

NuDET ENA

WIDE RANGE OF SODIUM IODIDE, LBC, CeBr₃ SCINTILLATOR PROBES



The NuDET ENA premium series of spectrometric gamma probes are designed for a wide range of applications including industry, early warning networks, environmental monitoring and nuclear site monitoring. The probes are capable of working in environments with ambient dose equivalent rates from 50nSv/h to 40 μSv/h (2" NaI(Tl) crystal), 50 nSv/h to 20 μSv/h (3" NaI(Tl) crystal), from 50nSv/h to 60 μSv/h (1.5" CeBr₃, 1.5" LBC). The probes can be connected directly to PC via USB cable or the Ethernet.

Benefits

- Integrated MCB3 multichannel analyzer
- Different types of crystals – NaI(Tl), LBC, CeBr₃
- Measurement of ambient dose equivalent rate
- Automatic recovery after power supply outage
- Spectrum stabilization
- Direct connection to PC via USB or ethernet

Key figures

40 keV - 3 MeV

➔ Energy range

50 nSv/h - 40 μSv/h

➔ Maximum H*(10) range for 2" NaI probe

IP67

➔ Ingress protection

Product Description

- NuDET NAI SBG.D.2.2.2 or NuDET NAI SBG. D3.3.3 2" or 3" NaI(Tl) scintillation crystal with PMT, LBC 1.5" or CeBr₃ 1.5" or 2"
- NuNA MCB3 multi channel analyzer
- Auxiliary electronic components (connectors, power regulators etc.)
- Aluminum housing
- Optional meteorological station, and GPS module for cabinet

Control Software

- MS Windows 10, 11 compatible
- Measurement of ambient dose rate equivalent rate
- Calculation of abundance of radionuclides in the spectrum
- Periodic storage of measured spectra
- Displaying current spectrum
- User customizable nuclide library
- Potential to display data from other sources, e. g. meteorological data, temperature sensor, GPS mapping

Product Application

- Industrial applications
- Environmental monitoring
- Workplace monitoring

Product Specifications

Power supply	12 - 24 VDC ±25%
Consumption	< 3W
Interfaces	RS-485, USB or RJ45 LAN (Ethernet)
Dimensions	Height 443 mm, diameter 110 mm
Temperature range	from -20 to +55°C
Ingress protection	IP67
Detector resolution	< 6.8% (2" NaI probe) < 7.8% (3" NaI probe) < 3.1 % (1.5" LBC probe) < 4.1 % (1.5" CeBr ₃ probe)
Maximum usable H*(10) range	50 nSv/h - 40 µSv/h (2" NaI) 50 nSv/h - 20 µSv/h (3" NaI) 50 nSv/h - 60 µSv/h (CeBr ₃ , LBC)



Detector stabilization	By gain shift controlled by position of 1460 keV line of K-40
Energy range	40 keV - 3 MeV
Conversion gain	256, 512, 1024, 2048 or 4096 channels
Coarse gain	x1, x2
Fine gain	from 0.8 to 2.0
Dead time correction	Gedcke-Hale live-time clock method; < 5% error up to 50 000 CPS input count rate
HV power supply	from 0 to +1100 V DC in step of 1V (software adjustable)
Shaper	Trapezoidal shaper. Rise time: 0.5 to 6 µs. Flat top: 0.5 to 2 µs
Time pre-set	Live time, real time: 0 to 2 ³¹ , in step of 100 ms.