

IC3 Ion Chamber

Highly Stable and Accurate Ion Chamber Based Meter



Radiation Detection Division

Health Physics

The **IC3** 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 $\mu\text{Sv/h}$ to 1 Sv/h (0.01 mR/h to 100 R/h) in the dose rate mode, and 0.01 μSv to 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 **IC3** 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 **IC3** provides a very straightforward, fast and reliable method of collecting and storing monitoring data on site for later use. The **IC3** can store data records that are time stamped and identify measurements location. The stored data records can be downloaded by the **RMVC** (Rotem Meter View) software package which is freely available off our website.

The **IC3** 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

- **New** Electrometer provides complete protection in high humidity areas
- **New** Mylar beta window provides excellent beta responses
- NDT safety providing accurate readings from 50 nanosecond X-Ray pulses
- Wide measuring range of 1 $\mu\text{Sv/hr}$ to 1 Sv/hr (0.1 mR/hr to 100 R/hr)
- Built in memory to store data
- Compact, lightweight and easy-to-use, one hand operation
- Dose rate and accumulated dose measurement
- Auto Display illumination
- Freeze mode to record the highest dose rate
- User programmable dose rate and accumulated dose alarms
- Remote PC communication via Wi-Fi (optional) or USB Type C connector
- Quick Response Hot Spot detection

IC3 Survey Meter

Technical Data

Measuring Range	1 μ Sv/h to 1 Sv/h (0.1 mR/h to 100 R/h)
Accuracy (^{137}Cs)	$\pm 10\%$ of reading within measuring range
Gamma Energy Dependence	Better than $\pm 20\%$ from 20keV to 3MeV
Beta Energy Dependence	Better than $\pm 20\%$ from 200keV
Angular Dependence (^{137}Cs)	Less than $\pm 30\%$ (for $\pm 90^\circ$ of front direction)
Ion Chamber Volume	350 cm ³
Chamber Wall and Cover Thickness	1000 mg/cm ² (tissue equivalent)
Window Thickness	7 mg/cm ² Mylar
Response Time	3 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) <i>meter</i> : Four 1.5 Volt AA batteries - 120 hours of continuous operation
Display	Color TFT Display 3 digits with auto ranging units of measurement
Data Logging	200 data records
Temperature Range	Operation: -10°C to +50°C (15°F - 122°F) Storage: -20°C to +60°C (-5°F - 140°F)
Humidity Range	Up to 95% RH (non-condensing)
Dimensions	Width: 13cm (5.1"), length 24cm (9.5"), height 14cm (5.5")
Weight	1000g (2.4lb) including batteries
Casing	High impact ABS
Data Connection	USB for calibration, configuration, upgrade firmware and stored data points Optional Internal 900 MHz or 2.4 GHz RF Radio (WRM2/WiFi)
Threshold Alarms	User selectable

Ordering Information

BAK-0245 IC3 Ion Chamber

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