

***femto*-TECH HAND-HELD TRITIUM MONITOR**

MODEL PTM-1812

The *femto*-TECH, INC. Model PTM-1812 Hand-Held Tritium Monitor is a precision airborne beta radiation detection instrument that serves as two instruments in one. The user can select between a perforated ion chamber shell for passive sampling or a solid ion chamber shell for active sampling. Both ion chamber shells are supplied with the instrument and are easily exchangeable in the field. In the passive configuration, the PTM-1812 serves as a continuous real-time area monitor. In the active configuration, it uses an internal pump to pull samples from tritium containers, glove boxes, etc.

SPECIFICATIONS

The instrument shell is constructed of rugged steel, the ion chamber components are constructed of 304 stainless steel and a Torlon insulator.

Radiation	HT and HTO beta (5.7kev), gamma, alpha
Detector	Air Ionization Finned Electrode Probe (in solid or perforated chamber)
Dimensions	4.2"W x 4.0"H x 12.0"L (10.7cm x 10.2cm x30.5cm)
Weight	7½ lbs. (3.4 kg)
Chamber Volume	180cc (sensing), 375cc (total)
Dynamic Range	0 to 20,000 $\mu\text{Ci}/\text{m}^3$ in one continuous linear range
Sensitivity	0 to 20,000 $\mu\text{Ci}/\text{m}^3$ in one continuous linear range
Accuracy	± 10 % of reading (in air at 760 torr and 20°C) Note: Concentration measurement is a function of temperature through the PVT gas law.
Power	12 VDC rechargeable batteries will operate continuously for 7 days in the passive mode with the pump off. The pump battery will operate continuously for up to 2 days. Instrument can be operated while connected to charger (included with instrument).

CONTROL PANEL FEATURES

Display	4 ½ digit LCD with 0.4" high digits (1 cm)
Alarm	Audible and visual, adjustable over entire range and read on display. Silenced from control panel rocker switch.
Alarm Set	10 turn potentiometer that permits the alarm level to be adjusted on the digital panel meter while the alarm read switch is depressed.
Zero	Rocker switch which activates the electrometer zero by bypassing the high meg resistor.
Zero Adjust	10 turn potentiometer that adjusts the setting of the electronic zero on the digital panel meter while the zero switch is depressed.
Instrument Test	Rocker switch to activate current injection which tests all electronics and indicates proper operation on display.
Battery Test	Rocker switch to test Electrometer (A) or pump (B) battery.
Power	Main power switch enables both batteries for operation.
Pump	Rocker switch enables built in pump for grab sample testing.