



Trusted
radiation
protection.

943-36CS

Gamma Scintillation Detector with Integral Check Source

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

The 943-36CS detector is designed to be sensitive to gamma radiation. The scintillation 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 individual 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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