

Model 375P-336, Waste Release Monitor

Introduction

The Model 375P-336 is a Digital Model 375 Controller coupled to two 2753 cm (168 in) plastic scintillation detectors. These components are indoor units that are typically wall-mounted. This simple and cost-effective solution offers a system that is easy to operate and maintain. The controller supplies local alarms, but can also be connected to external alarms or even put onto an Ethernet network if desired. It additionally has a 24-hour battery backup to keep the system operational in the event power is lost.

Medical Application: This instrument is ideal for monitoring personnel or laundry for possible contamination in the nuclear medicine department. The monitor may also be used as a radiation contamination triage device to alert emergency department personnel of potentially contaminated patients or equipment coming into the emergency room. In environments where equipment, carts or other traffic might strike and damage the detector, use of the optional rail, Part Number 2311167 is recommended.

Surface Contamination Inspection: Inspecting items using hand held instruments can be too time consuming in many cases. The Model 375P-336 facilitates a more rapid and uniform inspection by placing two relatively large sized scintillation detectors in close proximity to the incoming or outgoing articles undergoing inspection. Both detectors are continuously monitored by the digital controller so any offending item can immediately trigger an alarm. Alarm conditions can be set up to automatically halt production conveyance devices, notify the central office, and even alert key personnel to initiate an immediate response.



Specifications

DETECTOR: 2 ea. 2753 cm³ (168 in³) plastic scintillation detectors. Each detector is supplied with a 15.2 m (50ft) coaxial cable.

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

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

RANGE: 0.0 to 9999 kcps

LINEARITY: reading within 10% of true value

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

STATUS: (green light) instrument functioning properly

SIGMA ALARM: indicated by red ALARM light and audible tone (can be set at any point from 0.0 to 999 sigma)

SUM ALARM: indicated by red ALARM light and audible tone (can be set at any point from 0.0 to 9999 kcps). NOTE: audible alarm annunciators can be configured as a single beep if desired

DET FAIL: red light and audible tone; greater than 68dB at 61cm [2ft]) indicates no counts from detector or instrument failure

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

OVERRANGE: indicates measured radiation field exceeds counting range of instrument (indicated by display reading "----")

RELAY OUTPUT: mains (120 or 240 Vac) output on alarm, 9-pin connector providing RS-232 output, signal ground connection FAIL and ALARM signals (current sink), and direct connection to battery and ground

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

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

BATTERY LIFE: typically 24 hours in non-alarm condition

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

CONSTRUCTION: aluminium housing with ivory powder-coat paint

TEMPERATURE RANGE: -15 to 50 °C (5 to 122 °F)

SIZE: electronics: 26.2 x 24.6 x 8.4 cm (10.3 x 9.7 x 3.3 in.) (H x W x L)

detectors (ea.): 104.1 x 17.1 x 5.4 cm (41 x 6.75 x 2.125 in.) (H x W x L)

WEIGHT: electronics: 4.2 kg (9.3 lb); detectors (ea.): 10.7 kg (23.5 lb)

Options: Date/Time Printer with Cable (Part Number 4558-185)

External Annunciator Option for the Model 375 (Part Number 4396-171)

Model 271-2 Remote Display Area Monitor with dual alarm channels, audio On/Off, reset button (PN 48-3536)

Horn/Red Alarm Strobe: Model ALM-220, with 14.2 m (50 ft) cable and 220 V relay (Part Number 4396-173)

Environmental Enclosure for Model 375 electronics: NEMA 4 Weatherproof Enclosure (Part Number 4396-068)