

Neutron Survey Meter

TYPE: NSM741



FEATURES :

- Microcontroller based design.
- Compact, Elegant and light weight.
- Detector : ^3He proportional detector surrounded by 9" dia Polyethylene sphere, as moderator.
- Measures Neutron Flux in CPS / CPM.
- Measures dose rate in Sv/h in the range of (1 $\mu\text{Sv/h}$ to 10mSv/h).
- Accuracy +/-10%.
- Facilitates data storage, upto 1000 readings.

NEUTRON SURVEY METER Type : NSM 741 is a portable micro-controller based battery operated instrument designed primarily for measurement of leakage neutron radiation normally encountered in Medical Cyclotron Facilities, Nuclear Power Plants and other industries where neutron source is used for certain industrial applications. Neutron Survey Meter finds industrial applications such as, in cement, mineral and coal industries where cross belt on-line analysers, based on Neutron activation Analysis are used. Neutron Survey Meter serves as a radiation protection instrument, to measure leakage radiations from the cross belt analyzers . Neutron Survey Meter can be used for measurement in three modes CPS, CPM & Dose rate (mR/h, $\mu\text{Sv/h}$). The unit can measure in the range of (1 $\mu\text{Sv/h}$ to 10mSv/h) in dose rate mode.

SPECIFICATIONS

Radiation Detected	:	Neutron Radiation.
Detector	:	^3He proportional detector surrounded by 9" dia Polyethylene sphere, as moderator.
Measurement Range(s)	:	a)CountRate CPS, CPM (0-999999) b) Dose Rate
Neutron Dose Rate	:	(1 $\mu\text{Sv/h}$ to 10mSv/hr).
Energy Response	:	Thermal Energy to 10MeV within +/-10% with respect to Am-241-Be.
Gamma Energy Response	:	<0.5CPM(Avg) for 10R/hr Co 60.

Sensitivity	:	14CPS/NV or 30cpm/uSv/hr
Alarms	:	Provision for audio/visual alarms if Dose rate exceeds preset level.
Calibration Accuracy	:	Better than +/-10% with Am-241-Be source.
Data storage	:	Can store up to 1000 data readings and stored data can be recalled back on to display.
Serial port (optional)	:	Built-in serial port facilitates data downloading in to PC. Data communication software with connecting cable can be provide at extra cost as an additional option.
Detector Operating Voltage	:	1000V \pm 50V Approx.
Control Buttons	:	ON/OFF, START, STOP, PROG, STORE, INC & DEC are the SEVEN Control buttons provided on the instrument. The above buttons allow the user to program & operate the instruments in appropriate manner.
Power	:	A rechargeable battery of 7.5V (Clustor 1X2) with 3000mAh.
Weight	:	<7.5 kgs along with Probe.

Head of the Dept.

R.V.Ramesh

Approved By

