

# COMBUSTION GAS ANALYZERS

A new degree of efficiency



# Combustion gas analyzers

A new degree of efficiency



Our combustion gas analyzers are ideal for maintaining combustion equipment, covering the full range of operations in residential, commercial and industrial applications.

Sauermann offers a range of compact and intuitive analyzers to enhance your performance.

Sauermann's combustion gas analyzers feature the latest digital and metrology technologies, making measurements more reliable and cutting the amount of time heating engineers need to spend on-site. A user experience like no other!

#### Applications

- Boilers
- Burners
- Water heaters
- Gas and diesel engines
- Furnaces
- Industrial kilns
- Industrial heating systems
- Incinerators



Residential



Commercial



Industrial

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# Features

Add a digital edge to your combustion analysis



Auto pump cut-off for high CO levels (adjustable)



Predictive maintenance with estimated sensor life & calibration reminders



Draft & differential pressure measurements



Mobile phone app for real-time remote display & control



Calculations for Combustion Efficiency, Excess Air, & CO<sub>2</sub>%



Data management with automatic logging & report creation



Si-CA 030



Si-CA 130



Si-CA 230

	Si-CA 030	Si-CA 130	Si-CA 230
LCD display size	2.8 inches	4.3 inches	4.3 inches
Display resolution	320 x 240 pixels	480 x 272 pixels	480 x 272 pixels
Touch-screen display	No (5 buttons)	Yes (+ on/off button)	Yes (+ on/off button)
Dimensions (H x W x D)	9.9 x 19.4 x 4.9 cm 7.5 x 3.5 x 1.6"	9.9 x 19.4 x 4.9 cm 7.5 x 3.5 x 1.6"	11.2 x 28 x 5.5 cm 11 x 4.3 x 2"
Weight	350 g - 12 oz	350 g - 12 oz	825 g - 30 oz
No. of cells	Up to 3 (O <sub>2</sub> , CO, NO)	Up to 3 (O <sub>2</sub> , CO, NO, Low NO)	Up to 6 (O <sub>2</sub> , CO, NO, Low NO, NO <sub>x</sub> , Low NO <sub>x</sub> , SO <sub>2</sub> , Low SO <sub>2</sub> , CxHy, H <sub>2</sub> S)
Max. CO measurement	8,000 ppm	8,000 ppm	50,000 ppm (with dilution)
CO dilution	-	-	✓
Field replaceable pre-calibrated sensors	-	✓	✓
Flue gas velocity with Pitot tube	-	✓	✓
Measurement storage	Smartphone	Internal: 2,000 data points + Smartphone and PC	Internal: 2,000 data points + Smartphone and PC
PC software (wireless & USB)	-	✓	✓
Smartphone app (wireless)	✓	✓	✓
Combustion Applications	Residential, Commercial	Residential, Commercial	Commercial, Industrial



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HVAC  
DISTRIBUTION

## Si-CA 030

All the essentials for combustion gas analysis



The Si-CA 030 offers everything heating engineers need to inspect and maintain residential and commercial boilers, with wireless connection to our smartphone app and automatic generation of servicing reports and certificates.

Up to three gas sensors:  
O<sub>2</sub>, CO and NO (for NOx)

Auto pump cut-off  
for high CO levels

- NOx capable with NO sensor
- Quick and easy pump On/Off control
- CO safety monitoring in ambient air

LIGHTWEIGHT  
350 g



## Si-CA 130

Comprehensive, versatile analyzer with touch-screen display



The Si-CA 130 features a touch-screen display and comes with PC-based management software (in addition to the smartphone app) for more in-depth combustion gas analysis. The three field-replaceable cells and sensors offer expanded measurement capability.

Up to three gas sensors O<sub>2</sub>, CO,  
and NO or Low NO (for NOx)

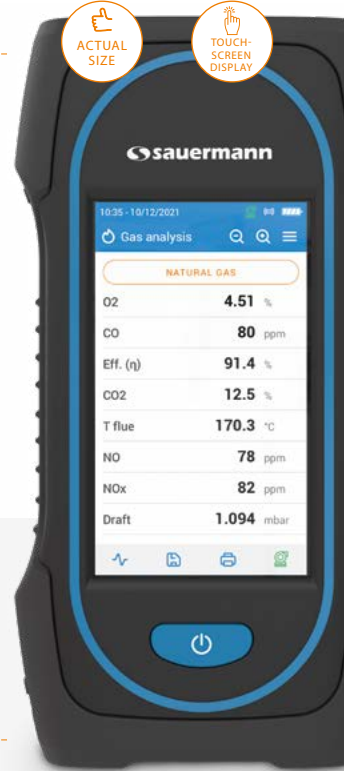
Field replaceable  
precalibrated sensors

- Auto pump cut-off for high CO levels (user-adjustable)
- NOx capable with NO sensor (optional)
- One Touch Pump On/Off with Purge
- PC software with wireless and USB connectivity
- Graphical data display
- Customizable gas analysis screen

