BACHARACH

PCA® 400

Portable Combustion & Emissions Analyzer

10 Standard Fuels Plus Optional Custom Fuels

Includes common fuels like natual gas, oil, propane and kerosene.

Large Color Touch Display

Provides simple operation and easy-to-see results.

Enhanced Data Viewing

Allows you to see data in text, tile or trending format making it easier to interpret results.

B-SMART® Pre-Calibrated Sensor Technology

Eliminates field calibrations and cal gases with simple, pre-calibrated sensor exchange using Near Field Communication (NFC).

Bluetooth®

Standard Bluetooth® wireless technology enables real-time data streaming to smartphones, tablets.

All Day Power

Typical 12 hour run time with standard Li-Ion rechargable. 4x AA batteries or AC power also available.

500 Memory Locations

Organize records in folder structure for later viewing and downloads.

Advanced Sensor Features

- 5 year O_2 sensor warranty.
- Holds up to 4 sensors at once.
- Automatic Sensor Protection.
- CO-H_2 compensated of 10,000 ppm.
- Smart Sensors: Includes a chip to tell the instrument the gas and calibration curve.

PRODUCT SHOWN ACTUAL SIZE

PCA® 400 Portable Combustion & Emissions Analyzer

Inspired By Contractors.

You spoke. We listened. Bacharach delivered the PCA 400, an easy-to-use, feature-rich industrial combustion analyzer.

Designed By Bacharach.

The PCA 400 was designed for a wide variety of combustion applications. Whether tuning boilers or spot-checking emissions, it provides accurate, reliable, repeatable results in a cost-effective package.

Built on Reputation.

Bacharach's reputation includes over 100 years of American made products and ingenuity. This foundation, combined with our extensive combustion analysis experience, brings the PCA 400 to life.

Extended Probe Options

Available 12, 24 and 36 inch probes make the PCA 400 adaptable for any application.

Sample Line Length Options

Standard 7.5 ft and extended 15 ft sample lines.

Sample Line Material Options

Standard tubing or VITON™ tubing for most accurate NO_x and SO_2 measurements.

Rugged, One-Step Probe Connection

Provides a quick, simple, durable connection to the analyzer.

THE COMPLETE SOLUTION . . . FOR PORTABLE

Real Time Data Streaming

The PCA 400 makes real time data streaming convenient with standard Bluetooth® wireless technology. This enables the tuning of large equipment without the need to be near your analyzer. Data streaming can be done with any Bluetooth®-enabled mobile phone or tablet.[1]

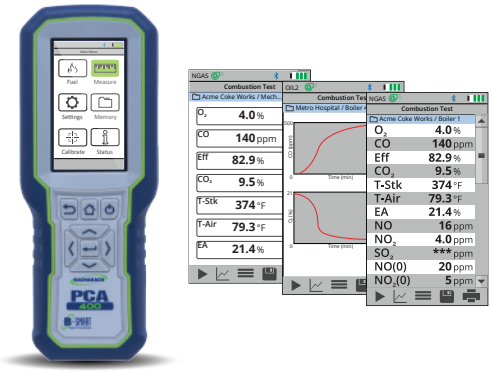
Bluetooth®

Customized Reporting Options

Easily generate customized reports from the PCA 400, your computer or mobile device. Reports can be customized to include up to 5 data points, location and equipment information, your company information, logo and more. The Bacharach Reporting App mirrors the combustion analyzer display, allowing for remote start and stop functions, saving records and conducting a fresh air purge right from the app.

Enhanced Data Viewing Capabilities

Data can be viewed in list (text), tile and trending formats to easily analyze your information and results. You can further customize the PCA 400 to show all the parameters in the order you prefer.



Sample Conditioning for Accurate Measurements

The PCA 400 provides accurate readings for CO, O_2 and NO with our standard probe. Optional Viton™ tubing and thermo-electric sample conditioner ensure accurate results in any application, including NO_2 and SO_2 measurements.

[1]Smartphones, tablets and Windows PCs only. See website for details.

COMBUSTION AND EMISSION ANALYSIS

Rugged and Reliable

Designed for commercial and industrial environments, the PCA 400 is rugged and reliable for everyday use. With a rugged one-step probe connection and automatic sensor protection to extend the safe operating range, the PCA 400 remains ready at your side.

B-SMART™ Pre-Calibrated Sensors

Bacharach's B-SMART™ pre-calibrated sensors eliminate field calibrations, or allow the user to add a new sensor type in the field. With NFC technology, installing a B-SMART™ sensor takes just a few seconds. The B-SMART™ exchange program is available so you don't have to remember when your instrument needs calibration.

Easy to Service and Maintain

The PCA 400 is designed to make maintenance easy. With quick access to sensors, batteries, probes and other consumable parts, cost of ownership and down time are significantly reduced.

Multiple Sensor Options

The PCA 400 can be configured with up to 4 gas sensors. Pick from the CO-H_2 compensated or CO high-range sensor, then add NO, NO_2 or SO_2 as needed. NO_x is calculated from the NO reading if NO_x and SO_2 are both required.

