Combustion Analysis

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% O2

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. H₂O (±80 mBar)

 Resolution
 0.01 in. H₂O (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 CO₂ Max

Excess Air (EA)

Range 0 to 1,000%

Loss ASME

Range -25 to 100%

Efficiency ASME (net)

Range 0 to 125%

Loss qA (Siegert)

Range -25 to 100%

Efficiency (η) Based on qA

Range 0 to 125%

Lambda (λ)

Range 0 to 10

CO Air Free (CO_u)

Range 0 to 99,999 ppm

CO/CO2 Index (CO_r)

Range 0 to 1.0000

NO Air Free (NO_u)

Range 0 to 80,000 ppm

 NO_x

Range 0 to 4,200 ppm

NO_x Air Free (NO_{xu})

Range 0 to 80,000 ppm

* 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)

General Data

Instrument

External Dimensions $6 \times 10 \times 2.5$ in. $(15 \times 25.4 \times 6.4$ 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. H₂O (±80 mBar)

Standard Flue Gas Sampling Probe

Probe/Hose MaterialStainless steel/rubberProbe Length12 in. std (30 cm)Hose Length7 ft (2.13 m)Probe Diameter5/16 in. (0.80 cm)

Communication Interface

Type Serial

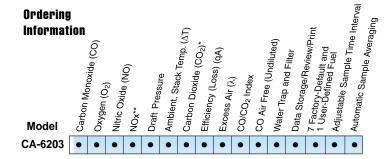
Baud Rate 1,200 to 19,200, selectable

Power Requirements

Batteries 4 size C alkaline batteries
Battery Life >24 hours (pump on)

AC Adapter P/N 2613033 (NA), 2613078 (EU)

Backup Battery Life Lithium Backup Battery Life 3 yrs



NO air free and NO_X air free also calculated.

- Calculated from fuel type and O₂
- ** Calculated from measured NO





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