

TRITIUM & C-14 STACK MONITOR

TRIATHALON SERIES

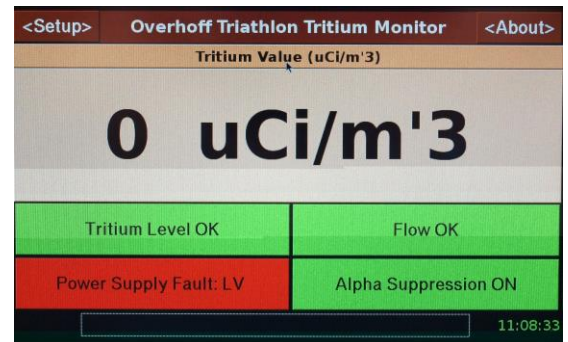
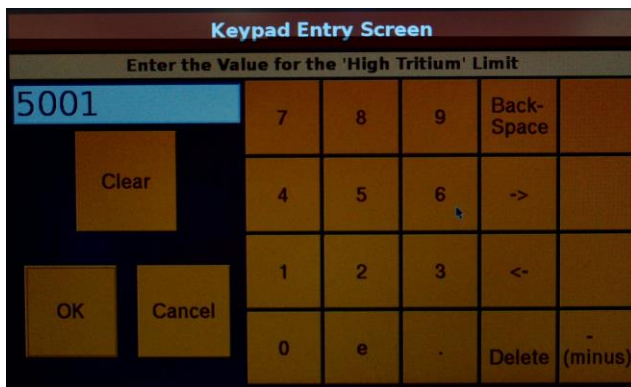
Triathalon CAM-TCI-H³ plus Inorganic C-14 (CO₂)

Triathalon CAM-TCO- H³ plus Organic C-14

Triathalon CAM-TC – Multi-Nuclide System

FEATURES:

- SENSITIVE TO:
 - H-3 10⁻⁷ µCi/cc
 - CO₂ 10⁻⁸ µCi/cc
 - Organic C-14 10⁻⁷ µCi/cc
- READS DIRECTLY IN µCi/cc or Bq/l
- INCLUDES ALARM
- DYNAMIC BACKGROUND COMPENSATION
- CAN ACTUATE REMOTE CONTROLS
- CAN OPERATE IN PRESENCE OF OTHER RADIOACTIVE GASES (See Chart)
- CLEANS GAS STREAM OF PARTICULATES AND IONS
- MICRO PROCESSOR OPERATION
- USB and ETHERNET PORTS
- DIGITAL ACCURACY
- DATA ARCHIVE & DATA RETRIEVAL



APPLICATION:

TRIATHALON MODEL CAM-TC Tritium & C14 Stack Monitors are sensitive, rugged stack or effluent monitors designed and built for **Nuclear Power Plants**.

Commercial versions are available for research labs, room air, glove boxes and other applicable uses.



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DESCRIPTION:

- The subtractive balanced chamber electrometer circuit and optional Radon Rejection decreases background effects to negligible levels.
- The deionized and filtered intake reduces to negligible levels spuriousness based on smokes, dusts, and existing ionization in the air.
- Inlet and outlet hoses provide return of monitored air to source: interiors of fume hoods and exhaust stacks, etc.
- All instruments are calibrated at the factory. Calibration check may be performed in the field with a license exempt μ Curie level Beta source

Airborne Activity	Model	CAM TCO (1)	CAM TCI (1)	CAM TC	CAM 33	CAM 33-4	CAM 33-6	321/421 NPPM (1)
	Chemical Form							
Tritium H3	T ₂ , HTO T ₂ O	YES	YES	YES			YES	YES
Carbon C-14: Inorganic Organic	CO ₂ Various	— YES	YES —	YES OP			OP YES	
Particulate	Alpha							
Particulate	Beta				YES	YES	YES	
Iodine				OP	YES	YES	YES	
Noble Gas: Gross/All Argon Xeon Radon				YES OP OP RX	YES	YES	YES OP OP RX- OP	CURIE-MeV OP OP RX

Number of Channels YES = Measures Separately

RX = Rejects

OP = Optional

NOTE: Models CAM-TCO & CAM-TCI work best if no other nuclides are present



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SPECIFICATIONS:

Measurement Ranges of Optional Detectors	From	4 Decade Model	6 Decade Model
Tritium	10 ⁻⁷	10 ⁻³	10 ⁻¹ uCi/cc
Inorganic C-14	10 ⁻⁸	10 ⁻⁴	10 ⁻² uCi/cc
Organic C-14	10 ⁻⁹	10 ⁻⁵	10 ⁻³ uCi/cc
Alpha particulate	5 x 10 ⁻⁸	10 ⁻⁴	uCi/cc

ELECTRONICS:

- Circuit:** Electrometer circuit amplifies net difference between a 30 liter Tritium internal chamber and a background chamber of similar size and configuration.
- Calibration:** Can be calibrated internally with Tritium (or HTO) and CO₂ gas, OR on a Gamma calibration course; OR can be checked at a single point with an external (not provided) Beta source. Organic Carbon Channel can be calibrated with C-14 disk source.
- Alarm:** High Level: Red flashing light plus warbling sound
System Fault Alarm: White steady light
- Remote Alarm:** 3 Relays provided for operators use
- Output:** USB Port is standard ethernet port is optional
Optional 0-5 volt or 4-20 mA.
- Data-logging:** USB Serial port or on board data logging optional
- Background:** Essentially eliminated by subtractive balanced chambers.
Optional - Radon Rejection
- Smoke, Dust & Ion Elimination:** Filter and deionizer reduce effects to negligible levels.

WEIGHT & DIMENSIONS:

- Dimensions:** 23"W x 66"H x 36"D
- Shipping Weight:** 635 lbs.

OPTIONAL:

Interconnection to / from port of other gas or particulate monitors

Alarm: Remote Alarm (audio & visual) (Model RDX-8) includes 25" of cable. Can be used to 500 feet. 4-20 mA for computer.



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