



DATA SHEET

Si-CA 230

Gas Analyzer for Emissions Monitoring of Boiler, Engine, & Other Combustion Applications

Accurate / Reliable / Robust / Innovative



Note: Phone not included.



Up to Six Gas Sensors. Can include O₂, CO, NO, Low NO, NO₂, Low NO₂, SO₂, Low SO₂, H₂S, and CxHy



CO Dilution auto-range with measurements to 50,000 ppm



Large Color Touch Screen



Total NOx & Low NOx Capable



iOS and Android Mobile Apps for Real-Time Display & Control

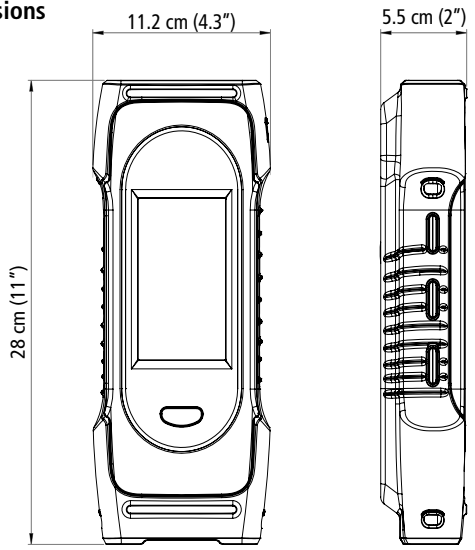


Field Replaceable Pre-Calibrated Sensors

- Ergonomic, light weight, & durable design
- Data management with automatic logging & report creation
- Predictive maintenance with estimated sensor life & calibration reminders
- One touch pump On/Off with purge
- PC software with wireless and USB connectivity
- Auto pump cut-off for high CO levels
- Graphical data display
- Customizable gas analysis screen
- Sample conditioning unit for low NOx & high moisture applications

- Stack gas velocity with Pitot tube
- Draft & differential pressure measurements
- Emissions values adjusted for reference O₂
- CO & CO₂ monitoring of ambient air
- Hose extensions for tall & difficult to reach stacks
- Wireless printer
- Protective rubber holster
- Maintenance contracts and extended warranties available

Dimensions

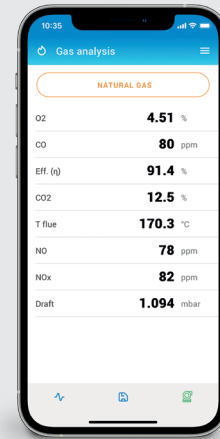


Apps and software

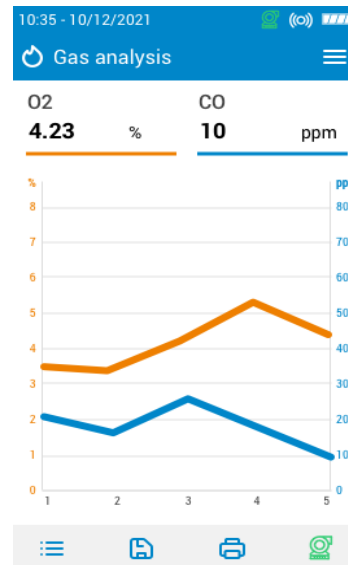
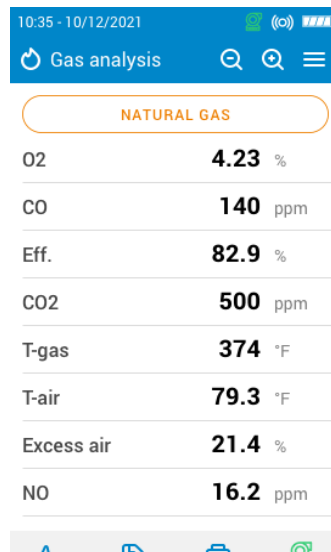
- Free apps for iOS & Android mobile devices
- PC software with USB & wireless connectivity
- Fast, easy wireless connection
- Remote live view of combustion analysis data as list or graph
- Remote control to change settings
- Data saving, including automatic logging
- Report creation in PDF, CSV (for Excel) and XML formats
- Databases for customers, operators, & equipment



Download app



Example of analyzer screens



Si-CA 230 kit content

- Si-CA 230 analyzer
- O₂ & CO gas sensors (other gas sensors available, see optional accessories)
- CO Dilution Auto-Range to 50,000 ppm
- Protective rubber holster
- 300 mm flue gas probe with 3 m dual hose (other probe lengths available)
- Water trap with filter
- AC power supply / charger
- USB cable
- Mobile app & PC software
- Internal wireless communication module
- Carrying case
- Quick Start Guide
- Calibration certificate



