Radioactivity Detection

GammaScan® eV4

Gate monitor for radioactivity detection in waste loads and skips

Highlights

- Real-time background noise monitoring
- Real-time calculation of an alarm threshold
- Touch screen in IP66 housing
- Photo or live with webcam
- SMS /@mail alarms
- Generation of PDF report
- USB port for data transfert
- Determination of speed and direction of passage
- Remote Control System
- Maintenance indicator
- Available in several languages

Applications

- Waste disposal center
- Metals recycling
- Access control
- Hospital sector

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New generation of gate monitor detection

Berthold France offers a new generation of systems for measuring the radioactivity of loads ranging from waste skips in hospitals to truck loads in waste disposal facilities.

The Berthold GammaScan® evolution4 initiates a new line of high-performance equipment adapted for intensive use in a simple and optimal way.

Fonctions and Features

• Real-time background noise monitoring and database storage for on-the-fly extraction of background noise curves

• Real-time calculation of an alarm threshold 1 calculated from the background noise of your site. Possibility of adding a fixed alarm threshold

•Operation with or without cells (continuous measurement)

• Alarm management :

-Sending SMS in case of a technical or radiological alarm to a contact directory (SIM optional)

-Sending an email in case of a technical or radiological alarm to an address book

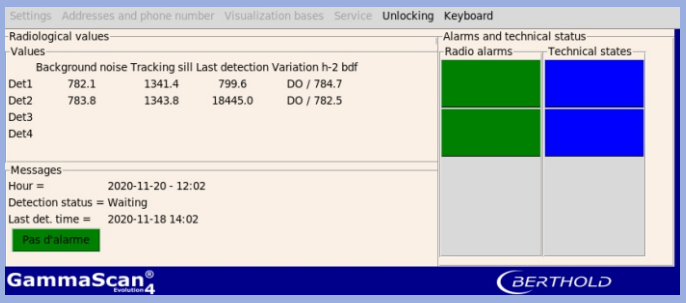
- Generation of a PDF report sent by email

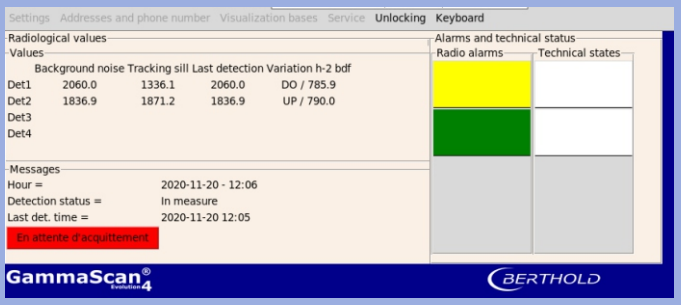
-Visualization of LEDs and alarm levels on touch screen for acknowledgement

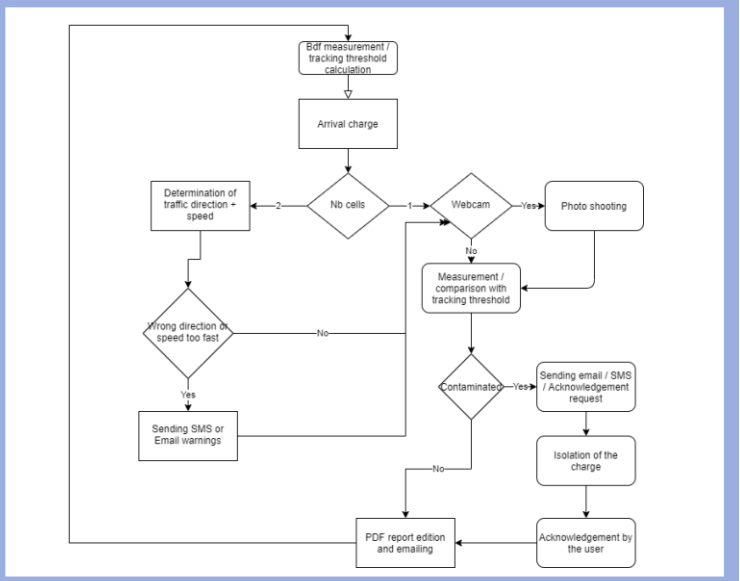
-Visualization of the alarm indicators by independent LED and acknowledgement by push button

• Optical cells for triggering the measurement (calculation of the speed and determination of the direction of passage if two cells are installed)

• Possibility of connecting a USB webcam to take a photo of the passage attached to the PDF report.







