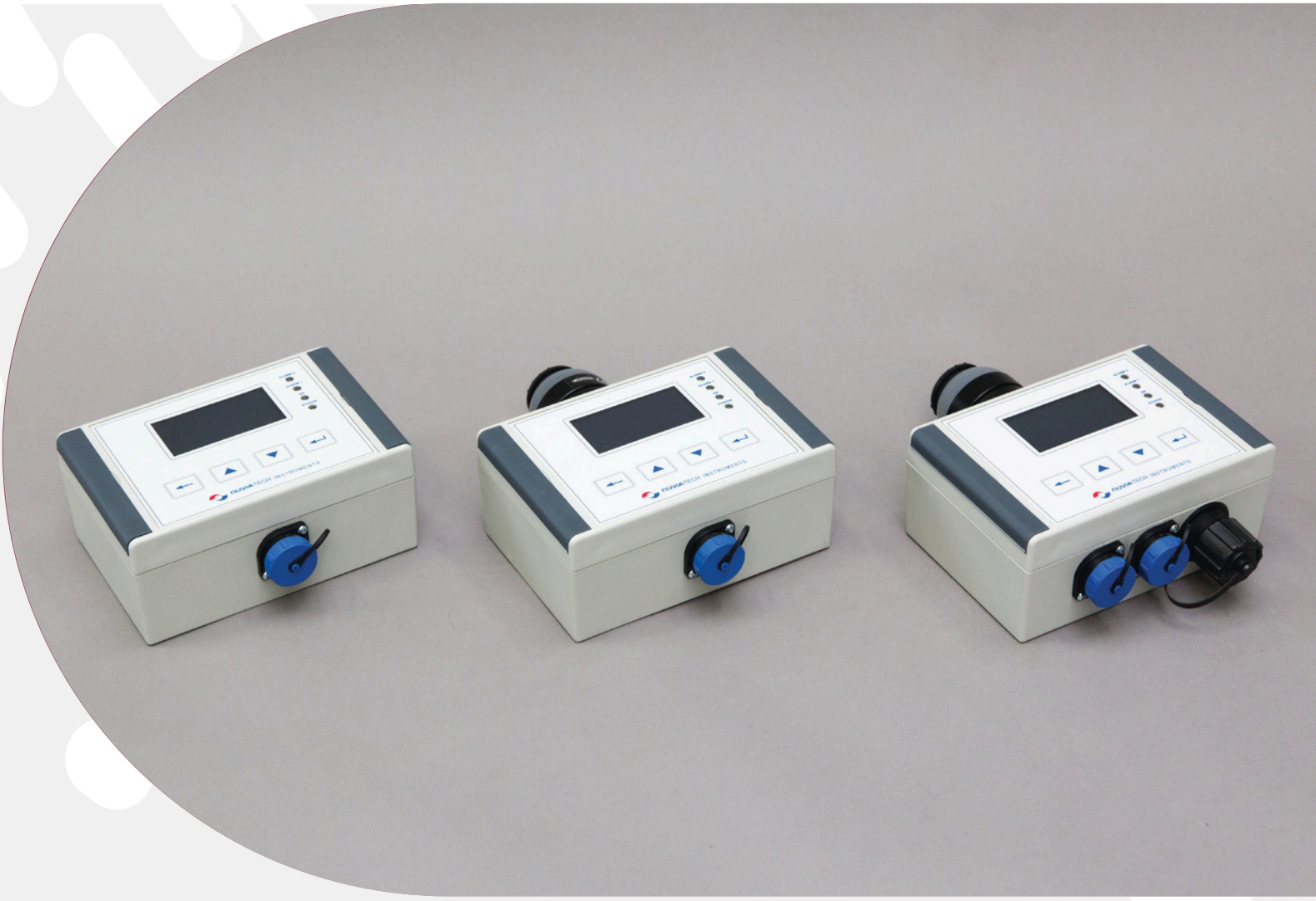
NUVIATECH INSTRUMENTS

SPECIFICATION SHEET

MSU

MEASURING AND SIGNALING UNIT



The MSU measuring and signaling unit displays and evaluates radiation quantities from connected scintillation and GM probes. It provides instant dose rate, average value for a set interval and alarm level status, including date and time. The optional optical and acoustic signaling tower ensures rapid operator information. The robust design, wide temperature range and standardized communication interfaces enable reliable deployment in demanding conditions and easy integration into higher-level monitoring systems.

