

Model 44-183 Shielded GM Detector

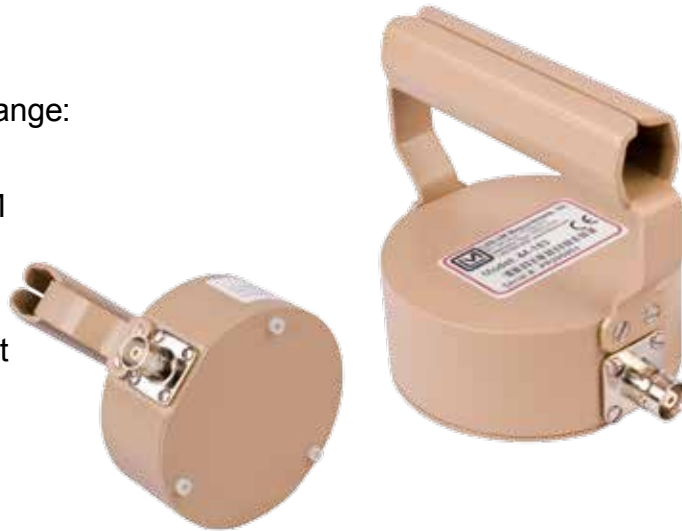
Radiation Detection for a Safer World



Ludlum Measurements, Inc.

Features

- Model 44-183 Detector Range:
10 $\mu\text{Sv/h}$ –20 mSv/h
- Energy Compensated GM
- 10:1 Directional Shielding
- Rugged Construction
- Works with Many Different Instruments



Part Number: 47-3758

Introduction

The Model 44-183 and Model 44-183-1 detectors are designed for gamma surveys in high-background environments and also in those areas where elevated fields are directional. The detector incorporates lead shielding that results in a 10:1 reduction in sensitivity from gammas entering in any direction but the bottom face, providing a collimated response. The greatest dynamic range is provided using instruments with DTC (Dead Time Correction).

The front plate and handle are constructed from aluminum. All exterior surfaces are protected by a durable, splatter finish, beige colored powder-coat. Reference markings on the detector housing indicate the internal position of the embedded GM tube. Three screws secure nylon feet on the detector to lift it off the surface and to protect the window and the holder from contamination.

Specifications

DETECTOR RANGE WITH DTC: 10 $\mu\text{Sv/h}$ to 100 mSv/h (1 mR/hr to 10 R/hr)

DETECTOR RANGE WITHOUT DTC: 10 $\mu\text{Sv/h}$ to 20 mSv/h (1 mR/hr to 2 R/hr)

DETECTOR: GM, energy-compensated

ENERGY RESPONSE: $\pm 15\%$ of true value

SENSITIVITY (^{137}Cs): 0.17 cps/ $\mu\text{Sv/h}$ (100 cpm/mR/hr)

FRONT-TO-BACK SHIELD RATIO (^{137}Cs): 10:1

OPERATING VOLTAGE: recommended 550 V

INPUT SENSITIVITY: -30 mV ± 10 mV

DEAD TIME: typically 50 microseconds

CONSTRUCTION: aluminum and lead with powder-coated finish

CONNECTOR: series "C"

TEMPERATURE RANGE: -20 to 50 $^{\circ}\text{C}$ (-4 to 122 $^{\circ}\text{F}$)

SIZE: 10.7 x 12.2 x 12.7 cm (4.2 x 4.8 x 5.0 in.) (H x W x L)

WEIGHT: 3.3 kg (7.3 lb)

Also Available: Model 44-183-1 (Part Number 47-4123) is the same as Model 44-183, except it uses a different GM tube with a different range.

MODEL 44-183-1 DETECTOR RANGE WITH DTC: 40 $\mu\text{Sv/h}$ to 400 mSv/h (4 mR/hr to 40 R/hr)

MODEL 44-183-1 DETECTOR RANGE WITHOUT DTC: 40 $\mu\text{Sv/h}$ to 60 mSv/h (4 mR/hr to 6 R/hr)