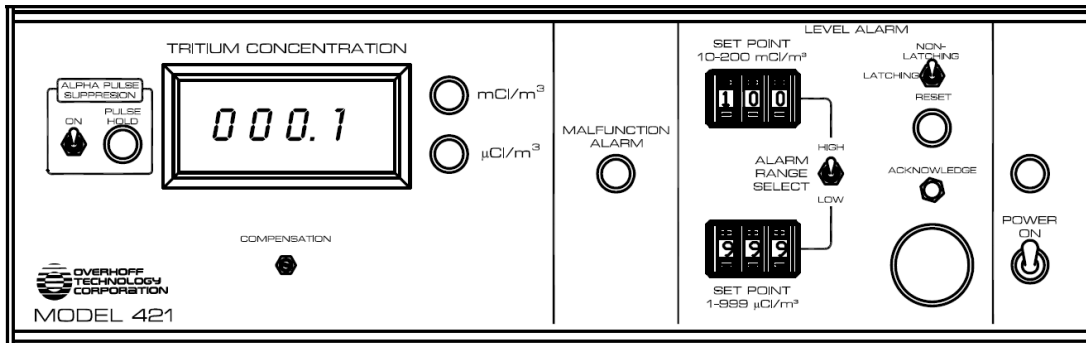




Model 421

Tritium in Air Monitor, Wide Range, Dual or Quad Chamber



MODEL 421

MODULAR TRITIUM IN AIR MONITOR WITH A WIDE RANGE AND DUAL OR QUAD IONIZATION CHAMBERS FOR GAMMA COMPENSATION

The **Model 421** features an extended measurement range of up to 6.5 decades and either dual 2L or quad 2L ionization chamber assemblies. Useful for measuring low levels of tritium and where gamma compensation is required. Quad 2L chamber assembly arranged in a cruciform geometry provides the best sensitivity, stability, and omnidirectional gamma compensation.

SELECT IONIZATION CHAMBER SIZE AND RANGE

The Model 421 typically supports two different chamber sizes and ranges:

1. Dual 2 Liter: 1 $\mu\text{Ci}/\text{m}^3$ to 199.99 mCi/m^3 or 0.01 to 1,999.9 MBq/m^3
2. Quad 2 Liter: 0.1 to 19,999 $\mu\text{Ci}/\text{m}^3$ or 0.01 to 1,999.9 MBq/m^3

SELECT DISPLAY TYPE

The Model 421 is available in two different display types:
SDD, Standard Digital Display (1-19,999 range)
PDD, Programmable Digital Display (1-99,999 range)

Alarm system includes: two adjustable tritium level alarms, audible and visual indicators, acknowledge (mute), latching or non-latching modes, and up to three alarm relays (two level relays and one malfunction relay)

Optional alarm indicators: low flow alarm and malfunction alarm (low voltage failure, high voltage failure, or electrometer failure).

Unless otherwise requested, the ionization chamber is remotely mounted (25 ft cable standard) from the 421 electronics. An external pump system can be added that consists of a pump, filter, and flowmeter assembly.

Applications:

- ◇ Room air
- ◇ Stacks, Hoods, or other effluents
- ◇ Process piping
- ◇ Glove boxes
- ◇ Wide Measurement Range
- ◇ Remotely Mounted Detector
- ◇ Modular customization of detectors, range, alarms, outputs, pump system

AVAILABLE OPTIONS:

- ◇ Pump, Filter, and Flowmeter Assembly
- ◇ Remote Alarm and Display Units
- ◇ RS232, USB, Ethernet Output
- ◇ Gold Plated Wire Grid Electrodes
- ◇ Logarithmic/4-20mA Output
- ◇ Helium Leak Test
- ◇ Tritium Gas Calibrator and Calibration Resistor
- ◇ Alpha Pulse Suppression
- ◇ HTO only, gas ports added for noble gas compensation

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TECHNICAL SPECIFICATIONS

RANGES

Available in the following ranges:

	Ci	Bq
Dual 2 Liter:	*1 $\mu\text{Ci}/\text{m}^3$ to 199.99 mCi/m^3	*0.1 to 1,999.9 MBq/m^3
Quad 2 Liter:	0.1 to 19,999 $\mu\text{Ci}/\text{m}^3$	0.01 to 1,999.9 MBq/m^3

*Can also be configured for extra sensitivity down to 0.1 to 19,999 $\mu\text{Ci}/\text{m}^3$ or 0.01 to 1,999.9 MBq/m^3

Note: Additional or wider ranges and configurations may be available.

DISPLAY

4 ½ digit panel meter (standard digital display)

ACCURACY

±10 % of reading

ALARM SYSTEM

-two independent level alarms, with adjustable set point via 3-digit thumb-switch
mode: three position toggle switch selector for latching or non-latching modes and reset
indicators: alarm condition activates a visual red LED flashing indicator, acoustic indicator, and failsafe relay closure
mute: acknowledge push button to silence acoustic indicator after alarm is tripped
 includes up to 3 alarm relays: two level alarm relays and one malfunction alarm relay
 OPTIONAL alarms include: low flow alarm and system failure alarm (high and low voltage failure, electrometer failure)

OFFSET COMPENSATION

compensation control provided to offset the effects of gamma and/or tritium buildup

ENVIRONMENTAL

storage: -40° C to +60° C
 operating: 0° C to +50° C
 0 to 95 % R.H. non-condensing

ENCLOSURE

5.25" H x 17" W x 13" D, 15 lbs.
 115-220VAC, 50/60 Hz

SELECT ADDITIONAL OPTIONS:

Pump, Filter, and Flowmeter Assembly (ordering code: PFA)

Externally mounted pump, filter, and flowmeter assembly.

USB, Ethernet, or RS-232 Data Output

4-20mA Output and Log Converter Board (ordering code: 4-20mA)

Remote Display Unit with digital display and audible alarm (ordering code: RDU)

Alpha Pulse Suppression (ordering code: APS)

Eliminates instrument response to unwanted radon.

Low Flow Alarm (ordering code: LFA)

System Failure Alarm Monitor (ordering code: SFM)

Detects and signals failure of low/high voltage power supplies and electrometer failure.

Gold Plated Chamber (ordering code: GP)

Reduces effects from tritium plate out contamination

Wire-Grid Electrode (ordering code: WG)



Wire-Grid Chamber Design, reduces tritium contamination by up to 1000x

Released 10/26/20