Model Series ~ PPVM-TA SERIES

PPVM-TA ~ PPVM-TA-P ~ PPVM-TA-1 ~ PPVM-TA-3 ~ PPVM-TA-5ES PPVM-TA-CHEM-WDE ~ PPVM-TA-CHEM-IWC

### **FEATURES**:

#### **PPVM-TA Series**

- DETECTORS: PORTABLE OR INSTALLED WALL OR DOORWAY
- CAN BE SET TO ANY WIDTH; QUICK SET UP
- DATA DISPLAY LOCAL AND/OR REMOTE
- POWER: RECHARGEABLE BATTERIES or AC
- DYNAMIC BACKGROUND SUBTRACT
- CONTINUOUS OPERATION: "SET & FORGET"
- COMPLETELY WEATHER PROOF
- DATA ARCHIVE / RETRIEVAL VIA USB, ETHERNET; RS232

#### OPTIONS:

- VIDEO CAPTURE REAL-TIME CAPTURE & DISPLAY UPON ALARM
- LICENSE PLATE CAPTURE
- WIRELESS REMOTE NOTIFICATION PHONE, EMAIL, TEXT, ETC.
- IP64

#### RADIATION - FIVE MODELS ~ PART I

- DETECTS GAMMA OPTIONAL: ALPHA, BETA & NEUTRON
- DETECTS 1 µCi of Cs-137 OR LOWER
- DETECTS AT 7  $\mu R/hr$  CHANGE IN 1 SECOND USER SETTABLE
- HIGH SENSITIVITY DUE TO LARGE SURFACE AREA (500 in<sup>2</sup>) OF PLASTIC SCINTILLATION PANELS
- OPTIONAL: RADIATION DETECTORS UNDERFOOT

#### CHEMICAL - TWO MODELS ~ PART II

• DETECTS AIRBORNE CWAS, IRRITANTS, NERVE GASES, DANGEROUS CHEMICALS





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* (3) DETECTORS IN EACH TOWER

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



TECHNICAL ASSOCIATES

DIVISION OF USNUCLEARCORP OTCOB-UCLE

phone: 818-883-7043 | fax: 818-883-6103 sales@tech-associates.com | tech-associates.com | usnuclearcorp.com

### Model Series ~ PPVM-TA SERIES PPVM-TA ~ PPVM-TA-P ~ PPVM-TA-1 ~ PPVM-TA-3 ~ PPVM-TA-5ES PPVM-TA-CHEM-WDE ~ PPVM-TA-CHEM-IWC

### **APPLICATION:**

# **INTRODUCTION PART I**

# **PPVM-TA SERIES INTERDICTION CONTROL** PERSONNEL, VEHICLE, WASTE / TRASH **RADIATION DETECTION** - INDOOR AND/ OR OUTDOOR USE

### **PPVM-TA SERIES RADIATION DETECTION MODELS (Installation, Application):**

- (2) PLASTIC SCINTILLATION PANELS (2) Towers ONE 500 in<sup>2</sup> IN EACH TOWER (**PPVM-TA-P**) – Portable, stand alone; entry portals, driveways, parking lots
- (2) PLASTIC SCINTILLATION PANELS (2) Towers ONE 500 in<sup>2</sup> IN EACH TOWER (**PPVM-TA**) – Installed, hallways, doorways, etc.
- (3) PLASTIC SCINTILLATION PANELS (2) Towers THREE 500 in<sup>2</sup> IN EACH TOWER (**PPVM-TA-3**) – Installed, laundry or equipment carts
- (5) PLASTIC SCINTILLATION PANELS (2) Towers FIVE 500 in<sup>2</sup> IN EACH TOWER (**PPVM-TA-5ES**) – Installed, laundry or equipment carts
- (1) PLASTIC SCINTILLATION PANEL ONE 500 in<sup>2</sup> IN ONE TOWER (PPVM-TA-1) Portable, stand alone

PPVM-TA-3 AND PPVM-TA-5ES - Installed

- **OPTIONAL:** OVERHEAD DETECTOR AND/OR UNDERFOOT DETECTOR
- **OPTIONAL: CHEMICAL DETECTORS**

**NOTE:** Volume is not the key factor for sensitivity, it is the surface area of the detector. This is why TA uses scintillation panels instead of cylindrical detectors. The detection sensitivity is not in volume but the surface area.

