



Get the Job Done While Keeping Your Techs Safe...

NSN3 LIGHTWEIGHT NEUTRON METER

With Fuji Electric, less is more...

NSN3 Features

- Lightweight Design

Weighs only 7 lbs (3kg)

- NO He3 or BF3

The NSN3 utilizes a proportional gas counter

- Wide Range of Measurement

Able to measure thermal and fast neutrons with an energy range up to 15MeV

- Measurement Capabilities

H* (1cm dose equivalent)

- Superior Durability

The outer shell is made from premium, high strength polyurethane that has undergone rigorous testing

- Superior Gamma Rejection

>1 R/hr

- Advanced Display

Bright, easy-to-read LED display with USB drive compatibility



Neutron measurements are generally taken in locations and conditions that are less than ideal, with workers facing risks such as heat stress, steep ladders, and confined spaces.

Sending techs into these conditions with older meters weighing 20+ pounds is unsafe and increases your Risk profile.

Fuji Electric's lightweight and durable NSN3 Neutron Meter offers you a reliable and robust meter to meet all of your neutron measurement needs, while only weighing approximately 7 pounds (3kg).

Visit our web-site:
www.smeassoc.com

For Sales Inquiries, contact:
James P. Menge, PE, CHP
941-845-4844

 **Fuji Electric**
Innovating Energy Technology

NSN3 Lightweight Neutron Meter

Product Specifications

Operational Theory

The NSN3's Detection Principles Proportional Gas Counter consists of an organic gas mixture of methane and nitrogen gas (the neutrons are measured using this mixed gas). Fast neutrons are detected by the elastic scattering reaction of hydrogen from the methane gas. Slow/Thermal neutrons are detected using the $^{14}\text{N}(n, p)^{14}\text{C}$ reaction of nitrogen gas--The proton energy in this reaction is 626 keV. By using these two reactions, the neutron ambient dose equivalent can be obtained from thermal neutrons up to about 15 MeV.

Radiation Detected	Neutron
Measurement Quantity	1cm dose equivalent
Detector	Gas detector
Sensitivity	0.2 s ⁻¹ / $\mu\text{Sv/hr} \pm 20\%$, ref. 252Cf
Measurement Range	Dose Rate: 1urem/hr to 9.99 rem/hr (0.01 $\mu\text{Sv/hr}$ to 99.99 mSv/hr) Dose: 1 urem to 9.99 rem (0.01 μSv to 99.99 mSv)
Accuracy	Dose Rate: $\leq \pm 20\%$ at 1 mrem/hr (10 $\mu\text{Sv/hr}$) Dose: $\leq \pm 20\%$ at 0.1 mrem (1 μSv)
Energy Range	0.025eV to 15 MeV
Energy Dependency	ICRP74 compliance (Response Curve of $H^*(10)/\phi$)
Angular Dependence	$\leq \pm 25\%$ ($\pm 90^\circ$ from standard direction)
Dose Rate Characteristic	$\leq \pm 20\%$ (1 mrem/hr or 10 uSv/hr reference)
Gamma Ray Sensitivity	$\leq \pm 1\%$ of indication at 1 rem/hr (10 mSv/hr)
Battery Life	Displays continuously 31 hours or more Displays intermittently 17 hours or more (displays 1min, during 5min.)
Response Time	Time constant automatically switches depending on the dose rate. Less than 5sec: over 5 mrem/hr (50 uSv/hr) at "Medium" time constant
Display	Five-digit display (Dose rate, Integrating dose)
Power Supply	3-way / Primary battery or secondary battery (AA type, 6 cells) AC Adaptor (IN: 100 to 240V AC) (option)
Operating Temperature	-10 to +45 °C / +14 to +113°F
Operating Humidity	35 to 90 % (non-condensing)
Size	Φ 164 (without the handle) × 289.5 mm / Φ 6.46×11.4 in.
Mass	3 kg / 7 lb approx. (including batteries)
Interface	USB
Compliance Code	IEC61005(2014), JIS Z4341 (2006)

**Product specifications are subject to change without notice*

FUJI Electric Distributor - US & Canada

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