

PERSONNEL, VEHICLE, WASTE/TRASH RADIATION AND CHEMICAL PORTAL MONITOR PORTABLE or FIXED,

Model Series ~ PPVM SERIES

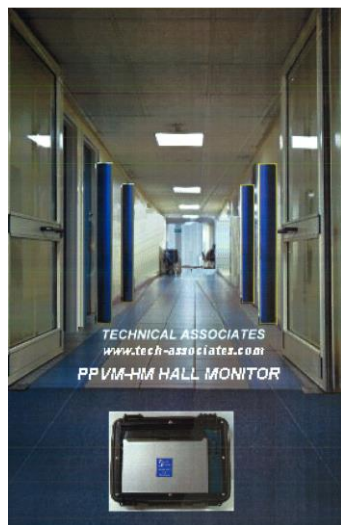
PPVM-TA ~ PPVM-TA-P ~ PPVM-TA-1 ~ PPVM-TA-3 ~ PPVM-TA-5ES

FEATURES:

- DETECTS 1 μCi of Cs-137 OR LOWER
- DETECTS AT 7 $\mu\text{R/hr}$ CHANGE IN 1 SECOND (PPVM-TA Series) – USER SETTABLE
- DETECTORS: PORTABLE OR INSTALLED WALL OR DOORWAY
- CAN BE SET TO ANY WIDTH; QUICK SET UP
- DETECTS GAMMA **OPTIONAL**: ALPHA, BETA & NEUTRON RADIATION
- HIGH SENSITIVITY DUE TO LARGE SURFACE AREA (500 in²) OF PLASTIC SCINTILLATION PANELS
- (2) PLASTIC SCINTILLATION PANELS – ONE 500 in² IN EACH TOWER (PPVM-TA-P)
- (2) PLASTIC SCINTILLATION PANELS – ONE 500 in² IN EACH TOWER (PPVM-TA)
- (3) PLASTIC SCINTILLATION PANELS – THREE 500 in² IN EACH TOWER (PPVM-TA-3)
- (5) PLASTIC SCINTILLATION PANELS – FIVE 500 in² IN EACH TOWER (PPVM-TA-5ES)
- (1) PLASTIC SCINTILLATION PANEL ONE 500 in² IN ONE TOWER (PPVM-TA-1)
- IP64

- OVERHEAD DETECTOR ON PROVIDED ON **PPVM-TA-3 AND PPVM-TA-5ES**
- DATA DISPLAY – LOCAL AND/OR REMOTE
- VIDEO CAPTURE – REAL-TIME CAPTURE & DISPLAY UPON ALARM
- POWER: RECHARGEABLE BATTERIES or AC
- DYNAMIC BACKGROUND SUBTRACT
- CONTINUOUS OPERATION: “SET & FORGET”
- COMPLETELY WEATHER PROOF
- DATA ARCHIVE / RETRIEVAL VIA USB, ETHERNET; RS232
- **OPTIONAL**: LICENSE PLATE CAPTURE
- **OPTIONAL**: WIRELESS REMOTE NOTIFICATION PHONE, EMAIL, TEXT, ETC.
- **OPTIONAL**: UNDERFOOT DETECTORS
- **OPTIONAL**: CHEMICAL DETECTORS

Designed to Meet
FEMA & NRC Needs for
Large Scale Evacuation
of Contaminated Area or
Screening.



PPVM-TA SERIES
HALLWAY INSTALLATION



PPVM-TA SERIES
TYPICAL PPVM-TA-3 WITH (3)
DETECTORS IN EACH TOWER
PORTAL MONITOR.

THIS PICTURE DOES NOT
REPRESENT THE
PPVM-TA-5ES WITH (5)
DETECTORS IN EACH TOWER



TECHNICAL ASSOCIATES

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APPLICATION:

PORTABLE PPVM-TA

Use for pedestrian walkways indoors and outdoors, trash and waste sites, and scrap metal facilities and vehicle traffic points of entry. Anywhere radioactive material may be present.



DESCRIPTION:

The **PPVM-TA Series** are re-positional monitors with two towers. Detectors contain highly sensitive scintillation PANELS and are portable as stand-alone or installed on each side of hallway or doorway AT ANY WIDTH and may be remounted in alternate locations. The **PPVM-TA Series** system is a high sensitivity Gamma Monitoring system with **OPTIONAL** detection for Beta and /or Neutron, plus hand-held Alpha Beta clothing "frisker"

Use for determining possible radiation contamination on people, in containers, or vehicles in a stop & count or on a non-pause basis. Greater sensitivity is achieved for people or vehicles with a stop & count approach although it takes a little longer.

