

# Optical / Laser Power Meters

## Laser power meters

Laser power meters are measuring instruments that let a laser beam emitted from a laser light source enter the sensor light receiver and indicate the value by converting light energy into electric signals. The unit used for this purpose is W (watt). The laser power meter is used for checking the light power of and maintaining laser-operating equipment. Since silicon photodiode used at the receiver of the laser power meter has different photoelectric conversion ratios according to the wavelength of the light received, it needs to be calibrated by the measuring wavelength.

\* It is possible to obtain approximate value for the measuring wavelength based on a spectral sensitivity characteristic graph of the silicon photodiode.

### Reference: Main laser wavelength

- 830nm Infrared semiconductor laser
- 780nm Infrared semiconductor laser (e.g. Used for CD player, MD recorder, etc.)
- 670nm Visible semiconductor laser
- 633nm He-Ne laser, red semiconductor laser (e.g. Used for DVD player, bar-code reader, etc.)
- 532nm Green laser
- 488nm Argon ion laser
- 405nm Purple-blue laser

## Optical power meters

Optical power meters are measuring instruments that indicate the power of an outgoing beam from an optical fiber connector by converting it into electric signals. It is mainly used for installation and maintenance of optical fiber and optical LAN. The unit of fiber light is generally expressed in W (watt) and dBm related to 1mW expressed in logarithm.

### Conversion of dBm into mW $[dBm] = 10 \log_{10} [mW]$

10dBm=10mW 0dBm=1mW -10dBm=100μW -20dBm=10μW  
-30dBm=1μW -40dBm=100nW -50dBm=10nW -60dBm=1nW

### Wavelength for each model

For long wave and long wavelength (1310nm,1550nm)  
For short wave and long wavelength (650nm,780nm,800nm,850nm,880nm)  
\* Please contact us for products handling wavelengths other than the ones given above.

## Optical Power Meter



### OPM-360

For fiber light (long wavelength 2 ranges)  
Optical SC type fiber connector

- Direct reading 2 wavelength ranges (1310/1550nm)
- 2 types power supply (AC adapter or inner rechargeable battery)
- 4 digits digital display (-60.00~0.00dBm/1nW~1mW)

\* Consult us regarding FC type connector.

DATA HOLD REL

Display	4-digit digital
Measurable wavelengths	1310/1550nm (2 ranges)
Optical power measuring range	-60.00~-0.00dBm/1.00nW~1.000mW
Ranges	Automatic
Accuracy	±5% (@ reference wavelength of -23dBm/5μW)
Photosensor	InGaAs-Pin photodiode φ1mm
Battery	Inner rechargeable battery or AC adapter (AD-30-2)
Size / Weight	H164×W85×D35mm/400g
Standard accessories included	AC adapter (AD-30-2), Instruction manual

Accuracy: 18°C~25°C max. 80% RH no condensation



### OPM37LAN

For fiber light (short wavelength 5 ranges)  
Optical FC type fiber connector

- dBm and W measurement
- Relative value
- Offsetting, data averaging (20-data sequential averaging)
- Direct reading wavelength (650, 780, 800, 850, 880nm)
- RS-232C interface
- Various connectors can be equipped by changing optical connector adapter.
- 2m long sensor extension cord

### Optional accessories

RS232C cable : KB-RS-OPM  
SC-type optical connector adapter : OPA-F04  
Simplex TOSLINK type optical connector adapter : OPA-F05  
\* Consult us regarding other type of connector.

DATA HOLD REL

Display	4-digit digital
Ranges	Automatic, 8 ranges
Optical sensor	Si photodiode (sensor surface area 5.8×5.8mm)
Optical power measuring range	-60.00dBm~-13.00dBm 1.000nW~20.00mW
Optical input type	Direct to photodiode
Reference wavelengths	650nm, 780nm, 800nm, 850nm, 880nm
Accuracy	±5% (@ reference wavelength of -20dBm/10μW)
Resolution	dBm/dB (REL) mode : 0.01dB W/W (REL) mode : 0.01%
Measuring cycle	3.33 times/sec.
Battery	006P type Alkaline battery or AC adapter (AD-30-2)
Size / Weight	Main body : H164×W85×D35mm/300g Sensor head : φ25×26mm/25g
Standard accessories included	Optical sensor, Extension cord, AC adapter (AD-30-2) FC-type (F01) connector adapter, Instruction manual

Accuracy: 18°C~25°C max. 80% RH no condensation



Sensor extension cord (2m)

## Laser Power Meter (Pocket Size)



### LP1

Optical power up to max. 40mW measurable  
Direct reading wavelength customization

- Wide optical power measurement range
- Silicon photodiode
- Sensor can be all neatly contained and protected within the folding case.
- Max / Min hold
- Auto power save (30min.)
- 500mm sensor cord

### Wavelength customization

The standard LP1 is calibrated at 633nm but can also read any other wavelength in the 400~1100nm range using a chart inside the case cover.  
We can calibrate directly to any other 400~1100nm wavelength for special orders, with a 4 month lead time, so please contact our authorized agent if necessary.

