



X-Ray Compliance Test Meter

Model: TBM-IC-XRAY with Built-in Detector

FDA Regulation 21 CFR1020.40 Mandates Exposure Rate Limit of 0.5 mR/h at 5 cm from X-Ray Systems as Measured with 10cm² Aperture

Features

- Ion Chamber – Air Equivalent
- One Hand Operation
- Digital Readout: 6 Digit-rate, 8 Digits Integrate
- Small Lightweight: 3 lbs with Sleeve
- Sees Axially X-Rays or Below 15 KeV Gamma
- Removable Sleeve Provides Omni Directional Detection Including Low X-Ray Energy Scatter
- Flat Energy Response

Application

- X-Ray Machines, TV, and Monitors
- Luggage and People Scanners.
- Provides accurate compliance testing of a wide variety of equipment.
- Protects the health and safety of airport and shipping personnel while they protect the public.

Description

- The **TBM-IC-XRAY** consists of an air-equivalent probe coupled to a stable solid state MOSFET input electrometer with built in A to D converter to read out directly in mR/h or mR.
- The **TBM-IC-XRAY** is small and light weight.
- Based on stable, essentially drift-free electrometer technology.
- Removable sleeve provides OMNI directional detection including low X-RAY energy scatter.

Specifications

- Detector: ION CHAMBER.
Window: Light-tight 0.9 mg/cm² Mylar laminate. 10 sq cm area. 36 mm (1.4") dia.
Readout: LCD 8 digits
Indicator Light: **Green LED** 10 pulses/min per mR/h.
Red LED Over-range Indicator.
Range: Rate 6 digits 0.1 mR/h to 10,000 mR/h in one range.
Integrate 8 digits 0.01 mR to 9.9R.
Photon Energy
Range: 5 KeV - 3 MeV
Energy Range: 15 KeV - 500 KeV ± 20%.
TBM-IC-XRAY can be re-optimized for use with higher energy emissions.



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Specifications cont.

ELECTRONICS

Bias Voltage:	45 VDC
X-Ray Rep Rate:	Use either rate or integrate mode for pulses with repetition rate more frequent than 1.0 per Sec. Use Integrate Mode for pulses separated by more than 1.5 per Sec.
Electrometer:	Solid State MOSFET input.
Electronics:	Pulse Shaper. A-D converter LCD drivers. Test and display functions.
Pulse Duration and Content:	With sufficient repetitions, TBM-IC-XRAY can accurately integrate pulses of less than a microsecond duration and longer, including continuous emission. Pulse content of 0.5 nanoR are measurable with sufficient repetition rate to give at least 0.1 mR/hr for at least 5 to 10 seconds.

ENVIRONMENT

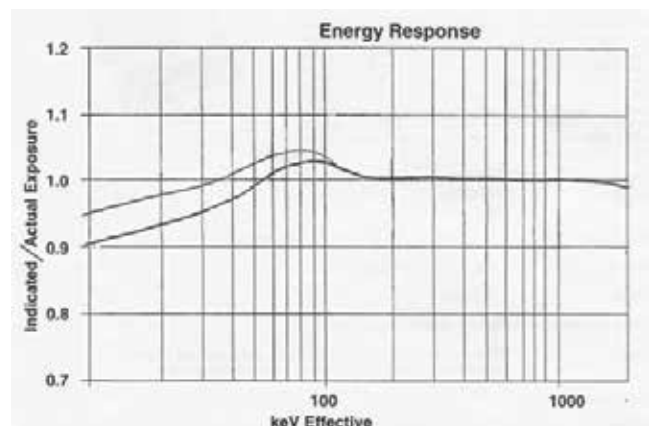
Temperature of Operation:	-20° to 50°C
Relative Humidity:	0 - 95%
Radio Frequency:	10 mW/cm ² up to 4 GHz affects meter viewing < ± 10%
Magnetic Effects:	200 Gauss ± 5% effect
Geotropism:	< ± 2% effect
Response Time:	2-3 seconds for rate and for integrate at 1mR/h or greater.
Time to Zero:	If count-rate goes to zero, the digital display will hold the old count for 12 seconds before displaying "0.0"
Batteries:	Front panel battery test is provided. 6 ea. (AA) - over 100 hours of operation.

Weight and Dimensions:

Dimensions:	4" H x 3.5" W x 9.5" L with sleeve (does not include handle)
Weight:	Complete with batteries and internal detector: 3 lbs with sleeve

Options:

- » Readout in Si units (µSv/h)
- » Ra-UBG - Check source.
- » Other entrance window material or thickness.
- » 5 cm nylon positioning bumpers



Signal Without Sleeve



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