Since the operation of this instrument is based on rate of change in radiation, it will reliably pick up contamination as it passes through or near the monitor.

Background is continually updated and subtracted thus giving net reading for person or vehicle. Has audio and visual alarms, alarming beacon, and video capture.

- **PPVM-TA and PPVM-TA-P** each have (2) towers, one on the left of the portal, one on the right. In this model each tower contains one detector. The user can position each tower as appropriate.

Additional Models: have two towers and one overhead detector:

- **PPVM-TA-3** with (3) detectors per tower
- **PPVM-TA-5ES** with (5) detectors in each tower for Enhanced Sensitivity and higher security level.

NOTE: Scintillation PANELS are highly sensitive compared to cylindrical crystals due to the wider surface area.

Rate of change electronics with audio and visual alarms. Operates on built-in rechargeable batteries or 110/220 AC.

PPVM-TA Series are designed for rugged outdoor use as well as indoors.

This system can be set-up at the road side or in a parking lot, mounted to a fence post or stand alone in an indoor or outdoor area.

Background is continually updated and subtracted thus giving net reading for person or vehicle.



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SPECIFICATIONS:

DETECTORS:

PPVM-TA – WALL MOUNT / DOORWAY

PPVM-TA-P - PORTABLE

- **Detectors (PPVM-TA Series):** (2) Towers with (1) detector in each tower.
Total of (2) detectors. Premium Plastic Scintillation panels with a wide temperature range
12”w x 1.5”d x 44”h. (30.4 cm x 3 cm x 112 cm)
- **Volume (PPVM-TA Series):** 792 in³ per detector.
- **Surface Area (PPVM-TA Series):** 500 in² per detector.
- **Sensitivity:** Easily Detects 1 µCi of Cs-137 and below anywhere within portal based on 15 second count and 34” tower separation. Background up to 1 mR/hr.

-
- **Detector (PPVM-TA-3):** (2) Towers with (3) detectors in each tower. (1) Overhead detector
Total of (7) detectors. Premium Plastic Scintillation panels with a wide temperature range
12”w x 1.5”d x 44”h. (30.4 cm x 3 cm x 112 cm)
 - **Sensitivity:** Easily detects 50 nCi of Cs-137 anywhere within portal based on 15 second count. Background up to 1 mR/hr.

-
- **Detector (PPVM-TA-5ES):** (2) Towers with (5) detectors in each tower. (1) Overhead detector
Total of (11) detectors. Premium Plastic Scintillation panels with a wide temperature range.
12”w x 1.5”d x 44”h. (30.4 cm x 3 cm x 112 cm)
 - **Sensitivity:** Easily detects 50 nCi of Cs-137 or above, anywhere within portal with less than 15 second count. Background up to 1 mR/hr.

PPVM-TA Series:

- **Dose Rate Range:** 1 µR/hr to 1 mR/hr.
- **Energy Range:** **Gamma:** 80 KeV to 6 MeV. **Optional:** down to 40 KeV
Optional: Beta: above 1 MeV, such as P32, Sr90 Y90, & N16.

ALARMS

- **Rate of Change Design:** Fast Alarming
- **Alarm:** Alarm Beacon
- **False Alarm:** <1 in 1,000 passes
- **High Level Alarm:** Flashing red light and intermittent 2900 Hz tone. (90 dB)
Volume adjustable / On/Off switch.
- **Alarm Set: PPVM-TA Series:** User Settable



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SYSTEM POWER:

- **Power Requirements:** Choice of AC or DC Operation or
- **Battery Back Up** Lithium Ion 12 Volt Battery. **OPTIONAL:** 24, or 48 V
Built in rechargeable batteries
Smart Trickle Charge when Plugged into wall socket 110/220 AC
- **Display / Read Out:** Local touch screen display plus Remote display
- **Power Recharge Cable:** 6 ft. cable or user specified. Three Prong grounded connector.
- **Operating Temperature:** 32° to 135° F (0° to 55° C) with Webcam
- **Operating Humidity:** 20% - 85% non-condensing with Webcam
5% - 95% non-condensing without Webcam
- **Self-Test:** For: Low Battery, Loss of Signal, and High Background.
- **Status Indicators:** "Ready" - "Counting" - "Clean-OK" - "High Alarm"
"Count Incomplete".
- **Count Time:** Stop & Count mode– User Settable. (Pass Through not needed)
- **Background Compensation:** Background is continually updated and subtracted.
(User can set parameters.)
- **Communications:** Built-in serial ports and Ethernet.
- **Count Start:** Sensor trips automatically when person or vehicle enters portal and counting starts.
- **Portable Set-Up:** **PPVM-TA-P** One person can set-up unit in about 2 min.
- **Cables:** User specified lengths

