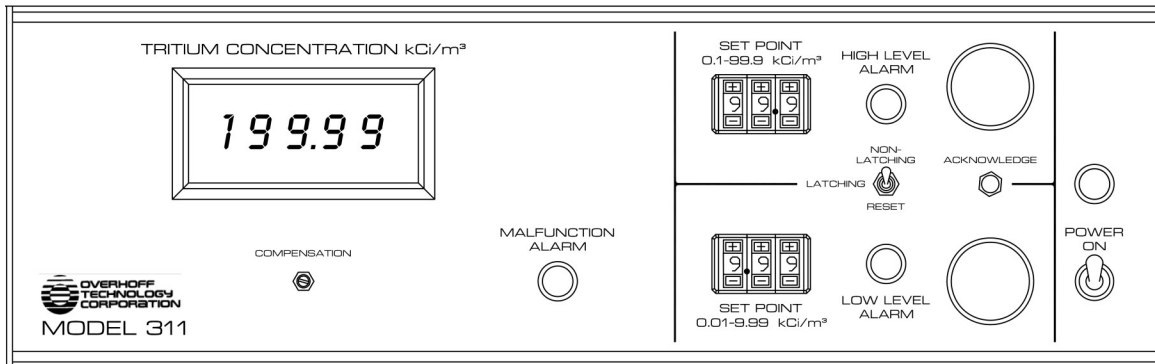




# Model 311 Tritium in Air Monitor, Single Range, Single Chamber



## MODEL 311

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

### 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.

Overhoff Technology Corporation

1160 U.S. Highway 50, Milford, Ohio, 45150-9705 USA

Telephone: 513 248 2400 Fax: 513 248 2402

Email: sales@overhoff.com www.overhoff.com

### TECHNICAL SPECIFICATIONS

<b>RANGES</b>	<u>Available in the following typical ranges:</u>	
	<b>Ci</b>	<b>Bq</b>
	<b>2 Liter:</b> 1 to 19,999 $\mu\text{Ci}/\text{m}^3$	0.1 to 1,999.9 $\text{MBq}/\text{m}^3$
	<b>200mL:</b> 0.1 to 1,999.9 $\text{mCi}/\text{m}^3$ 1 to 19,999 $\text{mCi}/\text{m}^3$	0.1 to 1,999.9 $\text{GBq}/\text{m}^3$ 1 to 19,999 $\text{GBq}/\text{m}^3$
	<b>50mL:</b> 0.001 to 19.999 $\text{Ci}/\text{m}^3$ 0.01 to 199.99 $\text{Ci}/\text{m}^3$	1 to 19,999 $\text{GBq}/\text{m}^3$ 0.001 to 19.999 $\text{TBq}/\text{m}^3$
<b>DISPLAY</b>	4 ½ digit panel meter (standard digital display)	
<b>ACCURACY</b>	±10 % of reading	
<b>ALARM SYSTEM</b>	<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>	
<b>OFFSET COMPENSATION</b>	compensation control provided to offset the effects of gamma and/or tritium buildup	
<b>ENVIRONMENTAL</b>	<p>storage: -40° C to +60° C          operating: 0° C to +50° C          0 to 95 % R.H. non-condensing</p>	
<b>ENCLOSURE</b>	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

Released 10/26/20