



VF NUCLEAR



NUCLEAR
POWER PLANTS



WASTE
MANAGEMENT



RESEARCH
CENTRES



INDUSTRY
& MANUFACTURING

LAD-44

LIQUID ACTIVITY DETECTOR



MAIN ADVANTAGES

- Measurement of volume activity of gamma radionuclides in liquid process circuits of nuclear facilities
- In-Line Monitor - the detector is mounted directly in the process line, in which the measured liquid flows
- Checking of the detector function by means of LED check source (without using radioactive source)

PURPOSE

The detector is designed to measure the presence of gamma radionuclides in liquid process circuits of nuclear facilities.

The detector consists of the detector GD-52 with NaI(Tl) 2.5 "x 2.5" crystal (correct functioning of the detector can be checked by a built-in LED).

LAD-44 can be optionally connected to processing and display unit RPU-12 or RPU-04 with one, optionally two, 1024-channel analyzers (MCA) to evaluate data from detector.

The RPU determines the total volumetric activity of gamma radionuclides in the fluid flowing through the conduit.

RPU-12, comparing to the RPU-04, contains in addition:

- Monochrome display with 86 x 115 mm area
- Optical indication of alarms

The following cards are always installed in the RPU unit of the LAD-44 detector:

- DIM-09 - 1024 channel analyzer (MCA)
- CIM-03 - RS-485 data interface to a host system.

Remote data presentation and status indication can be provided by:

- RDU-12 remote display unit, which communicates with the local RPU-12 (or RPU-04) via the RS-422 interface
- The ASU-50 alarm unit connected to the local RPU unit by digital outputs.



RPU-04

LAD-44

LIQUID ACTIVITY DETECTOR

SPECIFICATION

Measurement range	from 3,7E03 to 1E09 Bq/m ³
Reference radionuclide	¹³⁷ Cs
Temperature range	from 5 to 40 °C
Weight GD-52	3 kg
IP protection	IP 65
Power supply	+24 V DC/ max. 2 A
Interface	RS-485 Modbus RTU



RDU-12



GD-52

OPTIONAL ACCESSORIES

RPU-04	Data acquisition and processing unit (without display)
RDU-12	Radiation Display Unit
ICIM-01	Instrumentation and Control System interface with 2 outputs to PAMS, type 4 - 20 mA and 4 digital outputs for signaling of operation, errors, exceeding of 1st and 2nd alarm levels
ASU-50	Alarm Slave Unit
CIM-05	Modbus / TCP (Ethernet) Card

RELATED PRODUCTS

LAD-07	Device for measuring the tightness of fuel cladding in the primary circuit of a nuclear reactor based on the detection of ⁸⁸ Kr in liquid
LAD-08	Device for measuring the tightness of fuel cladding in the primary circuit of a nuclear reactor based on the detection of ¹³² I in liquid
LAD-64	Equipment for measurement of volume activity of gamma radionuclides in process circuits of nuclear facilities
LAD-66	Equipment for measurement of volume activity of gamma radionuclides in process circuits of nuclear facilities



RPU-12



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Specification subject to change without prior written notice.

VF1909050042 / 04 / 2022-11-11