

STRAP-ON PIPE RADIATION MONITOR

Model ~ PEMO-7LE

FEATURES:

- GAMMA DETECTION IN WATER PIPES
- PORTABLE
- QUICK INSTALLATION WITH ADJUSTABLE STRAPS
- INSTALLS ANYTIME ANYWHERE
- NO PENETRATION, NO DOWNTIME
- SENSITIVITY INDEPENDENT OF FLOW RATE
- BATTERY OPERATED
- READ OUT mR/hr or cps
- REAL TIME ALARM
- RATE and INTEGRATED EXPOSURE
- LOCAL READ-OUT
- **OPTIONAL:** USB PORT
- WORKS WELL WITH STANDARD SCADA DATA SYSTEMS



APPLICATION:

The **PEMO-7LE** is a sensitive and versatile version of the broadly used, TBM-emergency response radiation detector for Water monitoring. It may be used to monitor water in pipes or effluent streams.

DESCRIPTION:

The **PEMO-7LE** Pipe Monitor assures accurate detection and quick alarm in case of waterborne radioactivity contamination flowing thru one or more pipes.

A constant check with alarm and data record on optionally included computer.

It provides integrated exposure information and can provide hard copy via external printer.

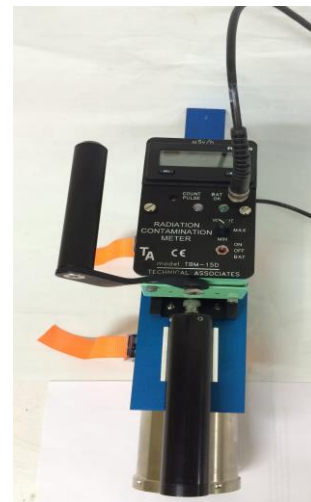
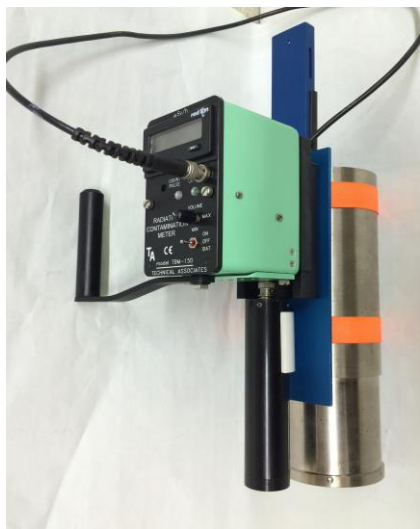
It is a complete system but may be expanded per need.

The **PEMO-7LE** uses a standard NaI(Tl) Detector in T/A's unique Strap-On Style probe to continuously measure any Gamma emitting Radioactive water or other liquids.

- The water stream is under constant surveillance via a scintillation detector.
- The unit is completely self-contained.

Optional:

- Data archive & retrieval.
- Software package for integration into facility computer & to link multiple detectors.



PEMO-7LE INSTALLED ON PIPE WITH ADJUSTABLE STRAPS



TECHNICAL ASSOCIATES
OVERHOFF TECHNOLOGY

7051 Eton Ave., Canoga Park, CA 91303
818-883-7043 (Phone) 818-883-6103 (Fax)

tagold@nwc.net

WWW.TECH-ASSOCIATES.COM

Divisions of  US NUCLEAR CORP

STRAP-ON PIPE RADIATION MONITOR

Model ~ PEMO-7LE

SPECIFICATIONS:

Sensitivity:

- With 1" x 1" crystal, without the optional shielding: detects 80µR/hr above background in 3 sec at 99% confidence level.
- Sensitivity and response time depend on user's requirements and physical circumstances such as pipe diameter, wall thickness and ambient background radiation level and energy (KeV) of major nuclides of interest.
- **For Example:** A system with 3" x 3" NaI detector and 2" of lead shielding has a limit of sensitivity better than 1×10^{-7} µCi/cc of Co-60 in 18" diameter pipe with 0.02mR/h background in one hour measurement.

DETECTOR: Model PGS-3 - 1" x 1" NaI (TI) crystal scintillation detector probe, sensitive to all Gamma above 100 KeV depending on wall thickness of the pipe.

Mount Plate: Blue Aluminum

Mount Strap: Orange Adjustable Strapping

ELECTRONICS - Model TBM-3D Programmable Scaler with RS-232 /485.

Alarm: Settable: 2000 Hz beeper, red LED.

Response Time: Settable 0.1 to 100 seconds.

Readout: 6 digit LCD for each detector showing: rate and total.

Power: 6 AA cells. **OPTIONAL** AC adapter
110 VAC to 240 VAC Input 9V DC Output, 0.6 amps

Flow Rate: Measurement is independent of flowrate.

Case: Sturdy, gasket lined aluminum case.

Cable: 36" BNC to BNC Cable

BNC Adapter: Right Angle

Serial Cable: 16 feet Rj-11 to DB-9 (F)

OPTIONAL: **USB** Adapter Model TU-S9

WEIGHT & DIMENSIONS

Dimensions Electronics: 3"W x 4"H x 5.3"

Dimensions Detector: 1.5" dia x 8" long.

Detector Assembly Weight: 4 lbs for unshielded system.

Shipping Weight: 8 lbs. (1 detector system)

OPTIONAL:

Smart Switch: B+B Electronics 4 Port 232-MSS2

On-site: Onsite set-up with users SCADA System

PGS-3L *: 2" x 2" Na(Tl) Crystal probe

Shielding: 0.25" to 3" low- activity-lead around detector.

