SAFEGUARD ANALYTICS
NEXT-GENERATION FIXED GAS DETECTION

PRODUCT DATA SHEET
August 2026

MODEL SA-PCA
PORTABLE COMBUSTION ANALYZER

The SA-PCA is a field-portable, aspirated combustion analyzer built for natural gas, diesel, and gas combustion testing. Four dual-sensor stainless steel chambers hold up to eight sensors, so a single case can cover O2, CO, NO, NO2, CxHy, CH4, CO2, SO2, H2S, and more in one test. Sample conditioning - water separator, coalescing filter, and pump - protects the sensors in real exhaust. Onboard logging and wireless connectivity push every reading into Foresight, where the Digital Layer turns raw channel data into ranked, explainable combustion diagnostics.

SPECIFICATIONS[1]

SYSTEM	
Sensor Chambers	4 dual-sensor stainless steel chambers
Sensor Capacity	Up to 8 sensors
Sample Method	Aspirated draw with integral pump
Display	Color LCD HMI
Data	Onboard logging + wireless to Foresight
Output Signal	Modbus RTU
SAMPLE CONDITIONING	
Moisture	Water separator
Particulate	Coalescing filter
Sensors	Field-replaceable smart modules
MECHANICAL	
Dimensions	20.66 in (W) x 17.2 in (D) x 8.4 in (H)
Enclosure	NEMA 4X weatherproof case
ELECTRICAL	
Battery	12 V rechargeable
Charging	AC charger included
AREA CLASSIFICATION	
Location	Non-hazardous locations

Enclosure	NEMA 4X weatherproof

Specifications subject to change without notice.

FEATURES

Sensing & Sample Handling
- Four dual-sensor stainless steel chambers - 8-sensor capacity
- Aspirated sample draw with integral pump
- Water separator and coalescing filter for wet exhaust
- Field-replaceable smart sensor modules

Interface & Data
- Color LCD HMI with live channel-by-channel readings
- Onboard data logging with timestamped test records
- Wireless connectivity to Foresight
- Modbus RTU output for integration

Portability & Build
- NEMA 4X weatherproof transport case
- 12 V rechargeable battery for untethered field testing
- 20.66 in (W) x 17.2 in (D) x 8.4 in (H)
- Ruggedized for truck-to-site handling

Foresight-Ready Analytics
- Baseline capture per unit or burner
- Ranked probable faults with confidence scores
- CO corrected to 15% O2 trending against permit limits
- 40 CFR 63 Subpart ZZZZ records generated automatically

APPLICATIONS

- Natural gas, diesel, and gas combustion tuning and diagnostics
- RICE MACT compliance testing and recordkeeping
- Boiler and burner combustion efficiency surveys
- Landfill gas and biogas performance checks
- Baseline capture before and after remediation work