

Health Physics for Healthcare

IC3[™]

Portable Ion Chamber Survey Meter

The IC3 survey meter provides exceptional capabilities when measuring gamma, beta, and X-ray radiation for ensuring radiological compliance for nuclear medicine clinics, radiopharmacies, radiation therapy departments, and other radiation-sensitive environments. It accurately measures both dose and rate information helping radiation protection professionals to ensure worker safety and minimize dose to the general public.

The IC3 ion chamber is a battery-operated, auto-ranging vented survey meter that operates without the need for desiccant.

It has enhanced dose rate performance for both gamma and beta radiation, with a wide range extending up to 100 Rad/hour. The IC3 survey meter is particularly valuable in open systems where beta radiation levels may exceed the 50 Rad/hour of most ion chambers.

It is the ideal measurement tool for X-Ray and non-destructive testing (NDT) safety applications. Not only does the IC3 survey meter enable a wider range of measurements and visibility; it also accurately measures dose to pulsed X-rays down to 50 nanoseconds.



FEATURES

- New Sealed Electrometer provides protection in high humidity areas no desiccant required
- Highly stable, accurate dose measurement readings from 50 nanosecond X-Ray pulses
- Measures dose rate and accumulated dose
- Automated and wide measuring range of 1 µSv/hr to 1 Sv/hr (0.1 mR/hr to 100 R/hr)
- Built-in memory to store data
- Large color illuminated display for ease-of-use
- Compact, lightweight design and easy-to-use, one-hand operation
- Beta Window status indication on display and alarm
- Internal accelerometer allows automated sleep function based on movement

IC3 PORTABLE ION CHAMBER SURVEY METER



OPTIMIZED USER EXPERIENCE

The IC3 survey meter is designed for optimized user experience.

- Portability: Compact, lightweight and easy to use in one-hand operation.
- Built-in Memory: Data storage includes routine measurement points, reducing workload and manual record-keeping.
- Backlight Display: An illuminated display offers ease-of-use in poorly lit environments.
- Connectivity: An onboard connection to the Mirion ecosystem integrates seamlessly with existing telemetry systems, and a USB connection supports long-term monitoring systems.
- Combination Display: Smoothed digital readout for minimum fluctuation and an analog bar graph for immediate feedback.
- Stored data records can be downloaded with the free RMVC software package available on the product web page.



SPECIFICATIONS

- Measuring Range: Automatic Range Detection 1 $\mu Sv/h$ to 1 Sv/h (0.1 mR/h to 100 R/h)
- Accuracy ($^{\rm 137}Cs$): ±10% of reading within measuring range
- + Gamma Energy Dependence: Better than \pm 20% from 20keV to 3MeV
- Beta Energy Dependence: Better than ± 20% from 200keV
- Angular Dependence (^{137}Cs): Less than ± 30% (for ±90° of front direction)
- Ion Chamber Volume: 350 cm³
- Chamber Wall and Beta Slide Thickness: 1000 mg/cm² (tissue equivalent)
- Window Density: 7 mg/cm² Mylar
- Response Time:
 - 3 sec. for readings above 1 mR/h
 - 5 sec. for auto-ranging change, from Low Range to High Range (2 sec. +3 additional seconds for auto ranging delay)
- Power Use (has Sleep Function to reduce battery consumption):
 Four 1.5 Volt AA batteries
- Hours of Operation: Up to 100 hours (on lowest Backlight)
- 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 13 cm (5.1"), Length 24 cm (9.5"), Height 14 cm (5.5")
- Weight: 1,000 g (2.2 lb) including batteries
- Casing: High impact ABS
- Data Connection: USB-C 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
- Backlight: Yes, switchable and automatic
- Units: Switchable US or SI
- Speaker for Rate: Yes
- Speaker for Alarm: Yes
- Modes/Menu Options: 4-button menu driven display with multiple modes and configurable options
- Temperature-compensated Readings: Yes
- Zero Function: Automatic
- Desiccant: No desiccant required
- Pulsed X-Ray Use: Yes, down to 50 nanoseconds

Available Through Mirion Medical Companies: Capintec & Sun Nuclear

Health Physics for Healthcare solutions enable radiation monitoring in healthcare applications — a critical aspect of safety and compliance for all facilities using radiation in patient diagnosis and care.



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