



VF NUCLEAR



NUCLEAR
POWER PLANTS



WASTE
MANAGEMENT



RESEARCH
CENTRES



INDUSTRY
& MANUFACTURING

LAM-502

LIQUID ACTIVITY MONITOR



MAIN ADVANTAGES

- Measurement of volumetric activity of gamma-emitting radionuclides in process liquids in nuclear facilities.
- Suitable for high temperatures.
- Monitor type ATL - monitor detector is attached to the measured pipeline
- Optionally can provide safety classified function, category C, according to the EN 61226 standard
- In-built Cs-137 check source

PURPOSE

The monitor is intended for the measurement of volumetric activity of gamma radionuclides in liquids such as process waters in nuclear facilities during routine, accident and post-accident conditions.

The monitor assembly is composed of:

- gamma detector, including high temperature gamma scintillator NaI(Tl) \varnothing 1"×1",
- 10 mm thick lead collimator,
- check and stabilization source Cs-137 with the activity of 16 kBq,
- RPU-04 radiation processing unit with a 1024-channel analyser for the processing of data from the detector.

The detector is installed at a suitable distance from the pipeline where the measured liquid flows.

RPU-04 determines total volumetric activity of gamma radionuclides in the liquid flowing through the pipeline.

Remote indication of measurement results can be provided by:

- RDU-12 display unit, which is connected via RS-485 interface;
- ASU-50 alarm lights, connected to RPU-04's digital outputs.

The monitor can communicate with a host system using:

- RS-485 serial interface
- Ethernet 10 Mbit/s, UTP
- Current loop

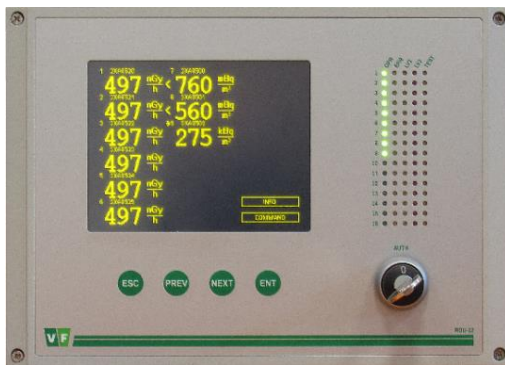
The monitor can send data simultaneously to both non-safety classified and safety classified host systems.



RPU-04

SPECIFICATION

Measurement range	from 3,7E05 to 1,1E10 Bq/m ³
Reference radionuclide	Cs-137
Sample temperature	5 to 50 °C
Weight with shielding	app. 15 kg
Dimension	
• detector (w × h × d)	194 × 313 × 80 mm
• RPU-04 (w × h × d)	330 × 270 × 287 mm
Ingress Protection	IP 67
Power supply	+ 24 V DC/ max. 2 A
Communication Interface	RS-485 Modbus RTU



RDU-12 display unit

OPTIONAL ACCESORIES

RDU-12	Radiation Display Unit
ASU-50	Alarm Slave Unit
CIM-05	Ethernet interface
ICIM-03	Analogue outputs

RELATED PRODUCTS

LAD-07	Liquid Activity Detector – measures fuel cladding failures by the detection of Kr-88 in the primary circuit
LAD-08	Liquid Activity Detector – measures fuel cladding failures by the detection of I-132 in the primary circuit
LAD-64	Liquid Activity Detector – measurement of volumetric activity of gamma radionuclides in process waters of nuclear facilities
LAD-66	Liquid Activity Detector – measurement of volumetric activity of gamma radionuclides in process waters of nuclear facilities
LAD-44	Liquid Activity Detector – measurement of volumetric activity of gamma radionuclides in process waters of nuclear facilities
LAM-561	Post-accident activity monitor for high temperature liquids