LUDLUM MEASUREMENTS, INC.

Model 44-20
High Energy Gamma Detector

Part Number: 47-1104

Three views shown of Model 44-20

Introduction

The Ludlum Model 44-20 Gamma Scintillator detector uses a Teledyne Integral Detector assembly containing a 7.6 cm (3 in.) diameter x 7.6 cm (3 in.) thick NaI(Tl) crystal optically coupled to a photomultiplier tube (PMT). (*Compare to Model 44-11 with 5.1 cm [2 in.] crystal.*) The detector is compatible with general purpose survey meters, ratemeters, and scalers for high-energy gamma detection of approximately 60 keV to 2 MeV range. It provides high sensitivity for surveying and pulse height discrimination for single channel or multi-channel applications.

Specifications

ENERGY RESPONSE: energy dependent

OPERATING VOLTAGE: typically 500 to 1200 volts maximum

SCINTILLATOR: 7.6 x 7.6 cm (3 x 3 in.) [Dia x L] NaI(Tl) crystal

SENSITIVITY: typically 2300 cpm per µR/hr (^{137}Cs gamma)

PHOTOMULTIPLIER TUBE: 7.6 cm (3 in.) diameter, end window with 10 stage dynode chain at approximately 60 megohms

CONNECTORS: standard series "C" for normal mode; other types available upon request. For signal splitter option: BNC for signal output and MHV for high voltage output.

CONSTRUCTION: integral-line detector with aluminum cap and stainless steel body

HOUSING CONSTRUCTION: 0.05 cm (0.02 in.) thick aluminum

SIZE: 8.3 x 28.4 cm (3.3 x 11.2 in.) [Dia x L]

WEIGHT: 1.7 kg (3.7 lb)

Also Available:

Model 44-20-1: Size: 8.6 x 28.2 cm (3.4 x 11.1 in.) [Dia x L]; Weight: 2 kg (4.5 lb). Part Number: 47-3129

Model 44-20-3: higher resolution crystal, Size: 8.3 x 28.4 cm (3.3 x 11.2 in.) [Dia x L]; Weight: 1.8 kg (4 lb). Part Number: 47-3952

Ludlum Measurements, Inc. P.O. Box 810, Sweetwater, Texas 79556
Web: ludlums.com **Tel**: 800-622-0828 / 325-235-5494 **Fax**: 325-235-4672 **Email**: sales@ludlums.com

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