Model 375P-3500
Conveyor Radiation Monitor

Ludlum Measurements, Inc.

Features

- Large Size Plastic Scintillation Detector
- High Sensitivity
- Industrial Duty
- Weathertight Enclosures
- 24-Hour Battery Backup

Introduction

Protecting steel mills against entry of loose radiation sources that can potentially contaminate them requires diligent attention. Failure can cost milions in fines and clean-up expenses. Ludlum's conveyor monitor offers added assurance by inserting a second line of defense.

Gateway monitors employed at the entrance to most facilities used to scan trucks and vehicles, represent the first line of defense. These gateway systems are highly effective and catch loose sources before they enter your site. As any radiation detection expert knows, despite their effectiveness, they can be stretched to the limit of their ability whenever called upon to detect weaker sources deeply embedded and highly shielded in the middle of a large load.

The conveyor radiation monitor has a huge advantage over gateway systems in that it allows the radiation detector to be exposed a few inches, not feet, from each piece of scrap while traveling under highly controlled conditions. This type of a scan offers an optimum geometry and enhances detecting even weaker sources with much greater probability. The likelihood of escaping detection at this secondary process becomes highly remote and is a very small price to pay for detecting any sources that may have escaped attention at the entry point.

Ludlum's conveyor radiation detection system employs its standard Model 3500 scintillator detector, which is identical to that used in its popular gateway systems. This detector delivers superior sensitivity while supplying commonality of parts and operation familiarity.

To reduce costs without compromising performance, the 375P-3500 system also utilizes Ludlum's highly popular Model 375 type controller that controls the detector, updates background, and carefully monitors the scrap metal passing by. The controller can operate totally independently or be wired for remote annunciation or connected to an Ethernet network (requires Ethernet hardware interface option). The Model 375P Controller is not weatherproof and must be mounted either indoors or within an environmental enclosure (available separately).

Specifications

Part Number: 48-3628

DETECTOR: 1 ea. 57.4 liters (3500 in^3) plastic scintillation detector with 0.32 cm (0.125 in.) lead shielding in weathertight housing

CONTROLLER:

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

Status Indicators for:

- Instrument functioning properly
- Sigma Alarm
- Sum Alarms
- Detector Failure
- Low Battery
- Detector Overload
- Detector Overrange

Outputs:

- Relay: mains (120 or 280 Vac) output on alarm
- Data: 9-pin connector providing RS-232 output,

CALIBRATION CONTROLS: accessible from front of instrument

POWER: 95-135 Vac (178-240 Vac available), 50-60 Hz single phase (less than 100 mA), 6-volt sealed lead-acid rechargeable battery (built-in)

BATTERY LIFE: typically 24 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: stainless steel enclosure with aluminum door, with white powder-coat finish

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

SIZE:

Electronics: 26.2 x 24.6 x 3.3 cm (10.3 x 9.7 x 3.3 in.) (H x W x L)

Detector: 208 x 62 x 23 cm (82 x 24.5 x 9 in.) (H x W x D)

WEIGHT: electronics: 4.2 kg (9.3 lb);
detector: 295 kg (650 lb)

OPTIONS: many optional devices are available for this instrument and may be seen on the Ludlums.com website

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