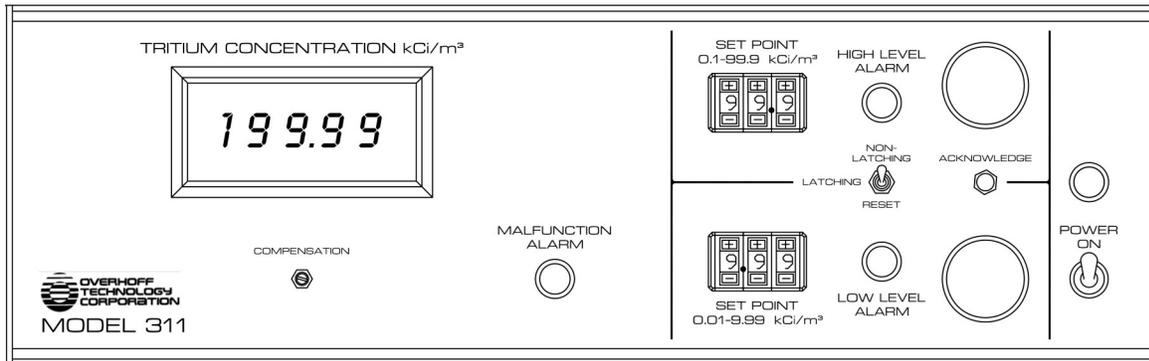




Model 311 Tritium in Air Monitor, Single Range, Single Chamber



MODULAR TRITIUM IN AIR MONITOR WITH A SINGLE RANGE AND SINGLE IONIZATION CHAMBER (NON-GAMMA COMPENSATED)

The **Model 311** features a single measurement range of up to 4.5 decades and a single ionization chamber. Useful for applications that don't require gamma compensation or for measuring higher concentrations of tritium, such as in process or glovebox applications.

Unique gold-plated, wire-grid ionization chambers are offered that are plate-out proof, reducing tritium/gamma contamination by up to 1,000x, which is essential when measuring high levels of tritium.

SELECT IONIZATION CHAMBER SIZE AND RANGE

The Model 311 can support three different chamber sizes, depending on your desired measurement range and sensitivity:

Typical Measurement Ranges:

- Single 2 Liter: 1 to 19,999 $\mu\text{Ci}/\text{m}^3$ or 0.1 to 1,999.9 MBq/m^3
- Single 200mL: 0.1 to 1,999.9 mCi/m^3 or 0.1 to 1,999.9 GBq/m^3
1 to 19,999 mCi/m^3 or 1 to 19,999 GBq/m^3
- Single 50mL: 0.001 to 19.999 Ci/m^3 or 1 to 19,999 GBq/m^3
0.01 to 199.99 Ci/m^3 or 0.001 to 19.999 TBq/m^3

DISPLAY TYPE

The Model 311 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).

Applications:

- ◇ Room air
- ◇ Non-Gamma Compensated
- ◇ Process piping
- ◇ Glove boxes
- ◇ High concentrations of tritium
- ◇ 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
- ◇ Detachable Electrometer
- ◇ Alpha Pulse Suppression

Unless otherwise requested, the ionization chamber is remotely mounted (25 ft cable standard) from the 311 electronics. An external pump system can be added that consists of a pump, filter, and flowmeter assembly.

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TECHNICAL SPECIFICATIONS

| | | |
|----------------------------|--|--|
| RANGES | <u>Available in the following typical ranges:</u> | |
| | Ci | Bq |
| | 2 Liter: 1 to 19,999 $\mu\text{Ci}/\text{m}^3$ | 0.1 to 1,999.9 MBq/m^3 |
| | 200mL: 0.1 to 1,999.9 mCi/m^3 1 to 19,999 mCi/m^3 | 0.1 to 1,999.9 GBq/m^3 1 to 19,999 GBq/m^3 |
| | 50mL: 0.001 to 19.999 Ci/m^3 0.01 to 199.99 Ci/m^3 | 1 to 19,999 GBq/m^3 0.001 to 19.999 TBq/m^3 |
| DISPLAY | 4 ½ digit panel meter (standard digital display) | |
| ACCURACY | ±10 % of reading | |
| ALARM SYSTEM | <p>-two independent level alarms, with adjustable set point via 3-digit thumb-switch <i>mode:</i> three position toggle switch selector for latching or non-latching modes and reset <i>indicators:</i> alarm condition activates a visual red LED flashing indicator, acoustic indicator, and failsafe relay closure <i>mute:</i> acknowledge push button to silence acoustic indicator after alarm is tripped</p> <p>includes up to 3 alarm relays: two level alarm relays and one malfunction alarm relay</p> <p>OPTIONAL alarms include: low flow alarm and system failure alarm (high and low voltage failure, electrometer failure)</p> | |
| OFFSET COMPENSATION | compensation control provided to offset the effects of gamma and/or tritium buildup | |
| ENVIRONMENTAL | <p>storage: -40° C to +60° C operating: 0° C to +50° C 0 to 95 % R.H. non-condensing</p> | |
| 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)

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)

Special wire-grid chamber reduces tritium plate out contamination by up to 1000x

Detachable Electrometer (ordering code: ELEC)

Helium Leak Testing (ordering code: HLT)



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

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