

Model 720 Spectroscopic Area Monitor



Ludlum Measurements, Inc.

Features

- Real-time isotopic identification upon alarm
- TCP/IP networking with automatic email notification
- Standard web browser interface
- Data logging to MS SQL database
- Optional camera image capturing
- Water-tight enclosure
- Automatic temperature stabilization



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 where it can be viewed by Ludlum's Webpage software using any standard browser program. All data are logged to a MS SQL database and if desired to a csv type file. Up to 10 browsers (more with purchase of other versions of MS SQL) can then access all the data including a system overview, incident reports and timeline graphs. Each incident will also collect and store the spectrum along with the analysis identifying the isotopes that were present. If optional network cameras are connected to the system, an image of the offending item is additionally captured and sent to the database where it is stored along with the other incident data.

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, isotopic mix, and visual images will enable a more accurate and timely response to any incident that occurs. Ludlum's Model 720 Spectroscopic Area Monitor in combination with its Wepage & Service network software package 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–3 MeV

Sensitivity: 23 cpm/uSv/hr (2300 cpm/uR/hr)

Spectrometer: Digital signal processor MCA, 256 – 1024 channels, typically configured for 256 channels for quickest response. Employs Quadratic Compression Conversion (QCC) allows for identification of mixed isotopes in one second. 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 ⁴⁰K 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 (120V@2A max) and 2 open collector contacts (12V@0.5A 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)

Webpage & Service Software



Ludlum Measurements, Inc.

Introduction

Ludlum's Webpage & Service program is a radiation network software package that collects and displays radiation levels and alarm status from up to fifty Ludlum area monitors. Using this interface, radiation data may be placed onto the Ethernet network for real-time monitoring, email alerts, and saved into a database. Because the Supervisor software runs as a Windows Service, it continues running even if no user is logged onto the computer.

The radiation data is logged to a Microsoft SQL database and may also be logged to a comma delimited text file. The service can be configured to send an email alert when an alarm or failure occurs on any of the connected Ludlum Model 375 instruments. The installation CD includes a copy of MS SQL Server Express, which is a free version of the Microsoft SQL Server. The installation CD also has a copy of .NET Framework 2.0, which is a requirement of the SQL Server.

The service is used in conjunction with the Model 375 Webpage server application which provides a user-friendly interface to the data, requiring only a standard web browser. Up to 10 browsers can be connected to the database at any given time using the free version of SQL Server-more users may be accommodated by purchasing a different version of SQL Server.

Order Part Number: 1370-077

Webpage & Service Software Specifications

Communication: Uses TCP/IP for basic communication across an Ethernet (LAN) Local Area Network

Service: Program runs in the background any time the computer is turned on - allows more complete 24/7 datalogging and webpage access.

Webpage: Accessible by any network user with proper permissions using a standard web browser like Internet Explorer or Mozilla Firefox.

Webpage Windows:

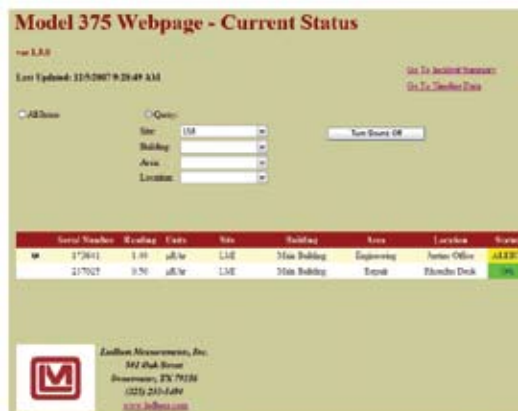
Current Status - Current status and reading of all or selected area monitors

Incident Summary - List of alarms or failure messages of all or selected Model 375s over a specified time/date range

Timeline Data - graph of a particular instrument's radiation readings over a specified time/date range

E-mail Support: The E-mail Setting tab allows the configuration of the e-mail capability of the software. 3 sets of 10 e-mail addresses are available separated by shift number and by alarm category.

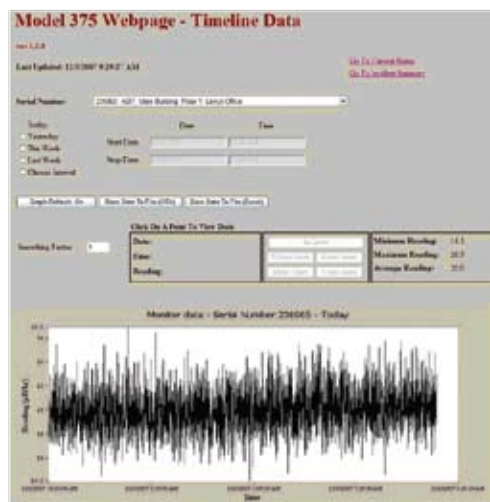
Camera Support: Optional Ethernet cameras can capture a picture of what triggers the alarm.



Current Status



Incident Summary



Timeline Data