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Trusted radiation protection.

943-36CS

Gamma Scintillation Detector with Integral Check Source

The 943-36CS Gamma Scintillation Detector consists of a scintillation crystal, a photo-multiplier tube, a preamplifier assembly, and an integral check source.

The 943-36CS detector is designed to be sensitive to gamma radiation. The scintil-lation material, photomultiplier tube, and preamplifier are contained within a cylindrical housing.

The preamplifier provides pulse conditioning and cable driving capabilities to match the input characteristics of the instruments used to monitor the detector output.

Applications

The 943-36CS Gamma Scintillation Detector can be used with Universal Digital Ratemeters or with the 960 Digital Radiation Monitoring System (DRMS). Ratemeters are used in systems where indi-vidual control room readouts are employed, while the 960 DRMS is used when a complete digital system is supplied.

Technical specifications

Physical

Dimensions
2.5 in Ø x 16 in long (63.5 x 406.4 mm)

Weight
5 lb

Housing material
Stainless steel

Check source
Housing PVC plastic

Key features

- Gamma scintillation detector with built-in check source
- Used in duct monitoring, positron emission tomography (PET) stack applications
- Count range: 10^7 CPM
- Preamp integral with detector
- Integral 8 µCi ^{137}Cs check source
- Ratemeter may be remotely located up to 1500 feet
- Deadtime correction < 1 % at 10^7 CPM
- Operating temperature range: 32 °F to 122 °F (0 °C to 50 °C) (max delta T 20 °C/hr)
- For use with the 942A Series or the 960 Series electronics

Environmental
- Operating Temperature: 32 °F to 122 °F (0 to 50 °C)
- Storage Temperature: 32 °F to 122 °F (0 to 50 °C)
- Relative Humidity: 0 to 95 %, non-condensing

End window material
Stainless steel

Crystal

Material
NaI

Full width half max
< 9 %

Configuration
1.5 x 1 in

Energy response range
70 keV to 3 MeV

Electrical

Photomultiplier tube
2 in Ø, 10-stage, integral crystal

Maximum count rate
107 CPM

Output pulse polarity
Negative

Output impedance
50 ohms

Rise time
< 60 ns (preamp alone)

Maximum field cable length
1500 ft (457 m)

Maximum pulse amplitude
- 6 V (terminated into 50 ohms)

Connector type
MHV high voltage

Power requirements
1400 V dc max @ 500 µA
± 15 V dc @ 50 mA

Ordering information

Model

943-36CS: Gamma Scintillation Detector with Integral Check Source

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