High-Flow Pump with Fresh Air Purge

For the toughest applications, the PCA 400 has options to enable a higher pump flow and perform fresh air sensor purges while the probe is still in the flue.

From commercial boilers to the oil and gas industry — Bacharach's PCA 400 is designed for you.

ENGINES:

The PCA 400 is perfect for spot-checking and tuning your engines with the high-range CO sensor (with dilution capabilities for CO of up to 80,000 ppm, ensuring the sensor is not over ranging) and available sample conditioner. Whether it's natural gas, stationary gensets or mobile diesel fleet vehicles, monitoring your emissions is fast, easy and accurate.

MIDSTREAM OIL AND GAS:

Whether gearing up for a compliance test or doing a quick spot check, the PCA 400 is always at the ready. Bluetooth® data streaming and customizable reporting options provide all of the necessary information for reliable test reporting.

COMMERCIAL AND INDUSTRIAL BOILERS:

The PCA 400 offers everything you and your technicians need to commission, tune, maintain and certify any boiler, anywhere. With customized reporting and a simple user interface, boiler tuning and commissioning has never been so simple.

SPECIFICATIONS

ATTRIBUTE	DESCRIPTION
Display	4.3 in. (10.9 cm) color touch panel LCD
Power	Rechargeable Li-Ion battery pack, 4x AA batteries or wall adapter (5V USB)
Run Time	12 to 14 hours (typical, w/ included LI-Ion battery pack)
Size (HxWxD)	10 x 3.8 x 2.5 in, (25.4 x 9.7 x 6.4 cm)
Weight	1.5 lb. (0.68 kg) w/ Li-Ion battery pack
Fuels[1]	Natural gas, coal, oil 2, 4 or 6, propane, wood/biofuel, kerosene, bagasse, digester gas, B5, pellets, KOKS, LEG, LPG, butane, wood chips
Warm-up Time	60 seconds
Memory	500 sets of records
Communications	USB 2.0 (micro-B), IrDA, Bluetooth® 4.0
Approvals	CE
Warranty	2 years for instrument, 5 years for O_2 sensor
Sample Flow Rate	0.6 to 0.7 L/min (standard) 1.0 L/min (high flow mode)
Storage Conditions	20 to 50° C (-4 to 122° F), 15 to 90% RH, non-condensing, 1 Atmosphere ± 10%
Normal Operating Conditions	0 to 45° C (23 to 113° F), 15 to 90% RH, non-condensing, 1 atmosphere ± 10%

[1] Depending upon combustion equation setting (North American or Siegert) - see manual for details

