



IM 201L

Iodine Monitor



Nuclear
Power



Healthcare



Homeland
Security
& Defense



Labs and
Education



Industrial and
Manufacturing

OVERVIEW

The IM 201L monitor forms part of the RAMSYS product line. It has been developed to continuously measure the gamma volumetric activity of radioactive iodine sample, in both molecular and organic forms (methyl iodine), contained in air drawn from stacks, ventilation ducts or working areas. An NaI scintillation detector faces the activated charcoal cartridge in which Radioactive Iodine is trapped. The proximity of the detector and the cartridge, enclosed within a 4 π/5 cm (4 π/2 in) lead shielding, serves to optimize detection efficiency. A ²⁴¹Am radioactive source built into the NaI crystal allows compensation of temperature and aging related drifts. The spectrometry capability, based on a 1024 channel spectrum analysis, allows radio iodine isotope localization.

KEY FEATURES

- Embedded ²⁴¹Am source for energy spectrum stabilization against temperature changes and aging
- 1024 channels spectrum analysis
- Effluent trapping of both molecular and organic forms of iodine

RELATED MONITORS

- IM 201M: mobile version
- IM 201S: seismically qualified version
- PING 206S: version with particulate and noble gas
- PIM 206S: version with particulate

PHYSICAL CHARACTERISTICS

- Radiation detected: gamma
- Detector: 1¼"x1" NaI(Tl) scintillator + PMT
- Iodine cartridge: 57.7 mm (2.27 in)
- Energy range: 100 keV to 3 MeV
- Typical energy windows: 314 - 414 keV (¹³¹I, E_γ 364.5 keV)
- 1024 channels spectrum
- Typical measurement range: 3.7 to 3.7 10⁺⁶ Bq/m³ (10⁻¹⁰ to 10⁻⁴ μCi/cc)

ENVIRONMENTAL CHARACTERISTICS

- Long term temperature: +10°C to +40°C (+50°F to +104°F)
- Maximum periodic ambient temperature: -5°C to +55°C (+23°F to +131°F)
- MTBF: > 20 000 hours, with preventive maintenance
- TID: 100 Gy (10⁺⁴ rad)

PNEUMATIC CHARACTERISTICS

- Standard flow rate: 35 l/min (1.24 scfm)
- Pressure drop: according to the filter dust loading

MECHANICAL CHARACTERISTICS

- Dimensions: 864 mm x 725 mm x 440 mm (34 in x 28.5 in x 17.3 in)
- Weight: ~ 220 kg (~ 495 lb)
- Color: gray RAL 7030 (decontaminable paint)
- Inlet tube connection: Ø 12 mm OD (1/2 in)
- Outlet tube connection: Ø 12 mm OD (1/2 in)

ELECTRICAL CHARACTERISTICS

- Power supply: 230 Vac – 50 Hz or 120 Vac – 60 Hz
- Data link outputs: 1 RS232 and 2 isolated RS485
- Alarm relays: 3 SPDT relays
- I/O: 2 isolated analog outputs and 1 isolated analog input (0/4-20 mA)

SIGNALING (Applicable to LPDU only)

- Alphanumeric display: measurement, status...
- Sound alarm: buzzer 90 dBA at 1 meter
- Visual alarm: 3 lights (red, yellow, green)

REFERENCE STANDARDS

- Nuclear: IEC60761, IEC61171
- EMC: 2014/30/EU and 2014/35/EU, IEC61000-6-2 and IEC61000-6-4

VERSIONS

- 230 Vac or 120 Vac
- LPDU or LPU
- With or without dust filter holder
- Pumping unit
- Monitor wall or floor fixing plate

ACCESSORIES

- Calibration tools
- Software
- USB converters

> CHINA - SHANGHAI

T: +86 21 6180 6920

> FRANCE - LAMANON

T: +33 (0) 4 90 59 59 59 | E: marketing-fr@mirion.com

> GERMANY - MUNICH

T: +49 (0) 89515 13 0 | E: muc-info@mirion.com

> USA - SMYRNA, GEORGIA

T: +1 770 432 2744



Copyright (c) 2014 Mirion Technologies, Inc. or its affiliates. All rights reserved. Mirion, the Mirion logo, and other trade names of Mirion products listed herein are registered trademarks or trademarks of Mirion Technologies, Inc. or its affiliates in the United States and other countries. Third party trademarks mentioned are the property of their respective owners.



IM 201 L

碘监测仪

- ◇ 连续测量空气中分子碘和有机碘产生的 γ 放射性体积活度
- ◇ 超过报警阈值时发出声光报警和电信号报警

- 内置 ^{241}Am 源，当温度变化和老化时，用于稳定能谱
- 1024 道谱分析，快速碘同位素识别

辐射监测系统（RAMSYS）中的IM 201 L监测仪，主要用于从烟囱、风管和工作场所中进行空气过滤采样，测量放射性分子碘和有机碘产生的 γ 放射性体积活度。NaI 闪烁体探测器和活性炭滤盒被 $4\pi/5$ cm的铅屏蔽提高了探测效率；内置 ^{241}Am 放射源，实时补偿因温度变化和老化产生的漂移。1024道谱分析能快速识别碘的放射性同位素。

IM201系列碘监测仪有移动式（M型）、轻型（L型）、和防震式（S型）三种型号。



上海富蓝机电有限公司

地址：上海市江场三路88号801室

电话：021-66315090, 66315091

传真：021-66528796

