

## Model 3276 Frisker/Area Monitor

### Features

- Simple Setup and Use
- Versatile Instrument: Can be used as Wall Monitor or Frisker
- User-Adjustable Alarms
- User-Programmable Units of Measurement,
- Uses Either Internal or External Detector for Alpha, Beta, or Gamma Radiation
- Standard Alkaline (4) "AA" Battery Power or 9 Vdc Wall Mount Transformer



Part Number: 48-4160  
(front and angle views)

### Introduction

The Model 3276 is an ergonomic, versatile instrument that can be used for multiple radiation detection or measurement purposes. Its design allows it to be used as either a frisker or as an area monitor. It features the ability to measure radiation in count rate, exposure rate/dose, activity rate, integrated exposure/dose, time-averaged rates, and scaler counts. The Model 3276 may utilize either internal or external radiation detectors to detect alpha, beta, or gamma radiation.

When used as an area monitor, the mode choices can be limited to just the RATE mode, appropriate for constantly scanning the radiation level. The units can also be limited to a single set of radiation units so that the display is always showing the same measurement. When used as an area monitor, the audio is limited to activating on an alarm condition, and not the click-per-event or sigma audio more appropriate to frisking.

The instrument features a large backlit LCD (liquid crystal display), a piercing audio warning, and easy, intuitive use. The unit body is made of lightweight, rugged aluminium. It is not intended for outdoor use and should be protected from splashing water. The attached metal handle allows a user to transport it between sites.

Setup of the instrument is accomplished through the front-panel buttons, or through software available from Ludlum Measurements. The advanced user or administrator can set:

- Calibration Constant
- Dead Time Correction
- Efficiency
- High Voltage
- Pulse Threshold
- Detector Current Overload Threshold
- Loss of Count Alarm Time

- Primary and Secondary Units
- Primary and Secondary Minimum and Maximum Displays
- Primary and Secondary Unit Alarm Levels
- Primary and Secondary Count Units
- Primary and Secondary Count Units Minimum Displays
- Primary and Secondary Count Alarm Levels
- Response Time
- Auto-Response Rate (Fast or Slow)
- Available Operational Modes
- Count Time
- Auto Shutdown Time
- Area or Frisker Mode
- Sigma or Click Audio Mode

Front-panel setup can be disabled via the internal switch on the Model 3276 in order to protect settings from inadvertent changes.

The unit is operated with a wall-mounted DC supply that provides 9 VDC to the instrument and has interchangeable prongs to operate on 100-250 VAC at 50-60 Hz in most areas of the world. Four alkaline AA batteries supply backup power for operation from -20 to 50 °C (-5 to 122 °F). Battery life is approximately 50 hours under normal usage. A low-battery indicator on the LCD warns when less than 16 hours of battery life remain.

### Model Part Number Operating Range

<b>3276/1</b>	48-4169	1 Sv/h–0.1 mSv/h (0.1 µR/hr–10 mR/hr)
<b>3276/2</b>	48-4170	1 µSv/h–10 mSv/h (0.1 R/hr–1 R/hr)
<b>3276/4</b>	48-4171	0.01 Sv/h–100 mSv/h (1 mR/hr–10 R/hr)

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## Specifications

**INDICATED USE:** multiple radiation detection or measurement purposes

**DETECTOR:** Geiger-Mueller (GM), scintillator, proportional

**HIGH VOLTAGE (HV) RANGE:** 400 to 1500 Vdc

**ALARMS:** count rate, exposure/dose, and scaler alarm setpoints adjustable over the display range

**OVERLOAD:** high count rate saturation protection prevents false display of lower count rates

**ZERO PROTECTION:** after a user-settable number of seconds of no pulses from detector the unit will flash a zero reading and the alarm audio will be triggered

**LCD DISPLAY:** 3-digit LCD with large 20 mm (0.8 in.) digits, (k)cps, (k)cpm, (k)Bq, (k)dpm, ( $\mu$ )(m)R/(h), ( $\mu$ )(m)Sv/(h), low-battery indicator, MAX, ALARM, AUDIO, USB

**DISPLAY RANGE:**

- 0.00 cps to 999 kcps
- 0.00 cpm to 999 kcpm
- 0.00 Bq to 999 kBq
- 0.00 dpm to 999 kdpm
- 0.00  $\mu$ R/h to 999 R/h
- 0.00  $\mu$ Sv/h to 999 Sv/h



**NOTE:** Display Ranges should be set up by qualified personnel according to detector specifications

**BACKLIGHT:** continuously on to provide better visibility

**USER CONTROLS:**

- ON/OFF/ACK – press to turn ON, tap to acknowledge alarms and silence alarm tone, press to reset Sigma Audio alarm, press to reset or start scaler count, hold for OFF
- MODE – alternates between NORMAL (count rate), MAX (captures peak rate), and COUNT (user-selectable preset count time from 0 to 10 minutes)
- AUDIO – turn “click” audio HI/LO/off, turn Sigma Audio beep on/off
- UNITS – changes the units from count rate (cpm, cps), to dose/exposure ( $\mu$ Sv/h, mR/hr), or disintegration (dpm/Bq)

**RESPONSE TIME:** user-selectable from 1 to 60 seconds, or Auto-Response Rate FAST or SLOW

**AUDIO:** greater than 75 dB at 0.6 m (2 ft), approximately 4.5 kHz

**POWER:** four alkaline “AA” batteries for portable use, or 9 Vdc input via wall mount transformer (input 100–250 Vac 50–60 Hz).

**BATTERY LIFE:** approximately 50 hours, 16-hour low-battery warning

**CONSTRUCTION:** aluminium housing with powder coat finish and subsurface printed front panel

**TEMPERATURE RANGE:** -20 to 50°C (-5 to 122°F); may be certified for operation from -40 to 65°C (-40 to 150°F)

**ENVIRONMENTAL RATING:** NEMA (National Electrical Manufacturers Association) rating of 2 or IP (Ingress Protection) rating of 51

**SIZE:** 16.5 x 11.4 x 21.6 cm (6.5 x 4.5 x 8.5 in.) (H x W x L)

**WEIGHT:** 0.72 kg (1.6 lb)

## Options

**Desktop Stand:** Part Number 4498-784

**Wall Mount for Model 43- 93 Detector:** Part Number 4498-859

**Ethernet Capability:** Part Number 4498-958

**Triad Calibration Software:** Part Number 4498-1010

**Digital Remote Display & Annunciator Model 272D:** Part Number 48-3575