



**MIRION**  
TECHNOLOGIES

## The RAM SURF monitor Surface Contamination Monitor



### FEATURES

- Portable, lightweight and compact
- One hand operation
- Stand up base holder
- Large, easy to read, 7- segment, 4 digit LCD display panel
- Ergonomically designed to function using only 3 push-buttons

### Functions

- Automatic internal monitor and detector test
- Automatic detector identification
- Low battery alarm
- Overflow Alarm
- Detector failure, overflow and low battery alarms
- Piezo-electric audio element indicates count rate, failure and exceeded thresholds
- LED indicator flash with each incident radiation pulse
- Wide range of measurement - up to 42,000 counts per second
- Dead time correction
- Special averaging function for “smoothing” the readout

The versatile RAM-SURF monitor is a state of the art, portable, highly sensitive meter, designed to instantly detect low level surface contamination on laboratory benches, tops, floors, equipment, clothing, shoes and skin. The built-in GM detector offers extra flexibility for scanning hard-to-reach places. The intrinsic CMOS microprocessor facilitates smooth software control and allows for easy upgrading of the instrument's capacity for measuring a wide range of measurement values.



health physics

A Mirion Technologies Division

Featuring:



## Technical Data

|                             |                                                                              |                |                                        |
|-----------------------------|------------------------------------------------------------------------------|----------------|----------------------------------------|
| Display                     | <b>LCD readout showing :</b>                                                 |                |                                        |
|                             |                                                                              | *              | 4 digits for accurate and easy readout |
|                             |                                                                              | *              | detector failure                       |
|                             |                                                                              | *              | low battery                            |
|                             |                                                                              | *              | overflow                               |
|                             |                                                                              | *              | LED Indicator flash for count rate     |
| Audio                       | Internally mounted piezo-electric element                                    |                |                                        |
| Measuring Units             | - CPS or CPM                                                                 |                |                                        |
| Power source                | - One 9 volt cell battery supplying around 50 hours of continuous operation. |                |                                        |
|                             | - Automatic battery check under full load                                    |                |                                        |
| Temperature range           | - Operation: -10 deg C to +50 deg C (15F - 122F)                             |                |                                        |
|                             | Storage: -20 deg C to +60 deg C (-5F to 140F)                                |                |                                        |
| Humidity range              | - 40% to 95% RH (non-condensing)                                             |                |                                        |
| Casing                      | - High impact plastic (ABS)                                                  |                |                                        |
| Dimensions - <b>Monitor</b> | Width                                                                        | 72 mm (2.8")   |                                        |
|                             | Length                                                                       | 114 mm (4.5")  |                                        |
|                             | Height                                                                       | 34 mm (1.3")   |                                        |
| <b>Detector</b>             | Width                                                                        | 71 mm (2.8")   |                                        |
|                             | Length                                                                       | 270 mm (10.5") |                                        |
|                             | Height                                                                       | 73 mm (2.9")   |                                        |
| Weight                      | 630 gr. (1,4lb)                                                              |                |                                        |
| Detector                    | Pancake GM tube (LND 73118 or similar) effective diameter. 1¾"               |                |                                        |
| Window thickness            | Mica, 1.5 – 2mg/cm2 protected by stainless steel wire meshing                |                |                                        |
| Background                  | 0 -1 cps                                                                     |                |                                        |
| Sensitivity (137 Cs)        | Approx. 5.8 cps/声Sv/h (58 cps/mR/h)                                          |                |                                        |
| Count rate range            | 0 to 42,000 cps                                                              |                |                                        |

### Surface sensitivity (in contact):

| Beta emitting isotopes            |            |             |                                       |                            | Additional radionuclides |                                       |                            |
|-----------------------------------|------------|-------------|---------------------------------------|----------------------------|--------------------------|---------------------------------------|----------------------------|
| Isotope                           | Emax [keV] | 2π-Eff. [%] | Sensitivity [cps/Bq/cm <sup>2</sup> ] | MDL* [Bq/cm <sup>2</sup> ] | Radio-nuclide            | Sensitivity [cps/Bq/cm <sup>2</sup> ] | MDL* [Bq/cm <sup>2</sup> ] |
| <sup>14</sup> C                   | 156        | 3           | 0.25                                  | 9                          | <sup>99m</sup> Tc        | 0.45                                  | 5.5                        |
| <sup>35</sup> S                   | 167        | 8           | 0.65                                  | 37                         | <sup>125</sup> I         | 0.04                                  | 63                         |
| <sup>147</sup> PM                 | 224        | 15          | 1.25                                  | 2                          | <sup>131</sup> I         | 3                                     | 0.8                        |
| <sup>99</sup> Tc                  | 290        | 20          | 1.75                                  | 1.5                        | <sup>230</sup> Th        | 1                                     | 2.5                        |
| <sup>90</sup> Sr+ <sup>90</sup> Y | 580+2280   | 50          | 8.5                                   | 0.3                        | <sup>241</sup> Am        | 1                                     | 2.5                        |
| <sup>36</sup> Cl                  | 714        | 45          | 3.5                                   | 0.7                        |                          |                                       |                            |
| <sup>210</sup> Pb                 | 1160       | 50          | 4                                     | 0.6                        |                          |                                       |                            |
| <sup>32</sup> P                   | 1710       | 70          | 5.5                                   | 0.5                        |                          |                                       |                            |

MDL - Minimum Detectable level calculations are based on background readings of 1 cps.  
The confidence level is 99%



**MIRION**  
TECHNOLOGIES

Health Physics  
Division

www.mirion.com  
144269EN-A

MGP Instruments Inc.  
5000 Highlands Parkway  
Suite 150  
Smyrna Georgia 30082  
USA  
T +1.770.432.2744  
F +1.770.432.9179

MGP Instruments SA  
BP 1  
F-13113 Lamanon  
France  
T +33 (0) 4 90 59 59 59  
F +33 (0) 4 90 59 55 18

RADOS Technology Oy  
P.O. Box 506  
FIN-20101 Turku  
Finland  
T +358 2 468 4600  
F +358 2 468 4601

RADOS Technology GmbH  
Ruhstrasse 49  
DE-22761 Hamburg  
Germany  
T +49 (0) 40 851 9340  
F +49 (0) 40 851 93 256