

CA-6205 CA-CALC™ Combustion Analyzer

TSI's CA-6205 CA-CALC combustion analyzer is a practical tool for tuning burners for safe, efficient operation. This analyzer measures O₂, CO, SO₂, stack temperature, ambient temperature and draft pressure. The Model CA-6205 also calculates CO₂, efficiency and excess air. 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
- Special emissions probe for SO₂
- 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 up to 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 carbon monoxide safety
- Monitor burner performance
- Supplement preventative maintenance
- Monitor SO₂ emissions

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-6205 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 |

Sulfur Dioxide (SO₂)*†

| | |
|------------|----------------|
| Range | 0 to 4,000 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) |

Calculated Data

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

| | |
|-------|--------------------------|
| Range | 0 to CO ₂ 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 |
|-------|-------------|

* Electrochemical sensor

** P/N 3013003

† Selectable units include mg/m³, ppm, lb/MBtu, ng/l

†† Required for NO₂ or SO₂ measurement. Includes stainless steel filter, water trap and particulate filter.

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 × 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) |

Emission Flue Gas Sampling Probe††

| | |
|---------------------|--------------------------------|
| Probe/Hose/Material | Stainless steel/rubber/Teflon® |
| Probe Length | 24 in. std (60 cm) |
| Hose Length | 9 ft (2.74 m) |
| Probe Diameter | 1/2 in. (1.27 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 | Carbon Monoxide (CO) | Oxygen (O ₂) | Sulfur Dioxide (SO ₂) | 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 |
|---------|----------------------|--------------------------|-----------------------------------|----------------|---------------------------|------------------------------------|------------------------|----------------|--------------------------|-------------------------|-----------------------|---------------------------|---|---------------------------------|----------------------------|
| CA-6205 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |

* Calculated from fuel type and O₂



TSI Incorporated

Corporate Headquarters—Tel: 651 490 2811 Toll Free: 1 800 874 2811 Fax: 651 490 3824 E-mail: answers@tsi.com
TSI China—Tel: +86 10 8260 1595 Fax: +86 10 8260 1597 E-mail: tsibeijing@tsi.com

Contact TSI or visit www.tsi.com for information on specific office locations worldwide.

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