



RDS-110

Multi-purpose Survey Meter

- wide measurement range: dose rates from 0.05 $\mu\text{Sv/h}$ up to 99.99 mSv/h
- clear range indication by flashing LED signals
- external probes for contamination and dose rate measurements
- standard survey measurements
- contamination monitoring
- timed dose measurements

The RDS-110 Multi-purpose Survey Meter is a versatile radiation detection meter which has been designed for a wide range of applications in different fields of rescue and other operations involving a possibility for abnormal radiation levels.

The functions comprise dose and dose rate measurements and registration with extended upper limit (100 mSv/h), it can be connected to an end window GM tube for contamination monitoring and it can also be used as a fixed gamma alarm monitor with an external gamma probe.

Physical characteristics

- **radiation detected:**
 - gamma and x-rays 50 keV to 3 MeV
 - beta radiation with an external probe
- **detector:**
 - one halogen quenched energy-compensated GM tube
 - Energy response according to ambient dose equivalent $H^*(10)$
- **measurement range:**
 - dose rate 0.05 $\mu\text{Sv/h}$ to 99.99 mSv/h
 - dose 0.001 to 999.9 mSv
 - pulse rate 0.1 to 9999 CPS (external detector)
 - automatic range indication by flashing LED signals
- **calibration accuracy:**
 - $\pm 5\%$ of the reading with ^{137}Cs gamma source, at $300\mu\text{Sv/h}$, $+20^\circ\text{C}$ (68°F)
- **dose rate linearity:**
 - $\pm 15\%$ in the range of $0.1 \mu\text{Sv/h}$ to 100 mSv/h
- **energy response:**
 - $\pm 30\%$ in the range of $50 \text{ keV} \dots 1.3 \text{ MeV}$
- **response to the angle of incidence:**
 - $\pm 15\%$ within $\pm 90^\circ$ from the calibration direction with 65 keV energy

Electrical characteristics

- **power supply:**
 - 3 x alkaline cell IEC LR6/AA (recommended)
 - standard dry cells or rechargeable NiCd batteries of the same size will have shorter life time
 - optional AC adapter available
- **battery life:**
 - 200 hours at normal background,
 - up to 400 hours without buzzer and display illumination with alkaline batteries

Mechanical characteristics

- **case:**
 - impact resistant, aluminium case with ABS end caps
 - shielded against RF interferences and NEMP
- **dimensions:**
 - $92 \times 199 \times 44 \text{ mm}$ ($3.62 \times 7.83 \times 1.73 \text{ in}$)
- **weight:**
 - 580 g (1.27 lb) without batteries
 - 650 g (1.43 lb) with batteries

Environmental characteristics

- **temperature range:**
 - -25 to $+55^\circ\text{C}$ operational (-13°F to 131°F)
 - -40 to $+70^\circ\text{C}$ storage (-40°F to 158°F)

External detectors

- GMP-11 Beta Probe 0 to 10 000 cps
- GMP-15 «Pancake» Beta Probe 0 to 10 000 cps
- GMP-12 L Gamma Probe $0.05 \mu\text{Sv/h}$ to 10 mSv/h
- GMP-12 H Gamma Probe $10 \mu\text{Sv/h}$ to 3 Sv/h

Connection

- 6-pin lockable connector with protective cap for external detectors

Functional characteristics

- **alarm levels:**
 - freely adjustable alarm levels for dose rate, accumulated dose and CPS rate
- **audible alarms:**
 - dose
 - dose rate
 - diagnoses error
- **error diagnostics:**
 - GM tube
 - electronics
 - message «dEF» in case of error
- **Indication of «overflow»:**
 - «OFL» message displayed during dose rate overflow
- **battery alarm:**
 - two-step alarm for low battery voltage

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