Model 720 Spectroscopic Area Monitor

Radiation Detection for a Safer World

Features

- Real-time Isotopic Identification Upon Alarm
- NaI Scintillation Detector with HV Bias Supply
- Environmentally Sealed Enclosure (NEMA 4X)
- Automatic Calibration (Temperature) Stabilization

End View (above)

Part Number: 48-3757

Introduction

The Model 720 Spectroscopic Area Monitor is a high powered system that not only logs routine ambient radiation levels and annunciates any alarms, but additionally identifies the isotope(s) that are present whenever an alarm is manifested. This intelligent system is designed to be connected to an Ethernet network that can accommodate up to 50 Ludlum radiation area monitors. Upon an alarm, the Model 720 will automatically capture a spectrum and analyze it against a library of up to 100 isotopes and then convey the results over the network. Each incident will also collect and store the spectrum along with the analysis identifying the isotopes that were present.

Another key feature of this system is its ability to automatically send out emails to responsible parties by event type so immediate action can be taken. Up to 10 emails can be broadcast in an intelligent fashion so that only the supervisors or other responsible persons available on that shift are notified. The system additionally supports separation between those responsible for direct response to a radiation alarm and others who maintain the equipment if an equipment failure alarm is posted.

Providing real-time alarm annunciation at numerous monitoring stations, as well as directly to responders with all the facts pertaining to the location, gross gamma levels, and isotopic mix will enable a more accurate and timely response to any incident that occurs. Ludlum's Model 720 Spectroscopic Area Monitor offers an affordable solution that combines all the latest technologies into one seamless package that enables response in a more efficient and effective manner.

Model 720 Specifications

Detector: 7.6 x 7.6 cm (3.0 x 3.0 in.) (Dia x L) NaI scintillator with an integral HV bias supply

Energy Range: 18 keV to 3 MeV

Sensitivity: 23 cpm/µSv/h (2300 cpm/µR/hr)

Spectrometer: digital signal processor MCA, 256–1024 channels, typically configured for 256 channels for quickest response. Employs Quadratic Compression Conversion (QCC), which allows for identification of mixed isotopes in one second. The pulse processor is a trapezoidal filter with adjustable time constant.

Clock: battery-backed, real-time clock/calendar

Calibration: automatic calibration (temperature) stabilization with low-level ^{40}K source; coarse and fine calibration performed at factory, but can be performed on site if desired

Controls: remotely operated through PC software; internal display shows device status

Enclosure: NEMA 4X, rear-mounted

Temperature: -20 to 50 °C (-4 to 122 °F)

Power: 240 W max, 120/240 Vac

Alarm: 1 dry contact relay (120 V @ 2 A max) and 2 open collector contacts (12 V @ 0.5 A max)

Connections: separate connectors for power, Ethernet and optional local alarm annunciator

Size: 16.5 x 25.4 x 36.0 cm (6.5 x 10.0 x 14.2 in.) (H x W x L)

Weight: 5.2 kg (11.5 lb)

Ludlum Measurements, Inc.