Parameter specifications

| Parameter | Sensor | Measuring range | Resolution | Accuracy ⁽¹⁾ | Response time |
|---------------------------|-----------------|--|---------------------------------------|--|------------------------|
| O ₂ | Electrochemical | 0 to 25% | 0.01% | ±0.2% vol | T ₉₀ < 30 s |
| CO (H ₂ comp.) | Electrochemical | 0 to 10,000 ppm | 1 ppm | ±8 ppm < 160 ppm ±5% rdg up to 2000 ppm ±10% rdg > 2000 ppm | T ₉₀ < 40 s |
| CO (with dilution) | Electrochemical | 100 to 50,000 ppm | 1 ppm | ±10% rdg | T ₉₀ < 40 s |
| CO ₂ | Calculated | 0 to 99.9% | 0.1% | - | - |
| NO | Electrochemical | 0 to 5000 ppm | 1 ppm | ±5 ppm < 100 ppm ±5% rdg > 100 ppm | T ₉₀ < 40 s |
| Low NO | Electrochemical | 0 to 300 ppm | 0.1 ppm | ±1.5 ppm < 30 ppm ±5% rdg > 30 ppm | T ₉₀ < 40 s |
| NO ₂ | Electrochemical | 0 to 1000 ppm | 1 ppm | ±5 ppm < 100 ppm ±5% rdg > 100 ppm | T ₆₀ < 60 s |
| Low NO ₂ | Electrochemical | 0 to 100 ppm | 0.1 ppm | ±1.5 ppm < 30 ppm ±5% rdg > 30 ppm | T ₆₀ < 60 s |
| NOx | Calculated | 0 to 7500 ppm | 1 ppm | - | - |
| Low NOx | Calculated | 0 to 450 ppm | 0.1 ppm | - | - |
| SO ₂ | Electrochemical | 0 to 5000 ppm | 1 ppm | ±5 ppm < 100 ppm ±5% rdg > 100 ppm | T ₆₀ < 30 s |
| Low SO ₂ | Electrochemical | 0 to 100 ppm | 0.1 ppm | ±1.5 ppm < 30 ppm ±5% rdg > 30 ppm | T ₆₀ < 30 s |
| CxHy (HC) | Pellistor | 0 to 5% | 0.01% | ± 5% full scale | T ₉₀ < 40 s |
| H ₂ S | Electrochemical | 0 to 500 ppm | 0.1 ppm | ±5 ppm < 100 ppm ±5% rdg > 100 ppm | T ₆₀ < 35 s |
| Flue temperature | TcK | -4 to 2282 °F -20 to 1250 °C | 0.1 °F 0.1 °C | ±3.6 °F or ±0.5% rdg ⁽²⁾ ±2 °C or ±0.5% rdg ⁽²⁾ | - |
| Air temperature | NTC or TcK | -4 to 248 °F -20 to 120 °C | 0.1 °F 0.1 °C | ±3.6 °F ±2 °C | - |
| Differential temperature | Calculated | 0 to 2282 °F 0 to 1250 °C | 0.1 °F 0.1 °C | - | - |
| Pressure/Draft | Semiconductor | -80 to 80 inH ₂ O -200 to 200 mbar | 0.001 inH ₂ O 0.01 mbar | ±1% rdg ±0.012 inH ₂ O ±1% rdg ±0.03 mbar | - |
| High accuracy draft | Semiconductor | 500 Pa | 0.1 Pa | ±0.5 Pa < 10 Pa ±3 Pa up to 150 Pa ±1% rdg ±1.5 Pa > 150 Pa | - |
| Excess air | Calculated | 0 to 999% | 1% | - | - |
| Efficiency | Calculated | 0 to 100% (Gross/ HHV ⁽³⁾) | 0.1% | - | - |
| Efficiency (condensation) | Calculated | 0 to 125% (Net/LHV ⁽⁴⁾) | 0.1% | - | - |
| Stack Gas velocity | Calculated | 0 to 19,500 fpm 0 to 99 m/s | 1 fpm 0.1 m/s | - | - |

⁽¹⁾All accuracies indicated in this document were stated in laboratory conditions at 68 °F (20 °C) and can be guaranteed for measurements carried out in the same conditions.



⁽²⁾Accuracy given for the analyzer only.

⁽³⁾For Higher Heating Value / ⁽⁴⁾For Lower Heating Value

General features

| | |
|---------------------------------|---|
| Dimensions | 11 x 4.3 x 2" (28 x 11.2 x 5.5 cm) |
| Weight | 30 oz (825 g) |
| Display | Color Touch Screen with Graphing; Size: 480 x 272 pixels |
| Keypad | 1 On-Off key |
| Material | ABS-PC |
| Protection | IP42 |
| Connection | Wireless: class 2 range, range frequency from 2402 MHz to 2480 MHz with a transmit power of 1 dBm. Range up to 50 ft (15 m), depending on smartphone radio strength. Minimum required versions: Android 5.0, iOS 12.4, BLE 4.0 USB |
| Power supply | Rechargeable battery, USB power supply Li-Ion 5100 mA/h 3.6 V battery / Power supply voltage of the mains unit: 100-240 Vac, 50-60 Hz Mains unit: 5 Vdc/2A |
| Battery | Battery life > 8 h; Charging time: Fully charge: < 6.5 h; 50%: < 2.5 h |
| Memory | Internal memory up to 2,000 tests |
| Environmental conditions of use | Temperature: from 23 to 113 °F (-5 to 45 °C), Hygrometry: in non-condensing conditions (< 85% RH) Maximum altitude: 6561' (2000 m) |
| Storage temperature | From -4 to 122 °F (-20 to 50 °C) |
| Languages | English, French, German, Spanish, Italian, Portuguese, Chinese |
| European Union Directives | 2014/53/EU (RED); 2015/863 EU (RoHS 3) |
| Regulations | EN 50379-1 and EN 50379-2; UNI 7129; UNI 11137; UNI 10389; UNI 10845; UL & cUL Certification; BS 7967:2015; BS EN 50543:2011; UNE 60670-10; ES.02173.ES |