CONSTRUCTION:

- **Electronics:** Hardened against lightning strikes and ESD
- **Electronics:** Protected components from harsh environments / chemical contaminants
- **Connections / Terminals:** Housed in NEMA enclosures with rating 3
- **Environment:** Detector Towers and Electronics resistant to humidity, seismic vibration, radio/frequency or magnetic effects interference.
- **Temperature:** Wide Range. No need for heating/cooling apparatus.
- **Tower Cases:** Coated to prevent environmental damage and scratches.
- **Portable Cases:** Weather-tight NEMA rated tough, durable, lightweight.
A "tongue-in-groove" continuous O"-ring system makes the case water, moisture, and dust tight,
- **Wall Mount Cases:** Constructed of heavy 1.5 mm steel. Fits between wall studs, or stands on the floor. Full length piano hinge door for easy access, rugged construction prevents accidental damage.
- **Repair:** Field repair without removal of system
- **Width:** Installed: Minimum. ±34" portal. Portable ±34" to 95" pedestrian or per vehicle traffic. User Adjustable.



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DIMENSIONS & WEIGHT:

WEIGHT & DIMENSIONS

PPVM-TA and PPVM-TA-P:

- **Dimensions Typical Size:** **Control Box:** 16" h x 20" w x 10"d(40 cm x 50.8 cm x 25 cm) plus Alarm Beacon
- **Case Detector Towers:** 54" h x 15.5" w x 7" d. (136 cm x 38 cm x 18 cm)
- **Optional:** Alternate Packaging.
- **Shipping Weight - Portable:** **PPVM-TA-P:**150 lbs. (Lighter Less Sensitive Models Also Available.)
- **Shipping Weight – Wall Mount:** **PPVM-TA:**200 lbs. (Lighter Less Sensitive Models Also Available.)
- **Carrying Weight Portable:** **PPVM-TA-P:** Control Box: 18 lbs. Each Tower: 55 lbs. (Case with Built-in Wheels & Handles.

WEIGHT & DIMENSIONS:

PPVM-TA-3 and PPVM-TA-5ES:

- Dimensions Typical Size:** **Control Box / Computer:** 16" x 20" x 10" (40 cm x 50.8 cm x 25.4 cm), plus Alarm Beacon
- System Towers (2):** Nominal Size of system
- Outside:** 65" W x 78"H x 69" L (165 cm x 198 cm x 175 cm) each
- Inside:** 32.5" W x 76" H x 69"L (82.5 cm x 193 cm x 175 cm) each; width adjustable
- System Weight:** Under 3,000 lbs (1,361 kg)
- Platform:** Stainless Steel
- Shielding:** 3/8" steel each tower and **optional** overhead detector
- Optional:** 1/2" Pb or 3/4" steel

OPTIONAL:

- **Check Source:** **Cs 137;** or other license exempt check sources.
- **Additional Relays:** 5A SPDT to operate other circuits.
- **Additional Remote Alarm:** RAL-3W flasher, siren.
- **Video:** License Plate Capture
- **Wireless Remote Notification:** Phone, Email, Text, Etc.
- **Chemical Detectors** See Chemical List



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CHEMICAL DETECTION WAR GASES, NERVE GASES, IRRITANTS, DANGEROUS CHEMICALS

AGENTS AND PRECURSORS	MAJOR DETECTION	DRONECHEM-WDE CHEM-WDE-H (Handheld) (Warfare, Drugs, Explosives)	DRONECHEM-2-IWC CHEM-2-IWC-H Handheld (Irritants, Warfare, Chemicals)
WAR GASES			
		YES	YES
	CWA	YES	YES
NERVE GASES			
		YES	YES
POISONS			
		YES	YES
	NOVICHOK	YES	
	SARIN	YES	YES
	SULFUR MUSTARD	YES	YES
	VS VX	YES	
	CYANIDE		YES
IRRITANTS			
	PEPPER SPRAY	YES	YES
	MACE	YES	YES
	TEAR GAS		YES
DANGEROUS CHEMICALS			
	TIC -TOXIC INDUSTRIAL CHEMICALS	YES	YES
	CHLORINE	OPTIONAL – YES	YES
	AMMONIA	OPTIONAL – YES	YES
	SULFUR DIOXIDE	OPTIONAL – YES	YES
	CARBON MONOXIDE	OPTIONAL – YES	YES
	FORMIC ACID	OPTIONAL – YES	YES
	PHOSPHORUS	OPTIONAL - YES	YES
	DIESAL FUMES/PARTICULATES	OPTIONAL - YES	OPTIONAL - YES
	METHANE	OPTIONAL - YES	OPTIONAL - YES
	HYDROGEN SULFIDE	OPTIONAL - YES	OPTIONAL - YES
	CARBON DIOXIDE	OPTIONAL - YES	OPTIONAL - YES
	NITROGEN DIOXIDE	OPTIONAL - YES	OPTIONAL - YES
	VOC	OPTIONAL - YES	OPTIONAL - YES



