

Model 2241-4 Neutron Dose Ratemeter

Radiation Detection for a Safer World



Ludlum Measurements, Inc.

Features

- 22.9 cm (9 in.) Moderated Neutron Detector
- Range: 0–100 mSv/h (0–10,000 mrem/hr)
- Gamma Rejection up to 0.1 Sv/h (10 R/hr)
- Ratemeter with Built-in Scaler Function
- Independent Adjustable Alarms for RATEMETER and SCALER Modes
- RS-232 Connection

Part Number: 48-2973



Meter Specifications

DISPLAY: LCD with programmable backlight on time

POWER: two each “D” cell batteries

BATTERY LIFE: typically 200 hours

CONTROLS: Off/Ratemeter/Scaler three-position operation

switch, Audio on/off switch, Fast/Slow response switch, LCD backlight pushbutton, Count Reset pushbutton, and Scaler Count pushbutton

AUDIO: built-in audio [greater than 60 dB at 0.6 meters (2 ft)] speaker with On/Off switch

SCALER TIME: adjustable from 1–999999 seconds, can display seconds or minutes

ALERT/ALARM: pre-programmed alarms for ratemeter and scaler modes

RS-232: “D” type connector, used for programming instrument and outputting data at two-second intervals, baud rate from 150–19.2k bps

SIZE: 16.5 x 8.9 x 21.6 cm (6.5 x 3.5 x 8.5 in.) (H x W x L)

Model 2241 face



Detector Specifications

DETECTION RANGE: thermal to approximately 12 MeV

ENERGY RESPONSE: approximately follows the inverse of the radiation protection guide curve for neutron dose

DETECTOR: 2 Atm ³He tube LND 25185 or equivalent

MODERATOR: 22.9 cm (9 in.) diameter cadmium-loaded polyethylene sphere

SENSITIVITY: typically 30 cpm per mrem/hr (²⁴¹AmBe fast neutrons); 100 cpm per mrem/hr (moderated ²⁵²Cf)

GAMMA REJECTION: typically 10 cpm or less through 100 mSv/h (10 R/hr) (¹³⁷Cs)

OPERATING VOLTAGE: approximately 1200 Vdc

INPUT SENSITIVITY: -2 mV

CONNECTOR: series “C” (others available)

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

SIZE: 26.2 x 22.9 x 22.9 cm (10.3 x 9.0 x 9.0 in.) (H x W x D), including brackets

TOTAL WEIGHT of MODEL 2241-4: 8.3 kg (18.3 lb); with batteries