ELSE NUCLEAR

GALILEO Series

Radiation portal monitor for vehicles with large plastic scintillators

Radiation portal monitor that automatically scans the load of trucks and rail wagons, for example on weighing stations, for gamma-emitting radionuclides. Plastic scintillators on both sides of the passage are continuously compared with the alarm thresholds and a dynamic algorithm accounts for the vehicle's own shielding; on alarm the operator gets acoustic and luminous signals and the report can be e-mailed as a PDF.



Detector type
Plastic scintillators, 2–4 units (custom on request), 25 L and 50 00 cm² each, 5 cm deep [2]

Energy range
35 keV–2 MeV [2]

Weight
171 kg per detector lodging [2]

Specifications

DETECTOR

Detector type	Plastic scintillators, 2–4 units (custom on request), 25 L and 5000 cm² each, 5 cm deep	[2]

PERFORMANCE

Efficiency per detector	150 kcps/(µSv/h) for ^{137}Cs	[2]

MEASURING RANGE

Energy range	35 keV–2 MeV	[2]

ELECTRONICS & SIGNAL

Digital outputs	Up to 5 programmable 24 V outputs for e.g. barriers, traffic lights and interlocks	[2]

SOFTWARE & DATA

Software	Alarm thresholds in sigma units over background; background checked every 100 ms; dynamic algorithm for the vehicle's own shielding; reports can be e-mailed as PDF	[2]

MECHANICAL

Dimensions	Detector lodging max. 734 × 1483 × 222 mm (W × H × D)	[2]
Weight	171 kg per detector lodging	[2]

ENVIRONMENT & RATINGS

IP rating	IP65	[2]

ORDERING & ACCESSORIES

Configurations	2UV (two detectors, one at each side), 4UV (four detectors, two at each side) and custom layouts, e.g. 4UL for railway weighing stations	[2]
Accessories	^{137}Cs check source <10 kBq and source holder, plate-reading camera, vehicle-image camera, ALU alarm unit, traffic light and neutron detection sub-system (on request)	[2]

GENERAL

Use	Automatic scanning of the load of vehicles (trucks or rail wagons on weighing stations) passing through the portal	[1]
False alarm rate	<1 in 10,000	[2]
Transit speed	User-settable, recommended up to 10 km/h; 2 transit sensors (3 in 4UV) measure the speed	[2]
Lead shielding	10 mm lead on the external sides; 5 mm PMMA window	[2]

Sources

[1] **GALILEO Series Radiation Portal Monitor for Vehicles**
ELSE NUCLEAR · product-page · Product page · checked 2026-10-16
https://www.elsenuclear.com/portfolio/galileo-series/

[2] **GALILEO Series Radiation Portal Monitor for Vehicles (datasheet)**
ELSE NUCLEAR · datasheet · p. 4, Technical Specifications; p. 2–3, Configuration; p. 3, GALILEO Software · checked 2026-10-16
https://www.elsenuclear.com/wp-content/uploads/2025/05/DAT_GALILEO_EN_1.10.pdf

Every value is taken from the manufacturer's own document; the number after the value refers to the source list. Always check against the latest datasheet before ordering.

The data comes from the manufacturer's published documents. Manufacturers may change specifications; the current configuration and performance are confirmed in the quotation.