



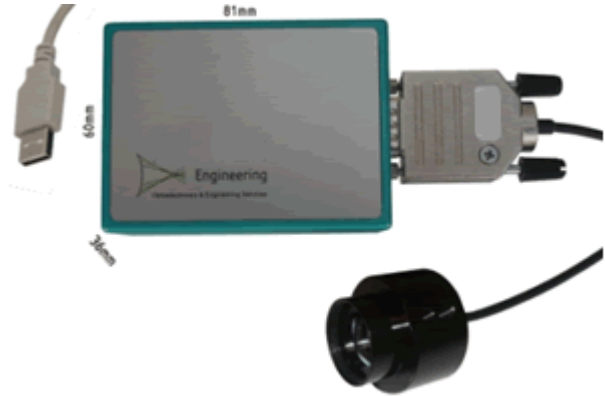
USB-controlled Optical Power Monitor

What could be easier?

The SOPM150 is a versatile power monitor for use in the lab and for laser servicing as well as for OEM applications.

Highlights

- Low cost and simple configuration. Basic system just includes base module, detector head, software and carrying case.
- Easy to use
- Powerful
- Wide wavelength ranges: 190-950nm; 800-1550nm; 800-1650nm or 400-1650nm.
- Bandwidth: 10 kHz



Properties

The SOPM150 is small enough to fit into your pocket and is USB powered and controlled.

Each head is automatically recognized and its individual calibration data are uploaded to the system. In addition, the user may load up to 5 separate filter curves. Thus, the dynamic range and functionality of the unit can be expanded while ensuring proper calibration.

The graphical user interface is intuitive to use and easy to read! The software includes a scope function, data logging and a large, digital display.

Specifications

- USB powered and controlled
- 30 Hz update rate with GUI, 1500 Hz as data logger
- 5 gain ranges from 1 μ W to 10 mW full scale (<1nW resolution)



PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
INPUT					
Wavelength range		190		950	nm
Power ranges (full scale)			10.0 1 100 10 1		mW mW μ W μ W μ W
Noise equivalent power (NEPRMS)	Min = 900 nm Max = 190 nm	5 500 50 5 500		25 2500 250 25 2500	μ W nW nW nW pW
OUTPUT					
Function		Linear analogue $V_{out} = scale \times Pin$			
Connectors		DB9 and USB			
Bandwidth			10		kHz
Sampling rate	GUI-Control Direct polling		30 1000		S/s
Accuracy		± 10			%
Reproducibility		± 3			%
Linearity			± 0.2	± 0.4	dB
SUPPLY					
Type		USB			
DIMENSIONS		60 x 81 x 36 mm (B x L x H)			mm

ORDERING INFORMATION

1) Base module: SOPM150; and 2) Detector heads. Please select suitable diode materials for specific wavelength ranges.

Example: SOPM150YYY

Diode material (YYY)	UVS	190-950nm; 10x10mm
	G5	800-1550nm; ϕ 5mm
	G10	800-1550nm; ϕ 10mm
	IGA	800-1650nm; ϕ 3mm
	VIGA	400-1650nm; ϕ 3mm



Optical Power Monitor

Precision measurement of optical power from pW to mW.

Properties

The SOPM series of optical power monitors employ photodiodes to measure optical power. Precision dual transimpedance input stages provide for high common mode rejection and linearity throughout the full dynamic range of the system.

Fields of Application

These optical power monitors are used for the measurement and monitoring of optical power from the UV to near IR. The output is a voltage linearly proportional to power. The fast response time at high signal-noise-ratio makes the OPM series particularly useful in systems control feedback loops, such as in fibre alignment systems. The high sensitivity and wide dynamic range allow measurement of fibre coupled lasers and LEDs alike.



Several options of photodiode material and optical input, including free beam input, make these units useful in a wide range of applications including non-telecom metrology. A wide variety of modules are available with TTL-compatible interfaces for full parameter control. The proprietary auto-nulling function allows up to 7V of offset nulling. This is particularly useful for eliminating a DC signal component to concentrate on signal changes, such as during component burn-in and life-time testing.

