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NUCLEAR MEDICINE

MDN-01

# NEUTRON DOSE RATE METER



## MAIN ADVANTAGES

- High reliability and durability
- Two adjustable alarm levels
- Can be an autonomous local monitor with alarm lights or part of a host system
- Outdoor and indoor use

## PURPOSE

The MDN-01 monitor is designed for the measurement of ambient dose equivalent rate  $\dot{H}^*(10)$  in neutron fields in different environments, such as spent fuel storage facilities in nuclear power plants, PET centres with cyclotrons, workplaces with particle accelerators, radioactive waste repositories, neutron calibration laboratories, etc.

The MDN-01 Monitor can be used as part of a large monitoring system with a remote centralized indication of measurements, or it can be directly connected to a local display unit, as an autonomous monitor, which provides the data indication locally. It is possible to have both local indication and transmission to a remote display.

The MDN-01 includes a proportional  $^3\text{He}$  detector, sensitive to low energy neutron.

The detector is mounted in a moderator - a Bonner sphere made of polyethylene with a diameter of 25 cm. The moderator provides a slow-down of high-energy neutrons to neutrons of detectable energies.

The measured values are compared to two adjustable alarm levels and are transferred to the host system via the RS-485 or Ethernet interface. Exceeding the alarm level will trigger an alarm

## SPECIFICATION

Detector type	proportional $^3\text{He}$
Dimensions ( $\varnothing \times h$ )	250 × 348 mm
Measuring range	from 1E-7 to 0.1 Sv/h
Efficiency ( $^{252}\text{Cf}$ )	4 cps/ $\mu\text{Sv/h}$
Weight	app. 10 kg
Power supply	24 V DC or PoE
Temperature range	from -10 to +45 °C

## MODELS

K0917-03	MDN-01 with RS-485 interface
K0917-04	MDN-01 with Ethernet interface

## OPTIONAL ACCESSORIES

50-A-0012722	MDN-01 wall mount holder
51-A-0000469	Cable with RS-485 / USB converter (for RS-485 interface)
1-0217-00022 1-0217-00018	ECTA connector, 12 pin, female, with cable backshell (for RS-485 interface)
1-0214-00165	Stabilized adapter (injector) for +48V PoE power supply (for Ethernet interface)
1-0217-00754	RJ45 connector, male (for Ethernet interface)

MDN-01

# NEUTRON DOSE RATE METER

## RELATED PRODUCTS

**RDU-22** Radiation Display Unit for 16 measuring channels

**RDU-02** Radiation Display Unit for 4 measuring channels

**ASU-50** Alarm Slave Unit

**RMS** Radiation Monitoring System



MDN-01, Ethernet interface



MDN-01, RS-485 interface



MDN-01 wall mount holder



RDU-22 Radiation Display Unit



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**VF, a.s. Czech Republic**

T: +420 516 428 611

E: sales@vfnuclear.com

[www.vfnuclear.com](http://www.vfnuclear.com)

Specification subject to change without prior written notice.

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