Optional accessories

| Part number | Description | Illustration |
|--|--|---|
| 27520 (NO) 27521 (Low NO) | NO or Low NO sensor for NO _x |  |
| 27526 (NO ₂) 27527 (Low NO ₂) | NO ₂ or Low NO ₂ sensor |  |
| 27528 (SO ₂) 27529 (Low SO ₂) | SO ₂ or Low SO ₂ sensor |  |
| 27530 | CxHy sensor |  |
| 27531 | H ₂ S sensor |  |
| 27544 | Draft probe |  |
| 27532 (180 mm) 27533 (300 mm) 27534 (750 mm) 27535 (1 m) 27536 (1.5 m) | 180, 300 and 750 mm and 1 m and 1.5 m probes available |  |
| 27546 | Remote wireless printer |  |
| 27537 | 3 m dual hose extension |  |
| 27538 | Differential pressure hose kit |  |
| 24646 | Smart air temperature probe with 2 m cable |  |
| 11994 | Manual smoke pump kit |  |
| 27547 | CO ambient probe |  |
| 27548 | CO ₂ ambient probe |  |
| 26811 | SCU (Sample Conditioning Unit) |  |

Ordering Information

All kits include the following: a 300 mm probe rated to 1472 °F (800 °C) with 3 m dual hose, an ABS hard plastic carrying case, a rubber holster, a water trap with filter, a charger with plug set, a USB cable, a quick start guide and a calibration certificate

| Product | Item # | Description |
|--------------------|--------|---|
| Si-CA 230-2 | 27522 | Si-CA 230 Analyzer includes two gas sensors (O ₂ , CO), |
| Si-CA 230-3N | 27597 | Si-CA 230 Analyzer includes three gas sensors (O ₂ , CO, NO) |
| Si-CA 230-3NL | 27598 | Si-CA 230 Analyzer includes three gas sensors (O ₂ , CO, Low NO) |
| Si-CA 230-4ND | 27599 | Si-CA 230 Analyzer includes four gas sensors (O ₂ , CO, NO, NO ₂) |
| Si-CA 230-4NS | 27600 | Si-CA 230 Analyzer includes four gas sensors (O ₂ , CO, NO, SO ₂) |
| Si-CA 230-4NC | 27601 | Si-CA 230 Analyzer includes four gas sensors (O ₂ , CO, NO, CxHy) |
| Si-CA 230-4NLDL | 27602 | Si-CA 230 Analyzer includes four gas sensors (O ₂ , CO, Low NO, Low NO ₂) |
| Si-CA 230-4NLSL | 27603 | Si-CA 230 Analyzer includes four gas sensors (O ₂ , CO, Low NO, Low SO ₂) |
| Si-CA 230-5NDS | 27604 | Si-CA 230 Analyzer includes five gas sensors (O ₂ , CO, NO, NO ₂ , SO ₂) |
| Si-CA 230-5NDC | 27605 | Si-CA 230 Analyzer includes five gas sensors (O ₂ , CO, NO, NO ₂ , CxHy) |
| Si-CA 230-5NSC | 27606 | Si-CA 230 Analyzer includes five gas sensors (O ₂ , CO, NO, SO ₂ , CxHy) |
| Si-CA 230-5NSH | 27607 | Si-CA 230 Analyzer includes five gas sensors (O ₂ , CO, NO, SO ₂ , H ₂ S) |
| Si-CA 230-5NLDLSL | 27608 | Si-CA 230 Analyzer includes five gas sensors (O ₂ , CO, Low NO, Low NO ₂ , Low SO ₂) |
| Si-CA 230-6NDSC | 27609 | Si-CA 230 Analyzer includes six gas sensors (O ₂ , CO, NO, NO ₂ , SO ₂ , CxHy) |
| SICA 230-6NDSH | 27610 | Si-CA 230 Analyzer includes six gas sensors (O ₂ , CO, NO, NO ₂ , SO ₂ , H ₂ S) |
| Si-CA 230-6NLDLSLH | 27611 | Si-CA 230 Analyzer includes six gas sensors (O ₂ , CO, Low NO, Low NO ₂ , Low SO ₂ , H ₂ S) |

Maintenance

We carry out calibration, adjustment and maintenance of your devices to guarantee a consistent and accurate level of quality of your measurements. As part of Quality Assurance Standards, we recommend annual recalibration and maintenance check-up.

Warranty

Devices have 2-year guarantee against any manufacturing defect (return to our After-Sales Service required for appraisal).



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