NeuSpec

Spectroscopic Radiation Detection Systems

Radiation detection information is taken to the next level with NeuSpec Spectroscopic Radiation Detection Systems

- Fast reacting alarm response with isotopic identification
- Utilizes gamma spectra energy deconvolution technique
- State of the art large volume, high resolution sodium iodide crystals (NaI(Tl))
- Standalone technology or can be added onto existing PVT based systems
- Flexible installation allowing for use in multiple applications

Next Level in Radiation Detection

NeuSpec utilizes gamma spectra energy deconvolution techniques, which is a significant improvement over conventional PVT scintillator based systems. The NeuSpec Spectroscopic technology is specifically designed to enhance a radiation detection systems ability to recognize specific Gamma energies which can adversely affect alarm thresholds. NeuSpec utilizes of series of advanced isotopic identification algorithms in conjunction with RadComm's industry-leading and proven Region of Interest (R.I.O.) analyses to provide best in class detection and identification capability.

Stabilization Without a Radioactive Check Source

NeuSpec incorporates large Sodium Iodide Thallium Doped crystals (NaI(Tl)) specifically selected for high resolution signal response. The crystals are protected inside a stainless steel case with a low density aluminum door. To ensure the best possible spectral analyses, the sodium iodide crystals must be continuously stabilized. NeuSpec stabilizes these crystals with specific Gamma energies associated with the ambient background energies, thus eliminating the need for a supplied radioactive source(s).

Flexible Multiple Applications

NeuSpec Spectroscopic system can be used in a variety of applications including: addition to existing PVT based vehicle monitoring system, conveyor belt, and area monitoring. NeuSpec's gamma spectra energy deconvolution algorithms give the system the ability to either ignore (for example NORM or Medical Isotopes) or alarm on specific gamma energies.

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SPECIFICATIONS

SYSTEM CONFIGURATION

- Detector assemblies (1-8)
- RadLink embedded controller
- Smart Infrared presence sensors
- Large touch screen monitor
- Remote communications package (Optional)

RadLink CONTROLLER

- Large touch screen LCD monitor
- Large storage capacity for system operational information and alarms
- Easy to follow multilingual menu outlines and descriptions
- Multi-level security password control
- Detail alarm and scan data storage
- Easy to set alarm configuration menu
- Network access for remote service and monitoring
- Radiation levels displaying in either: CPS, R/h, Sv/h
- Vehicle speed measurement in Km/h or mph
- Internal operating temperature displayed in Celsius and Fahrenheit
- Adjustable audio alarm
- Counter for number of scans in a 24-hour period for incoming and outgoing scans
- Detailed alarm information displayed and stored after every alarm
- Configurable email reporting
- Various string outputs available

DETECTOR

- Detector Case:36"H(915cm)x24"L(60cm)x 6"W(15cm)
- Outer Detector Case: Painted Aluminum
- Nema 4 (IP65) Rated
- Integral PMTs with EM Shielding
- High Speed DSP Circuitry with High SNR
- Ultra Stable High Voltage Software Adjustable
- Temperature Sensor
- Internal operating temperature: -20 °C (68 °F) +55 °C (131 °F)
- Relative Humidity: 93% non-condensing at 40 °C (104 °F)
- Vibration: 2 g for 15 min at 10 – 33 Hz in XYZ directions
- (ANSI N42.34, ANSI N42.38)
- Shock: Complies with ANSI N42.34, ANSI N42.38
- EM Compatibility: ANSI N42.34, ANSI 42.38 compliant
- CE compliant (EU safety, RFI and EMI directives)

SPECTROMETER

- Each NaI(Tl) Crystal - Size 16"(405mm) x 4" (102mm) x 2"(50mm)
- Energy Resolution 8.0% or better for of 662 KeV
- Energy Range: 20 KeV to 3.0 MeV (Gamma)
- System Calibration Software Monitor with Operator Alert
- Dose Rate Range 1nSv/h to 1.0mSv/h Auto-Ranging
- Gamma Spectrum - 512 Channels, channel capacity 16 bits
- Correction - non-linear energy calibration
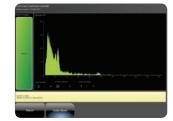- Detection Specification: Meets ANSI N42.38 (2006)

OPTIONS

- Camera
- External alarms
- Supervisory Software
- Neutron Detection (He3 or alternative)

Cobalt-60 Spectra

Thorium-232 Spectra

Cesium-137 Spectra

Barium-133 Spectra