ACTUAL  
SIZE

TOUCH-  
SCREEN  
DISPLAY

19.4 cm - 7.5"



### Features Si-CA 030 / Si-CA 130

- Predictive maintenance with estimated sensor life & calibration reminders
- Draft & differential pressure measurements
- Calculated CO<sub>2</sub> % value
- CO safety monitoring in ambient air

CO measurement up to  
8,000 ppm

Color display

- Combustion efficiency and excess air calculations
- Protective rubber casing
- Maintenance agreements and extended warranties available
- Emissions values adjusted for reference O<sub>2</sub>

Data management with automatic  
logging & report creation through  
app/PC software





Lightweight, only 12 oz (350 g)



# Si-CA 230

State-of-the-art, industrial emissions analyzer

With up to six gas sensors and expanded measurement capabilities, the Si-CA 230 is well suited for boilers, burners, engines, and other industrial combustion applications. And with support for more gases and a high CO tolerance threshold, its versatility makes it the ideal choice across commercial and industrial applications.

-  Up to Six Gas Sensors. Can include O<sub>2</sub>, CO, NO, Low NO<sub>x</sub>, Low NO<sub>2</sub>, SO<sub>2</sub>, Low SO<sub>2</sub>, H<sub>2</sub>S, and CxHy
-  CO Dilution auto-range with measurements to 50,000 ppm
-  Total NOx & Low NOx Capable
-  Field Replaceable Pre-Calibrated Sensors

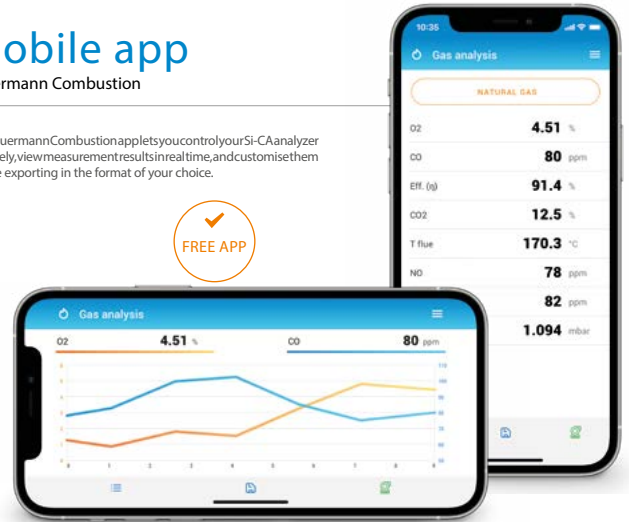


TOUCH-SCREEN DISPLAY

# Mobile app

Saueremann Combustion

The Saueremann Combustion app lets you control your Si-CA Analyzer remotely, view measurement results in real time, and customise them before exporting in the format of your choice.



FREE APP

NATURAL GAS	
O <sub>2</sub>	4.51 %
CO	80 ppm
Eff. (%)	91.4 %
CO <sub>2</sub>	12.5 %
T flue	170.3 °C
NO	78 ppm
	82 ppm
	1,094 mbar



## Features: Si-CA 230

- 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
- Stack gas velocity with Pitot tube
- Draft and differential pressure measurements
- Emissions values adjusted for reference O<sub>2</sub>
- CO safety monitoring in ambient air
- Protective rubber holster
- Maintenance contracts and extended warranties available

- 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 Saueremann Combustion app



# Warranty

All devices come with a two-year warranty against manufacturing defects (subject to assessment by our after-sales department).

To find out more about our extended warranties and maintenance plans, please visit our website, or contact our Customer Service Department.



# Selection guide

## Technical information



Parameter	Measuring range	SI-CA 030	SI-CA 130	SI-CA 230
# of Gas Sensors		2 - 3	2 - 3	2 - 6
O <sub>2</sub>	0 to 25%	✓	✓	✓
CO	0 to 8000 ppm	✓	✓	-
CO (H <sub>2</sub> comp.)	0 to 10,000 ppm	-	-	✓
CO (with dilution)	100 to 50,000 ppm	-	-	✓
CO <sub>2</sub> (calculated)	0 to 99.9%	✓	✓	✓
NO	0 to 5000 ppm	✓	✓	✓
Low NO	0 to 300 ppm	-	✓	✓
NO <sub>2</sub>	0 to 1000 ppm	-	-	✓
Low NO <sub>2</sub>	0 to 100 ppm	-	-	✓
NOx (calculated)	0 to 7500 ppm	✓	✓	✓
Low NOx (calculated)	0 to 450 ppm	-	✓	✓
SO <sub>2</sub>	0 to 5000 ppm	-	-	✓
Low SO <sub>2</sub>	0 to 100 ppm	-	-	✓
CxHy (HC)	0 to 5%	-	-	✓
H <sub>2</sub> S	0 to 500 ppm	-	-	✓
Flue temperature	-20 to +1250 °C / -4 to +2282 °F	✓	✓	✓
Air temperature	-20 to +120 °C / -4 to +248 °F	✓	✓	✓
Differential temperature	0 to 1250 °C / 0 to 2282 °F	✓	✓	✓
Pressure/Draft	-200 to 200 mbar / -80 to 80 inH <sub>2</sub> O	✓	✓	✓
High accuracy draft	-500 to +500 Pa	-	✓	✓
Excess air	0 to 999%	✓	✓	✓
Efficiency	0 to 100% (Gross/HHV)	✓	✓	✓
Efficiency (condensation)	0 to 125% (Net/LHV)	✓	✓	✓
Stack Gas velocity	0 to 99 m/s / 0 to 19,500 fpm	-	✓	✓
Application		Residential/ Light Commercial	Residential/ Commercial	Commercial/ Industrial
<b>Features</b>				
Wireless Printer		Optional	Optional	Optional
Field-Replaceable Pre-Calibrated Sensors		-	✓	✓
Real time display of data on the smartphone		✓	✓	✓
PC Software		-	✓	✓
Automatic Data Logging		✓	✓	✓
Rechargeable Battery w/ AC Charger		✓	✓	✓

