

Model 9DP

Pressurized Ion Chamber



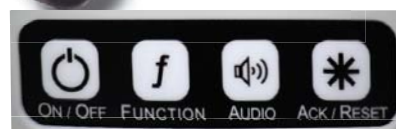
Ludlum Measurements, Inc.

FEATURES

- 0–50 mSv/h (0–5 R/hr; 0–50 mGy/h) Range with μ R/hr Sensitivity
- Simultaneous Rate and Integrate or Peak Hold Readouts
- Sunlight Readable Color Display
- Auto Zeroing & Ranging
- Rechargeable Batteries
- Alarming Capability
- Data Logging
- USB Connectivity
- Free Firmware Updates through Internet



Part No.: 48-3742



Introduction

The Ludlum Model 9DP pressurized ion chamber meter provides highly sensitive measurements of exposure or dose. It can simultaneously display the rate and either integrated value or highest rate (peak) seen by the instrument. The integrated value or peak rate can be reset using one of the four convenient front panel mounted buttons.

The stunning 256K color, bit-mapped display provides an optimized presentation of the data and is accompanied with icons informing the user of the active functions and instrument status. All logged data can be written in csv format to a standard USB thumb drive for convenient retrieval by a PC spreadsheet or database program. Alarms are manifested using color changes on the display and an acknowledgeable audio output.

The Model 9DP is part of Ludlum's Dimension series of meters employing state-of-the-art technologies that deliver tremendous capability, user-friendliness, and convenient PC connectivity. Instrument users have access to personal preference type settings by connecting directly to a USB keyboard (with no additional USB ports, and no integrated mouse or trackpad or sound controls). Ludlum also sells a Dimension Interface Package that facilitates complete setup and calibration programming under administrator controlled password protection.

Options

- | | |
|----------------------------------------|--------------|
| Dimension Interface Package: | PN: 4293-763 |
| Audio Jack Output: | PN: 4293-891 |
| Alkaline Battery Pack: | PN: 4543-028 |
| Check Source, 10 μ Ci 137 Cs: | PN: 01-5231 |
| Carrying Case: | PN: 2313065 |

NOTE: This instrument is considered HAZMAT and requires HAZMAT training to ship. Please see the instrument manual for details.



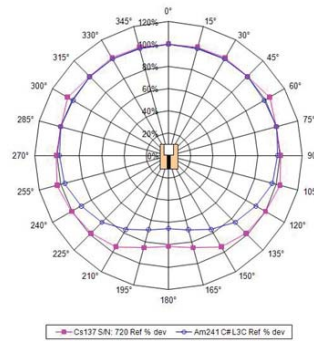
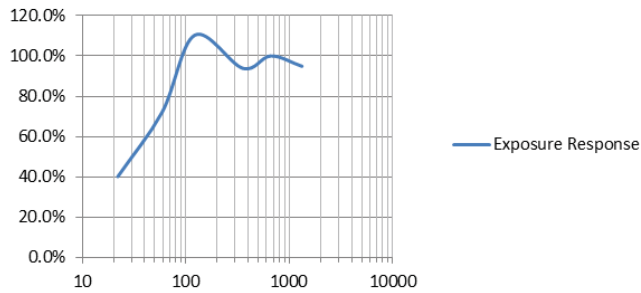
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Model 9DP Exposure Energy Response Relative to Cs-137



Specifications

RADIATION DETECTED: beta above 1 MeV; gamma & X-rays above 25 keV

OPERATING RANGES: Sv/h units: 0–5 μ Sv/h, 0–50 μ Sv/h, 0–500 μ Sv/h, 0–5 mSv/h, 0–50 mSv/h

R/hr units: 0–500 μ R/hr, 0–5 mR/hr, 0–50 mR/hr, 0–500 mR/hr, 0–5 R/hr

Gy/h units: 0–5 μ Gy/h, 0–50 μ Gy/h, 0–500 μ Gy/h, 0–5 mGy/h, 0–50 mGy/h

CHAMBER VOLUME: 230 cm³ (14 in³) volume pressurized to 8 atmospheres (117 psi \pm 5 psi)

CHAMBER DENSITY: chamber wall density is 601.7 mg/cm²; can wall density is 332.5 mg/cm². Total density of chamber + can is 934.2 mg/cm²

RESPONSE TIME: ranges from five seconds in lowest range to under two seconds in highest range when measuring from 10% to 90% of final value

GEOTROPISM: less than 1%

ACCURACY: \pm 10%

MEASUREMENT READOUTS: simultaneous display of rate and either the integrated value or highest rate (peak)

MINIMUM READOUT: 0.01 μ Sv/h (0.1 μ R/hr, 0.01 μ Gy/h)

LCD DISPLAY: 8.9 cm (3.5 in.) diagonal, 240 H x 320 W pixels, TFT active matrix, >256k colors, 220 cd/m², automatic sensor-controlled backlighting

USER CONTROLS: 4 push buttons: Instrument on/off, Function (for peak rate/integrate modes), Audio on/off, and Asterisk (for alarm acknowledge/meter reset/clearing integrated dose or peak rate)

AUTOMATIC FUNCTIONS: auto ranging, auto zeroing, auto LCD backlighting

DATA STREAMING: Stored to detachable USB thumb drive in CSV format for easy retrieval by PC spreadsheet/database programs. Data points include date and time, rate, integrated reading, and instrument status. Logging time intervals are set by PC interface program.

AUDIO OUTPUTS: built-in unimorph speaker > 60 dB at 0.6 m (2 ft), optional audio jack available for connection to external (optional) headset

ALARMS: Two available user-programmable levels of radiation alarms, each is user programmable throughout entire readout range.

USB INTERFACE: single USB port, connects directly to a USB keyboard (with no additional USB ports, and no integrated mouse or trackpad or audio controls) to facilitate password-protected parameter changes, accepts USB thumbdrive for storing logged data, or to an optional Dimension Interface Package (# 4293-763) that facilitates PC parameter editing and calibration

TEMPERATURE RANGE: -20 to 40 $^{\circ}$ C (-4 to 104 $^{\circ}$ F)

WARM UP TIME: < 1 minute when the instrument is in temperature equilibrium with the surrounding environment

DRIFT: less than 0.3 μ Sv/h (0.03 mR/hr; 0.3 μ Gy/h)

HUMIDITY: 0–95%, non-condensing

POWER: eight rechargeable AA NiMH batteries, supplied with wall charger for direct connection to instrument

BATTERY LIFE: approximately 12 to 30 hours between charges depending primarily upon use of backlighting and USB usage

CONSTRUCTION: durable plastic accompanied by internal metal frame support

SIZE: 21.9 x 11.6 x 24.5 cm (8.6 x 4.6 x 9.6 in.) (H x W x L)

WEIGHT: 1.5 kg (3.3 lb), including batteries

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