

The IC-10 Detector

1 μ Sv/hr to 250 mSv/hr (0.1 mR/hr to 25 R/hr)

Radiation Detection Division

Health Physics



The IC10 is a rugged ion chamber detector designed for accurate and highly stable field measurements. The detector is used for measuring exposure rates of gamma, X-ray, and beta radiation over a wide range. Combined with our portable monitors or into the WebiSmarts Area and Stack Monitoring system, the IC-10 makes an excellent choice for maintaining the highest safety standards in a wide variety of applications



Photon Energy Response Relative to ¹³⁷Cs

Features

- Sturdy Casing (Aluminum)
- Built-in calibration factor
- Quick Connect to cable
- Available in Ambient Dose Equivalent H*(10)

Applications

- Fixed Area Monitoring for cyclotrons and accelerators
- Medium Radiation measuring detector
- Used in High Range areas to measure dose rates and accumulated dose

Technical Data

Measuring Range	1 μ Sv/h to 250 mSv/h (0.1 mR/h to 25 R/h)		
Display Range	0.1 μ Sv/h to 250 mSv/h (0.1 mR/h to 25 R/h)		
Gamma Sensitivity	0.04 pA/mR/h		
Accuracy	\pm 15% of reading within measuring range		
Gamma Energy Dependence	Better than \pm 20% at 20 keV to 1.2 MeV (Cs-137)		
Angular Dependence	Less than \pm 5% (for \pm 120 $^\circ$ of front direction (Cs-137))		
Ion Chamber Volume	500 cc		
Chamber Wall and Cover Thickness	300mg/cm ² (tissue equivalent)		
End Window Thickness	7 mg/cm ²		
Response Time	Scale	Time	Range
	0.1 μ Sv/h to 10 μ Sv/h	12 sec	low
	10 μ Sv/h to 100 μ Sv/h	8 sec	low
	100 μ Sv/hr to 2 mSv/h	4 sec	low
	2 mSv/h to 250 mSv/h	2 sec	high
Input Signals	Offset/operation – control, High/low - range control		
Output Signals	TTL pulses, Detector status: ID, chamber voltage malfunction		
Temperature Range	Operation: -10 $^\circ$ C to +50 $^\circ$ C (15 $^\circ$ F to 122 $^\circ$ F), Storage: -20 $^\circ$ C to +60 $^\circ$ C (-5 $^\circ$ F to 140 $^\circ$ F)		
Humidity Range:	40% to 95% RH (non condensing)		
Dimensions:	Chamber: 11.7cm (4.6") length, 8.9cm (3.5") diameter Handle: 14.3cm (5.6") length, 5.2cm (2") diameter		
Weight:	470g (1lb)		
Chamber:	Polypropylene		
Handle:	Aluminum, splash proof		
Max. cable length:	10 meters		

Rotem Part#

BAK-1230

Optional 6 MeV Energy moderating sleeve and cover
Cover: MEC-3132
Sleeve : MEC-3133



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