 1.0000
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NO Air Free (NO_u)

Range	0 to 80,000 ppm
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NO_x

Range	0 to 4,200 ppm
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NO_x Air Free (NO_{xu})

Range	0 to 80,000 ppm
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* Electrochemical sensor

** P/N 3013003

Specifications are subject to change without notice.

Operating Conditions

Instrument Temperature Range

Operating Range	32 to 113°F (0 to 45°C)
Storage Range	-22 to 140°F (-30 to 60°C)

Instrument Humidity Range

Continuous	15 to 90% non-condensing
Intermittent	0 to 99%

Maximum Flue Gas Probe Temperature

Continuous	1,800°F (1,000°C) (handle shielded)
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General Data

Instrument

External Dimensions	6 × 10 × 2.5 in. (15 × 25.4 × 6.4 cm)
Weight	2.5 lbs/3.2 lbs with probe (1.12/1.44 kg)
Display	LCD

Pump

Flow Rate	Nominal 700 cc/min
Maximum Flue Pressure	±30 in. H ₂ O (±80 mBar)

Standard Flue Gas Sampling Probe

Probe/Hose Material	Stainless steel/rubber
Probe Length	12 in. std (30 cm)
Hose Length	7 ft (2.13 m)
Probe Diameter	5/16 in. (0.80 cm)

Communication Interface

Type	Serial
Baud Rate	1,200 to 19,200, selectable

Power Requirements

Batteries	4 size C alkaline batteries
Battery Life	>24 hours (pump on)
AC Adapter	P/N 2613033 (NA), 2613078 (EU)
Backup Battery	Lithium
Backup Battery Life	3 yrs

Ordering Information

Model

CA-6203

Carbon Monoxide (CO)	•
Oxygen (O ₂)	•
Nitric Oxide (NO)	•
NO _x **	•
Draft Pressure	•
Ambient, Stack Temp. (ΔT)	•
Carbon Dioxide (CO ₂)*	•
Efficiency (Loss) (qA)	•
Excess Air (λ)	•
CO/CO ₂ Index	•
CO Air Free (Undiluted)	•
Water Trap and Filter	•
Data Storage/Review/Print	•
7 Factory-Default and 1 User-Defined Fuel	•
Adjustable Sample Time Interval	•
Automatic Sample Averaging	•

NO air free and NO_x air free also calculated.

* Calculated from fuel type and O₂

** Calculated from measured NO



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