

Renä

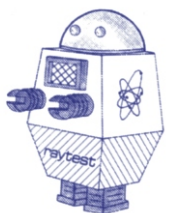


Radiation

Protection and

Environment

Analyzer



System Description

Rena is a multi-purpose radiation monitoring system for the whole range of radiation protection applications. It can operate in high and low gamma dose rate mode using two different probes.

Connecting a neutron sensitive probe, Rena can monitor neutron dose rate.

With a NaJ(Tl) crystal detector mounted in an air ventilation channel, Rena can detect air contamination and controls ventilation and stack valves.

A NaJ(Tl) crystal detector mounted in a shielded waste water flow cell, Rena can monitor radioactive waste water and controls valves for collection or delivery to waste water outlet.

The clearly designed user interface is easy to operate via 5 softkeys under the display and shows the system status on one screen.

The battery buffered microprocessor can store up to 1000 measurement values and data transfer via serial interfaces. A simple communication protocol offers easy network capabilities.

All system parameters are password protected. Using the Info key it is possible to display all required status information like alarm status, raw data, alarm thresholds and others.

When changing the dose rate units all measurement values are automatically recalculated.

The measurement results can be transferred to a master display via 2 output ports. Using the RS-485 data bus up to 15 instruments can be networked together over a maximum distance of 1200m.

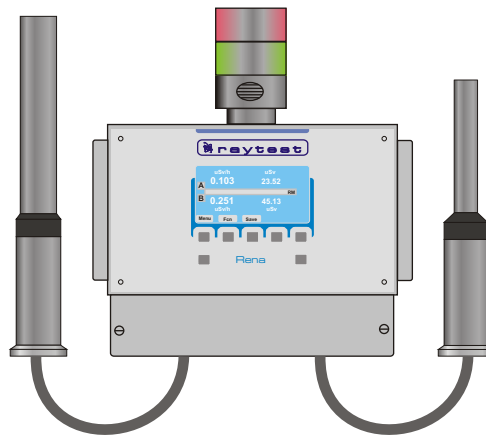
An optional LAN interface can hook Rena to a regular TCP/IP network (LAN).

Alarm Outputs

To display alarm situations up to 4 relay outputs can be used to connect flashing lights, lamps, horns etc. Each output can be individually programmed to different alarms.

Features

- Single or dual probe operation mode
- Low dose / high dose system
- 2 serial interfaces
- Memory for 1000 datapoints
- Ratemeter or timer / counter
- Network integration
- Electrically isolated in- and outputs
- Vacuum-fluorescence display



Waste Monitoring Probe

2 x 2 or 3 x 3 inch NaI(Tl) probe for waste or air flow monitoring. High gamma sensitivity, 15 keV - 2MeV gamma energy range, integrated high voltage and preamplifier.

Contamination Probe

Sealed proportional counter with Argon/CO₂ for stationary contamination monitoring. Active area 103mm x 166mm, effective area 115cm², efficiency for alphas >10%, entrance window 2.7mg/cm² aluminum, integrated high voltage and preamplifier.

Technical Data

General

Low power consumption microprocessor unit with Hitachi processor. 48 kB eeprom memory, real time clock, 2 probe connectors with +/- 5V, +/- 12V or +/- 15V supply for the detectors, norm puls input and control voltage for high voltage supply.

Electrically separated in- and outputs:

- 3 digital inputs,
- 2 current outputs,
- 2 serial interfaces as RS232 or Rs485,
- 4 relay with one changer each for up to 230VAC,
- 4 relay with one changer each for switching of DC voltages up to 24 V.

Power Supply

85 to 264 V AC wide range power supply input or 9 to 18 / 18 to 36 V DC input depending on supply module, power consumption about 6 W, temperature range -5 to 50 °C, relative humidity 0-90%, tightness Ip65, measures: 240x180x120 mm, wall mount housing with transparent lid.

Low Dose Rate Probe

Energy compensated GM-tube probe for low dose rates, according to ICRU Report 39 (ambient dose equivalent), 0.2 to 10 000 μ Sv/h, 35 keV to 1.3MeV, integrated high voltage and preamplifier.

High Dose Rate Probe

Energy compensated GM-tube probe for high dose rates, according to ICRU Report 39 (ambient dose equivalent), 20 μ Sv/h to 4 Sv/h, 50 keV to 1.3 MeV, integrated high voltage and preamplifier.



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