**mobiken** Series

Pocket size meter but with high accuracy and wide ranges. Sensor / Probes can be all neatly contained and protected within the folding case. Easy to carry in a shirt pocket.

APS Max HOLD

Optical sensor	Si photodiode (φ9mm)
Wavelength range	400nm~1100nm
Wavelength	633nm (He-Ne laser) reference wavelength Convert by a table of spectral sensitivity characteristic (representing value)
Display	Numeric:3999 full scale, Bargraph : 42-segment
Sampling rate	Approx. 2 times/sec. for numeral display. Approx. 20 times/sec. for bar graph.
Measuring range	40.00u/400.0u/4.000m/40.00mW
Accuracy	±5% (1mW : 4mW range, 633nm) 23°C±2°C
Battery	SR-44 or LR-44×2
Power consumption	Approx. 6mW
Operating temperature	0°C~40°C max. 80% RH no condensation
Storage temperature	-10°C~50°C max. 80% RH no condensation
Size / weight	H117×W76×D18mm/approx. 120g Sensor probe : H84×W16×D10mm
Standard accessories included	Instruction manual

## Laser Power Meter (Digital Type)



### OPM35S

For space light measurement

- Silicon photodiode
- Measurable up to 50.00mW
- Relative value
- Max hold, data averaging (20-data sequential averaging)
- Direct reading wavelength (488, 633, 670, 780, 830nm)
- RS-232C interface

### Optional accessories

RS232C cable : KB-RS-OPM

REL Max HOLD

Display	4-digit digital
Ranges	Automatic, 5 ranges
Optical sensor	Si photodiode (sensor surface area 10x10mm)
Optical power measuring range	0.001μW~50.00mW
Optical input type	Direct to photodiode
Reference wavelengths	488nm, 633nm, 670nm, 780nm, 830nm
Accuracy	±5% (@ reference wavelength of 100μW)
Resolution	W/REL mode : 0.01%
Measuring cycle	3.33 times/sec.
Battery	006P type Alkaline battery or AC adapter (AD-30-2)
Size / Weight	H164×W85×D35mm/300g Sensor head : H126×W15×D4mm/40g
Standard accessories included	Optical sensor, AC adapter (AD-30-2), Instruction manual

Accuracy: 18°C~25°C max. 80% RH no condensation



### OPM36M

For DVD-RAM, CD, MD laser power measurement

- Silicon photodiode
- Stick type sensor for DVD-RAM, CD, and MD is included as a standard accessory.
- Measurable up to 50.00mW
- Relative value
- Max hold, data averaging (20-data sequential averaging)
- Direct reading wavelength (633nm for DVD, 780nm for CD&MD)
- RS-232C interface

### Optional accessories

RS232C cable : KB-RS-OPM

REL Max HOLD

Display	4-digit digital
Ranges	Automatic, 5 ranges
Optical sensor	Si photodiode (sensor surface area 10x10mm)
Optical power measuring range	0.001μW~50.00mW
Optical input type	Direct to photodiode
Reference wavelengths	Wavelengths used by DVD (633~650nm), CD (780nm), MD (780nm)
Accuracy	±5% (@ reference wavelength of 100μW)
Resolution	W/REL mode : 0.01%
Measuring cycle	6.66 times/sec.
Battery	006P type Alkaline battery or AC adapter (AD-30-2)
Size / Weight	H164×W85×D35mm/300g CD sensor : H126×W15×D4mm/40g MD sensor : H68×W72×D6mm/30g DVD-RAM sensor : H123×W138×D8mm/80g
Standard accessories included	DVD-RAM sensor, MD sensor CD/DVD-ROM sensor (stick type), AC adapter (AD-30-2), Instruction manual

Accuracy: 18°C~25°C max. 80% RH no condensation

## Laser Power Meter (Analog Type)



### OPM-570L (with case)

For semiconductor laser

- Wavelength 650~680nm visible semiconductor laser
- Wavelength 760~830nm infrared semiconductor laser
- No power source / battery necessary.
- 4mm thick sensor head

Indicator	Taut-band Meter
Measurable wavelengths	760~830nm/650~680nm (2 ranges)
Optical power measuring range	0.01~10mW
Ranges	0.3/1/3/10mW (4 ranges)
Accuracy	±5% of full scale (@ reference wavelength)
Photosensor	Si photodiode
Size / Weight	H163×W100×D46mm/250g Sensor head:H126×W15×D4mm/40g
Standard accessories included	Carrying case (C-01), Instruction manual