

# UNIVERSAL DETECTION TECHNOLOGY

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## PDS-100G-GN/ID

### Spectrometric Personal Radiation Detector

The PDS-100G/ID and PDS-100GN/ID are the most ultimate evolution of the gamma and gamma/neutron radiation detectors offering embedded spectrum acquisition and identification.

These sensitive pocket-sized devices are designed to detect, locate, quantify and identify radioactive sources to discriminate on the spot Naturally Occurring Radioactive Material (NORM) and medical isotopes against industrial sources or Special Nuclear Materials.

High sensitivity provides better spectra in a shorter time. Fully automated acquisition and identification as well as manual modes are provided.

Identification results are displayed as a list of isotopes with categories and confidence levels. Spectra and ID results are memorized for later transmission.

PDS-100G/ID and PDS-11GN/ID have been designed specially for First Responders, Law Enforcement, Customs inspectors and for Personnel and Site security in critical infrastructures.

#### VERSIONS:

- PDS-100G/ID: Gamma version
- PDS-100GN/ID: Gamma and Neutron version

#### FEATURES

Detection, Search and Identification of nuclear material for Homeland Security applications.

- Small, rugged, compact, user-friendly
- High sensitivity and fast response time
- Embedded identification, automated & manual mode
- Visual, audio and vibration alarms
- Wireless communication interface

## DETECTION

- Detector gamma CsI(Tl):  $\geq 400$  cps per  $\mu\text{Sv/h}$  for  $^{137}$
- Detector neutron LiI(Eu) (GN version only)
- Gamma dose rate display 0.01  $\mu\text{Sv/h}$  - to 100  $\mu\text{Sv/h}$  (1  $\mu\text{rem/h}$  to 10  $\text{mrem/h}$ )
- Gamma count rate display: 0 to 99 999 cps
- Neutron count rate display: 0.0 to 999 cps
- Gamma alarm response time:
- Standard threshold: 0.5  $\mu\text{Sv/h}$  step, alarm within 1 s
- Sensitive threshold: 0.05  $\mu\text{Sv/h}$  step, alarm within 3 s
- Neutron alert response time: mean time to detect
- 2000 n/s Cf252 at 10 cm:  $\leq 2$  sec.

## SEARCH

- 1s integration time with chirp

## SPECTROMETRY AND IDENTIFICATION

- 512/1024 channels spectra: 30keV to 1.7 MeV
- Automated alarm triggered mode with auto confirmation
- Manual mode with preset time and/or counts and resume capability
- Identification by NMD algorithm
- Up to 4 isotopes mixed
- Detectability grade, unknown or ID unsure indication
- Identification time at 1  $\mu\text{Sv/h}$  typical 1 minute
- Designed to exceed ANSI N42-48 SPRD standard

NORM	<b>40K, 226Ra and daughters, 232Th and daughters</b>
Medical	18F, 51Cr, <b>67Ga</b> , 75Se, <b>99mTc</b> , 111In, <b>123I, 131I, 201Tl</b>
Industrial	22Na, 57Co, 60Co, 133Ba, 137Cs, 152Eu, 192Ir, 241Am
SNM	<b>235U, 238U, 239Pu</b>

In **bold**, isotopes addressed by ANSI for SPRD

## FUNCTIONAL FEATURES

- Detection, search and/or identification mode
- Source indication alarm and danger alarm
- Visual, audible and silent alarms (vibration, earphone)
- Easy-to-read display (OLED technology)
- Memory of 100/50 512 ch/1024 ch. spectra and  $> 1000$  events
- IRDA and Bluetooth technology communication

## ELECTRICAL & MECHANICAL CHARACTERISTICS

- Power supply: 2 x AA batteries
- Dimensions (l x w x h): 123 x 74 x 43 mm

## ENVIRONMENTAL CHARACTERISTICS

- Temperature range:  $-20^{\circ}\text{C}$  to  $50^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$  to  $122^{\circ}\text{F}$ )  
ID:  $-15^{\circ}\text{C}$  to  $+45^{\circ}\text{C}$  ( $5^{\circ}\text{F}$  to  $115^{\circ}\text{F}$ )
- EMI, shock, vibration, drop and water resistant

## ACCESSORIES

- PDSmass software for remote display, spectra and historic retrieve, parameters settings
- SMI software for spectra analysis and identification replay
- Silicon protection
- Belt Clip
- Pouch with belt clip
- External power supply/battery charger