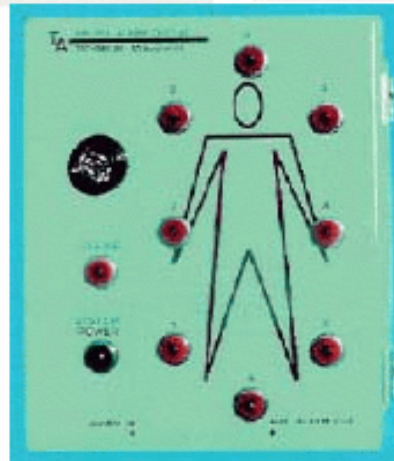


FAST, ULTRA-SENSITIVE PORTAL MONITOR

MODEL # PPM-27G

FEATURES:

- FULL DYNAMIC BACKGROUND SUBTRACT
- OUTSTANDING SENSITIVITY TO FISSION PRODUCTS SPECTRUM
- ADVANCED N OF 8 DESIGN
- 8 CHANNELS OF COUNTING ELECTRONICS
- AUDIO AND VISUAL RADIATION ALARMS
- HIGH BACKGROUND ALARM
- LOSS OF SIGNAL LIGHTS
- FAST FLOW THROUGH OF PEOPLE
- EASY TO READ ALARM PANEL FOR MOUNTING ON WALL OR PORTAL
- WEATHER RESISTANT PORTAL AND FOOT DECK
- CHOICE OF PORTAL FRAMES



APPLICATION: The **PPM-2/G** examines people from head to toe for radioactive contamination. If placed within a passageway, a large throughput can be attained with a minimum amount of supervision.

DESCRIPTION: The **PPM-27G** consists of a walk through portal frame and separate table top, (also rack mountable) electronics. A cabinet to hold electronics and counting gas bottle is optional. Nine, fourteen, or twenty-four gas flow radiation detectors (depending upon choice of frame) and one motion detector, sense contamination on a person as he crosses the threshold. The radiation detectors are grouped into eight separate channels. This feature makes it easier to locate and remove contamination, and increases sensitivity by lowering the background count per channel.

Figure 1: F-36 (top left), F-25A (top right), Alarm panel (bottom).

TA

TECHNICAL ASSOCIATES

7051 ETON AVENUE * CANOGA PARK, CA 91303 TELEPHONE (818) 883-7043 * FAX(818) 883-6103

\$Revision: 1.2 \$

FAST, ULTRA-SENSITIVE PORTAL MONITOR

MODEL # PPM-27G

When unoccupied, the **PPM-27G** averages background radiation over 20 second interval. A first-in-first-out shift register updates the background data every 0.2 seconds. When the portal is occupied the electronics compare the background plus 1, 1.4, or 2 times the background standard deviation, to the personnel count. This comparison is made every 50, 100, or 200 milliseconds depending upon the setting of the front panel sample time switch. The level of confidence (N of 8) can be set for each channel using the eight position switches on the electronics console. Separate alarms are provided for each channel.

SPECIFICATIONS:

SENSITIVITY: FOR LARGER PORTAL FRAMES, F-36 and F-X3:
40 nCi Cs-137 Beta is detected with 95% confidence in 0.4 sec. (It also meets DOE & NRC specifications. NRC requires detection of $\frac{1}{2}$ gr. plutonium, 3 mm brass shield, 90% confidence, false alarm rate less than 0.1%, and detection of 3 gm U-235, 20% enriched, 3 mm brass shield, 50% confidence, false alarm rate less than 0.1 %.) FOR LIGHTER PORTAL FRAME, F-25: 80 nCi Cs-137 is detected with 95% confidence in 0.4 sec.

GAS FLOW DETECTORS: Model:PPG-41. Optionally, PPG-41T for enhanced gamma sensitivity.
Sensitivity: 20% of 4 pi Cs-137 betas. Detectors can detect lower energy betas down to .05 MeV.
Sensitive area: 400 square centimeters per detector.
Operating Voltage: Typically 1900 V with P-10 gas or 2800 V (optional) with Propane.
Window Thickness: 5 mg/cm²(other thicknesses optional).

ELECTRONICS CHASSIS:

Front Panel Controls: Sigma Multiplier (each channel): 1, 1.4, 2.
N of 8 Alarm Set (each channel): 1, 2, 3, 4, 5, 6, 7, 8.
Sample Time: 50, 100, 200 milliseconds.
Overflow Alarm (for background): 10, 20, 40, 80.
Reset push button
Alarm Disable



TECHNICAL ASSOCIATES

7051 ETON AVENUE * CANOGA PARK, CA 91303 TELEPHONE (818) 883-7043 * FAX(818) 883-6103

\$Revision: 1.2 \$

FAST, ULTRA-SENSITIVE PORTAL MONITOR

MODEL # PPM-27G

- Rear Panel Controls:** Power on-off
High Voltage Adjust: 0-2000 V for P-10 or Geiger gas
(0-3000 V for propane optional)
- Front Panel Indicators:** Average Background Display (each channel): Two digits. N of 8 Display (each channel): one digit. Contamination Alarm LED (each channel): red. No Signal Alarm LED (each channel): yellow.
- Rear Panel Indicators:** Power on/off lamp: red High Voltage Meter, 0-2000 volts, (0-3000V optional)
- Rear Panel Outputs:** Remote Alarm Output Terminals (each channel plus common bell and lamp) Switched AC outlet
- Common Alarms**
- Indicating Contamination:** 2000 Hz alarm and flashing red beacon.
- Power Requirements:** 110 V, 60 Hz, 1 A (220 V and 50 Hz optional)
- Dimensions:** 19"W x 20"D x 11"H
- Weight:** 45 lbs.
- Shipping Weight:** 65 lbs.
- ALARM PANEL:** Wall mountable, silhouette with lights indicating location of contamination, plus sonalert and flashing red light.
- GAS FLOW SYSTEM:** Flow meter and micro metering valve are included. Gas tank and pressure regulators are normally supplied by user. Timer and solenoid operated valve is available as an option to further minimize gas usage.

PORTAL FRAME AND FOOT DECK:

Frame Option:	F-25A	F-36	F-X3
Description:	Lighter Model	Larger with door	Walk straight through
Number of Detectors:	9	14	24
Inside Dimensions:	14"W x 79"H	24"W doorway 21"W clearance x 79.25"H	24W" x 79"H
Outside Dimensions:	88"H x 30"W x 28"D	89.25"H x 43.5"W x 57.25"D	88"H x 30"W x 30"D
Flush Mount Height:	83"	87"	83"
Weight:	155 lbs.	400 lbs.	350 lbs.
Shipping Weight:	240 lbs.	500 lbs.	450 lbs.



TECHNICAL ASSOCIATES

7051 ETON AVENUE * CANOGA PARK, CA 91303 TELEPHONE (818) 883-7043 * FAX(818) 883-6103

\$Revision: 1.2 \$