



FR-PIB

FR-P11  
FR-P11-PB



PRS-7  
Electronics

FR-P11 & P11-Pb  
PRS-7 Electronics



# Portable Iodine Monitor

**Model – FR-PIB – Total Airborne Activity**

**Model – FR-P11 and FR-P11-Pb**

## Application

The **FR-P** Series Air Monitor assures Safety against airborne radioactivity contamination by means of constant check and optional record capability. It provides integrated exposure information.

The **FR-P** Series Series is sensitive and versatile. Although designed as an industrial workplace and hospital breathing air measurement system. It may be used to monitor fume hoods and stack effluent down to EPA levels with optional inlet hose feature.

## Description

- The **FR-P** Series uses standard charcoal filters in TA's unique quick change, no leak holders to trap any airborne radio-iodine.
- The filter is under constant surveillance via a GM 2" (**FR-PIB**) or scintillation (**FR-P11**) detector.
- Air is drawn by a high volume pump through a flow meter and exhausted through a short three-foot hose.
- An Inlet and outlet hose may be attached to allow monitoring of hoods, glove boxes, stacks, etc.
- Time is controlled by a timer wired into the pump circuit.
- This 2-piece unit is completely portable.
- Complete with 10 filters.
- **Optional:** An Inlet hose may be attached to allow monitoring of hoods, glove boxes, stacks, etc.

## Features

- Detects 5 x 10<sup>-11</sup> µCi/cc in 30 Minutes
- Built-In Timer
- Line Operated
- User Settable Timer
- Integrated Exposure
- Draw Air From Room
- Quick Change Filter
- Lam-10-D Electronics (PIB)
- PRS-7 Electronics (P11 and P11-PB)
- **Optional:** Draw Air From Hood, Glove Boxes, Stack, etc. with Inlet Hose
- RS-232
- **Optional:** USB



## TECHNICAL ASSOCIATES OVERHOFF TECHNOLOGY

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DIVISIONS OF



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OTCQB-UCLC

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## Specifications

**Electronics – LAM-10-D (PIB):**

<b>Digital Display:</b>	Length = 6 digit rate, 8 digit integrate Other meter scale markings are available.
<b>Display Modes:</b>	Rate, Integrate.
<b>Engineering Units:</b>	User Settable: input correct conversion factor, change units.
<b>Front Panel Controls:</b>	On-Off, Alarm-mute, Rate, Integrate, Reset.
<b>Recessed or Internal:</b>	Discriminator level, high voltage, alarm set.
<b>Other Adjustable Settings:</b>	See calibration.
<b>Input Sensitivity:</b>	Adjustable from less than 1 millivolt to 100 millivolt
<b>Anti-Saturation &amp; Dead-time Corrections:</b>	Differentiation circuit provides highly effective compensation for coincidence loss. This allows all five decades to accurately read with scintillation detectors.
<b>Calibration:</b>	User settable calibration factor
<b>User Settable Alarm:</b>	2000 Hz audio tone with audio “mute” switch + RED LIGHT, high current relay. <b>Optional:</b> 3 lights – Red, Yellow, Green
<b>Computer Interface:</b>	Two-way RS-232 standard, <b>Optional:</b> RS-485
<b>Ethernet Pulse Output:</b>	Internal 1 volt positive. <b>Optional:</b> Other outputs and interfaces.
<b>Batteries:</b>	5 amp-Hour Battery Pack with built-in charger.
<b>Battery Life:</b>	100 Hours in Non-Alarm Status 18 Hours in Alarm Status
<b>Power:</b>	115-125 volts, 50-60 Hz (220 V <b>optional</b> )
<b>Environmental:</b>	10° C to 60° C, RH: 50% - 95%
<b>Construction:</b>	NEMA-4X polycarbonate gasketed case: rugged and splash-proof with handle.
<b>Dimensions:</b>	10" W x 7" H x 4" D
<b>Weight:</b>	3 lbs. (1.4kg) including batteries and hardware.
<b>Optional:</b>	USB



