



# SaphyGATE G

## Radiation Portal Monitor



### KEY FEATURES

- Adapted to a wide range of industries: treatment centers (waste, recycling), steel works, NPPs, nuclear research centers, seaports & airports, hospitals...
- Automatic compensation of background noise shielding
- Ruggedized equipment, adapted to harsh environment
- Compliant with international standard (including IEC 62022)

### SYSTEM DESCRIPTION

SaphyGATE G is an automatic radiological portal monitor of vehicle load.


This system has been especially designed for detection of very low artificial/natural radioactive sources in vehicle load. Its advanced algorithm also allows to track the background attenuation due to vehicle shields. Fully automatic, the system is adapted to harsh environment.

SaphyGATE G is based on multiple DSP-010-SG large surface plastic scintillation detectors (1000 x 500 x 500 mm, 25 liters), connected to a central processing unit.

The main components of the system are:

- DSP-010-SG high volume plastic scintillation gamma detectors with lead shields
- Central processing unit with coloured LCD touch 12" screen
- A software pack including: Windows Embedded, RPMVision HMI, remote assistance sw.  
Languages available : English - German – French – Italian (other languages on request)
- Presence sensors

### STAGES OF CONTROL

- 1) The vehicle is going through the two infrared cells at 8 km/h → control start  
Stationary control also available.
- 2) The algorithm shows the optimal alarm thresholds due to backgrounds attenuation.
- 3) Once measurement finished, the system go back on background monitoring mode.
- 4) In case of alarm, RPMVision software shows the orphan source or contaminated materials' location by this symbol: 
- 5) The « alarm classification » feature gives a presumption of the detected radionuclide (optional)
  - Artificial – industrial alarm (Na-22, Cs-137, Co-60)
  - Artificial – medical alarm (Tc-99m, Co-57, I-131)



## SYSTEM MAIN POWER SUPPLY

The power supply can come directly from the main cabinet or from a schuko socket. For a better and safe installation, plan a main feeder protected by an UPS (minimum 1.000VA).

- Main Power Supply : single-phase feeder 120 VAC
- Frequency : 50/60Hz

## PLASTIC SCINTILLATION DETECTOR DSP-010S / TECHNICAL CHARACTERISTICS

- Main Power Supply : 24 VDC, from the central unit
- Detector Type : Plastic scintillator detector PVT (Polyvinyltoluene)
- Scintillator dimensions : 1 000 x 500 x 50 mm (39" x 20" x 20")
- Volume : 25 liters (6,6 gal)
- Photomultiplier : Low noise photomultiplier
- Energy range : from 30 keV to 7 MeV
- Protection grade : IP65
- Weight : About 400kg (882 lb) with lead shields and stand
- Enclosure : Hermetic aluminum box, EMC shielded
- External dimensions : 1 250 x 650 x 178 mm (49" x 26" x 7")
- Working temperature : From -25°C to +50°C (-77° F to +122° F)
- Shielding : Detector shielded

## CENTRAL UNIT / TECHNICAL CHARACTERISTICS

- Main Power Supply : single-phase feeder 100-240 VAC
- Frequency : 50/60Hz
- Consumption : 500W
- Protection grade : IP55
- Weight : About 10kg (22 lb)
- Housing : Wall mounted metallic box EMC shielded with external IPC module (including LCD display)
- External dimensions : Central unit: 300 x 200 x 120mm (12" x 8" x 5") –  
IPC: 300 x 250 x 70 mm
- Working temperature : From 0°C to +50°C (+32°F to +122°F)
- LCD display : TFT XGA 12" colored touch-screen