Benefits

- Broad compatibility with scintillation and GM probes.
- Immediate and clear display of dose rate and alarm levels on one device.
- Fast and clear signaling.
- Optical and acoustic tower option.
- Easy integration into higher-level systems.

Key Figures

50 nSv/h - 10 Sv/h

Maximum measuring range

Up to 94 dB at 1 m

Acoustic alarm

2 user-defined alarm threshold

Alarm levels

V202602

Product description

The MSU is designed to provide accurate and stable gamma and X-ray measurements over a wide range of operating conditions. The instrument operates in the energy range of 40keV to 3MeV, calibrated to the radionuclide Cs-137, ensuring repeatable and verifiable results. The measurement is performed with a relative error of 15%, and the unit is fully functional over a temperature range of –25°C to +55°C and at a pressure of 86–106kPa, allowing its use in most industrial and energy applications.

The MSU supports several configurations of GM LND detectors covering different measurement ranges of dose equivalent H*(10).

Standard MSU configuration

MSU: signaling unit for connecting an external probe
MSU-01: signaling unit with measuring range:
50 nSv/h - 20 mSv/h
MSU-02: signaling unit with measuring range:
50 nSv/h - 2 Sv/h
MSU-05: signaling unit with measuring range:
50 nSv/h - 10 Sv/h
MSU-06: signaling unit with measuring range:
1 uSv/h - 2 Sv/h
MSU-07: signaling unit with measuring range:
1 uSv/h - 10 Sv/h

Product applications

The MSU measuring and signaling unit is intended for use in radiation monitoring and dosimetry systems, where it provides local display, control and signaling of the radiation situation. Thanks to its compatibility with internal and external GM and scintillation probes, it is suitable for a wide range of operations that require continuous monitoring of dose rate and immediate response to exceeding the specified limits. The MSU can function independently as a local display panel, or be integrated into extensive monitoring systems via RS-232/485 and Ethernet interfaces.

The unit is suitable for continuous operation in demanding conditions in industry, energy, and research or laboratory workplaces. It is particularly useful where:

- monitor the current dose rate in real time,
- control and signal the state of the radiation environment using optical and acoustic alarms,
- monitor multiple measurement channels or probes simultaneously,
- provide the operator with immediate information about the status of the device and measured values,
- transmit data to higher-level radiation monitoring systems for archiving, evaluation or centralized supervision.

In combination with external NuDET EGM and ENA probes, the MSU can be used for both standard H*(10) dose equivalent monitoring and advanced applications requiring spectrometric measurements or working in different radiation exposure levels.
The MSU thus provides a universal platform for local and systemic monitoring of ionizing radiation in a wide range of operational scenarios.

Product specifications

Dimensions	160 × 130 × 70 mm (W × H × D) including connectors, signal tower height 70 mm
Ingress protection	IP 65 (only applies with fitted connector or cover)
Operating temperature	from -25 °C to +55 °C
Power supply	12/24 V DC ±25 %, max. 8 W
Interface	Ethernet RJ 45, RS-485/RS-232 (HW configurable) master, internal USB for service purposes
Connectors	RJ45 LAN (Ethernet), WEIPU* SP21/M12pin input (power, RS-485 slave, DI), WEIPU* SP21/F12pin output (RS-485/RS-232)
Supported protocols	Modbus RTU, BUVIA
Digital inputs	5×, galvanically isolated, log. 1 = 10–30 V DC, max. 5 mA
Digital outputs	5× NO (1 A / 24 V DC), 1× separate NO output (relay, galvanically isolated)