Power: AC adapter

Data: Data Archive & Retrieval

*** Call factory for more options**



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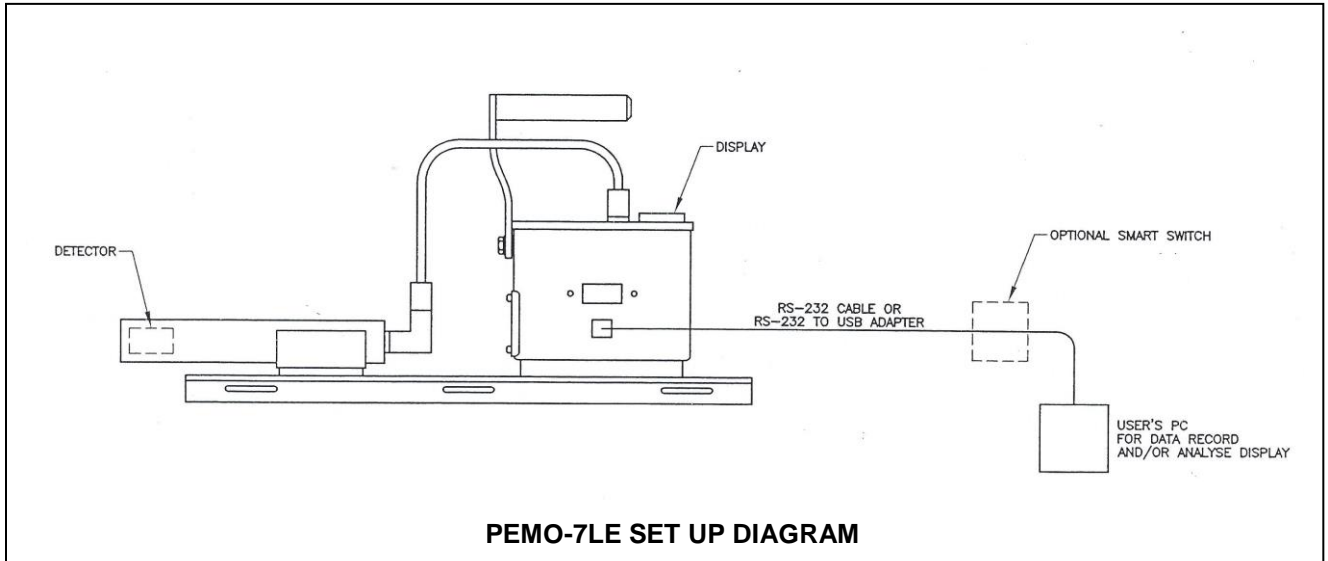
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PEMO-7LE SET UP DIAGRAM

OPTIONAL SOFTWARE SCREEN SHOTS

Technical Associates Pemo7

Instrument is Offline

Measurable Name	EUs	Units	Counts Per Second	EUs (2 min Average)	EUs (30 min Average)	EUs (8 hr Average)	EUs (24 hr Average)	Limit Level	Loss Of Signal
Pipe 0 Counts	1.45e+007	counts		1.44e+007	1.44e+007	1.35e+007	3.80e+007	6	<input type="checkbox"/>
Pipe 0 Count Rate	815	cps		817	817	817	430	6	<input type="checkbox"/>
Pipe 0 Dose Rate	815	mR/h		817	817	817	430	6	<input type="checkbox"/>
Pipe 0 Dose	1.45e+007	mR		1.44e+007	1.44e+007	1.35e+007	3.80e+007	6	<input type="checkbox"/>
Pipe 1 Counts		counts		0	0	0	0	0	<input type="checkbox"/>
Pipe 1 Count Rate		cps		0	0	0	0	0	<input type="checkbox"/>
Pipe 1 Dose Rate		mR/h		0	0	0	0	0	<input type="checkbox"/>
Pipe 1 Dose		mR		0	0	0	0	0	<input type="checkbox"/>
Pipe 2 Counts		counts		0	0	0	0	0	<input type="checkbox"/>
Pipe 2 Count Rate		cps		0	0	0	0	0	<input type="checkbox"/>
Pipe 2 Dose Rate		mR/h		0	0	0	0	0	<input type="checkbox"/>
Pipe 2 Dose		mR		0	0	0	0	0	<input type="checkbox"/>
Pipe 3 Counts		counts		0	0	0	0	0	<input type="checkbox"/>
Pipe 3 Count Rate		cps		0	0	0	0	0	<input type="checkbox"/>
Pipe 3 Dose Rate		mR/h		0	0	0	0	0	<input type="checkbox"/>
Pipe 3 Dose		mR		0	0	0	0	0	<input type="checkbox"/>

Below MDA Range 1 Range 2 Range 3 Range 4 Range 5 Range 6 Not Checked

Low Limit High1 Limit High2 Limit High3 Limit High4 Limit

Data Run was started at 9/22/2015 4:51:05 PM Next Database Update: 1+4 Error: [click here](#)

Technical Associates Pemo7

Instrument is Offline

Below MDA Range 1 Range 2 Range 3 Range 4 Range 5 Range 6 Not Checked

Low Limit High1 Limit High2 Limit High3 Limit High4 Limit

Data Run was started at 9/22/2015 4:51:05 PM Next Database Update: 1:21 Error: [click here](#)

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Instrument is Offline

Location:	Pipe 0	Pipe 1	Pipe 2	Pipe 3
Status:	OK	Offline	Offline	Offline
Total Counts:	1.45e+007	...	...	...
Counts Per Second:	611	...	...	...
Dose Rate:	611 mR/h	...	...	...
Dose:	1.45e+007 mR	...	...	...
Instrument Index:	0	1	2	3

Below MDA Range 1 Range 2 Range 3 Range 4 Range 5 Range 6 Not Checked

Low Limit High1 Limit High2 Limit High3 Limit High4 Limit

Data Run was started at 9/22/2015 4:51:05 PM Next Database Update: 1:25 Error: [click here](#)



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