



## FEATURES

- for environmental gamma monitoring
- compact construction
- measurement range from 0.01  $\mu\text{Sv/h}$  to 10 Sv/h
- temperature range from  $-40^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$
- internal memory bank for 864 dose rate values
- adjustable measurement parameters and dose rate alarm levels
- data transmission via telephone, short haul and radio modem
- watertight, EMP and RF-resistant enclosure with MIL-connector
- compatible with AAM-95 environmental monitoring software

## RD-02 & RD-02L

### Intelligent Detectors

The RD-02 is the heart of the RADOS environmental monitoring system. The system can be anything from a small in-house monitoring station to a country wide monitoring network with hundreds of detectors. The RD-02 allows the use of large variety of different communication means to build the online early warning environmental monitoring network. Due to the intelligent operation method, communication expenses can be minimized.

The RADOS AAM Area Monitoring System is a general purpose area radiation monitoring system, intended for automatic detection and monitoring of gamma and X-ray radiation, for receiving alarms, for storing measurement data and for altering probe parameters.

The AAM system is fully automatic, expandable up to 1000 probes and with a large variety of applications and it is operational in the most stringent ambient conditions

The communication network between the System Computer and the Measuring Stations can be built using fixed telephone lines, switched telephone network, radio links or a combination of these.



# health physics

A Mirion Technologies Division

Featuring:



TECHNICAL SPECIFICATIONS:		
	RD-02 Intelligent Detector	RD-02L Intelligent Detector
Physical characteristics	<ul style="list-style-type: none"> <li>radiation detected: gamma and x-rays, according to ambient dose equivalent H*(10)</li> <li>energy range: 50 keV - 1.3 MeV for dose rate range 0.01 µSv/h - 10 mSv/h, and 80 keV - 1.3 MeV for dose rate range 10 mSv/h - 10 Sv/h</li> <li>detector type: two halogen quenched, energy compensated GM tubes</li> <li>dose measurement range: 0.01 µSv - 10 Sv</li> <li>dose rate measurement range: 0.01 µSv/h - 10 Sv/h</li> <li>calibration accuracy: ± 5% of the reading in 3 mSv/h Cs-137 exposure at +20°C</li> <li>energy response: ± 30% over energy range 50 keV - 1.3 MeV, from background to 10 mSv/h, ±30% over energy range 50 keV - 1.3 MeV, above 10 mSv/h, ±20% over energy range 80 keV - 1.3 MeV, above 10 mSv/h</li> <li>dose rate linearity: ± 15% + 1 digit over the range 0.10 µSv/h - 10 Sv/h</li> <li>directional response: ± 15% within 180° horizontally from the calibration direction, ± 30% within ± 45° vertically from the calibration direction</li> <li>GM tube volumes: 7 cm<sup>3</sup> (low dose rate) and 0.13 cm<sup>3</sup> (high dose rate)</li> <li>GM tube sensitivity: 200 cps (low dose rate) and 3 cps (high dose rate) @ 100 µSv/h</li> <li>GM tube dead time: 110 µs for low dose rate and 13 µs for high dose rate tube</li> <li>self count rate: 10 cpm for low dose rate tube and 1 cpm for high dose rate tube *</li> </ul>	<ul style="list-style-type: none"> <li>radiation detected: gamma and x-rays, according to ambient dose equivalent H*(10)</li> <li>energy range: 50 keV - 1.3 MeV for dose rate range 0.01 µSv/h - 2 mSv/h, and 80 keV - 1.3 MeV for dose rate range 2 mSv/h - 10 Sv/h</li> <li>detector type: two halogen quenched, energy compensated GM tubes</li> <li>dose measurement range: 0.01 µSv - 10 Sv</li> <li>dose rate measurement range: 0.01 µSv/h - 10 Sv/h</li> <li>calibration accuracy: ± 5% of the reading in 3 mSv/h Cs-137 exposure at +20°C</li> <li>energy response: ± 30% over energy range 50 keV - 1.3 MeV, from background to 10 mSv/h, ± 30% over energy range 50 keV - 1.3 MeV, above 10 mSv/h, ±20% over energy range 80 keV - 1.3 MeV, above 10 mSv/h</li> <li>dose rate linearity: ± 15% ± 1 digit over the range 0.03 µSv/h - 10 Sv/h</li> <li>directional response: ± 15% within ± 180° horizontally from the calibration direction, ± 30% within ± 45° vertically from the calibration direction</li> <li>GM tube volumes: 60 cm<sup>3</sup> (low dose rate) and 0.13 cm<sup>3</sup> (high dose rate)</li> <li>GM tube sensitivity: 1400 cps (low dose rate) and 3 cps (high dose rate) @ 100 µSv/h</li> <li>GM tube dead time: 160 µs for low dose rate and 13 µs for high dose rate tube</li> <li>self count rate: 40 cpm for low dose rate tube and 1 cpm for high dose rate tube *</li> </ul>
* Background shielded 50 mm Pb + 3 mm Al		
Electrical characteristics	<ul style="list-style-type: none"> <li>power requirement: 12 VDC, 10mA (at background level)</li> <li>connections: 8-pin lockable MIL-connector</li> <li>integration time: adjustable from 1 minute to 99 minutes</li> <li>memory: capacity for 864 dose rate records</li> <li>interface: RS-232 (1200- 9600 baud)</li> <li>compatible with: RADOS AAM-95 Environmental Monitoring SW</li> </ul>	
Mechanical characteristics	<ul style="list-style-type: none"> <li>casing: impact resistant casing of anodized aluminum, shielded against RF-interference and NEMP</li> <li>RF resistance: Up to 1 GHz @ 100 V/m</li> <li>EMP resistance: Emax = 50 kV, rise time 10 nsec, fall time 1 µsec</li> <li>enclosure class: IP 67 (short term)</li> </ul>	
	<ul style="list-style-type: none"> <li>length: 260 mm, cylinder diameter 60 mm</li> <li>weight: 510 g</li> </ul>	<ul style="list-style-type: none"> <li>length: 560 mm, cylinder diameter 60 mm</li> <li>weight: 990 g</li> </ul>
Environmental characteristics	<ul style="list-style-type: none"> <li>temperature range: operation -40°C to +70°C, storage -40°C to +70°C</li> </ul>	



**MIRION**  
TECHNOLOGIES

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