### **APPLICATION:**

#### **PPVM-TA Series Interdiction Monitor**

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.









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# Model Series ~ PPVM-TA SERIES

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

### **PPVM-TA-CHEM-WDE** ~ **PPVM-TA-CHEM-IWC**

#### **DESCRIPTION:**

#### RADIATION INTERDICTION – PART I:

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".

Radiation contamination on people, in containers, or vehicles can be achieved with two different options: in a <u>stop &</u> <u>count</u> or on a <u>non-pause basis</u>. Greater sensitivity is achieved for people or vehicles with a <u>stop & count</u> approach although it takes a little longer. Rate of change in radiation this instrument 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.

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

#### CHEMICAL INTERDICTION PART II:

**Two models of chemical sensors** are available with different capabilities and sensitivities. They are tower mounted and detect airborne chemicals with identification: CWAs, IRRITANTS, NERVE GASES, DANGEROUS CHEMICALS. These chemical sensors can be deployed in tandem with the radiation detectors or as stand-alone detection.

#### **GENERAL INFORMATION** - **PPVM-TA Series** of instrumentation.

The **PPVM-TA Series** is versatile with its radiation monitoring instrument models and can also accommodate chemical sensors providing an expanded interdiction capability.

Designed: for rugged outdoor use as well as indoors.

**Portable:** Fast 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.

Installed: Wall or otherwise mounted in a fixed position.

Alarms: Rate of change in electronics via audio and visual alarms.

Power: Operates on built-in rechargeable batteries or 110/220 AC.

**OPTIONS**: See variety of options in Features Section page 1.

### **SPECIFICATIONS:**

#### **RADIATION DETECTORS:**

### <u>PPVM-TA SERIES – INSTALLED ~ WALL MOUNT / DOORWAY / OTHER FIXED LOCATIONS</u> <u>PPVM-TA-P – PORTABLE – STAND ALONE</u> PPVM-TA-1 – PORTABLE – ONE TOWER – ONE DETECTOR

**DETECTORS (PPVM-TA SERIES):** (2) Towers with (1) det

(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):
- Surface Area (PPVM-TA Series): 500 in<sup>2</sup> per detector.



792 in<sup>3</sup> per detector.

### Model Series ~ PPVM-TA SERIES

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

### **PPVM-TA-CHEM-WDE ~ PPVM-TA-CHEM-IWC**

•	<b>Sensitivity:</b> Easily Detects 1 $\mu$ Ci 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) )		
•	<b>Sensitivity:</b> 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)		
•	<b>Sensitivity:</b> 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: down to 40 KeVGamma: 80 KeV to 6 MeV. Optional:		
	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 Hztone. (90 dB)Volume adjustable / On/Off switch.		
Alarm Set: PPVM-TA Series:	User Settable		
SYSTEM POWER:			
Power Requirements:	Choice of AC or DC Operation or		
Battery Back Up	Lithium Ion 12 Volt Battery. <b>OPTIONAL</b> : 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:	32º to 135º F (0º to 55º C) with Webcam		

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### Model Series ~ PPVM-TA SERIES

