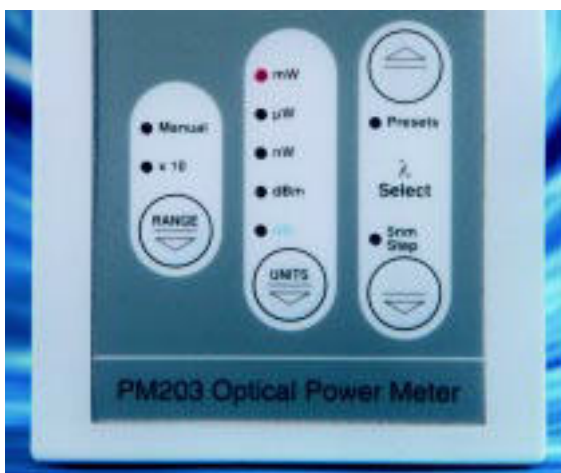


PM203 OPTICAL POWER METER

The Macam PM203 optical power meter is a high performance portable instrument designed to measure optical radiation in a wide range of applications including monochromatic sources, fibre optic and laser power measurements.

The power meter is supplied with either a Silicon, InGaAs or Germanium photodiode detector. Optical accessories include fibre optic connectors, attenuators, filter rings and integrating spheres.

The microprocessor controlled instrument includes an autoranging amplifier covering over eleven decades of sensitivity (including optical attenuators) with programmable spectral calibration factors. The output from the meter can be linked to a PC for remote control and automatic measurement logging.



PM203 front panel keys.



FEATURES

- Compact & robust - ideal for laboratory / factory use.
- Built in wavelength calibration table.
- Programmable wavelength selection: e.g. 5 nm steps or mercury emission lines or laser diode centre wavelengths.
- Display backlight for darkroom applications.
- Easy to operate with micro-processor control.
- Linear (W), dBm or dBr measurement.
- Auto ranges from nW → µW → mW.
- Measurement resolution: 1 pW, -90 dBm.^①
- Measurement range up to 2 mW, 3.0 dBm^② (without optical attenuators).
- Maximum measurement range up to 200 mW, 23 dBm (using 2" Ø integrating sphere).

^① Features are for silicon or InGaAs detectors.

^② Other ranges available on request.

APPLICATIONS

- Monochromatic power measurements.
- Spectroscopy.
- Fibre optic power measurements.
- Fibre optic attenuation.
- Laser power measurements.

OPTIONS

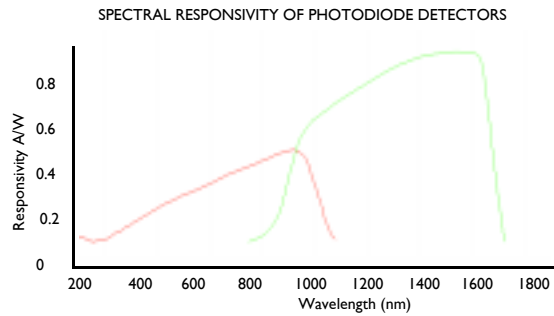
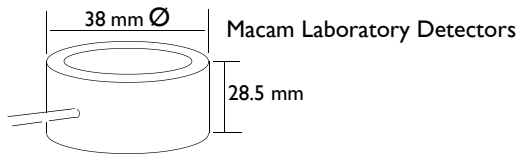
- Higher power scale.
- Laser power meter configuration with Macam 2" Ø integrating sphere option.
- Fibre optics detector input adaptors.
- Extended spectral range InGaAs detectors.

DETECTORS

The laboratory detectors for the optical power meter comprise of a multiple range low noise amplifier, signal digitiser, one metre interconnecting cable and an aluminium housing with accessory mounting screw thread.

Three photodiode detector types are available:

- **MODEL SD222UV**
Photodiode - Ultra-violet Enhanced Silicon
Active area - 10 x 10 mm
Spectral Range - 240 → 1100 nm
(320 → 1100 nm with integrating sphere option)
- **MODEL ID222**
Photodiode - InGaAs
Active area - 2 mm Ø
Spectral Range - 0.8 → 1.65 µm
- **MODEL GD225**
Photodiode - Germanium
Active area - 5 mm Ø
Spectral Range - 0.7 → 1.75 µm



ACCESSORIES

- **FIBRE OPTIC ADAPTORS**
FC, SC, SMA, ST and bare fibre adaptors can be supplied with the PM203 to mount directly into the laboratory detector.
- **ATTENUATORS**
A range of absorption glass and reflective attenuator filter rings are available to extend the range of the laboratory detector. Attenuation values include 10%, 1% and 0.1%.
- **INTEGRATING SPHERES**
Macam manufacture integrating spheres which can be used as a laser or fibre optic input for the power meter. Contact Macam for further details.

SPECIFICATION

Macam model PM203-Si optical power meter comprises of PM203X display unit with lithium battery, SD222 laboratory silicon photodiode detector & integral amplifier, calibration certificate & CC-4 carrying case. Model PM203-In comprises of same display unit with ID222 laboratory InGaAs detector/amplifier, calibration & carrying case. Model PM203-Ge as above with GD225 detector/amplifier.

DISPLAY UNIT

Model:	PM203X
Design:	Portable micro-processor controlled meter with backlit LCD display, battery powered, auto or manual ranging, RS232 interface, key pad operation.
Five Ranges:	0 → 199.99 nW to 0 → 1.9999 mW (or 0 → 19.999 µW to 0 → 199.99 mW)
Resolution:	0.01 nW, -80 dBm (or 0.001 µW, -60 dBm)
Ranges with Attenuators	Five ranges up to 0 → 199.99 mW
Accuracy:	± 1 %, ± 1 digit on display.
Keypad Operations:	Power on / off. Hold display toggle action. Zero stores offset for subtraction from subsequent readings. Range switches between auto/manual gain control. Units switches between power in Watts (mW, µW and nW), dBm and dBm.
	λ Select - wavelength of source 240 → 1100 nm 800 → 1650 nm 700 → 1750 nm in 5 nm steps
	Presets - Up to 16 user programmable calibration wavelengths.
Display	4½ digit LCD display with 10 mm high numerals.
Power Supply	PP3 Lithium battery. Operating life 50 to 100 hours.
Calibration	Traceable to National Standards. Absolute calibration accuracy ± 5%.
Dimensions	80 mm x 45 mm x 150 mm.
Weight	Approx. 0.3 Kg.

LABORATORY DETECTOR

Model:	SD222
Design:	Silicon photodiode with integral detector/amplifier and signal digitiser. Aluminium housing and 1m cable.
Linearity:	Better than 1% through ranges.
Minimum Signal Resolution:	1 pW
Model:	ID222
Design:	InGaAs photodiode with integral detector/amplifier and signal digitiser. Aluminium housing and 1m cable.
Linearity:	Better than 1% through ranges.
Minimum Signal Resolution:	10 pW
Model:	GD225
Design:	Germanium photodiode with integral detector amplifier and signal digitiser. Aluminium housing and 1 m cable.
Linearity:	Better than 1% through ranges.
Minimum Signal Resolution:	100 nW @ 25 °C

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