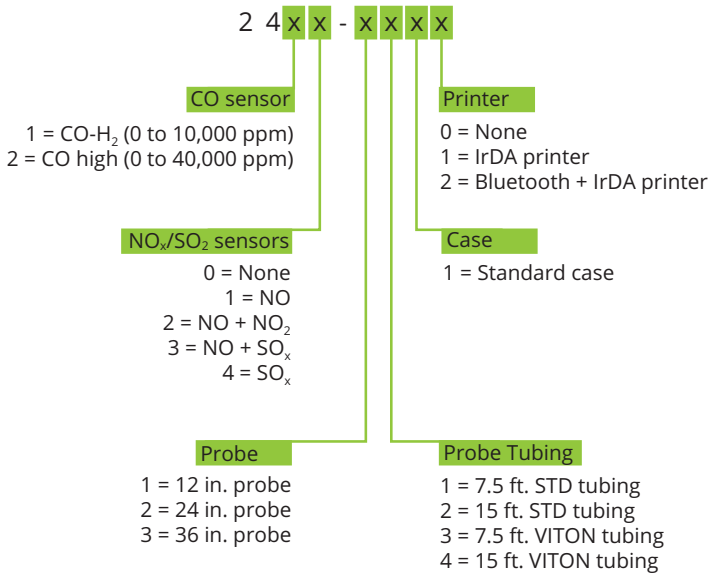
MEASUREMENTS

MEASUREMENT	RANGE	DISPLAY RESOLUTION	ACCURACY	RESPONSE TIME	STANDARD/ OPTIONAL
O_2	0 to 20.9%	0.1%	± 0.3% (on flue gas)	T90 < 20 sec	Standard
CO-H_2 compensated	0 to 10,000 ppm	1 ppm	± 10 ppm (0 to 200) ± 5% of reading (201 to 2,000) ± 10% of reading (2,001 to 10,000)	T90 < 40 sec	Optional
CO (high)	0 to 40,000 ppm	10 ppm	± 10 ppm (0 to 100) ± 10% of reading (101 to 40,000)	T90 < 75 sec	Optional
NO	0 to 3,000 ppm	0.1 ppm (0 to 50) 1 ppm (> 50)	± 3 ppm (0 to 50) ± 5% (51 to 2000) ± 10% of reading (> 2000)	T90 < 30 sec	Optional
NO_2	0 to 500 ppm	0.1 ppm (0 to 50) 1 ppm (> 50)	± 3 ppm (0 to 50) ± 5% (51 to 500)	T90 < 40 sec	Optional
SO_2	0 to 5000 ppm	1 ppm	± 10 ppm (0 to 200) ± 5% of reading (201 to 2,000) ± 10% of reading (2001 to 5000)	T90 < 30 sec	Optional
Ambient Temperature	-20 to 537 °C (-4 to 999 °F)	0.1 °C (0.1 °F)	± 1 °C (0 to 100 °C)	T90 < 70 sec	Standard
Stack Temperature	-20 to 1200 °C (-4 to 2192 °F)	1 °C (1 °F)	± 2 °C (0 to 124 °C) ± 3 °C (125 to 249 °C) ± 4 °C (250 to 400 °C)	T90 < 50 sec	Standard
Differential Temperature	± 600 °C (± 1112 °F)	0.1 °C (0.1 °F)	N/A	N/A	Standard
Pressure / Differential Pressure	± 179 mB (± 72 inwc)	0.01 mB (0.01 inwc)	± 0.03 mB (-1 to +1 mB) ± 0.05 mB (-2.5 to -1 and +1 to +2.5mB) ± 3% of rdg. (-100 to -2.5 and +2.5 to +100 mB)	N/A	Standard
Flow	0 to 1 LPM	0.05 LPM	± 0.1 LPM	N/A	Standard

CALCULATED READINGS

CALCULATION	RANGE	DISPLAY RESOLUTION	INSTRUMENT VERSION
Efficiency (HHV)	0.1 to 100%	0.1%	North American, Siegert
CO_2 (dry basis)	0.1 to a fuel dependent max in %	0.1%	North American, Siegert
NO_x	0 to 3500 ppm	0.1 ppm (0 to 50) 1 ppm (> 50)	North American, Siegert
CO Ref to O_2	0 to 9999 ppm	1 ppm	North American, Siegert
NO Ref to O_2	0 to 9999 ppm	1 ppm	North American, Siegert
NO_2 Ref to O_2	0 to 9999 ppm	1 ppm	North American, Siegert
NO_x Ref to O_2	0 to 9999 ppm	1 ppm	North American, Siegert
SO_2 Ref to O_2	0 to 9999 ppm	1 ppm	North American, Siegert
Excess Air	1 to 250%	1%	North American
CO/CO_2 Ratio	0.0001 to fuel dependent max	0.0001	Siegert
ETA (LHV)	0 to 115%	0.1%	Siegert
Stack Loss	0.1 to 100%	0.1%	Siegert
Lambda	1 to 9.55	0.01	Siegert

Ordering Information



Common Configurations

2410-1110	PCA 400 w/ O_2, CO, 12 in. probe with 7.5 ft. STD tubing and standard case
2410-1112	PCA 400 w/ O_2, CO, 12 in. probe with 7.5 ft. STD tubing, standard case and Bluetooth® printer
2411-1110	PCA 400 w/ O_2, CO, NO, 12 in. probe with 7.5 ft. STD tubing and standard case
2411-1112	PCA 400 w/ O_2, CO, NO, 12 in. probe with 7.5 ft. STD tubing, standard case and Bluetooth® printer
2412-1310	PCA 400 w/ O_2, CO, NO, NO_2, 12 in. probe with 7.5 ft. VITON™ tubing and standard case
2412-1312	PCA 400 w/ O_2, CO, NO, NO_2, 12 in. probe with 7.5 ft. VITON™ tubing, standard case and Bluetooth® printer
2413-1310	PCA 400 w/ O_2, CO, NO, SO_2, 12 in. probe with 7.5 ft. VITON™ tubing and standard case
2413-1312	PCA 400 w/ O_2, CO, NO, SO_2, 12 in. probe with 7.5 ft. VITON™ tubing, standard case and Bluetooth® printer

Accessories

0024-1680	Bluetooth® printer kit
0021-7006	Tru Spot® Smoke Kit
0104-1797	Thermocouple - 10 ft. for combustion air temperature
0104-1798	Thermocouple - 1 in. for ambient air temperature
0024-8242	Differential Pressure and Temperature Kit
0024-3150	High-temperature particulate filter

Probe and Hose Assemblies

0024-3231	Probe Handle Assembly with 12 in. probe tube
0024-3232	Probe Handle Assembly with 24 in. probe tube
0024-3233	Probe Handle Assembly with 36 in. probe tube
0024-3234	Hose Assembly, Standard tubing, 7.5 ft.
0024-3235	Hose Assembly, Standard tubing, 15 ft.
0024-3236	Hose Assembly, Viton™ , 7.5 ft.
0024-3237	Extended Hose Assembly, Viton™ , 15 ft.

HOW TO CONTACT US:

Bacharach US Customer Service: +1 724 334 5000
Bacharach EU Customer Service: +353 1 284 6388
www.mybacharach.com

For more information about the PCA 400 and other Bacharach products scan here.

PCA® is a trademark of Bacharach, Inc.

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BACHARACH
THE MEASURABLE DIFFERENCE

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