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CHEMICAL DETECTION – EXPLOSIVES AND DRUGS

EXPLOSIVES			
	EXPLOSIVES	YES	
	LEL EXPLOSIVE LEVEL		YES
DRUGS			
	METHAMPHETAMINE	YES	
	FENTANYL	YES	

ADDITIONAL OPTIONS:

- 220 V, 50-60 Hz.
- Additional detectors: Underfoot
- Alternate detector types: Other size plastic scintillators, NaI(Tl) Scintillators, or BGO crystal.
- Specific detectors e.g., for Plutonium or Neutron or Alpha/Beta emitters
- Additional Photo Cell sensors(s) to measure speed vehicle passing through portal.
- Wireless operation.
- Additional Cameras

PORTABLE~ PPVM-TA-P

- Battery or AC Operation.
- Each detector is housed in weather proof high impact plastic case with sturdy built-in handles and wheels.
- Detectors are shipped with Deployment Stand (**Model DS-4**).
- Detector cases are industrial grade, easy to use, reusable straps.
 - Available as a Fixed Vehicle Unit (**Model - VMF-TA**), in a Metal Housing.
See **Model ~ [VMF-TA](#) spec sheet.**



Real - Time
Air & Water
Specialists



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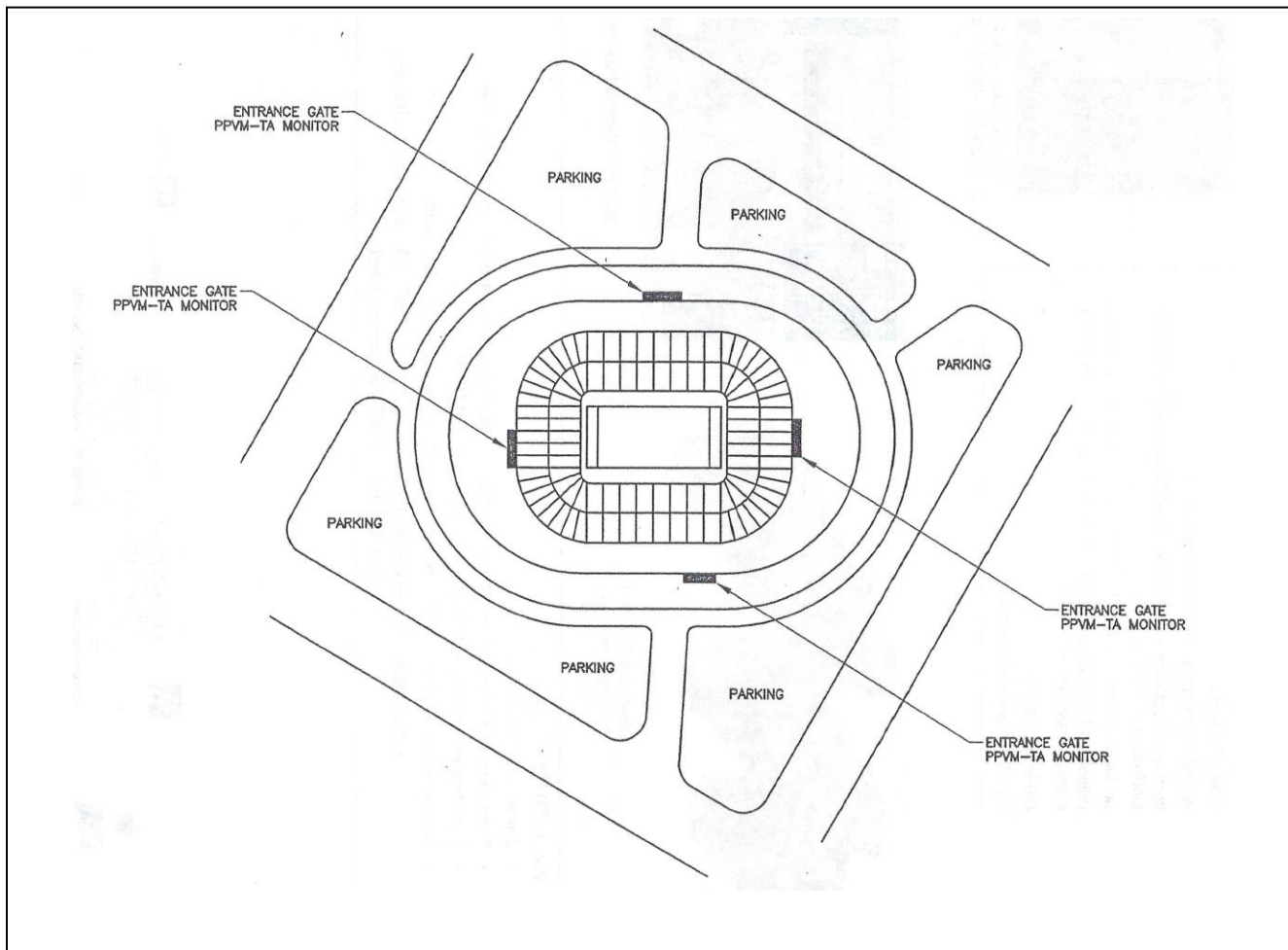
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SAMPLE LAYOUT FOR POSITIONING PPVM-TA AT A STADIUM TO STRENGTHEN STADIUM SECURITY



