

NEUTRON REM AREA MONITORING SYSTEM

中子区域监测系统

Model ~ FM-7 REM

FEATURES: 产品特点

- ON-LINE REAL-TIME NEUTRON MONITORING
- 在线实时中子监测
- ALL PLUG-IN MODULAR
- 全插卡式模块
- RACK MOUNTING OR CASE
- 架装或箱装
- SINGLE OR MULTI-CHANNEL
- 单或多通道
- LOCAL OR REMOTE MONITORING
- 本地或远程控制
- HIGH LEVEL ALARM, SOLID STATE, NON-CONTACTING
- 高限值报警，固态非接触式
- RS-232 OUTPUT FOR PRINTER, PC, AND REMOTE DISPLAY
- RS-232 输出用于打印机，PC 机，远程显示
- ON BOARD COMPUTER OF DATA MEASUREMENT & DISPLAY
- 机载电脑测量和显示数据



APPLICATION: 应用

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

用于核反应堆、加速器、中子源及发电机组内部和周边监测

DESCRIPTION: 概述

The FM-7-REM provides dependable, accurate digital Electronics and Readout, Power supply, Alarm Module.

The energy compensated BF₃ Probe 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.

The plug-in modular construction, allows for additional channels to 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. It can also closed (or opened) for activation of remote alarms.



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FM-7-REM使用可靠，精确数字电子学和数字读出，电源，报警模块

能量补偿BF3探头测量中子灵敏度范围热中子到100 MeV以上,高 γ 抑制功能使能量在热中子到>7 MeV范围内接近雷姆真实响应曲线

模块结构允许添加额外通道

内置防饱和电路防止在过量程情况下系统读数偏离量程。

量程内可设定任何高水平报警，激活产生闪烁前板红灯和刺耳间歇音2000 Hz，继电器闭合或开启用于启动遥控报警。

SPECIFICATIONS

规格

Range:	5 decades 0.1 mRem to 10 Rem/hr.
量程:	5个量级, 0.1 mRem - 10 Rem/hr.
Readout:	6 digit high visibility LEDS.
读出:	6位数高清晰LED
Accuracy:	$\pm 10\%$ of decade. ± 1 count.
精度:	$\pm 10\%$ 或 ± 1 计数
Front Panel Controls:	High Level Alarm Set High Voltage Adjust (internal)
前板控制:	高限报警设定 高压调整 (内置)
	Intermediate Level Alarm Set Power On-Off Switch
	中限报警设定 电源开关
	Alarm Reset Pushbutton
	报警重设按钮
Time Constant:	Varies inversely with count rate.
时间常数:	随计数率反比例变化
Output:	RS-232 output to Printer, computer, etc. User Settable.
输出:	RS-232输出到打印机, 电脑等, 用户设定
Detector:	Moderated proportional BF ₃ neutron tube. Supplied with 8 ft. cable.
探测器:	慢化BF ₃ 中子正比计数管
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.
探测器响应:	热中子到100MeV以上, 此能量符合LASL实验室设计慢化球从热中子到7MeV以上的人体组织响应曲线的ICRP标准
Energy Dependence:	Closely follows true REM curve from thermal to above 7 Mev. Sensitive to >100 Mev.
能量依赖:	热中子及7MeV以上最接近真实雷姆曲线, 对100MeV以上能量敏感
Environmental Temperature:	Operating range between -30°C and 65°C; 0-95% humidity non-condensing.
环境温度:	-30°C - 65°C 范围操作, 湿度0-95%无冷凝



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Data Processing:	Counts energy compensated pulses to give direct mRem/hr (or other presettable unit e.g. μ Sv/h.) RS-232 output.
数据处理:	能量补偿脉冲计数直接读出 mRem/hr (其它预设单位例如 μ Sv/h) RS-232 输出
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)
高限报警:	当计数率超过设定点时激活报警, 高限前仪表板红灯触发, 加蜂鸣音和闪烁 (锁定或非锁定)
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)
中限报警:	设定在高限以下, 在达到报警值之前的不寻常的辐射值发出警告, 除了蜂鸣器外 (非锁定) 前板琥珀色灯亮。
Anti-Saturation:	Circuitry prevents readings from falling below full scale in over-range conditions.
抗饱和电路:	防止在过量程情况下滑出计量表
Line Operation:	105-125V (or 200-240 V), 50-60 Hz.
电源线供电:	

WEIGHT & DIMENSIONS: 重量和尺寸

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.
尺寸:	控制: 10-1/4" 宽 x 8-3/4" 高 x 12-1/2" 深, 单道- (两道以上更宽) 或架装 Probe: 10" round by 16" H. 探头: 直径10"高16" .
Weight:	Console: 20 lbs.
重量:	控制: Probe: 20 lbs. 探测器:
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.
安装:	电子学正常安装在 FM-7 箱内, 但也可用安装架或 Nema 4 机箱 (用于恶劣环境下)

OPTIONS: 选购

Emergency Power:	Stand-by batteries automatically take over providing approximately eight hours operation in the event of AC power failure. Battery life will be shortened in alarm conditions.
紧急电源:	备用电池持续充电, 在 AC 电源断电情况下自动供电, 大约可使用 8 小时报警情况下使用时间将缩短



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Multiple channel systems. 多道系统	Standby batteries. 备用电池
Solenoid activated check source for system calibration. 用于系统校准的电磁阀激活检测源	Cable to 500 feet. 数据线长达500英尺
Remote alarm-flasher-howler 远程报警闪灯	Power Input 12V DC or 200-240V 50-60 Hz. 电源输入12V DC 或 200-240V 50-60 Hz.
Remote readout with alarm. 远程读数报警	



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