



POLIMASTER®



Innovating Radiation Detection Technologies Since 1992

GAMMA DOSIMETERS

PM1603A/PM1603B wrist

PM1604A/PM1604B breast pocket



DESIGNED TO WORK IN EXTREME CONDITIONS

Dosimeters provide real-time environmental radiation monitoring.

The instruments can be used independently or as a part of operational dosimetry system for everyday and emergency radiation control, and can be tailored to the specific needs of customers.

Dosimeters have two independent alarm thresholds within all dose equivalent rate (DER) and dose equivalent (DE) measurement ranges. Audible and visual alarms alert users when the preset thresholds have been exceeded.

All data accumulated and stored in non-volatile memory can be transmitted via infrared channel to a PC for further processing and analysis.

The instruments' hermetic, shockproof and water-resistant case and the fluorescent backlight on LCD screen allow for easy operation and precision even in the most harsh and unfavorable environments. The dosimeters are highly sensitive and can register even the slightest changes in the natural background radiation.



Functions

PM1603A/PM1603B

- Measurement of the ambient DER of external gamma and X-ray radiation
- Measurement of the ambient DE of external gamma and X-ray radiation

PM1604A/PM1604B

- Measurement of the personal DER of external gamma and X-ray radiation
- Measurement of the personal DE of external gamma and X-ray radiation

PM1603A/PM1603B, PM1604A/PM1604B

- Measurement of DE accumulation time
- Indication of current time in hours, minutes and seconds
- Indication of day, month and year
- Using as alarm clock, timer and stop-watch

Application

- Emergency service
- Customs and border patrol
- Radiological and isotope laboratories
- Medical professionals
- Personnel of nuclear facilities
- Civil defense
- Fire rescue and police
- Mining

Features

- Wide range of DER and DE measurements
- Stable to dose up to 300 Sv
- Non-volatile memory
- Possibility of measurement of DE accumulation time
- Two thresholds in DER and DE range
- Audio and visual alarm
- PC communication by IR interface
- LCD display, electroluminescent backlight
- Rugged hermetic case
- Light weight and small dimensions

ALARM

LOCATION

MEASUREMENT



IRDA

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SPECIFICATIONS

Detector	Geiger-Muller tube
DER indication range - PM1603A/PM1604A - PM1603B/PM1604B	0.01 μSv/h - 6.5 Sv/h 0.01 μSv/h - 13 Sv/h
DE indication range	0.01 μSv - 9.99 Sv
Range of dose accumulation time	1 - 9999 h
Accuracy of DER measurement Within the range 1 μ Sv/h - 5 Sv/h for PM1603A/PM1604A 1 μ Sv/h - 10 Sv/h for PM1603B/PM1604B	$\pm(15 + 0.02/H + 0.003 H)\%$ $\pm(15 + 0.02/H + 0.002 H)\%$ H is the dose equivalent rate, mSv/h
Accuracy of DE measurement within the range 1 μ Sv- 9.99 Sv	$\pm 15\%$
DER and DE threshold range	two thresholds for DER and two for DE
Energy range - PM1603A/PM1603B - PM1604A/PM1604B	0.048 - 3 MeV 0.048 - 6 MeV
Energy response relative to 0.662 MeV (^{137}Cs) within the energy range 0.048 - 3 MeV	$\pm 30\%$
Alarm type	Audible
Data recording	1000 records (500 DER + 500 DE)
Communication with PC	IrDA
Power supply	one CR 2032 battery
Additional functions	alarm clock, timer, stop watch, calendar
Calendar mode	day of the week, date, month, year
Daily variation of watch at normal conditions	$\pm 0,5$ s/day
Battery lifetime	9 months
Battery discharge warning (partial and critical)	indication on LCD
Power supply	one CR 2032 lithium battery
Operating conditions - temperature range - relative humidity	from -20°C to +70°C up to 98 % at 35° C
Case Protection Class	IP67
Dimensions - PM1603A/PM1603B - PM1604A/PM1604B with a clip	50 x 56 x 19 mm 50 x 90 x 19 mm
Weight (with battery), no more	85 g

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



North and South America

Polimaster Inc.
44873 Falcon Place, Suite 128
Sterling, VA 20166
USA
Phone: +1 703 525-5075
Fax: +1 703 525-5079
info@polimaster.us

Europe

Polimaster Europe UAB
Ezero Str. 4, LT-13264 Didziasalis
Vilnius region
Republic of Lithuania
Phone: +370 5 210 2323
Fax: +370 5 210 2322
polimaster@polimaster.lt

Asia, Africa, Australia and Oceania

Polimaster Ltd.
51, Skoriny Str.
Minsk, 220040, Republic of Belarus
Phone: +375 17 396 3675
+375 17 268 6819
Fax: +375 17 260 2356
polimaster@polimaster.com

Japan

Polimaster Pacific K. K.
#506, Casa de Kudan
1-1-7 Kudan-Kita, Chiyoda-ku
Tokyo, Japan 102-0073
Phone: +81 03 6272 4280
Fax: +81 03 6272 4290
pacific@polimaster.jp

www.polimaster.us

www.polimaster.eu

www.polimaster.com

www.polimaster.jp