# Accessories

## Customize your own analyzer

Our combustion gas analyzers are available in many different configurations, with a wide range of accessories to choose from. Contact our Customer Services team for more information about our kits and accessories, and for guidance on choosing the right options for your needs.

Part number	Description	SI-CA 030	SI-CA 130	SI-CA 230	
27544	Draft probe	✓	✓	✓	
27532 (180 mm) 27533 (300 mm) 27534 (750 mm) 27535 (1 m) 27536 (1.5 m)	Probe sizes: 180 mm, 300 mm & 750 mm, and 1 m & 1.5 m	✓	✓	✓	
27546	Wireless printer	✓	✓	✓	
27537	Double tube extension, 3 m	✓	✓	✓	
27538	Differential pressure kit	✓	✓	✓	
24646	Smart air temperature probe with 2 m cable	✓	✓	✓	
11994	Smoke pump	✓	✓	✓	
27547	Ambient CO probe	✓	✓	✓	
27548	Ambient CO <sub>2</sub> probe	✓	✓	✓	
26811	SCU for condensate removal	✓	✓	✓	

# HVAC essentials

The extra tools you need



Thermo-hygrometer with integrated thermo-hygrometry probe

Si-HH3

The palm-sized Saueremann Si-HH3 thermo-hygrometer easily measures relative humidity and temperature.



Digital Differential Pressure Manometer

Si-PM3

The palm-sized Saueremann Si-PM3 digital differential pressure manometer easily measures pressure.



Infrared thermometer

Si-TI3

The palm-sized Saueremann Si-TI3 infrared thermometer is key to diagnose, inspect and check any temperature, with the advantage of using "no-contact" technology.



Dual Input Thermometer K Thermocouple Temperature

Si-TT3

The palm-sized Saueremann Si-TT3 dual input thermometer easily measures K thermocouple temperature.



Vane Thermo-anemometer with integrated vane probe

Si-VV3

This advanced portable manometer features two high-precision piezoresistive sensors, meaning it can be used to take standard and differential pressure measurements – all with a battery life of 180 hours.



Portable Gas Leak Detector

Si-CD3

This gas leak detector is perfect for quickly and easily detecting even the slightest leaks of various combustible gases (methane, propane, isobutane, LPG and other hydrocarbons).

## Services

Calibration / Technical Support / Maintenance



To complement our range of measuring instruments, a team of 40+ offers a wide range of services, such as calibration and adjustments, after-sales support, on-site services and training.



Calibration and adjustments



After-sales services



Technical Support

Our team of experts will accompany you throughout your project and will adapt to your needs thanks to more than 40 years of experience and our sophisticated laboratory equipment.



On-site services



Training

Our laboratories, spanning over 16,000 sq ft, allow us to offer you all kinds of metrological services related to:

- Temperature
- Humidity
- Air velocity
- Air flow
- Pressure
- Gases (O<sub>2</sub>, CO, NO, SO<sub>2</sub>, NO<sub>2</sub>, C<sub>2</sub>H<sub>4</sub>, refrigerants)
- Weighing
- Radiometry
- Tachometry
- Light measurement
- Electrical current



In Person or Virtual

# Training

Technical Training Classes

Safety, Combustion Analysis,  
& Air Quality Testing

Residential / Commercial / Industrial



## Class Topics Include

- What is combustion?
- 3 T's of combustion
- Excess air
- CO<sub>2</sub> (carbon dioxide)
- Direct O<sub>2</sub> vs. CO<sub>2</sub> (why measuring is important)
- CO (carbon monoxide)
- Draft
- Heat exchanger test
- How to use an analyzer
- Why perform combustion test and why use analyzers?
- Why do we need to measure?
- How contractors can make money (\$\$) using an analyzer
- Atmospheric vs. High Efficiency condensing boilers / furnaces
- Sauermann's series of analyzers and IAQ monitors
- Combustible gas leak detection: soap bubbles vs. actual detection

## Class Counts

for 2 NATE CEU Hours!

The Gold Standard for HVACR  
Technician Certification

