



HDS-100G/GN

Hand-held Gamma Neutron Search Instrument

● Search and identification of gamma and neutron radioactive materials ● Fullfills requirements of Homeland Security detection applications

- gamma & neutron independent channels
- very high sensitivity, fast response
- relative thresholds to background
- real time rejection of sudden background variation (VBS algorithm)
- automated spectra acquisition on alert and identification (NMD algorithm)
- clear discrimination of risk category
- visual and audible alarms
- wireless communication interface
- designed to meet / exceeds ITRAP and ANSI standards

HDS-100G/GN are portable devices designed to search for radioactive materials and to respond to radiological threats such as illicit trafficking and RDD's.

They feature the capability to identify the detected isotopes and characterize categories from medical, industrial, natural occurring radioactive materials (NORM) and special nuclear materials (SNM). They may be used to detect during surveys or for localizing sources already detected by a portal.

The HDS-100G/GN are ideally suited for First Responders, Border & Customs inspectors, Site Security in critical infrastructures, and for all applications related to the control of radioactive and nuclear materials.



Nuclear characteristics

- **detectors:**
 - low gamma scintillator CsI (TI)
 - high gamma : silicon diode
 - neutron LiI (Eu)
- **energy range:**
 - 30 Kev to 3 MeV (gamma)
 - 0.025 eV to 15 MeV (neutron)
- **measurement and identification range (gamma)**
 - 0.01 µSv/h to 100 µSv/h (1 µrem/h to 10 mrem/h)
- **extended gamma range:**
 - 0.01 µSv/h to 10 mSv/h, 100mSv/h (5 min.), emergency up to 10 Sv/h (1 µrem/h to 1 rem/h, 10 rem/h (5min.), emergency up to 1000 rem/h)

Algorithm processing

- continuous spectra acquisition and stabilization (0.2s time slot)
- continuous dose rate and count rate comparison to background
- Varying Background Suppression algorithm (VBS) continuously analyses the spectra shape and rejects alerts due to sudden background changes
- NORM Medical Discrimination algorithm (NMD) categorizes and identifies up to 4 simultaneous isotopes. Cumulated spectra can be triggered by alert detection or on request

Functional features

- three modes: detection, search and integration
- three users profile: routine, expert, custom
- alert threshold configurable for dose rate and/or number of sigma level increase
- safety alarm
- pre-loaded languages
- historical record with more than 1000 events/measurements and 60 spectra
- Bluetooth®, RS232 and USB interfaces
- audio output for earphone
- designed to meet/exceed ANSI 42-33, Type I & II and to IAEA standards



Electrical & mechanical characteristics

- power supply: 6 x AA batteries (Ni-MH rechargeable)
- battery life time: 30 hours typical
- dimensions (l x Ø): 280 x 78 mm (11 x 3.1 in)
- weight: 1500 g (52.9 oz)

Environmental characteristics

- temperature range: -20°C to 50°C (-4°F to 122°F)
- humidity: < 90% at 42°C (108°F)
- EMI, shock, vibration and drop resistant
- water-proof (IP54)
- CE approved

Versions

- HDS-100G: gamma version
- HDS-100GN: gamma and neutron version

Accessories

- shoulder strap
- USB cable
- transportation case
- HDSMASS and SMI software
- power supply/charger/wall-mount charger



HDMass software spectra

130853-F

Lamanon - France
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Hamburg - Germany
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As standards, specifications and design change from time to time, please ask for confirmation of the information given in this publication.