The new gate monitor Berthold GammaScan® eV4 benefits from a new color and tactile man/machine interface for immediate visualization of radioactivity levels and gantry status (technical or radiological).

The gate monitor is equipped with a warning system for technical faults and radiological alarms by SMS or email (in addition to local alarms).

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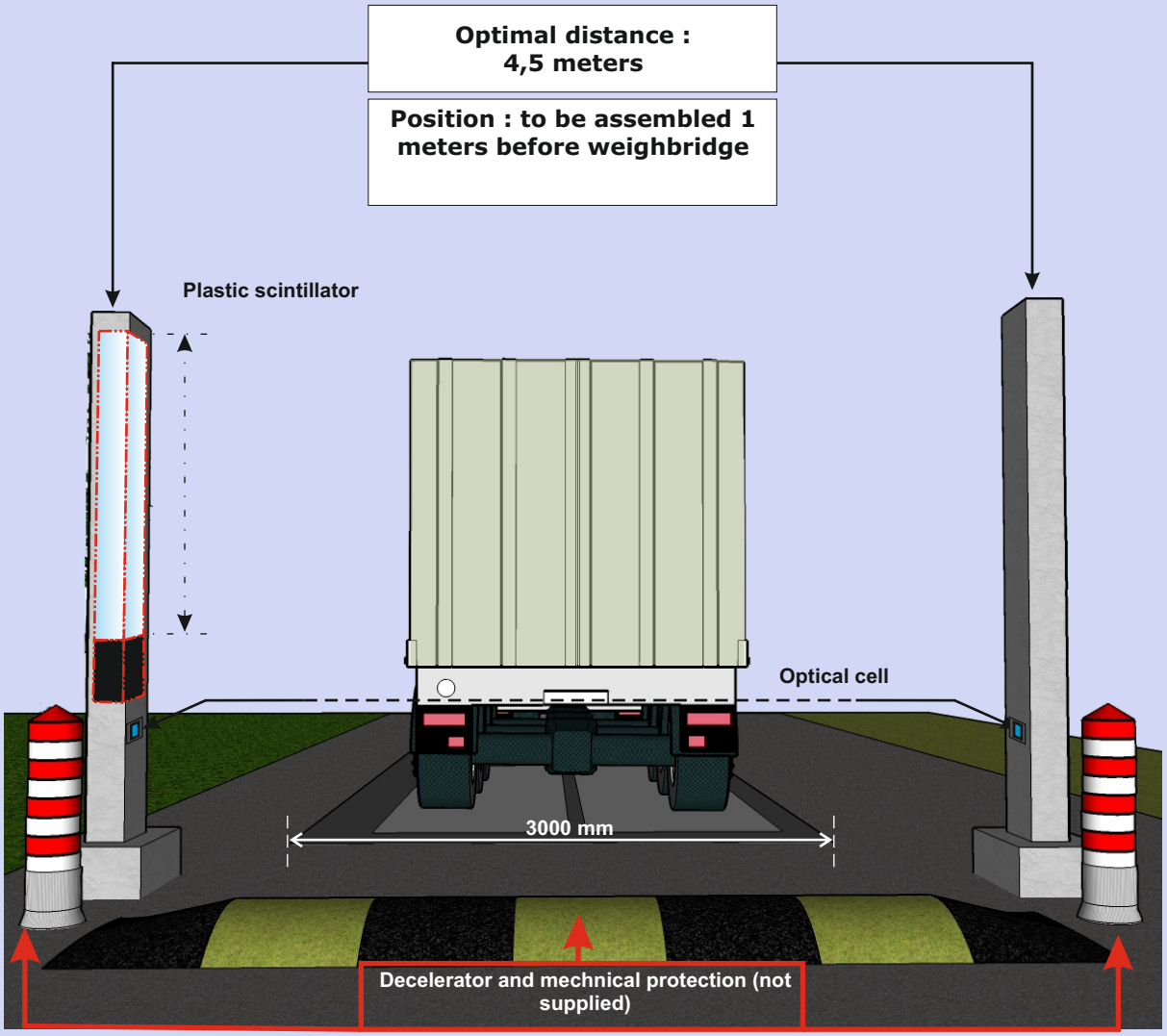
Installation example