### PPVM-TA ~ PPVM-TA-P ~ PPVM-TA-1 ~ PPVM-TA-3 ~ PPVM-TA-5ES PPVM-TA-CHEM-WDE ~ PPVM-TA-CHEM-IWC

	Operating Humidity:	20% - 85% non-condensing with Webcam		
	o K = - /	5% - 95% non-condensing without Webcam		
•	Self-Test:		ery, Loss of Signal, and High Background.	
•		Status Indicat Alarm" "Count Incomp	, , , , , , , , , , , , , , , , , , , ,	
•	Count Time:	•	mode– User Settable. (Pass Through not needed)	
•		<b>Background Compensation:</b> Background is continually updated and subtracted. (User can set parameters.)		
•	Communications:	Built-in serial p	ports and Ethernet.	
•		<b>Count Start:</b> Sensor trips automatically when person or vehicle enters portal and counting starts.		
٠	Portable Set-Up:	PPVM-TA-P	One person can set-up unit in about 2 min.	
•	Cables:	User specified	llengths	
CON	STRUCTION:			
٠	Electronics:	Hardened against lightning strikes and ESD		
•	Electronics:	Protected components from harsh environments / chemical contaminates		
٠	<b>Connections / Terminals:</b>	Housed in NEMA enclosures with rating 3		
•	Environment:	Detector Towers and Electronics resistant to humidity, seismic vibration, radio/frequency or magnetic effects interference.		
٠	Temperature:	Wide Range. No need for heating/cooling apparatus.		
٠	Tower Cases:	Coated to prev	vent environmental damage and scratches.	
•		Portable Cases:Weather-tight NEMA rated tough, durable,lightweight.A "tongue-in-groove" continuous O"-ring system makes the casewater, moisture, and dust tight,		
•		<b>Wall Mount Cases:</b> 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.		
٠	Repair:	Field repair without removal of system		
•		<b>Width:</b> Installed: Minimum. $\pm 34$ " portal. Portable $\pm 34$ " to 95" pedestrian or per vehicle traffic. User Adjustable.		



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phone: 818-883-7043 | fax: 818-883-6103 sales@tech-associates.com | tech-associates.com | usnuclearcorp.com

Model Series ~ PPVM-TA SERIES

PPVM-TA ~ PPVM-TA-P ~ PPVM-TA-1 ~ PPVM-TA-3 ~ PPVM-TA-5ES PPVM-TA-CHEM-WDE ~ PPVM-TA-CHEM-IWC

2

### **DIMENSIONS & WEIGHT:**

#### **WEIGHT & DIMENSIONS**

#### **PPVM-TA and PPVM-TA-P:**

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

#### **WEIGHT & DIMENSIONS:**

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PPVM-TA-3 and PPVM-TA-5ES:			
Dimensions Typical Size:	<b>Control Box / Computer:</b> 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 <b>optional</b> overhead detector <b>Optional:</b> $\frac{1}{2}"$ Pb or $\frac{3}{4}"$ 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.		
Web Cam:	Real-time Capture and Display at Time of Alarm		
Video:	License Plate Capture		
Wireless Remote Notification:	Phone, Email, Text, Etc.		
Remote Display:	Data Display in Adjacent Building or in Area a Distance from PPVM-TA Detector System Installation/Application		
Chemical Detectors	See Chemical List		



Model Series ~ PPVM-TA SERIES

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

PPVM-TA-CHEM-WDE ~ PPVM-TA-CHEM-IWC

## **INTRODUCTION PART II**

PPVM-TA-CHEM SERIES INTERDICTION CONTROL PERSONNEL, VEHICLE, WASTE / TRASH

CHEMICAL DETECTION - INDOOR AND/ OR OUTDOOR USE

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

AGENTS AND PRECURSORS	MAJOR DETECTION	PPVM-TA-CHEM- WDE	PPVM-TA-CHEM-IWC
WAR GASES		YES	YES
	CWA	YES	YES
NERVE GASES		YES	YES
POISONS		YES	YES
	NOVICHOK	YES	
	SARIN	YES	YES
	SULFER 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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### Model Series ~ PPVM-TA SERIES

## PPVM-TA ~ PPVM-TA-P ~ PPVM-TA-1 ~ PPVM-TA-3 ~ PPVM-TA-5ES PPVM-TA-CHEM-WDE ~ PPVM-TA-CHEM-IWC

CHEMICAL DETECTION – EXPLOSIVES AND DRUGS				
AGENTS AND PRECURSORS MAJOR DETECTION		PPVM-TA-CHEM- WDE	PPVM-TA-CHEM-IWC	
EXPLOSIVES	EXPLOSIVES	YES		
	LEL EXPLOSIVE LEVEL		YES	
DRUGS	METHAMPHETAMINE	YES		
	FENTANYL	YES		

### **ADDITIONAL OPTIONS:**

- 220 V, 50-60 Hz.- PPVM-TA SERIES •
- Additional detectors: Underfoot RADIATION
- Alternate RADIATION detector types:
  - Other size plastic scintillators, Nal(TI) Scintillators, or BGO crystal. RADIATION •
- Specific detectors e.g., for Plutonium or Neutron or Alpha/Beta emitters RADIATION
- Additional Photo Cell sensors(s)
  - Measure speed vehicle passing through portal PPVM-TA SERIES •
- Wireless operation. PPVM-TA SERIES
- Additional Cameras PPVM-TA SERIES

