

Model 15 Neutron Count Ratemeter

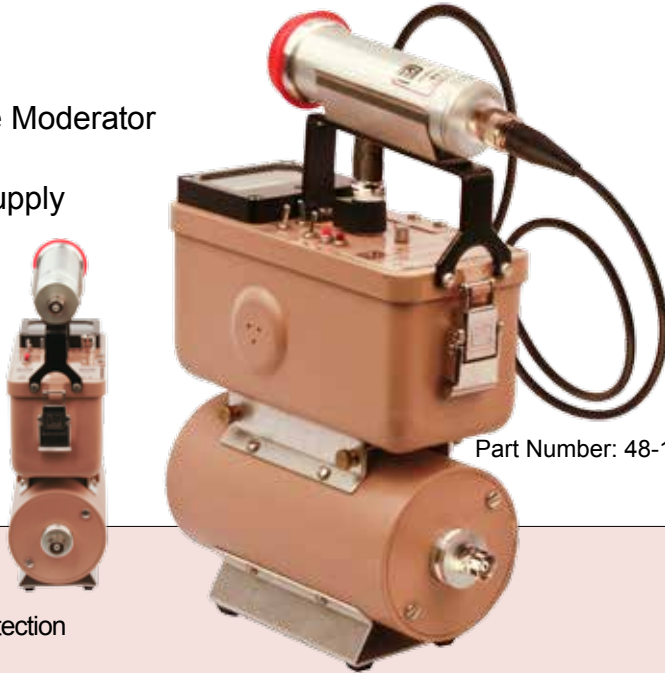
Radiation Detection for a Safer World



Ludlum Measurements, Inc.

Features

- Neutron Detector with Removable Moderator
- Alpha Beta Gamma GM Detector
- Regulated High-Voltage Power Supply
- 4-Decade Analog Ratemeter
- Rugged
- Complete Turn-Key System
- C Connector (others available)
Permit Simple Switching to the
Other Detector



Part Number: 48-1614

Specifications

INDICATED USE: alpha, beta, gamma, neutron detection

NEUTRON DETECTOR

- Type: 2 atmosphere ^3He proportional detector with 7.6 cm (3 in.) diameter, cadmium-lined (removable) moderator for thermal neutrons, Model 42-14H
- Energy Response: count response nonlinear throughout energy spectrum (0.025–12.0 MeV)
- Sensitivity: 55 cpm/mRem/hr, Bare $^{241}\text{AmBe}$
- Gamma Rejection: < 10 cpm through 10 R/hr (^{137}Cs gamma)
- Detection Range: thermal to approximately 12 MeV

ALPHA - BETA - GAMMA DETECTOR

- Detector Type: thin end-window GM detector, Model 44-7
- Window: 1.7 ± 0.3 mg/cm² mica
- Window Area: active: 6.4 cm² (1 in²), open: 5.2 cm² (0.8 in²)
- Sensitivity: typically 2100 cpm/mR/hr (^{137}Cs gamma)
- Background: typically 40 cpm
- Efficiency (4 π): 2% for ^{14}C ; 10% for $^{90}\text{Sr}/^{90}\text{Y}$; 7% for ^{239}Pu
- Energy Response: energy dependent

INSTRUMENT RANGE: 0–500,000 cpm

LINEARITY: $\pm 10\%$ of true value

METER: 6.4 cm (2.5 in.) arc, pivot-and-jewell suspension

METER DIAL: 0–500 cpm, 0–2.5 kV, BAT TEST

MULTIPLIERS: x1, x10, x100, x1000

INSTRUMENT HIGH VOLTAGE: adjustable from 200 to 2500 V

AUDIO: built-in unimorph speaker with ON-OFF switch, greater than 60 dB at 61 cm (2 ft)

CONNECTOR: series "C" (others available)

POWER: 2 each "D" cell batteries, housed in sealed compartment that is externally accessible

BATTERY LIFE: approximately 600 hours with alkaline batteries, can be checked on meter

TEMPERATURE RANGE: -20 to 50 °C (-4 to 122 °F)

CONSTRUCTION: cast and drawn aluminum with beige powder coat

SIZE: 31.8 x 8.9 x 21.6 cm (12.5 x 3.5 x 8.5 in.) (H x W x L)

WEIGHT: 3.7 kg (8.1 lb)

