

## RDS31 Multi-Purpose Survey Meter



The new **RDS-31S/R** Multi-purpose Survey Meter is part of the RDS family of RADOS survey meters and offers modern design and an advanced approach to radiation monitoring. The RDS-31 features outstanding ergonomics; it is lightweight and easy to handle with visual, audible and vibrating alarms.

The large LCD screen includes an automatic illumination control feature with an energy saving backlight that can be easily read in total darkness and in direct sunlight. To make the instrument even easier to use, the buttons can be configured with easy to understand Shortcuts. The Shortcuts allow the user a straightforward and simple way to configure the instrument for performing repeated operations such as the Manual Histogram, Sample Collection, Dose Value Display, and Diagnostics. In addition, to help the users to become accustomed to the Shortcut-function, a Visualization display function can be employed. With this feature, it is possible to adjust the length of button pressure time to a desired setting.

With a simple cable connection to existing RADOS probes, the capabilities of the RDS-31 can be extended to include the detection and measurement of other types of radiation. The meter provides an additional protective function to the user: while using external probes, the meter is simultaneously measuring the dose rate with its internal detector. This is all done in the background and an alarm is triggered in the event of a dose rate or an accumulated dose exceeding the alarm thresholds.



RDS-31 can be connected to a PC  
(CSW-31 software installed) with:

RF-communication  
(SimpliciTI 2,4 GHz)



USB communication  
with cable



### FEATURES

- H\*(10) ambient dose equivalent dose and dose rate
- Existing GMP-series external detectors can be used with suitable adapters
- New ergonomic design
- Large screen, configurable backlight with automatic illumination control
- High impact durable case construction, IP-67 immersion proof
- Internal memory to store measurements
- Flexible histogram functions
- Firmware of instrument upgradable through cable link
- Configurable short cut function

## TECHNICAL SPECIFICATIONS:

<b>Radiological Characteristics</b>	<ul style="list-style-type: none"> <li>radiation detected: gamma and X-rays, 48keV...3MeV. Alpha, Beta radiation with an external probe</li> <li>detectors: one energy-compensated GM tube, energy response according to ambient dose equivalent H*(10)</li> <li>dose rate measurement range: 0.01 <math>\mu</math>Sv/h...0.1 Sv/h or 1 <math>\mu</math>rem/h...10 rem/h</li> <li>dose measurement range: 0.01 <math>\mu</math>Sv...10 Sv or 1 <math>\mu</math>rem...1000 rem</li> <li>resolution: three significant digits or 0.01 <math>\mu</math>Sv/h on dose rate and 0.01 <math>\mu</math>Sv on dose ( 1 <math>\mu</math>rem/h on dose rate and 1 <math>\mu</math>rem on dose)</li> <li>calibration accuracy: <math>\pm</math> 5%, <sup>137</sup>Cs , calibration direction and in the calibration field, temperature +20 °C (68°F)</li> <li>dose rate linearity: <math>\pm</math> 15% <math>\pm</math> least significant number 0.05 <math>\mu</math>Sv/h...0.1 Sv/h (5 <math>\mu</math>rem/h to 10rem/h)</li> <li>variation of the response due to photon radiation energy (<math>R_E</math>) and angle of incidence (<math>R_{E, A}</math>): 71% <math>&lt;R_{E, A} &lt; 160\%</math> (48 keV...3 MeV); <math>\pm 60^\circ</math>)</li> </ul>
<b>Functional Characteristics</b>	<ul style="list-style-type: none"> <li>two buttons to operate the instrument</li> <li>configurable units: Sv(/h), R(/h), with external detector Gy(/h), cps, cpm, dpm and Bq</li> <li>flexible histogram functions ( dose rate, dose, diagnostic logging depending on configuration, time stamp, optional location control for mapping and repeating room measurement analysis)</li> <li>additional histogram analyzing capabilities on CSW-software</li> <li>real time clock function</li> <li>configurable audible, visual and vibration alarm</li> <li>RF-communication and USB-communication with suitable adapter</li> <li>customized LCD display with 5 digit 14-segment floating point area and special symbols for alarm, external probe, battery, RF-communication, vibration alarm, chirp and mute</li> </ul>
<b>Electrical Characteristics</b>	<ul style="list-style-type: none"> <li>power supply: 2 AA size batteries (alkaline or NiMH)</li> <li>contacts for external power and charging of NiMH battery (charging conditions +5... +35°C)</li> <li>operation time with fresh alkaline batteries more than 4 months at background radiation at +23°C, 8 h use/24h</li> <li>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.</li> </ul>
<b>Mechanical Characteristics</b>	<ul style="list-style-type: none"> <li>case high impact durable plastics reinforced with glass fibre</li> <li>ergonomic design, rubber grip and cushion around the case</li> <li>enclosure class IP67 (IEC 60529), water proof including battery compartment</li> <li>dimensions: 100 x 67 x 33 mm (3.93 x 2.63 x 1.29 in)</li> <li>weight: 175 g without batteries (0.385 lb), 220 g with batteries (0.485 lb)</li> <li>wrist/neck strap</li> <li>belt clip</li> </ul>
<b>Environmental Characteristics</b>	<ul style="list-style-type: none"> <li>-25°C...+60°C (-40°F to 131°F), operating temperature</li> <li>-40°C...+70°C (-40°F to 158°F), storage temperature</li> <li>relative humidity: up to 85% at +35°C (95 °F)</li> <li>fulfills the RF-immunity levels of applicable standard</li> </ul>
<b>Options</b>	<ul style="list-style-type: none"> <li>electrical cradle or mechanical cradle e.g. for easy vehicle fixing</li> <li>table top model</li> <li>pocket/belt clip/pouch</li> </ul>

### TGS Gamma Probe

Range: 0 to 10 000 cps

*For sensitive gamma contamination measurements*

### Alpha Wound Probe

Range: 0 to 10 000 cps

*For medical checking of alpha contamination from wounds*

### A125 Alpha Probe

Range: 0 to 10 000 cps

*For alpha surface contamination measurements*



### GMP-12L Gamma Probe

Range: 0,01 uSv/h to 100 mSv/h

### GMP-12H Gamma Probe

Range: 10 uSv/h to 10 Sv/h

*For ambient equivalent dose rate measurement from safe distance*

### GMP-11 Beta Probe

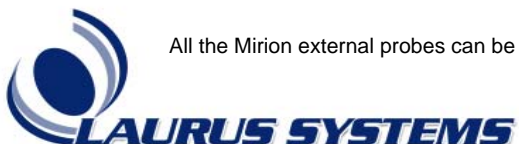
Range: 0 to 10 000 cps

*For general contamination measurements*

### GMP-15 Beta Probe

Range: 0 to 10 000 cps

*For general contamination measurements*



All the Mirion external probes can be connected to the RDS-31 with the cable adapter and are automatically detected.