

Model 375-9 Gamma Area Monitor

Radiation Detection for a Safer World



Ludlum Measurements, Inc.

Features

- Integrated Measurement System
- Internal Scintillator Detector
- Range: Typically 0.1 mR/hr to 1 R/hr
- User-Programmable Alarm Settings
- Highly Visible Red Strobe Alert
- Audible and Visual Alarms
- Networkable



Part Number: 48-3036 and
Part Number: 47-3324

Introduction

The Model 375-9 Digital Wall-Mount Area Monitor is designed for visibility and ease of use. This monitor provides a fast response to pulsed fields by utilizing an external ion chamber covering any five consecutive decade-range between 0.1 mR/hr and 1000 R/hr. It features a wall-mount chassis and a four-digit LED display that is readable from 9 meters (30 feet) away. Backlit indicators warn of low radiation (yellow), high radiation (red), instrument failure (red), and low battery (yellow), along with an audible alarm. A green status light is a positive indication of instrument operation. Parameters are protected under a calibration cover.

Calibration is easily accomplished by moving the cal dipswitch to the right, and using the pushbuttons to increment or decrement the calibration constant, dead time correction, and alarm point parameters. Parameters are stored in non-volatile memory (retained even with power disconnected). A five-decade logarithmic analog output is provided. A battery backup provides 48 hours of additional use after the primary power is removed.

Specifications

DETECTOR: external, typically a Model 45-9 or 45-9-1 Ion Chamber as detailed below (others are available).

Detector Housing: aluminum with beige powder-coat finish, 7.6 x 25.7 cm (3 x 10.1 in.) (Dia x L) 17 cm³ scintillation detector
Ion Chamber: 17 cm³ volume; stainless steel wall chamber filled with xenon at 7600 torr pressure.

SENSITIVITY: typically 30 kcpm/ μ R/hr (¹³⁷Cs)

DISPLAY: 4-digit LED display with 2 cm (0.8 in.) characters

DISPLAY RANGE: 000.0 cpm/<units> to 9999 cpm/<units>

RESPONSE: typically 3 seconds from 10% to 90% of final reading

DISPLAY UNITS: can be made to display in μ Sv/h, mSv/h, Sv/h, μ R/hr, mR/hr, R/hr, μ rem/hr, mrem/hr, rem/hr, cpm, cps, and others

LINEARITY: readings within 10% of true value with detectors connected

CALIBRATION CONTROLS: accessible from the front of the instrument (protective cover provided)

STATUS: (green light) instrument functioning properly

LOW ALARM: (yellow LOW ALARM light and slow beep) can be set at any point from 0.0 to 9999

HIGH ALARM: (red HIGH ALARM light and fast beep) can be set at any point from 0.0 to 9999

DET FAIL: (red light and audible tone) indicates detector overload, no count from detectors, or instrument failure

LOW BAT: (yellow light) indicates less than 2 hours of battery power remaining

OVERLOAD: "OL" display and audible FAIL alarm indicates detector saturation

OVERRANGE: "----" display and activated low and high alarms indicates measured radiation field has exceeded the counting range

ALARM AUDIO OUTPUT: 68 dB at 0.6 m (2 ft) (3kHz)

REMOTE (optional): Ludlum Model 271 or Model 272

POWER: 95–135 Vac (178–240 Vac available), 50–60 Hz single phase, 6 volt sealed lead-acid rechargeable battery (built-in)

BATTERY LIFE: typically 48 hours in non-alarm condition; 12 hours in alarm condition

BATTERY CHARGER: battery is continuously trickle-charged when instrument is connected to line power and turned on

CONSTRUCTION: aluminum housing with ivory powder coat finish

TEMPERATURE RANGE: -20 to 50 °C (-4 to 122 °F), may be certified for operation from -40 to 65 °C (-40 to 150 °F)

SIZE: electronics: 18.7 x 24.6 x 6.4 cm (7.4 x 9.7 x 2.5 in.) (H x W x D)

WEIGHT: 2.9 kg (6.5 lb)