

X-Ray and Gamma Personal Dosimeters PM1610 / PM1610-01 / PM1610A / PM1610A-01



پتروفرفهان گستر جنوب

DIGINDT.IR
FGJ-NDT.IR

Professional **personal dosimeter** for measuring continuous and pulse X-Ray and Gamma Radiation in the energy range 20 keV – 10 MeV. The *dosimeters* are recommended to protect professionals, who work with or around X-ray or gamma radioactive materials. The possible use areas include but not limited to: hospitals, mines, customs officers, nuclear stations personnel etc.

From Jan 2013 only grey color is available in stock.

Features

Polimaster's miniature **professional personal dosimeter** designed to monitor and measure the personal dose equivalent $H_p(10)$ and personal dose equivalent rate $\dot{H}_p(10)$ from both gamma and X-ray radiation. It is capable to measure both continuous and pulse (from 1 msec) X-ray and gamma radiation in the energy range from 20 keV to 10 MeV.

The *dosimeter* allows for setting up independent threshold alarm levels for dose and dose rate (two for each). When those thresholds are exceeded, the instrument alerts user with audio, visual and vibration alarms. Audio and vibration alarms can be enabled/disabled in the instrument setting menu.

The instrument's non-volatile memory allows for manual or automatic recording up to 7500 events of the dose rate change, acute dose levels, time and levels when the present threshold values were exceeded.

Key features of personal radiation dosimeters:

- Measures continuous and pulse X-Ray and gamma radiation;
- Alerts user via audio, visual and vibration alarms when preset thresholds are exceeded;
- Records manually or automatically for up to 7500 events in the instruments' non-volatile memory;
- Communicates with a PC via USB channel with the simultaneous battery charging;
- Use of different types of wireless readers in compliance with ISO15693 (for PM1610-01 and PM1610A-01);
- Low battery warning;
- User friendly interface with two button operation.

Instrument's shockproof rubberized case and the LCD with fluorescent backlight allows for easy operation even in the harshest, most unfavorable environments or weather conditions. The instrument is recommended for use by hospitals, mines, customs officers, nuclear stations personnel, and any professional who work with or around X-ray or gamma radioactive material.

Attention!

Instrument's battery will gradually run down during a long-term storage (even if the instrument is switched off). Over-discharged batteries could lose some capacity. For this reason Polimaster recommends users to charge the battery periodically (at least once per six months).

Personal Dose Tracker software, developed by the Polimaster company, enables serial connection up to 100 units of PM1610 X-Ray and gamma radiation personal dosimeters. Software enables information transfer by USB-protocol to a personal computer to analyze, process, and generate corresponding databases in a control center or an expert center.

Standards compliance

Designed to meet ANSI N42.20 - 2006 and IEC 61526: 2010 requirements

Back to [home page](#)

View other [dosimeters](#)

Applications:

[Networked Solutions](#)

- [Customs and Border Control](#)
- [Health Physics and Medicine](#)
- [Individual Radiation Protection](#)
- [Uranium Mining and Nuclear Fuel Production](#)

