POLIMASTER®

Innovating Radiation Detection Technologies Since 1992

RADIATION MONITOR

PM1710A/PM1710GNA
PM1710C / PM1710GNC

PM1710 series of highly sensitive gamma and gamma-neutron radiation monitors are available 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 attached to 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 monitoring system:

ALARM

LOCATION

NETWORK SOLUTION

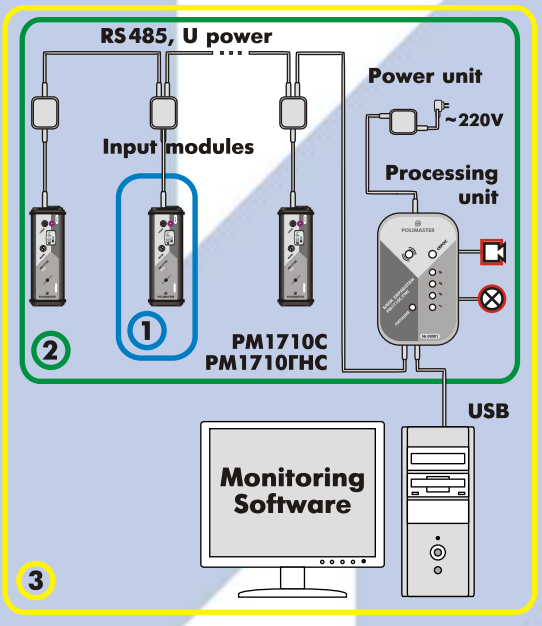
IRDA
USB

1 Stand-alone alarming monitors with self-contained power supply. Individual instrument alarms are independent from the main system

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"

The software displays the current status and readings of each instrument in the system and their alarming events. It also allows to control operation modes of the instruments and enables supplying power from PC.



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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 ^{137}Cs) 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 1.5 V AA battery/5 V DC** **(for PM1710C/PM1703GNC)**
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 ($6^{25}\backslash_{32}$ x $2^{1}\backslash_{4}$ x $1^{1}\backslash_{4}$ in.)** **194 x 82 x 32 mm ($7^{21}\backslash_{32}$ x $3^{15}\backslash_{64}$ x $1^{1}\backslash_{4}$ 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.

CE ISO 9001

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