

**FAST-CAM-5  
QUICK RESPONSE  
PLUTONIUM AIR MONITOR**

**FAST-CAM-5  
快速响应钚空气监测器**

**FEATURES:**

**特点**

- ALARM ON 74Bq/M3-in-10 sec. Only 2.7 DAC-HR while waiting for alarm  
仅10秒钟在活度74Bq/M3时报警，待报警时暴露剂量仅2.7 DAC-HR
- 35 CFM FLOW RATE- 4" DIA FILTER  
35CFM流量-直径4"滤器
- QUICK CHANGE FILTER  
快速更换滤网
- REAL TIME OPERATION  
实时操作
- PROVIDES LOCAL OR REMOTE READOUT  
提供本地或远程读数
- RS-232 OUTPUT TO COMPUTER OR PRINTER  
RS-232 输出到电脑或打印机
- FULLY COMPATIBLE TO "OVERDRIVE" NETWORK  
“超速”网络全兼容
- BETA CHANNEL FOR RADON REJECTION  
 $\beta$  通道用于氡抑制

**DETECTOR AND PUMP**



**TECHNICAL ASSOCIATES**

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Divisions of



US NUCLEAR CORP

# FAST-CAM-5 QUICK RESPONSE PLUTONIUM AIR MONITOR

## DETECTOR SWINGS ASIDE FOR EASY FILTER REPLACEMENT

探测器旋到一侧以便更换滤网

**APPLICATION:** The **FAST-CAM-5** is an ideal instrument to assure safety against airborne Alpha radiation, even in high or varying background situations. With presettable alarm point and built-in RS-232 output to computer or printer. The **FAST-CAM-5** is designed for stand alone (or networked) operation. The system provides integrated exposure information and has pulse output available. The **FAST-CAM-5** is a complete system but may be expanded according to the needs of the user utilizing the many modules of the FM-7 series.

应用：**FAST-CAM-5**是一款针对气溶胶 $\alpha$ 辐射，确保安全的理想仪器，即使在高本底或不断变化的本底情况下。带可预设报警点，内置RS-232输出到计算机或打印机。**FAST-CAM-5**独立操作设计（或联网），系统提供综合暴辐信息，可带脉冲输出，**FAST-CAM-5**为一体系统但是根据用户需要使用FM-7系列模块可拓展功能。

**DESCRIPTION:** The **FAST-CAM-5** system utilizes a ZnS (Ag) detector and optional Beta Scintillator which allows the two coordinated single channel analyzer windows. Measuring Pu-239 or other alpha emitters in the presence of significant or changing Radon-Thoron background. The count rate is read on the front panel digital display. These meters have a 6 digit display for both rate and integrated information. The user can select the operating modes: gross count, pulse height analyzing (PHA), or PHA with background subtract (PHA-SUB). The high level alarm trip point is settable over the entire range. When activated, the system provides a flashing red beacon and loud bell for visual and audible warning. An adjustable alarm delay prevents short term transient alarms. The system uses a quick change 4" dia filter. The unit includes 35 CFM air pump. Included with the **FAST-CAM-5** are a box of 20 pc 4" dia filters and complete users manual.

描述：**FAST-CAM-5**系统使用ZnS (Ag)探测器，可选 $\beta$ 闪烁体以允许存在两个协调的单道分析窗。在大量或不断变化氡钍本底环境下测量Pu-239或其它 $\alpha$ 发射体。计数率前板数字显示。率表为6位数显示，计数率和综合信息。用户可选择操作模式：总计数，脉冲高度分析（PHA）或带本底扣除的PHA（PHA-SUB）。高限报警点可全程设定。当触发时系统提供闪烁红灯或响铃用于视听警告。可调节报警延时防止短时瞬态报警。系统使用快速更换直径4"滤网，此单元包括35 CFM气泵。还有一盒20片4"的滤网和完整用户手册。

### ACCESSORIES AND OPTIONS AVAILABLE:

配件和选项

4-20 mA Process Loop Transmitter.

