

# TM 850

## Train Monitor



### Applications:

TSA's train monitor is designed to automatically scan railroad traffic without the need for frequent calibration. It is intended for applications where the relatively low energy emissions from  $^{235}\text{U}$  and  $^{239}\text{Pu}$  are the main concern.

An optional component is the battery powered remote alarm monitor (AM-270).



### Description:

TSA's train monitor TM-850 consists of two self-contained, weather resistant pillars placed on either side of the railroad track to be monitored.

Each pillar contains two plastic scintillator detectors, four neutron detector blocks, occupancy sensors, and an SCA-775 amplifier/controller. The master pillar also has a battery, power supply/battery charger and an SC-770 system controller.

These systems require two conduits, one to provide ac power to the battery charger, and one for the inter-pillar connections. A third conduit may be required to route signals to TSA's AM-270 alarm monitor.

## SPECIFICATIONS

**SENSITIVITY:** Preliminary

**DETECTORS:** Two, 48"h x 12"w x 1.5"d (121.9 x 30x 3.8cm) organic plastic scintillator detectors per pillar; Eight, 2"diameter x 36" (5 x 91.4cm) He 3 tubes per pillar

**FALSE ALARM RATES:** Typically less than 1 in 1,000 passages

**ALARM INDICATION:** Alarms are indicated by a red strobe light mounted on the master pillar. High and low alarms along with other fault conditions are indicated by an amber light. Neutron alarm is indicated by a blue strobe light.

**DISPLAY:** Alphanumeric LCD, 4 lines x 16characters

**COMMUNICATIONS:** RS-232 and Ethernet communications capability

**DATA STORAGE:** 256k bytes of battery backed RAM is used to store average hourly background data and alarm data. Under normal conditions the memory should be adequate to store data for at least 3 months of operation.

**POWER REQUIREMENTS :** 90 - 250 Vac, 47 - 63 Hz, less than 100 VA 128k bytes of flash memory is used to store average hourly background data and alarm data. Under normal conditions the memory should be adequate to store data for at least 3 months of operation.

**BATTERY LIFE:** Greater than 24 hours of normal operation

**DIMENSIONS:** 120"h x 48"w x 10"d (305 x 122 x 25.4cm)

**WEIGHT:** ~ 600 lb (273kg) per pillar

**ENVIRONMENTAL:** -30° to 122°F (-34° to 50°C) Designed for outdoor use in most climates. For extreme conditions, optional heating/cooling is available.

**OPTIONAL COMPONENTS:** Heaters and Insulation, AM-270

