sauermann®



Note: Phone not included.

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DATA SHEET

Si-CA 230

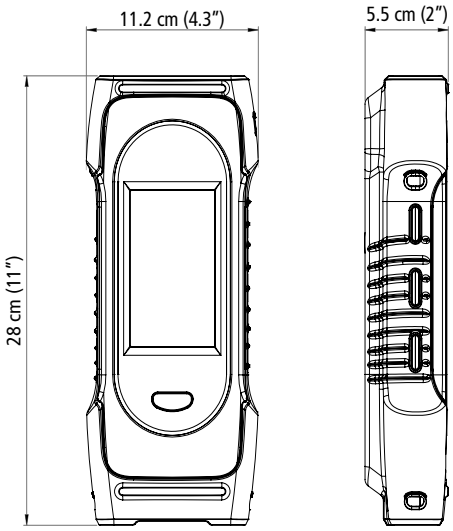
Gas Analyzer for Emissions Monitoring of Boiler, Engine, & Other Combustion Applications

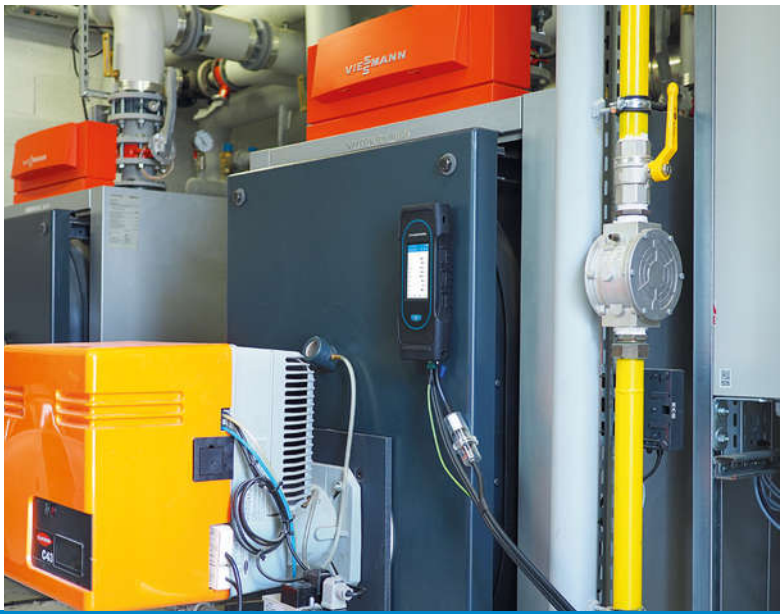
Accurate / Reliable / Robust / Innovative

- **Up to Six Gas Sensors. Can inlcude O_2, CO, NO, Low NO, NO_2, Low NO_2, SO_2, Low SO_2, H_2S, 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 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 O_2
- CO & CO_2 Monitoring in Ambient Air
- Hose extensions for tall & difficult to reach stacks
- Wireless Printer
- Protective rubber holster
- Maintenance contracts and extended warranties available

Dimensions





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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

