

Portable Combustion Analyzer PCA®3

PCA®3 Features & Benefits:

- Full color, multilingual graphic display with backlighting, zoom display and dimming mode
- Sturdy metal gas and draft connectors
- · Measures up to 4 gases simultaneously
- Exclusive B-Smart[®] field-replaceable sensors reduces downtime and calibration costs
- Ten different fuels ability to load custom fuels
- Automatic CO over-range protection
- Measures and displays flue gas oxygen, carbon monoxide, stack temperature, combustion air temperature, draft and differential pressure
- Loss and efficiency are calculated from standard heat-loss calculations or using the Siegert formula for Europe

 \mathbb{NO}_{x} reading from NO+NO₂ or calculated from NO only

Bacharach's all new PCA®3 is the definitive combustion and emissions analyzer that enables fast and accurate measurement for on-demand or semi-continuous sampling of light industrial, institutional, commercial and residential furnaces, boilers and appliances. Exclusive B-Smart[®] plug-and-play sensor technology makes calibration as simple as pushing a button.

Menu

Complies with:

U.S. EPA Test Methods.

CTM-030, & State and

Local Protocols

including SCAQMD

Powerful and Easy to Use!

The Bacharach PCA[®]3 is the perfect tool for service technicians and boiler contractors who need to ensure safe operating conditions, determine combustion efficiency and perform emissions testing. This lightweight handheld combustion and emissions analyzer directly measures and displays Flue Gas 0xygen (O_2), Carbon Monoxide (CO), Stack Temperature, Draft, Differential Pressure, Combustion Air Temperature and optionally measures and displays Nitric Oxide (NO), Nitrogen Dioxide (NO₂) and Sulfur Dioxide (SO₂). The PCA[®]3 simultaneously calculates and displays Combustion Efficiency (EFF), Excess Air (EA), Carbon Dioxide (CO₂), NO_x and Oxygen reference values. Plus, the PCA[®]3 performs combustion calculations for ten different fuels and can measure 4 gases simultaneously from a choice of up to 6 field-upgradable electrochemical sensors. With its large, vibrant color display, reading combustion and emissions test results in any work environment has never been easier!

PCA®3 Specifications		
	North American Version	European Version
Measurement Ranges:		
Primary/Ambient Air Temperature	-4° to 999° F	-20° to 537° C
Stack Temperature	-4° to 2192° F	-20° to 1200° C
Oxygen	0.1 to 20.9%	0.1 to 20.9%
Carbon Monoxide	0 to 4,000 ppm	0 to 4,000 ppm
(H ₂ Compensated)		
Carbon Monoxide (High Range)	4,001 to 20,000 ppm	4,001 to 20,000 ppm
Nitric Uxide		
Nitrogen Dioxide	0 to 500 ppm	0 to 500 ppm
Prossure	±/- 72 inwo	±/- 179 mB
Calculated Ranges:	17-72 mwc	·/- ·// ·/··
Combustion Efficiency	0.1 to 100.0 %	EFF 0.1 to 100.0%
		ETA 0.1 to 112.0%
		(Fuel Dependent)
Stack Loss		qA 0.1 to 100.0%
Excess Air	1.0 to 250%	Lambda 1 to 9.55%
Carbon Dioxide	0 to Fuel Dependent Maximum	0 to Fuel Dependent Maximum
$NU_x (NU + NU_2)$	0 to 3500 ppm	0 to 3500 ppm
NO _x (Calculated from NO)		
MO_x Referenced to $\%O_2$	0 to 9999 ppm	0 to 9999 ppm
NO Referenced to % 0.	0 to 9999 ppm	0 to 9999 ppm
NO. Referenced to % O.	0 to 9999 ppm	0 to 9999 ppm
SO ₂ Referenced to % O ₂	0 to 9999 ppm	0 to 9999 ppm
CO/CO,		0.0001 to Fuel Dependent
		Maximum
Selectable Fuels:	Natural Gas	Natural Gas
	Oil #2	KOKS
	Oil #4	LEG
	Oil #6	Propane
	Propane	0il #2
		Uil #6
	VV000	Loai RiaEuol
	Banasse	
	Digester Gas	Butane
Accuracy:	2.90000 000	Batano
Oxygen	+/- 0.3% 02 (Flue Gas)	
Stack Temperature	+/- 4° F between 32° to 255° F	$+/- 2^{\circ}$ C between 0° to 124° C
	+/- 6° F between 256° to 480° F	+/- 3° C between 125° to 249° C
	+/- 8° F between 481° to 752° F	+/- 4° C between 250° to 400° C
Primary/Ambient Air Temperature	+/- 2° F between 32° to 212° F	$+/-1^{\circ}$ C between 0 o to 100° C
Pressure/Draft	+/- 0.02 inwc between -1 to 1 inwc	+/- 0.05 mB between -2.49 to 2.49 mB
	+/- 2% Reading between -10 to 10 Inwc	+/- 2% Reading between - 24.9 to 24.9 mB
co	$\pm /-5\%$ of reading or 10 ppm in the range of 0	+/- 3 % fleading between -100 to 100 mb
	+ 10% of reading in the range of 2001 to 4000) nnm
NO	\pm - 5% of reading or 5 ppm whichever is greater in the range of 0 to 2000 ppm NO	
NO ₂	+/- 5% of reading or 5 ppm whichever is grea	ter
SO ₂	+/- 5% of reading or 10 ppm whichever is gre	ater in the range of 0 to 2000 ppm SO2
Dimensions:	9" x 3" x 2 ½"	22.9 cm x 7.6 cm x 6.3 cm
Weight:	1.4 lbs (w/batteries)	0.6 kg (w/batteries)
Body Materials:	Durable ABS Housing/Rugged Rubberized Ove	r-molding and Protective Boot w/Magnet
User Interface:	Full Color Graphic Display (320 x 240 pixels), (Optional Infrared Printer
Operating Temperature Range:	32° to 104° F	0° to 40° C
Operating Humidity Range:	15-90% KH Non-condensing	
Power:	4 AA Alkaline Batteries	
Battery Life:	upuonal universal AC Adapter (100 to 240 volts at 47 to 53 Hz) Minimum of 10 Hours of Operation	
Approvals:	CF Mark • FN 55011 FN 50270 CF Mark F	N 50379-2





