

CARBON-14, CO₂ PORTABLE AIR MONITOR

Model ~ PTG-9-C-14

FEATURES:

- USER SETTABLE UNITS - uCi/l or Bq/m³ etc.
- WIDE RANGE - DIGITAL ACCURACY
- PROGRAMMABLE DIGITAL READOUT
- SENSITIVE FOR OCCUPATIONAL EXPOSURE
- DYNAMIC BACKGROUND COMPENSATION
- BATTERY OPERATION OR AC OPERATION
- BUILT-IN HIGH LEVEL ALARM
- BUILT-IN LOW FLOW ALARM
- BUILT-IN RS-232 COMPUTER INTERFACE



DESCRIPTION:

A sensitive, rugged, and portable instrument for detection and measurement of airborne C-14 (¹⁴CO₂).

- The subtractive balanced chamber electrometer circuit decreases background effects to negligible levels.
- A deionized and filtered intake reduces to negligible levels spurious effects from smoke, dust and existing ionization in the air.
- It is line operated with nominal 20 hour battery back-up.
- Optional inlet and outlet hoses allow monitoring interiors of fume hoods, exhaust stacks, etc.
- The PTG-9 –C-14 Will measure airborne C-14 as CO₂ gas or as volatile chemicals in concentrations as low as 1×10^{-3} uCi/l of air (3.7 KBq/m³).

All instruments are calibrated at the factory. Calibration check may be performed in the field with a microCurie level Beta or Gamma source. Background chamber may be disconnected to check linearity of response on a gamma calibration range. User friendly calibration controls are provided.

NOTE: For measuring C-14 in other forms, not CO₂, please see the C-14 Air Monitor chart.

SPECIFICATIONS:

Ranges:	Compact, easy to read digital LCD readout. 1×10^{-3} to 10 uCi/l (3.7 KBq/m^3 to $3.7 \times 10^8 \text{ Bq/m}^3$)
Background:	Essentially eliminated by subtractive balanced chambers.
Smoke, Dust & Ion Elimination:	Filter and deionizer reduce effects to negligible level.
Circuit:	Electrometer circuit amplifies net difference between 0.7 liter Tritium internal chamber and a sealed background chamber of similar configuration.
Alarms:	Low Air Flow, Alarm High Level Alarm: Red Lamp and Audio Alarm.
Controls:	Power, Pump On/Off, Battery Check, Set (calibration aid), Zero Adjust, Meter Programming (Two buttons).



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- Calibration:** Can calibrate internally with Tritium gas, or on a calibration course, or (at a single point) with optional Beta or Gamma source.
- Computer Port:** RS-232 serial port is built in (fully addressable).
- Portability:** PTG-9 is provided with carrying handle.
- Case:** Deep drawn aluminum case, with handle and gasket lid, easily cleanable anodized finish.
- Battery:** 9V rechargeable sealed. **Battery Life:** 20 hours between charges. Battery charger is built-in.

WEIGHT & DIMENSIONS:

- Dimensions:** **Instrument Case (Including handle):** 9"W x 13"L x 9" H.
Front Panel: 9" H x 13" Wide.
- Weight:** 18 lbs.
- Shipping Weight:** 24 lbs (excluding pre-filter)

Options:

Higher Range Different Readout Units

C-14 Air/stack Monitors

Model	G = Gas A= Aerosol P=Particulate	Sensor	Media	Standard Low Bq/M ³	Range High Bq/M ³	Pre-filter Typical	Use with Chemical Vapors
PTG-9-C14	CO ₂ Gas	Dual Ion Chambers	1 Liter Air	3,700	3.7 x 10 ⁷	STD particulate or HEPA Filter	Not Approved
E-CARB-9	Organic (A, P)	2" Dia NaI Scintillator	Charcoal			None	Yes
	CO ₂ Gas	2" Dia GM Mica-window	Ascarite Soda-Lime	370	3.7 x 10 ⁶	Drier	
CAM-TCO	Organic (A)	2" GM	Charcoal	37	3.7 x 10 ⁵ or 3.7 x 10 ⁷	Particulate	Yes
CAM-TCI	CO ₂ Gas	Dual Ion Chambers	8 liter Air	370	3.7 x 10 ⁶ or 3.7 x 10 ⁸	Particulate HEPA Filter	Not Approved
8 liter Air	Organic (A, P)	Dual Ion Chambers	Charcoal	37	As Above	Particulate	Yes
	CO ₂ Gas	2" GM or Silicon	8 liter Air	370	As Above	Various	



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