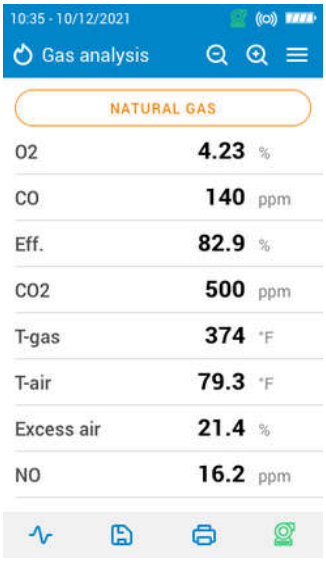


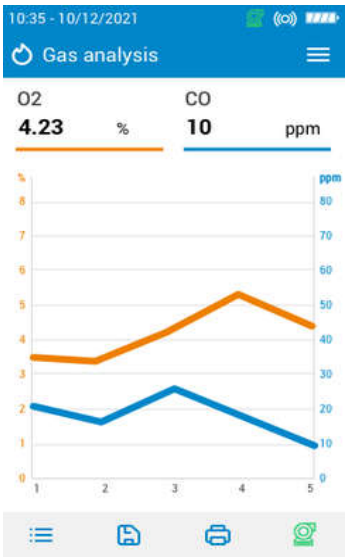
Graph view



Data view

Example of analyzer screens





Si-CA 230 kit content

- Si-CA 230 analyzer
- O_2 & 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_2S	Electrochemical	0 to 500 ppm	0.1 ppm	±5 ppm < 100 ppm ±5% rdg > 100 ppm	T_{60} < 35 s
Flue temperature	TcK	-20 to +1250 °C -4 to +2282 °F	0.1 °C 0.1 °F	±2 °C or ±0.5% rdg[2] ±3.6 °F or ±0.5% rdg[2]	-
Air temperature	NTC or TcK	-20 to +120 °C -4 to +248 °F	0.1 °C 0.1 °F	±2 °C ±3.6 °F	-
Differential temperature	Calculated	0 to 1250 °C 0 to 2282 °F	0.1 °C 0.1 °F	-	-
Pressure/Draft	Semiconductor	-200 to +200 mbar -80 to +80 inH_2O	0.01 mbar 0.001 inH_2O	±1% rdg ±0.03 mbar ±1% rdg ±0.012 inH_2O	-
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 99 m/s 0 to 19,500 fpm	0.1 m/s 1 fpm	-	

[1]All accuracies indicated in this document were stated in laboratory conditions at 20 °C (68 °F) and can be guaranteed for measurement 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	28 x 11.2 x 5.5 cm (11 x 4.3 x 2”)
Weight	825 g (30 oz)
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 15 m (50 ft), depending on smartphone radio strength. Minimum required versions: Android 8.0, iOS 12.4, BLE 4.0 Low Energy - 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 2000 tests
Environmental conditions of use	Temperature: from -5 to 45 °C (23 to 113 °F), Hygrometry: in non-condensing conditions (< 85% RH) Maximum altitude: 2000 m (6561’)
Storage temperature	From -20 to 50 °C (-4 to 122 °F)
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 NOx	
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_2S 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	
SCO110B	CO ambient probe	
SCO112B	CO_2 ambient probe	
26811	SCU (Sample Conditioning Unit)	

Ordering Information

All kits includ the following: a 300 mm probe rated to 800 °C (1472 °F) 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

Item #	Description
Si-CA 230-2	Si-CA 230 Analyzer includes two gas sensors (O_2, CO),
Si-CA 230-3N	Si-CA 230 Analyzer includes three gas sensors (O_2, CO, NO)
Si-CA 230-3NL	Si-CA 230 Analyzer includes three gas sensors (O_2, CO, Low NO)
Si-CA 230-4ND	Si-CA 230 Analyzer includes four gas sensors (O_2, CO, NO, NO_2)
Si-CA 230-4NS	Si-CA 230 Analyzer includes four gas sensors (O_2, CO, NO, SO_2)
Si-CA 230-4NC	Si-CA 230 Analyzer includes four gas sensors (O_2, CO, NO, CxHy)
Si-CA 230-4NLDL	Si-CA 230 Analyzer includes four gas sensors (O_2, CO, Low NO, Low NO_2)
Si-CA 230-4NLSL	Si-CA 230 Analyzer includes four gas sensors (O_2, CO, Low NO, Low SO_2)
Si-CA 230-5NDS	Si-CA 230 Analyzer includes five gas sensors (O_2, CO, NO, NO_2, SO_2)
Si-CA 230-5NDC	Si-CA 230 Analyzer includes five gas sensors (O_2, CO, NO, NO_2, CxHy)
Si-CA 230-5NSC	Si-CA 230 Analyzer includes five gas sensors (O_2, CO, NO, SO_2, CxHy)
Si-CA 230-5NSH	Si-CA 230 Analyzer includes five gas sensors (O_2, CO, NO, SO_2, H_2S)
Si-CA 230-5NLDLSL	Si-CA 230 Analyzer includes five gas sensors (O_2, CO, Low NO, Low NO_2, Low SO_2)
Si-CA 230-6NDSC	Si-CA 230 Analyzer includes six gas sensors (O_2, CO, NO, NO_2, SO_2, CxHy)
Si-CA 230-6NLDLSLH	Si-CA 230 Analyzer includes six gas sensors (O_2, CO, Low NO, Low NO_2, Low SO_2, H_2S)

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).

FT_EN – Si-CA 230 – 19/03/21 – Non-contractual document – We reserve the right to modify the characteristics of our products without prior notice.