The amplifiers are classified according to rise time. Within each classification there are options of enclosure style, diode material, receptacles and numbers of channels. Please consult the linked documentation for full details in each case.

Order Code	Risetime	No. of Gains	Output	P max	G max
OPM100	100 ns	1	0 to +4.5 V	3 mW 30 mW	1500 V/W 150 V/W
OPM200	35 ns	1	0 to +4.5 V	3 mW 30 mW	1000 V/W 100 V/W
OPM300	25 μ s	3	0 to +4.5 V	1 mW 10 mW	10^7 V/W 10^6 V/W
OPM400	2 μ s	4 or 6	0 to +4.5 V	3 mW 30 mW	10^6 V/W 10^5 V/W
OPM500	45 μ s	6	0 to +10 V	3 mW 30 mW	10^8 V/W 10^7 V/W
OPM700	n.a.	4	digital	10 μ W 100 μ W	10^9 V/W 10^8 V/W
OPM800	1 μ s	3	4.5 V	4.5 mW	10^5 V/W

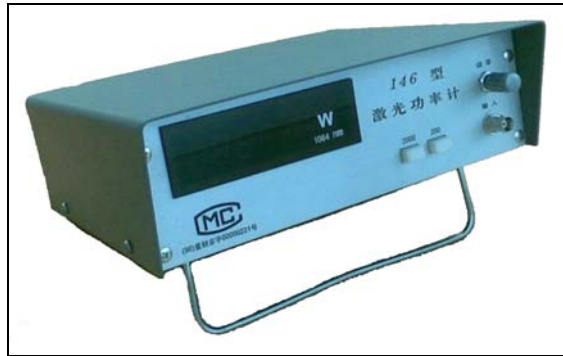


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Laser Power/Energy Meters



Display



Detector

Laser Power Meters

Model	146	147	148	M-92A	M-92B	M-92C	M-93
Range	200W 2000W	2uW- 20W	2W-200W 2mW-200mW	0.2W- 20W	2W-50W	2W- 200W	20mW 200mW
Resolution	0.1W	1nW	1064nm:1mW 633nm:1uW	0.1mW	1mW	1mW	0.01mW
Sensor diameter	20mm			18mm	18mm	25mm	10mm
Wavelength	400-1100nm			190nm-25um			400-1100nm
Calibration @ wavelength	1064nm	633nm	1064nm 633nm	10.6um			633nm
Max power density	15kW/cm ²			350W/cm ²			
Max energy density	70J/cm ²						
Display	3.5-digit LED						
Un-stability	5%						
Cooling	water	air				water	air
application	High-power laser	Low-power laser	Medium laser	CO2 laser			Low-power laser

Remark: A power meter consists of a display and a detector. The power meter has been calibrated at a given wavelength before shipping.

Laser Energy Meters

Model	M2000B	M2000	145A	145B	145C
Range	2J-200J	2J-200J	200mJ-20J	2J-200J	20mJ-2J
Resolution	1mJ	1mJ	0.1mJ	1mJ	0.01mJ
Sensor diameter	11.3mm 50mm	50mm	20mm	20mm	20mm
Wavelength	190nm-25um	190nm-25um	400nm-3um	400nm-3um	400nm-3um
Calibration @ wavelength	10.6um	10.6um	1064nm, 532nm, 694nm		
Max power density	10GW/cm ²	10GW/cm ²	10GW/cm ²	10GW/cm ²	10GW/cm ²
Max energy density	70J/cm ²	70J/cm ²	70J/cm ²	70J/cm ²	70J/cm ²
Display	3.5-digit LED				
Un-stability	5%				
Cooling	air				
Application	CO ₂ laser energy measure	Long pulse width energy measure	Pulse repetition rate 0-30Hz measure		