### PORTABLE~ PPVM-TA-P **RADIATION AND / OR CHEMICAL**

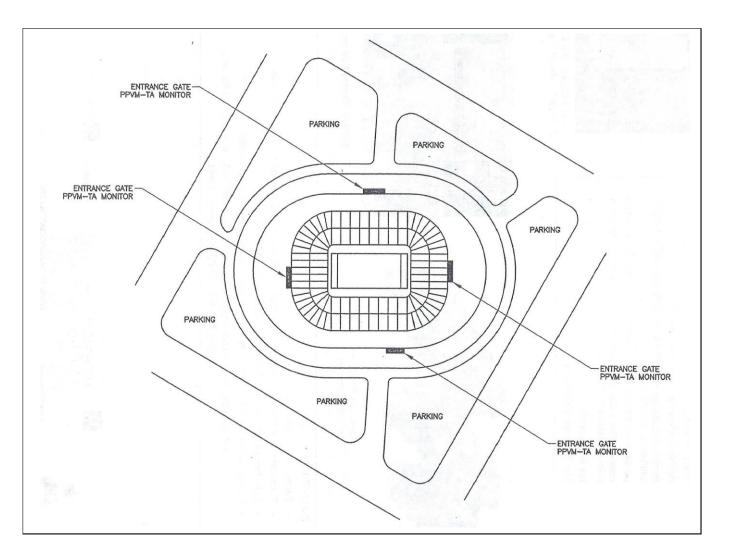
- Battery or AC Operation.
- Each detector is housed in weather proof high impact plastic case with sturdy built-in handles and wheels.
- Detectors are shipped with Deployment Stand (Model DS-4).
- Detector cases are industrial grade, easy to use, reusable straps.
  - Available as a Fixed Vehicle Unit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





Model Series ~ PPVM-TA SERIES PPVM-TA ~ PPVM-TA-P ~ PPVM-TA-1 ~ PPVM-TA-3 ~ PPVM-TA-5ES PPVM-TA-CHEM-WDE ~ PPVM-TA-CHEM-IWC

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



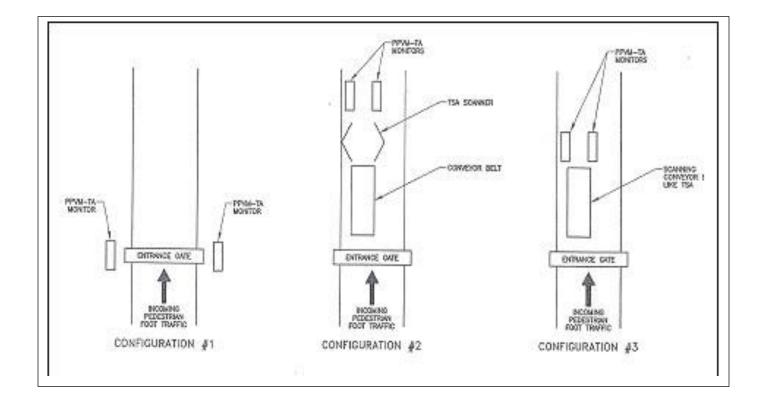
### **AERIAL VIEW**



Model Series ~ PPVM-TA SERIES PPVM-TA ~ PPVM-TA-P ~ PPVM-TA-1 ~ PPVM-TA-3 ~ PPVM-TA-5ES PPVM-TA-CHEM-WDE ~ PPVM-TA-CHEM-IWC

## **AERIAL VIEW**

# VARIOUS CONFIGURATIONS - PPVM-TA-P SERIES SECURITY STATION POSITIONING





Model Series ~ PPVM-TA SERIES PPVM-TA ~ PPVM-TA-P ~ PPVM-TA-1 ~ PPVM-TA-3 ~ PPVM-TA-5ES PPVM-TA-CHEM-WDE ~ PPVM-TA-CHEM-IWC



Steel Cases with Stands OPTIONAL –Inset Wall Mount



Cases for Portable Detector System



Sample Display Readout

