

NEUTRON REM AREA MONITORING SYSTEM

Model # FM-7 REM

FEATURES:

- ON LINE REAL TIME MONITORING
- ALL PLUG-IN MODULAR.
- RACK MOUNTING OR CASE
- SINGLE OR MULTI-CHANNEL
- LOCAL OR REMOTE MONITORING (UP TO 500 FT. CABLE OPTIONAL)
- HIGH LEVEL ALARM, SOLID STATE, NON-CONTACTING
- RS-232 OUTPUT FOR PRINTER OR PC AND REMOTE DISPLAY OUTPUTS
- MICROPROCESSOR BASED DATA MEASUREMENT AND DISPLAY



APPLICATION: Neutron Area Monitoring in and around nuclear reactors, accelerators, neutron sources and generators, etc.

GENERAL DESCRIPTION: The Radiation Monitor uses dependable, accurate digital electronics and readout, Power supply, Alarm Module, and energy compensated BF₃ Probe which offers neutron sensitivity from thermal to >100 MeV, and close following of true REM response from thermal to >7 MeV along with high gamma rejection. Because of the plug-in modular construction, additional channels can be added. The built-in anti-saturation circuit prevents the system readings from falling off scale during an over-range condition. High level alarm can be set at any point on the scale. Activation produces flashing red light on front panel and piercing intermittent 2000 Hz tone. relay is also closed (or opened) for activation of remote alarms.



SPECIFICATIONS

- Range:** 5 decades 0.1 mRem to 10 Rem/hr.
- Readout:** 6 digit high visibility LEDS.
- Accuracy:** ±10% of decade. ± 1 count.
- Front Panel Controls:**
 - High Level Alarm Set
 - Intermediate Level Alarm Set
 - Alarm Reset Pushbutton

High Voltage Adjust (internal)
Power On-Off Switch

FM-7 Ratemeter (top),
BF₃ REM Probe (bottom)

TA TECHNICAL ASSOCIATES

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BETA/GAMMA AIR MONITOR

MODEL # FM-7-ABGN

SPECIFICATIONS

- Time Constant:** Varies inversely with count rate.
- Output:** RS-232 output to Printer, computer, etc. Fully addressable.
- Detector:** Moderated proportional BF₃ neutron tube. Supplied with 8 ft. cable. (Up to 500 ft. of cable can be supplied as an option.)
- Detector Response:** Neutrons from thermal to > 100 Mev. Energy matched by LASL designed moderating sphere to ICRP tissue response curve from thermal to above 7 MeV.
- Energy Dependence:** Closely follows true REM curve from thermal to above 7 Mev. Sensitive to >100 Mev.
- Environmental Temperature:** Operating range between -30°C and 65°C; 0-95% humidity non-condensing.
- Data Processing:** Counts energy compensated pulses to give direct mRem/hr (or other presettable unit e.g. μ Sv/h.) RS-232 output.
- High Level Alarm:** Activated when count rate exceeds set point. High-level red light on front panel goes on in addition to Beeper and Flasher. (Latching or unlatching)
- Intermediate Level Alarm:** Level settable below High Level Alarm to warn of unusual rad level before alarm level is reached. Amber light on front panel goes on in addition to sonalert. (Not latching)
- Anti-Saturation:** Circuitry is incorporated to prevent readings from falling below full scale in over-range conditions.
- Emergency Power (optional)** Stand-by batteries operating under continuous charge automatically take over and provide approximately eight hours operation (will be shortened in alarm condition) in event of AC power failure. (Optional)
- Line Operation:** 105-125V (or 200-240 V), 50-60 Hz.
- Dimensions:** Console 10-1/4" W x 8-3/4" H x 12-1/2" D single channel - (wider if more than one channel) or rack mount. Probe 10" round by 16" H.
- Weight:** Console 20 lbs. Probe 20 lbs.
- Mounting:** Electronics are normally furnished in FM-7 case but can be furnished uncased with mounting bars for rack or Nema 4 (hostile environment) cabinet.
- Options:**
 - Multiple channel systems.
 - Solenoid activated check source for system calibration.
 - Remote alarm-flasher-howler
 - Remote readout with alarm.
 - Standby batteries.
 - Cable to 500 feet.
 - Power Input 12V DC or 200-240V 50-60 Hz.

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