

PACKAGE RADIATION MONITORING SYSTEM

PIM-23 SERIES

MODELS ~ PIM-23A & PIM-23B

FEATURES:

- AUTOMATIC DETECTOR SYSTEM FOR PACKAGE CONVEYOR
- **PIM-23A** ~ DUAL BELT - CAPTURES DATA & AUTOMATICALLY SORTS & SEPARATES ITEMS ONTO "CLEAN" & RADIOACTIVE/CONTAMINATED BELTS OR CHUTES
- **PIM-23B** ~ SINGLE BELT - CAPTURES DATA OF "CLEAN" & RADIOACTIVE/CONTAMINATED"
- RADIATION TRIGGER POINT IS CONTINUOUSLY ADJUSTABLE
- MANUAL OVERRIDE
- FIVE ENERGY WINDOWS (REGIONS OF INTEREST)
- REAL-TIME DATA ARCHIVE & RETRIEVAL
- 7 μ R/HR ABOVE BACKGROUND IN 1 SECOND



APPLICATION:

Anywhere radioactive contamination is a risk: shipping facilities, laundry, trash, scrap yards etc.

DESCRIPTION:

- The PIM-23 Series monitors packages while they are traveling on a conveyor belt.
- Model PIM-23 Series Package Radiation Monitors are a sturdy, dependable, long life mechanical system with advanced electronics.
- PIM-23A is a dual conveyor belt system.
- PIM-23B is a single conveyor belt system.
- The detector is a 3" x 3" NaI Scintillator (Optional: 5" or 7" diameter) has its own electronics to give the greatest sensitivity.
- Numerical measurement results are saved to the 60 Gig hard drive and are easily accessible for all packages: clean and radioactive.
- Color LCD computer monitor shows measurement values from all 5 Energy Isotopes.
- Indicating lights show status as "CLEAN" or "RADIOACTIVE".
- The date, time and results of all data that day, that week and that year are available for display, printout and safe storage.
- **Accessories:** One set of calibration sources is supplied with **the** PIM-23 Series Package Monitors. This consists of one each Ba-133, Cs-137, Co-60 calibration source standards. Each Source comes with NIST Traceable calibration certificate, test data, and Calibration Factors.



TECHNICAL ASSOCIATES

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SPECIFICATIONS:

Conveyor PIM-23A:	Dual conveyor belt - Packages pass beside the detector display shows status as "CLEAN" or "RADIOACTIVE/CONTAMINATED". Packages are physically sorted onto "CLEAN" or RADIOACTIVE/CONTAMINATED" belts or chutes
Conveyor PIM-23B:	Single conveyor belt - Packages pass beside the detector and display shows status as "CLEAN" or "RADIOACTIVE/CONTAMINATED".
Conveyor System PIM-23A:	2 each conveyors. Belt #1 is 6 ft. long, (typical) belt carries packages beside detector. Belt #2 is 4 ft. long, (typical). Reversible direction conveyor. Drops CLEAN packages to one side. Drops off RADIOACTIVE/CONTAMINATED packages on the other side. Optional: Additional conveyors to carry away "CLEAN" & "RADIOACTIVE" Packages
Conveyor Width PIM-23A & PIM-23B:	24"
Detector:	Spectroscopic Grade 3" x 3" NaI Scintillation Detector. (Optional: 5" or 7" diameter) The Scintillation Detector has its' own PM tube. PMT base (dynode string circuit) Independent Modular high voltage and pre-amp discriminator. This provides improved sensitivity and easier maintenance if a PM tube is replaced.
Ultimate Sensitivity:	7 R/hr above background in 1 second.
Background:	Automatically subtracted.
Shielding:	2 cm lead. Lead shield is modular and easy to assemble (no piece over 65 lbs.)
ELECTRONICS:	
Alarms:	Alarm threshold is continuously adjustable for each energy channel/ROI. High level alarm is user settable. Alarms are audio and visual plus screen display.
Operation:	Selectable: Continuous Mode, Calibration Mode
Computer System:	1 Terabyte. Color display. Color LCD screen monitor on a movable arm for improved ergonomics.
Data Download:	Real-Time Data Archive and Retrieval. Ethernet (Optional: Wireless cell phone, email). Print in tabular or graphical records of current day, week, month or year.
Environmental Conditions:	45°F to 100°F, (8° to 38°C) 10% to 95% relative humidity, non-condensing
Power Supply:	100 - 120 V AC or 220 V 50/60 Hz with UPS
Battery Backup:	Uninterruptable "UPS" battery backup is supplied
Energy Window:	Continuously adjustable for each energy window.



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Data Analysis:

First individual channels and then combined channels.

- Noise rejection.
- Background subtraction.
- Energy Analysis Calibration and units conversion.
- Statistical significance check.
- Alarm point trip level

Electronic Functions:

Photo multiplier tube and base, Detector HV bias.

Amplifier with 5 adjustable Energy Windows (Regions of Interest).

Data sent to and acquired by PC.

Data analysis.

Alarm trigger.

Conveyor Control

Conveyor Status Indicators

Data storage and Print Out

System Power, UPS Battery Back Up

.

Options:

Additional Conveyor or Conveyor Extensions

Outlet Annunciator Panel.

Spare detector plus other spare parts.

Inlet Annunciator Panel.

Calibration Jig.

Wider Temperature Range.

5" or 7" diameter NaI Scintillation Detector.

Additional Regions of Interest Energy Channels.



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