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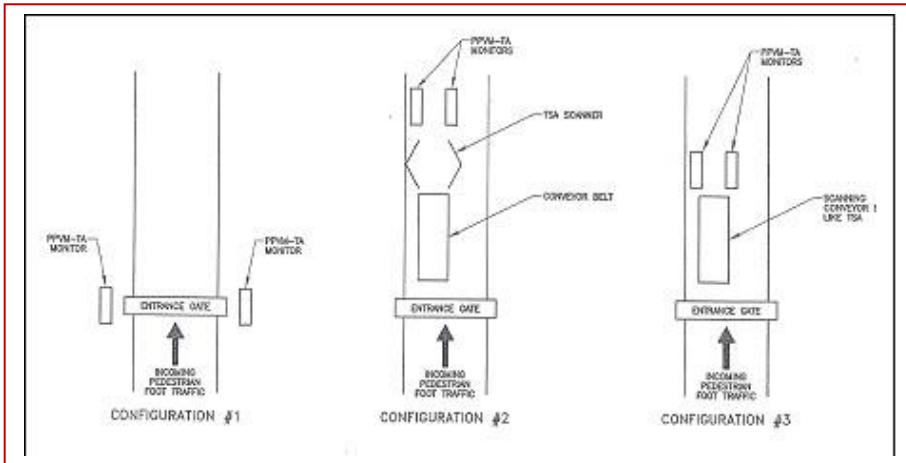
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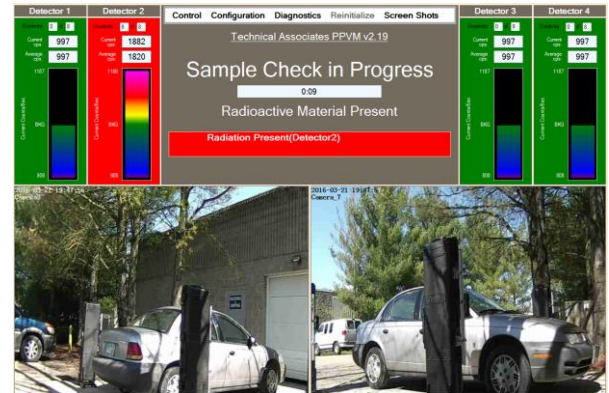
**AERIAL VIEWPOINT
VARIOUS CONFIGURATIONS
PPVM-TA-P
SECURITY STATION POSITIONING**



**Steel Cases with Stands
OPTIONAL –Inset Wall Mount**



**Cases for Portable
Detector System**



Sample Display Readout

PORTABLE~ PPVM-TA-P

- Battery or AC Operation.
- Each detector is housed in weather proof high impact plastic case with sturdy built-in handles and wheels.
- Detectors are shipped with Deployment Stand (**Model DS-4**).
- Detector cases are industrial grade, easy to use, reusable straps.
 - Available as a Fixed Vehicle Unit (**Model - VMF-TA**), in a Metal Housing.
See **Model ~ [VMF-TA](#)** spec sheet.



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