4-20 mA 线圈发射器

Remote Alarm 远程报警

Remote Readout 远程读数

Beta detector dual phosphor for Radon Rejection

$\beta$  探测器双荧光体用于氡抑制

Multi detector Overdrive Network for Plant Wide

用于全工厂的多探头“快速”网络

Real time Data Logging

实时数据录入



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## SPECIFICATIONS:

### 规格

•**Detection:** ALARM ON 74Bq/M3-in-10 sec only 2.7 DAC-HR while waiting for alarm  
探测：10秒钟活度浓度74Bq/M3是报警，待报警时暴露剂量仅2.7 DAC-HR

•**Counting Efficiency:** 20 percent of 2 pi with wide window setting and 4" dia Pu-239 source in the filter holder.  
计数率：2π 带宽窗设定 20%，滤波器托里直径4"的Pu-239

•**Detector:** ZnS(Ag) – optional dual phosphor with a 5" dia photo-multiplier tube and a typical alpha resolution of 60 KeV maximum.

探测器：ZnS(Ag) –可选双荧光体带直径5"光电倍增管和最大为60KeV典型α分辨率

•**Response time:** 1 sec. to 24 hrs.

响应时间：1秒-24小时

•**Modules and Functions Include:**

模块和功能包括：

•**MAR-6:** Alarm Relay and Acknowledge (bell disable)  
报警继电器和确认功能（静音）

•**SUB-5:** Three level energy analyzer  
三级能量分析器

•**FIL-7:** Digital Process Readout with RS-232 Output, Process Loop Transmitter (optional)  
数字处理读数带RS-232输出，处理线圈发射器（选项）

•**Filters:** Includes a package of 20 Glass fiber free flowing 4" dia filter  
滤网 包括一包20片直径4"玻璃纤“自由流”维滤网

•**Finish:** Baked enamel, easily cleaned.  
表面 烤漆，容易清理

•**Weight:** 35 lbs. Including Air Blower  
重量 35磅，包括鼓风机

•**Power:** 115V, 60 Hz (230 Volts, 50 Hz optional.)  
电源：

## DETECTORS

### 探测器

Alpha α	ZnS(Ag)
Beta β	plastic scintillator .020"
Sensitive PM Tube 灵敏PM管	5" dia 5" dia
Efficiency, typical Pu-239 探测效率，典型Pu-239	4.0 Bq/cps, 25.0%



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# FAST-CAM-5 QUICK RESPONSE PLUTONIUM AIR MONITOR

Efficiency, typical  
Tc-99 11.0 Bq/cps, 9.1%  
探测效率, 典型Tc-99

Alpha cross talk into Beta chnl 2.0%

α 干扰 β 通道

Beta cross talk into Alpha chnl 0.08%

β 干扰 α 通道

Background (unshielded) 本底 (无屏蔽)

Alpha 5 cpm

Beta 200 cpm

## CONTROLS, FRONT PANEL

控制, 前板

Alarm Beacon, rotating optional.

报警灯

Alarm Bell, fast ringing optional.

报警铃, 快速响铃可选

6 digit LED.

6位数LED

High Level Alarm Lamp.

高限报警灯

Low Level, Loss of Signal Lamp.

低限, 信号丢失报警灯

Running Time Meter.

运行时间仪表

Air Flow Rotameter.

空气流量计

``Power On`` Pilot Light for electronics

电子学“电源开”指示灯

``Power On`` Light for pump power.

泵“电源通”指示灯

Bell Disable / Acknowledge Light.

Mode Switch - Gross Count, PHA, PHA-SUB.

静音/确认灯

模式转换-总计数, PHA, PHA-SUB

**INDICATORS:** Master power switch for all electronics.

指示: 主电源开关用于所有电子学

Power On for pump power and running time register.

泵电源接通, 运行时间

Bias Voltage Adjust, 0-1500 Volts.

偏压调整0-1500 Volts

High Level alarm set pot.

高限报警设定电位计

Operate / Calibrate button.

工作/校准按钮

Alarm Set button, displays alarm setting on meter.

报警设定按钮

Alarm Reset.

报警设定

Bell Disable/Alarm Acknowledge switch

静音/报警确认按钮

Percent subtract pot.

比率扣除电位计

Threshold/Discriminator, ten turnpot with 1,000 division dial.

阈值鉴别器, 1,000刻度10转电位计

Sample window (PHA) always constant above threshold, ten

turn pot with 1,000 division dial.

样品窗总是持续在阈值之上, 1,000刻度10转电位计



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