

RDS-31iTx RDS-31iTxSD Telemetry Survey Meters



OVERVIEW

The RDS-31iTx/iTxSD are Wireless Ready Telemetry Survey Meters, utilizing the WRM2 communication protocol for Wireless Remote Monitoring applications. The use of radiation telemetry equipment improves the communication between workers, technicians and supervisors. It helps in making real time decisions quickly, providing real time survey data. It also reduces critical work time and most importantly enhances safety and ALARA procedures.

RDS-31iTx/iTxSD are small handheld, battery operated survey instruments using an energy compensated GM-tube as primary detector. Due to its versatile functions and durability it is suited for a wide range of applications in civil defense, industrial and laboratory use etc.

RDS-31iTx/iTxSD feature excellent ergonomics; light weight and easy handling, with visual and audible alarms and internal vibrator. The large graphic display with Energy Save Backlight is well visible even in sunny conditions due to the illumination control.

To extend the capabilities of the instrument, external probes GMP-25/11-3/15-3/12-series and ABP-150 can be connected to the meters directly through binder connector.

KEY FEATURES

- H*(10) ambient dose equivalent dose and dose rate measurements
- Wide range of external alpha, beta and gamma probes for direct connection with RDS-31iTx/RDS-31iTxSD
- New ergonomic design
- Large graphic display, configurable backlight with automatic illumination control
- High impact durable case construction , IP-67 immersion proof
- Internal memory to store measurement data
- Flexible histogram functions
- Firmware of instrument upgradeable through a cable link
- Operational parameters fully configurable with CSW-31 software
- Configurable shortcut functions
- WRM communication; 900 MHz 100mW ISM radio for US frequency range, 2.4 GHz 10 mW ISM radio for European frequency range

RDS-31iT_x

RDS-31iT_xSD

SPECIFICATIONS

Radiological Characteristics

RDS-31iT_x

- Radiation detected: gamma and X-rays, 48keV...3MeV. Alpha & Beta radiation with external probes
- Detectors: one energy-compensated GM tube, energy response according to ambient dose equivalent H*(10)
- Dose rate range: 1 µrem/h - 10 rem/h (0.01 µSv/h - 0.1 Sv/h)
- Dose measurement range: 1 µrem...1000 rem (0.01 µSv - 10 Sv)
- Resolution: three significant digits or 1 µrem/h on dose rate and 1 µrem on dose (0.01 µSv/h on dose rate and 0.01 µSv on dose)
- Calibration accuracy: ± 5%, 137Cs, calibration direction and in the calibration field, temperature 68°F (+20 °C)
- Variation of the response due to photon radiation energy and angle of incidence: (R E,A) 71% < RE,A < 160% (48 keV - 3 MeV); ± 60°

RDS-31iT_x

- Radiation detected: gamma and X-rays, 60keV...6MeV. Alpha & Beta radiation with external probes
- Detectors: silicon detector, one large area PIN diode, energy response according to ambient dose equivalent H*(10)
- Dose rate range: 1 mem/h - 1000 rem/h (10 µSv/h - 10 Sv/h)
- Dose measurement range: 1 mrem - 20krem (10 µSv - 200 Sv)
- Resolution: three significant digits or 1 µrem/h on dose rate and 1 µrem on dose (0.01 µSv/h on dose rate and 0.01 µSv on dose)
- Calibration accuracy: ± 5%, 137Cs, calibration direction and in the calibration field, temperature 68°F (+20 °C)
- Variation of the response due to photon radiation energy (RE) and angle of incidence (RE, A): 71% < RE, A < 160% (60 keV...6 MeV); ± 60°

Functional Characteristics

- Two buttons to operate the instrument
- Configurable units: Sv/(h), R/(h), with external detector Gy/(h), cps, cpm, dpm and Bq
- Flexible histogram functions (dose rate, dose, diagnostic logging depending on configuration, time stamp, optional location control for mapping and repeating room measurement analysis)
- Additional histogram analyzing capabilities on CSW-31 software
- Real time clock function
- Configurable audible, visual and vibration alarm
- RF-communication and USB-communication with suitable adapter

Electrical Characteristics

- Power supply: 2 AA size batteries (alkaline or NiMH)
- Contacts for external power and charging of NiMH battery (charging conditions +5... +35°C)
- Operation time with fresh alkaline batteries more than 4 months at background radiation at +23°C, 8 h use/24h
- Operation time with fully charged NiMH batteries more than 1 month at background radiation at +23°C, 8 h use/24h. At higher/lower temperatures the operation will be shorter.

Mechanical Characteristics

- Case high impact durable plastics reinforced with glass fiber
- Ergonomic design, rubber grip and cushion around the case
- Enclosure class IP67 (IEC 60529), water proof including battery compartment
- Dimensions: 100 x 67 x 33 mm (3.93 x 2.63 x 1.29 in)
- Weight: 175 g without batteries (0.385 lb), 220 g with batteries (0.485 lb)
- Wrist/neck strap
- Belt clip

Environmental Characteristics

- Operating temperature -13°F to 131°F (-25°C to 60°C)
- Storage temperature -40°F to 158°F (-40°C to +70°C)
- Relative humidity: up to 85% at 95°F (+35°C)
- Fulfills the RF-immunity levels of applicable standards

Options

- Electrical cradle or mechanical cradle e.g. for easy vehicle installation
- Alarm monitor combinations for fixed/deployable applications
- Pocket/belt clip/pouch

Radio Module:

- 2.4 GHz ISM DSSS Transmitter
- Default transmit power: 10 mW
- FCC ID: OUR-XBEEPRO
- IC: 4214A XBEEPRO
- 900 MHz ISM FHSS Transmitter
- Transmit power: 100 mW
- FCC ID: MCQ-XBEEEXSC
- IC: 1846A XBEEEXSC

