

Innovative Radiation Detection Technologies Since 1992

RADIATION MONITOR

PM1710A / PM1710GNA PM1710C / PM1710GNC

A Series of highly sensitive gamma and gamma-neutron radiation monitors in the following versions:

- Hand-held gamma and gamma-neutron monitors **PM1710A / PM1710GNA**
- Wall-mounted/hand-held gamma and gamma-neutron monitors **PM1710C / PM1710GNC**.

The PM1710C / PM1710GNC can be fixed on the wall and integrated into a network with audible and visual alarms on external processing unit and/or personal computer with application-specific "Monitoring Software".

High sensitivity of the PM1710 Series instruments is ensured by their large scintillation detector for gamma channel and He-3 counter for neutron channel.

The instruments detect standard samples of nuclear materials at a distance of $(100 \pm 5) \cdot 10^{-2}$ m from detector's sensitive surface (detection threshold for Pu - 3.0 g, U - 250 g) that corresponds to the minimum detectable radionuclide activity radioactive nuclide: ^{137}Cs 0.6 MBq, ^{133}Ba 0.33 MBq, ^{60}Co 0.3 MBq.

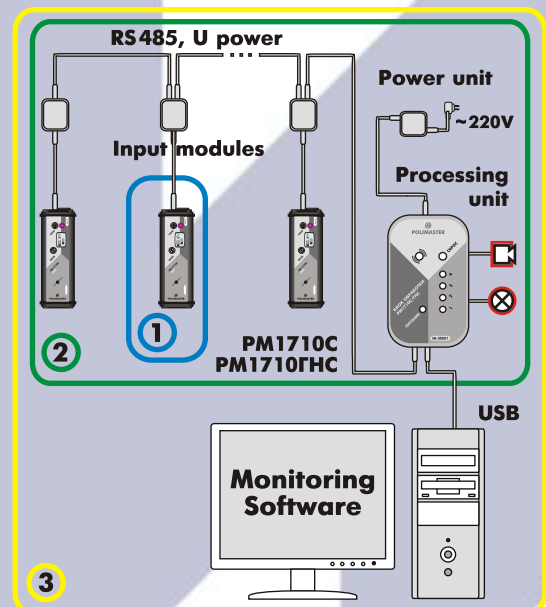
The PM1710C / PM1710GNC instruments can be used to build several levels of radiation control system:

ALARM

LOCATION

NETWORK SOLUTION

- 1 Stand-alone alarm monitors with self-contained power supply and personal alarms.
- 2 Instruments integrated in a network with alarms on a common processing unit and powered from an external power supply unit.
- 3 Instruments integrated in a network with alarms on a common processing unit, connected to a personal computer with "Monitoring Software" to display the current status and readings of the instruments, alarm events, to control operating modes of the instruments, and powered from PC.



RADIATION MONITOR

PM1710A/PM1710GNA, PM1710C/PM1710GNC

SPECIFICATION

Detector: - gamma - neutron (PM1710GNA / PM1710GNC only)	CsI(Tl) ³ He
Gamma sensitivity	500 s ⁻¹ /(μSv/h) (5.0 s ⁻¹ /(μR/h)) for ²⁴¹ Am; 500 s ⁻¹ /(μSv/h) (5.0 s ⁻¹ /(μR/h)) for ¹³⁷ Cs; 200 s ⁻¹ /(μSv/h) (2.0 s ⁻¹ /(μR/h)) for ⁶⁰ Co
Neutron sensitivity (PM1710GNA / PM1710GNC only)	0,1 cps·cm ² /neutron-for Pu-α-Be 7,0 cps·cm ² /neutron-for thermal neutrons 1,0 cps·cm ² /neutron-for Pu-α-Be, on a phantom
Energy range - gamma radiation	0.045 to 3.0 MeV
Energy range - neutron radiation (PM1710GNA / PM1710GNC only)	thermal to 14.0 MeV
Average neutron count rate indication range (PM1710GNA / PM1710GNC only)	001 - 999 s ⁻¹
Photon radiation dose rate indication range	0,01 - 30 μSv/h (1 - 3000 μR/h)
Accuracy of dose rate indication (at ¹³⁷Cs) in the range of 0.1-20 μSv/h (10-2000 μR/h), not more than:	± (20 + (1 μSv/h)/ \dot{H})%, where \dot{H} is indicated dose rate
Rate of false alarms in gamma detection mode at ambient background not more than 0.25 μSv/h (25 μR/h): - at gamma n =5.3 - at gamma n =4.5	mean time to false alarm > 10 hours mean time to false alarm > 10 minutes
Rate of false alarms in neutron detection mode: - at neutron n-coefficient =5.0 - at neutron n-coefficient =4.0 (PM1710GNA / PM1710GNC only)	mean time to false alarm > 10 hours mean time to false alarm > 60 minutes
Alarm type	- audible - visual - vibration (external) - PM1710A / PM1710GNA
Data collection	1000 data points
Environmental: - temperature range - relative humidity	-30 to +50°C (-22 to +122°F) up to 95 % at +35°C (+95°F)
Power requirements	one AA battery 1.5 V
Battery lifetime typical	1000 hours
Ingress protection	IP65
Drop test onto concrete	0,7 m (2,3 ft)
Dimensions: - PM1710A, PM1710C - PM1710GNA, PM1710GNC	172 x 57 x 32 mm (6 ²⁵ / ₃₂ x 2 ¹ / ₄ x 1 ¹ / ₄ in.) 194 x 82 x 32 mm (7 ²¹ / ₃₂ x 3 ¹⁵ / ₆₄ x 1 ¹ / ₄ in.)
Weight, max: - PM1710A, PM1710C - PM1710GNA, PM1710GNC	420 g (14,82 oz) 620 g (21,87 oz)

Design and specifications of the device can be changed without further notice.