PCA®3 Kit

PCA®3 Combustion Analyzer, 12" Probe Assembly, Protective Boot w/Magnet, Fyrite® User Software, USB Cable, Replacement Filter Element (pkg. of 3), 8 'AA' Alkaline Batteries, Hard Carrying Case and Printer

PCA®3 Basic

PCA®3 Combustion Analyzer, 12" Probe Assembly, Protective Boot w/Magnet, Fyrite® User Software, USB Cable, Replacement Filter Element (pkg. of 3), 4 'AA' Alkaline Batteries and Hard Carrying Case

	PCA®3 (Ordering Information
N. AM	EU	
0024-8440	0024-8460	PCA®3 225 (0 ₂ , CO)
0024-8441	0024-8461	PCA [®] 3 235 (0 ₂ , CO, NO)
0024-8442	0024-8462	PCA®3 245 (02, CO, CO high)
0024-8443	0024-8463	PCA®3 255 (02, CO, SO2)
0024-8444	0024-8464	PCA [®] 3 265 (O ₂ , CO, NO, NO ₂)
0024-8445	0024-8465	PCA®3 275 (O ₂ , CO, NO, SO ₂)
0024-8446	0024-8466	PCA®3 285 (02, CO, NO, CO high)
0024-8447	0024-8467	PCA®3 225 Kit (0 ₂ , CO, printer)
0024-8448	0024-8468	PCA®3 235 Kit (O2, CO, NO, printer)
0024-8449	0024-8469	PCA®3 245 Kit (O2, CO, CO high, printer)
0024-8450	0024-8470	PCA®3 255 Kit (O ₂ , CO, SO ₂ , printer)
0024-8451	0024-8471	PCA®3 265 Kit (O ₂ , CO, NO, NO ₂ , printer)
0024-8452	0024-8472	PCA®3 275 Kit (O2, CO, NO, SO2, printer)
0024-8453	0024-8473	PCA®3 285 Kit (O2, CO, NO, CO high, printer)

PCA®3 Replacement Parts & Accessories

0024-1541	B-Smart® CO (H₂ Compensated) Sensor
0024-1542	B-Smart [®] CO (high range) Sensor
0024-1545	R-Smart® NO Sensor
0024-1544	B-Smart® NO ₂ Sensor
0024-1543	R-Smart® SO ₂ Sensor
0024-0788	Renlacement 0. Sensor
0024-0789	Replacement CO Sensor
0024-0881	Replacement NO Sensor
0024-0001	Replacement (NO bensor
0024-0337	Replacement SO Sensor
0024-1027	Replacement NO ₂ Sensor
0024-1027	IrDA Printer w/Disposable Batteries (comes with Benorting Pkg. Kit)
0024-1400	Printer Paper (5 rolls)
0024-1310	Printer Paper (1 roll)
0000-0755	Initial Taper (1101)
0024-1234	Poplacoment Filter Flement (nkg. of 2)
0007-1044	Compact Sample Conditionar*
0024-7224	Compact Sample Conditioner
0024-3004	Replacement Probe Assembly (Norul American)
0024-3033	Replacement Probe Assembly (European)
0024-1124	ZU π. Hose Extension with Sample, Draπ and Thermocouple Lines
0024-1470	Fyrite User Software
0021-/006	Tru Spot Smoke Tester

All instruments can be upgraded to include combinations of CO (high), NO, NO2 and SO₂

*The Compact Sample Conditioner is recommended when measuring $\ensuremath{\text{NO}}_2$ and SO₂ to ensure the highest degree of measurement accuracy.



MADE IN THE USA

Bacharach[®] is a registered trademark of Bacharach, Inc. ©2012. Bacharach, Inc., all rights reserved. All information is subject to verification. March 2012 - Rev. 1 Printed in U.S.A.

