

# Specification- 611C-27N2.7M High Sensitivity Tritium in Air Monitor

## Performance:

- Counting gas: no need
- Sensitivity: 27nci/m<sup>3</sup>
- Accuracy: 50nci/m<sup>3</sup> from 27nCi/ m<sup>3</sup> to 10000nCi/m<sup>3</sup> (10μCi/m<sup>3</sup>)  
< 3% from 10μCi/m<sup>3</sup> to 2.7mCi/m<sup>3</sup>
- Measuring range: 27nci/m<sup>3</sup> to 2.7mCi/m<sup>3</sup>
- Compensation range: Whole measuring range, 27nci/m<sup>3</sup> to 2.7mCi/m<sup>3</sup>
- Flow Rate: 0 to 25L/min, without tubing
- Response time: < 90S from 0 to 10μCi/m<sup>3</sup> and < 30S for 10μCi/m<sup>3</sup> above
- Gamma measurement: 0.1mR/Hour to 10R/Hour
- Zero Stability: Better than 0.1μci/m<sup>3</sup> from 0 to 40 °C
- Stability with long term: <±3% per 24 hrs and <±10% per 30 days
- Gamma compensation: <10μci/m<sup>3</sup> at 10mR; <10% within 20mR/HR
- Tritium Discrimination: Elemental tritium in air, HTO & T<sub>2</sub>O discrimination via Silicon Gel Dryer and software computation
- Noble Gas Cancellation: Full Measuring range, Passive Silica gel drier placed on the front panel, flowing air samples between measuring chambers and compensation chambers
- Radon Compensation: Software discrimination and elimination
- Background Cancellation: Noble gas compensation ratio: > 150:1. Gamma compensation: <10μci/m<sup>3</sup> within 10mR/Hr, <10% within 20mR/HR

## Construction:

- Ion Chambers: 4 ion chambers, 2 for measuring and 2 for compensation, 2.5L for each chamber
- Ion Chamber Volume: 5L: measuring, 5L: compensation

- Ion Trap: Yes, built-in for each chamber
- Gas Ports: 3/8" OD stainless steel push to connect
- Gas Filter: Built in, replaceable
- Ion Chamber Purging: Yes, via cartridge heater for ion chamber decontamination and condensation prevention
- Control Panel Display: 7 Inch TFT LCD touch screen for numerical and graphical mode  
LED for digital data and rate bar graph
- Digits LED Display: 0.56" LED display both for tritium and Gamma

### Output and communication:

- Communication: RS232, RS485, Ethernet TCP Modbus
- Analog Output: 4-20mA (default) and 0.5-2.5Vdc
- Audio and Visual Alarm: Low and high alarm within 30 seconds
- Data Logging: Yes, frequency varies from 1s to 1hr, user settable

### Power, operational conditions and dimension:

- Power Supply: 220V/120V @ 50/60HZ
- Power Consumption: < 2A
- Warm-up time: 2 minutes
- Operational Humidity: 95%RH
- Operational Temperature: 0 to 50 °C
- Dimension: 19" rack cabinet
- Weight: 75Kg