

Neutron Search Detector KSAR1U.06

APPLICATION

Hand-held neutron search device
KSAR1U.06 is designed for high neutron detection sensitivity. With its light weight housing, compact size and its long uptime it is the best choice for all field and monitoring applications. Its purpose is to detect and locate neutron emitting radioactive material. It can be used as primary search/detection device to search pedestrians, packages, cargo and vehicles or as improvised automated neutron monitors, using the alarm capability. Recorded data can be stored and read out later or the detector can be operated while being connected to a PC.



FEATURES

- High sensitivity to fast, intermediate and thermal neutrons, accomplished with acceptable for the extended hand-held operation size and weight;
- Low sensitivity to gamma-rays, providing reliable detection of weak neutron signature in high gamma-ray field;
- Multichannel scaler (MCS) visualization of neutron count rate;
- Reasonably accurate indication of the ambient dose equivalent rate for gamma radiation;
- Controllable visual, acoustic (tone frequency is proportional to count rate) and vibro-alarm indicators;
- Enhanced algorithm of data processing;
- Friendly interface with digital and graphical representation of data making detection and localization processes easier;
- Internal memory to store up to 4096 alarm records;
- Large area LCD;
- NiMH rechargeable batteries;
- 3 button operation;
- USB interface.

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TECHNICAL CHARACTERISTICS

- Static detection sensitivity of NSD to fission neutrons is not less than 20 cm².
- NSD triggers an alarm when a neutron source 1.2×10⁴ n/s is passed by with a speed of 0.5 m/s in a standard background conditions at the distance of (1±0.05) m of the closest approach. Alarm probability is 0.8 at 95% of confidence level.
- False alarm rate is not more than one per 10 min at 95% confidence level.
- Intrinsic NSD count rate at standard background conditions (0.015 n/s cm² at sea level) is not more than 0.3 cps.
- The range of indicated ambient dose rate is 0.28÷700 μSv·h⁻¹ for fission neutrons at 25 % measurement uncertainties, and it is 0.14÷1400 μSv·h⁻¹ for gamma radiation over the energy range 0.06÷3.00 MeV at 35 % measurement uncertainties.
- NSD battery life in SEARCH mode is not less than 16 h and not less than 4 h under continuous alarm conditions.
- The outside dimensions are 300×160×130 mm.
- The total weight of NSD is 4.3 kg.
- NSD is insensitive to exposure to a ⁶⁰Co gamma ray source producing the dose rate 200 μSv·h⁻¹ at its surface.
- NSD remains operational in a temperature range of -20 oC to +50 oC and relative humidity 90% at 35 oC and less, in non-condensing conditions.
- NSD is sealed to IP55.

DELIVERY SET

Neutron Search Detector

Neutron search detector KSAR1U.06

Accessories

Hard-sided transport case

Power adapter/charger

Car adapter

Software on CD

Set of manuals in English on CD

Complete set of cables for interconnection of all electronic units

Hard-sided transport case