Specification

	PM1610	PM1610-01	PM1610A	PM1610A-01
Detector	GM tube	GM tube	GM tube	GM tube
Dose Rate display	0.01 μ Sv/h -12.0 Sv/h (1 μ R/h - 1200 R/h), Hp(10) of continuous and pulsed photon radiation (pulse duration not less than 1 ms)	0.01 μ Sv/h -12.0 Sv/h (1 μ R/h - 1200 R/h), Hp(10) of continuous and pulsed photon radiation (pulse duration not less than 1 ms)	0.01 μ Sv/h -12.0 Sv/h (1 μ R/h - 1200 R/h), Hp(10) of continuous and pulsed photon radiation (pulse duration not less than 1 ms)	0.01 μ Sv/h -12.0 Sv/h (1 μ R/h - 1200 R/h), Hp(10) of continuous and pulsed photon radiation (pulse duration not less than 1 ms)
Dose Rate Accuracy	$\pm(15+0.0015/H)\%$ (in range 0.1 μ Sv/h - 10 Sv/h, where H - dose rate in mSv/h)	$\pm(15+0.0015/H)\%$ (in range 0.1 μ Sv/h - 10 Sv/h, where H - dose rate in mSv/h)	$\pm(10+K_1/H+K_2H) \%$, where H - dose rate in mSv/h K_1 - coefficient 0.0015 mSv/h K_2 - coefficient 0.0015 (mSv/h) ⁻¹	$\pm(10+K_1/H+K_2H) \%$, where H - dose rate in mSv/h K_1 - coefficient 0.0015 mSv/h K_2 - coefficient 0.0015 (mSv/h) ⁻¹
Dose measurement	of continuous photon radiation 0.05 μ Sv - 10 Sv (5 μ R - 1000 R) of pulsed photon radiation (pulse duration not less than 1 ms) 10 μ Sv - 10 Sv (1 mR - 1000 R)	of continuous photon radiation 0.05 μ Sv - 10 Sv (5 μ R - 1000 R) of pulsed photon radiation (pulse duration not less than 1 ms) 10 μ Sv - 10 Sv (1 mR - 1000 R)	of continuous photon radiation 0.05 μ Sv - 20 Sv (5 μ R - 2000 R) of pulsed photon radiation (pulse duration not less than 1 ms) 10 μ Sv - 20 Sv (1 mR - 2000 R)	of continuous photon radiation 0.05 μ Sv - 20 Sv (5 μ R - 2000 R) of pulsed photon radiation (pulse duration not less than 1 ms) 10 μ Sv - 20 Sv (1 mR - 2000 R)
Dose Accuracy	$\pm 20\%$	$\pm 20\%$	$\pm 20\%$	$\pm 20\%$
Energy range	20.0 keV - 10.0 MeV	20.0 keV - 10.0 MeV	20.0 keV - 10.0 MeV	20.0 keV - 10.0 MeV
Energy response relative to 0.662 MeV (¹³⁷Cs)	-60% from 20 keV to 33 keV -40% from 33 keV to 48 keV $\pm 30\%$ from 48 keV to 3 MeV $\pm 50\%$ from 3 MeV to 10 MeV	-60% from 20 keV to 33 keV -40% from 33 keV to 48 keV $\pm 30\%$ from 48 keV to 3 MeV $\pm 50\%$ from 3 MeV to 10 MeV	-60% from 20 keV to 33 keV -40% from 33 keV to 48 keV $\pm 30\%$ from 48 keV to 3 MeV $\pm 50\%$ from 3 MeV to 10 MeV	-60% from 20 keV to 33 keV -40% from 33 keV to 48 keV $\pm 30\%$ from 48 keV to 3 MeV $\pm 50\%$ from 3 MeV to 10 MeV

Survive after momentary influence of maximum permissible gamma radiation within 5 min:	100 Sv/h (10000 R/h)	100 Sv/h (10000 R/h)	100 Sv/h (10000 R/h)	100 Sv/h (10000 R/h)
Alarm type:	visual, audio, vibration	visual, audio, vibration	visual, audio, vibration	visual, audio, vibration
Physical Parameters				
Dimensions	58 x 58 x 18 mm (2 2/7" x 2 2/7" x 5/7")	58 x 58 x 18 mm (2 2/7" x 2 2/7" x 5/7")	58 x 58 x 18 mm (2 2/7" x 2 2/7" x 5/7")	58 x 58 x 18 mm (2 2/7" x 2 2/7" x 5/7")
Weight	70 g (2.5 oz)	70 g (2.5 oz)	70 g (2.5 oz)	70 g (2.5 oz)
Environmental Characteristics				
Temperature	-20 up to +50 °C (from -4 up to +122 °F)	-20 up to +50 °C (from -4 up to +122 °F)	-20 up to +50 °C (from -4 up to +122 °F)	-20 up to +50 °C (from -4 up to +122 °F)
Humidity	up to 98% at 35°C (95°F)	up to 98% at 35°C (95°F)	up to 98% at 35°C (95°F)	up to 98% at 35°C (95°F)
Environmental protection	IP65	IP65	IP65	IP65
Drop test	1.5 m (4.9 ft) onto hard wooden surface	1.5 m (4.9 ft) onto hard wooden surface	1.5 m (4.9 ft) onto hard wooden surface	1.5 m (4.9 ft) onto hard wooden surface
Water resistant	✘	✘	✘	✘
Power				
Batteries	built-in rechargeable battery (charged via USB)	built-in rechargeable battery (charged via USB)	built-in rechargeable battery (charged via USB)	built-in rechargeable battery (charged via USB)
Battery lifetime (average DER not more than 0.3 µSv/h, alarms activated for not more than 20 s/24 hours)	30 days	30 days	30 days	30 days
Battery discharge control	LCD indication	LCD indication	LCD indication	LCD indication

Additional				
Countdown timer	X	X	X	X
Display of time to critical exposure	X	X	X	X
Functions	X	X	X	X
Calendar mode	X	X	X	X
PC Communication	USB	USB, ISO15693	USB	USB, ISO15693

 **+982165565901**

 **+982144584619**

 **+989034119385**

 **Tehran, Tehransar**

پتروفرهان گستر جنوب

DIGINDT.IR

FGJ-NDT.IR