Performances

The instructions for use and installation of our system are essential for optimal operation. The detection limits are determinated by a number of parameters, such as :

- The number of false alarmes tolerated,
- The local conditions (natural ambient radioactivity, installation of the system),
- The speed at which vehicles pass (remider : optima speed between 4 and 10 km/h),
- The dimensions and density of the load,
- The type of radioelements to be detected.

Radioactivity detectors

The gate monitor GammaScan® ev4 is equipped with detectors covering a wide range of sensitivity:

• Polymer type detectors and photomultipliers

• IP 65 enclosure

• Energy range from 50 keV to 3 MeV

• Background noise from 750 to 4900 cps (depending on detection volumes) for an environment < 100 nGy/h

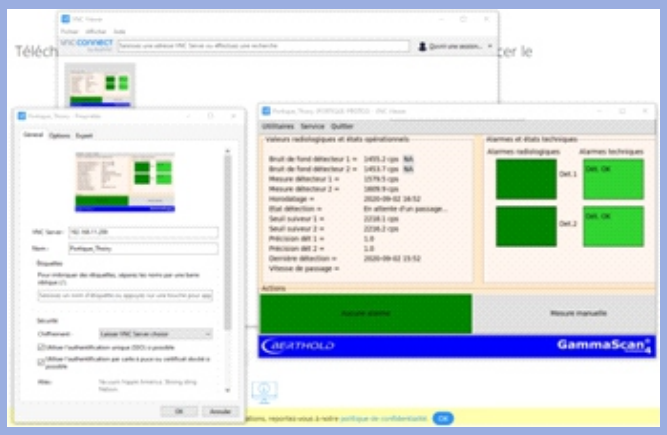
Remote control system

The GammaScan® eV4 has Ethernet and Wifi connections to be integrated into your network and benefit from internet access.

Via the VNC software, the gate monitor present on your network can be viewed remotely and simultaneously.

In addition, if the gate monitor has Internet access, a technical support engineer from Berthold France can take control of the system via TeamViewer for change a setting or update the system.

The gate monitor has as standard a data server which will send, by simple external request, the desired values allowing a digital interfacing with your supervision.



Maintenance

The GammaScan® eV4 system has been designed for easy maintenance and quick recovery in case of problems :

• Standard block design on DIN rails and 1 for 1 replaceable blocks

• Remote control via TeamViewer for adjustment and update

• If the gate monotor is equipped with two detectors and if one of the detectors is defective, the system can operate in degraded mode on one detector.

• Email notification for annual maintenance planning

• Transfer of parameters and PDF reports stored on USB key by simply plugging it in.

Technical datas

Interface

7-inch touch screen
LED module with 4 alarm lights Acknowledge button on the side

USB socket
2 open collector outputs for sending alarm status information technique and radiological alarm
REST WebServer for sending digital data to supervision

Network

Wifi 2.4 GHz and 5.0 GHz IEEE 802.11ac

Ethernet GigaBit
Modem GSM 3G

Control Box

Dimensions L x W x H mm	330 x 200 x 430
Class Protection	IP 66
Operating temperature	0 to +55 °C, non-condensing

Detectors

Polymer scintillator (polyvinyltoluene PVT)
25 L
To 1 at 4 detectors by gate

Speed max.	10 km/h
Background (for 100 nGy/h)	4900 cps
Protection Class	IP 65
Dimensions L x W x H mm	640 x 160 x 1425 (excluding mounting bracket)
Sensible detection volume mm	1000 x 500 x 50
Operating temperature	-20 to +55 °C, non-condensing

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