Rotem Industries Ltd

The RAM ION Meter

The RAM ION is a battery operated, auto ranging, portable ion chamber survey meter designed for highly stable and accurate measurement of dose rates and integrated dose of gamma, x-ray and beta radiation.
The meter covers a measuring range of 1 µSv/h - 500 mSv/h (0.1 mR/h to 50 R/h)in the dose rate mode, and 0.01 µSv -10 Sv (1uR to 999 R) in the integrated dose mode. The auto ranging meter utilizes a combination display consisting of a smoothed digital readout for minimum fluctuation and a two decade analog bar graph for fast response.
The **RAM ION** survey meter combines an ionization chamber vented to atmospheric pressure, and a micro-controller to offer optimal performances and special features. Furthermore it is a compact hand-held, lightweight, rugged meter, easy to use and maintain.

The **RAM ION** provides a very straightforward, fast and reliable method of collecting and storing monitoring data on site for later use. The **RAM ION** can read bar code labels that identify measurements location. The measurement's data combined with their locations, data and time are stored in a built in memory. The stored data records can be downloaded by the **RMV** (Rotem Meter View) software package.

The **RAM ION** is ideal for use in nuclear power plants, nuclear medicine, radiography and radiotherapy facilities, life science laboratories, nuclear research centers and in other industrial applications.

FEATURES

- NDT safety providing accurate readings for 60 nanosec X-Ray bursts
- Wide measuring range of 1 µSv/hr to 500 mSv/hr (0.1 mR/hr to 50 R/hr)
- Built in memory to store data
- Compact, lightweight and easy-to-use, one hand operation
- Dose rate and accumulated dose measurement
- Display illumination
- Freeze mode to record the highest dose
- User programmable dose rate and accumulated dose alarms
- Remote PC communication
- Hot Spot detection

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Technical Data

Measuring Range	1µSv/hr to 500mSv/hr (0.1 mR/hr to 50R/hr)
Display Range	0.1µSv/hr to 500mSv/hr (0.01 mR/hr to 50R/hr)
Accuracy	±10% of reading within measuring range
Gamma Energy Dependence (^{137}Cs)	Better than ± 20% at 20keV to 1.3MeV
Beta Energy Dependence	Better that ± 20% from 200keV
Angular Dependence (^{137}Cs)	Less than ± 5% (for ±120^{o} of front direction
Ion Chamber Volume	500 cc
Chamber Wall and Cover Thickness	300mg/cm^2 (tissue equivalent)
Window Thickness	7 mg/cm^2
Response Time	2 sec. for readings above 1 mR/h 5 sec. for auto-ranging change, from Low Range to High Range (2sec. +3 additional seconds for auto ranging delay)
Power Source	(Built in automatic battery check) *meter*: two 1.5V C-type Alkaline cells - 100 hours of continuous operation *laser scanner*: One 9V Alkaline cell - 6000 operations
Display	DigiLog (3 digits and 2 decades of analog bar graph)
Data Logging	347 data records (1415 with extended memory)
Temperature Range	Operation: -10^{o}C to +50^{o}C (15^{o}F - 122^{o}F) Storage: -20^{o}C to +60^{o}C (-5^{o}F - 140^{o}F)
Humidity Range	Up to 95% RH (non condensing)
Dimensions	Width: 10cm (3.9"), length 25cm (9.8"), height 19cm (7.5")
Weight	1100g (2.4lb)
Casing	High impact ABS

Ordering Information

BAK-1940	RAM ION DIGILOG **HR** (0.0) - µSv/h Radiation Detection Survey Mete
BAK-1920	RAM ION DIGILOG **HR** (0.00) - mR/h Radiation Detection Survey Meter
BAK-1950	RAM ION DIGILOG **LR** (0) - µSv/h Radiation Detection Survey Meter
BAK-1930	RAM ION DIGILOG **LR** (0.0) - mR/h Radiation Detection Survey Meter
BAK-2000	RAM ION DIGILOG **X HR** (0.0) - uSv/h Radiation Detection Survey Meter (new)
BAK-2005	RAM ION DIGILOG **X HR** (0.00) - mR/h Radiation Detection Survey Meter (new)
BAK-2010	RAM ION DIGILOG **X** LR (0) - µSv/h Radiation Detection Survey Meter
BAK-1990	RAM ION DIGILOG **X** LR (0.0) - mR/h Radiation Detection Survey Meter

HR = High Resolution – 1 or 2 decimal digits (depending on units of measurement)
LR = Low Resolution – no or 1 decimal digit (Depending on units..)
X = Used to measure pulsed X-rays. Instrument powers up in Dose Mode.

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