

# INSTALLED VEHICLE TRANSIT MONITOR

Model Series ~ VMF  
VMF-TA ~ VMF-TB ~ VMF-TA-4

## FEATURES:

- BETA / GAMMA DETECTORS
- OPERATES ON AC OR OPTIONAL BATTERY "BACK-UP"
- **VMF-TA** ALARMS AT 7  $\mu\text{R/hr}$  RISE WITHIN 1 SECOND
- **VMF-TA & VMF-TB**  
PLASTIC SCINTILLATION SHEETS: 792 in<sup>3</sup> VOLUME EACH  
SENSITIVE AREA: 528 in<sup>2</sup> EACH
- **VMF-TB** SEES AND CAN ALARM AT 1  $\mu\text{R/hr}$  ABOVE BACKGROUND
- **VMF-TA-4X** DOUBLES THE DETECTOR AREA & HAS 2 PM TUBES IN EACH TOWER
- **VMF-TA-4X & VMF-TA-4X-O**  
PLASTIC SCINTILLATION SHEETS: 3315 in<sup>3</sup> VOLUME EACH  
SENSITIVE AREA: 2210 in<sup>2</sup> EACH
- **VMF-TA-4X-O OPTIONAL:** OVERHEAD DETECTOR
- **OPTIONAL:** WIRELESS REMOTE NOTIFICATION – PHONE, EMAIL, TEXT, ETC.
- REAL TIME DATA DOWNLOAD & ARCHIVE
- VIDEO – REAL TIME DISPLAY & CAPTURE
- AUDIO & VISUAL ALARM INCLUDES STROBE & HORN
- COMPLETELY WEATHER PROOF METAL HOUSING
- DYNAMIC BACKGROUND SUBTRACT
- COMPUTER & SOFTWARE
- FAST RATE OF CHANGE DESIGN
- CONTINUOUS OPERATION: "SET AND FORGET"
- BI-LATERAL ENTRY DIRECTION
- **OPTIONAL:** VEHICLE SPEED SENSOR
- **OPTIONAL:** LICENSE PLATE CAPTURE
- **OPTIONAL:** NEUTRON DETECTOR
- **OPTIONAL:** PEDESTAL STAND



**VMF-TA-4X**



**VMF-TA-4X-O  
OVERHEAD DETECTOR OPTION**

**Model VMF-TA:** Is a pass-through system.

**Model VMF-TB:** Achieves greater sensitivity by stop and count approach.



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## Model Series ~ VMF

### VMF-TA ~ VMF-TB ~ VMF-TA-4

#### DESCRIPTION:

**Model SERIES VMF** are high sensitivity Gamma Monitoring systems for determining possible radiation contamination in containers or vehicles on a non-pause basis. plastic scintillation sheets have higher sensitivity than cylindrical shaped scintillation crystals due to the larger surface area.

These systems can be installed at entrance and/or exit gates, at weight stations or check points, or anywhere that cars, trucks, rail cars or pedestrians will pass by; preferably at reduced speeds for more accurate readings.

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

- **VMF-TA, VMF-TB, & the VMF-TA-4** includes the electronic control/alarm console plus two rugged weather proof detectors each with plastic scintillation sheets with 792 in<sup>3</sup> volume each & a sensitive area of 528 in<sup>2</sup> each.
- The **VMF-TA-4X & the VMF-TA-4X-O** includes the electronic control/alarm console plus two rugged weather proof detectors each with plastic scintillation sheets & dual PM tubes with 3315 in<sup>3</sup> volume each & a sensitive area of 2210 in<sup>2</sup> each.
- Rate of change electronics with audio and visual alarms.
- Operates from 110/220 AC power main; optional battery back-up.
- Operation for rugged outdoor use as well as indoors with bi-lateral direction entry.
- Since the operation of this instrument is based on rate of change in radiation, it will reliably pick up contamination as it passes near the monitor.
- Indoor/Outdoor Camera - Video capture of truck type, driver, and optional license plate capture.
- Free-standing strobe & horn alarm.

#### SPECIFICATIONS:

<b>Detectors - Plastic Scintillators:</b>	<b>VMM-TA-4:</b> 4 ea. 12" W x 1.5" D x 44" H
	<b>VMF-TA &amp; VMF-TB:</b> 2 ea. 12" W x 1.5" D x 44" H Sensitive Volume: 792 in <sup>3</sup> per detector.
	<b>VMF-TA-4X:</b> 2 each 26" W x 1.5" D x 85" H premium Sensitive Volume: 3315 in <sup>3</sup> per detector. Sensitive Area: 2210 in <sup>2</sup> per detector. Dual PM Tubes in each detector.
	<b>OPTIONAL: VMF-TA-4X-O:</b> ADD (1) 26" W x 1.5" D x 85" H premium Sensitive Volume: 3315 in <sup>3</sup> per detector. Sensitive Area: 2210 in <sup>2</sup> per detector. Dual PM Tubes in overhead detector.
<b>Range:</b>	1 µR/hr to 1 mR/hr.
<b>Power Requirements:</b>	110/220 Volts AC, 50/60 Hz.
<b>Power Connection:</b>	Conduit or cable 6 ft. cable furnished. Three Prong grounded connector.
<b>High Level Alarm:</b>	Flashing red light and intermittent 2900 Hz tone. (90 dB)
<b>Alarm Set:</b>	<b>VMF-Series</b> internal factory set at .007 mR/hr rise per second. May be reset by user. <b>VMF-TB</b> internal factory set at 10% above ambient background. May be reset by user.
<b>Housing:</b>	Weather-tight NEMA rated steel housing; water, moisture, & dust tight.
<b>Cable:</b>	100 ft Standard (User Specified Length)



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#### DISPLAY

**Alarm Indicators:** Ready - OK- High Alarm –Fail – Battery Power in Use – Audio/Visual Alarm.  
**Count Time:** 1 to 20 seconds (**VMF-TB only**).  
**Energy Range:** **Gamma:** 80 KeV to 6 MeV.  
**Beta:** above 1 MeV, includes P<sup>32</sup>, Sr<sup>90</sup>, & N<sup>16</sup>.  
**Communications:** Built-in serial port and Ethernet Node.

#### WEIGHT & DIMENSIONS:

**Dimensions:** Control Box / Computer: 16" x 20" x 10" typical plus alarm Beacon.  
**Detector Towers:** **VMF-TA, VMF-TB, VMF-TA-4:** 54" H x 15.5" W x 7" D.  
**Weight:** 120 lbs  
**Detectors Towers:** **VMF-TA-4X, VMF-TA-4X-O:** 90" H x 30" W x 5" D.  
**Weight:** 1260 lbs

#### OPTIONAL ACCESSORIES:

**Check Source:** RAU-BGX, uranium source; license exempt.  
**Additional Relay:** 5A SPDT to operate other circuits.  
**Remote Alarm:** RAL-3W flasher, siren.  
**Power:** 220 V, 50-60 Hz.  
Battery Back-up.  
**Alternate Detector Types & Sizes:** NaI(Tl) Scintillators or BGO crystal.  
**Additional Detectors:** Plutonium or Neutron or Beta.  
Photo cell vehicle sensors(s) to initiate count  
**Video:** License plate capture  
Vehicle Speed Record  
**Shielding:** Provision made for adding shielding plates provided



Sample Display Readout

**VMF-L/O** uses the same detectors as the other VMF Series models, but has simplified electronics with the **LAM-10L** "Alarming Ratemeter", instead of "Rate of Change" electronics.



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