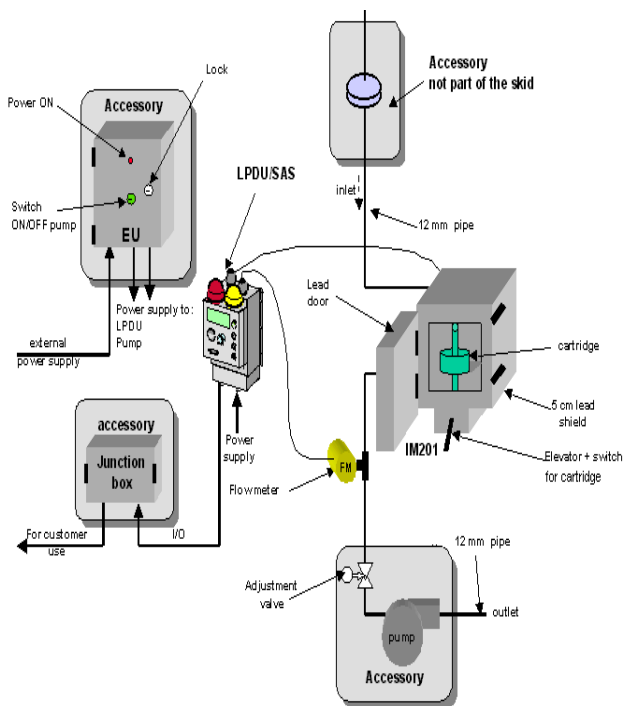


# IM 201 L

## Iodine monitor

- continuous air monitoring and display of volumetric activity for radioactive Iodine
- visual, audible and electrical signal alarms when threshold levels are exceeded
- embedded  $^{241}\text{Am}$  Source for energy spectrum stabilization against temperature changes and aging
- 1024 channels spectrum analysis

The IM 201 L 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  $4\pi/5$  cm ( $4\pi/2$  in) lead shielding, serves to optimize detection efficiency. A  $^{241}\text{AM}$  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 localisation. This monitor is also available in mobile or seismic version.



## Physical characteristics

- radiation detected: gamma
- detector: 1 1/4"x1"NaI (TI) scintillator + PM + <sup>241</sup>AM source
- lead shielding: 4 π /5 cm (4 π /2 in)
- cartridge:
  - type: activated charcoal
  - efficiency:
    - methyl iodine: 99.99%
    - molecular iodine: 99.98%
- measurement range (IEC60761):
  - 3.7 to 3.7 10<sup>6</sup> Bq/m<sup>3</sup> (10<sup>-10</sup> to 10<sup>-4</sup> μCi/cc)
- selective measurement:
  - window position: 314-414 keV (<sup>131</sup>I. E<sub>γ</sub> 364.5keV)
- temperature range: +0°C to +55°C (32°F to 131°F)

## Electrical characteristics

- power supply: 120V 60Hz - 230V 50Hz
- interfaces:
  - RS 232 Serial link for parameter configuration of the monitor through PC and MASS application software
  - two 0/4-20 mA analog outputs, one 0/4-20 mA analog input, two RS 485 isolated serial links, two programmable relays

## Mechanical characteristics

- protection index: IP 65 and IK 07
- open frame steel structure (decontaminable paint): grey RAL 7030
- sizes: 864x 789 x 440 mm (34 x 31.1 x 17.3 in)
- weight: ~220 kg (485 lb)
- interfaces:
  - inlet and outlet sampling: pipe φ 12 mm OD (0.50 in)

## Qualification

- EMI/RFI: EN 55022, IEC 61000-6-2, 61000-6-4

## Alarm signaling (applicable to LPDU only)

- audio indicators: buzzer sound alert rated 90dBa at one meter
- visual indicators: programmable operation lights such as red for high alarm, yellow for alert alarm, green for normal operation

## Accessories

- RAMSYS softwares
- sampling flow rate 35 l/min (7.70 gallon/min)
- junction box to get all signals on a terminal block
- dust hydrophobic filter
- set of calibration (<sup>133</sup>Ba source and its fixture)
- plates for wall or ground mounting

RAMSYS: Radiation  
Monitoring System