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# Portable Iodine Monitor

## Model – FR-PIB – Total Airborne Activity

## Model – FR-P11 and FR-P11-Pb

### Detector and Pump System

Detector (PIB):	2" dia. Internal thin window pancake GM tube - T-1190
Detector (P11 & P11-Pb)	Nal Scintillator
Air Pump:	High Flow Pump and Filter holder.
Air Flow Rate:	227 liters/min
Accuracy:	±10% for all 3 models
Shielding:	Detector 1/8" lead shielding. (FR-P11-Pb) Only
Filters:	10 pack charcoal filter papers (FR-PIB) 10 pack silver activated charcoal filter cartridges (FR-P11 & FR-P11-Pb).
Alternative Filter Media:	Membrane, paper, or glass fiber filters for particulates only. (PIB ONLY)
System Power:	115 V 50-60 Hz 2A (Optional: 230 V 50-60 Hz).

### Weight and Dimensions:

Pump Assembly:	12" W x 20" H x 14" D (30.4 cm W x 50.8 cm x H x 15.2 cm).
Detector Assembly:	5" W x 10" H x 6" D. (12.7 cm W x 28.4 cm x H x 15.2 cm).
Weight:	See Chart

### Optional:

Computer Interface:	USB
Inlet Hose Feature	

#### Easy Procedure for Use:

Flow-rate and air sample time have been factory preset (USER SETTABLE).

1. Turn on electronics.
2. Put in clean filter.
3. Make Test Count (Pump is Off).
4. Turn on Pump and start counter.
5. Come back in 30 minutes or other time frames. (Pump has automatic timer SHUT-OFF)
6. Digital display reads out the airborne I-131 deposited on the filter

#### NOTE:

- A. Filter must be clean at start of each new air sample.
- B. User can change sample time but must enter new scale factor.
- C. User can change readout units.
- D. For use as a Beta – Gamma Particulate sampler use alternative filter material. (PIB ONLY)



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Model – FR-P11 and FR-P11-Pb

Model:	FR-PIB Collection Unit	FR-P11 Collection Unit	FR-P11-PB Collection Unit
<b>Portability</b>	Portable	Portable	Portable
<b>DETECTOR</b>	T-1190 GM Tube	PGS-3L	PGS-3
<b>Size/Material</b>	2" dia. Pancake	1" x 0.8" NaI(Tl)	1" x 1" NaI(Tl)
<b>Detector Window</b>	Mica 1.5 - 2.0 mg/cm <sup>2</sup>	Aluminum 5mil	Aluminum 10-20mil
<b>Detects</b>	Beta, Gamma Removal of Alpha Shield allows detection of Radon Alphas.	Low + Middle Gamma.	Gamma
<b>Iodine</b>	I-131	I-125, I-129, I-131	I-131
<b>Detects Particulates</b>	Yes	Optional with alternate filter media.	Optional with alternate filter media.
<b>Detects Aerosol &amp; Reactive Gases</b>	Yes	Yes	Yes
<b>Filter</b>	Charcoal Filter Paper 2" dia. (Standard)	Charcoal Cartridge 2.5"dia.	Charcoal Cartridge 2.5" dia.
<b>Iodine Sensitivity: (30 min)</b>	$5 \times 10^{-11}$ $\mu$ Ci/cc	$1 \times 10^{-10}$ $\mu$ Ci/cc	$5 \times 10^{-12}$ $\mu$ Ci/cc
<b>Public Release: (<math>1 \times 10^{-10}</math> <math>\mu</math>Ci/cc)</b>	1/2 x Public Release	Public Release	1/20 x Public Release
<b>WEIGHTS:</b>			
Electronics	5 lbs with Batteries	5 lbs with Batteries	5 lbs with Batteries
Detector + Filter	2 lbs (0.9kg)	4 lbs (1.8 kg)	15 lbs(6.8 kg)
Pump	20 lbs (9 kg)	30 lbs (13.6 kg)	30 lbs (13.6 kg)
<b>Shielding</b>	None	None	1/8" lead – Pb (0.3 kg)
<b>Electronics</b>	LAM-10-D	PRS-7	PRS-7



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