

Photoelectric Type Laser Power Meter



Dimension-Labs to create a new generation of Laser Power Meter series products, products equipped with cutting-edge intelligent measurement software, to achieve the extreme precision measurement of laser power. This series of products subverts the traditional design. According to the diversity of detector packaging and integration methods and application scenarios, four unique styles are carefully designed: integrated optical power meter, adaptive cage type optical power meter, integrated ball type optical power meter, and sheet type optical power meter. Each probe can keenly capture the laser beam, and accurately and stably acquire the power parameters of the space laser or the fiber laser.

The body of the optical power meter is inlaid with high-precision LCD screen, which visually shows the power value. Users can also directly connect with the mobile APP or PC software through Bluetooth or data cable, realizing efficient and convenient measurement experience. Dimension-Labs Laser Power Meter series of products, more with its innovative design and excellent performance, to meet the needs of different users, become the industry's high-end measurement instrument products.

Photoelectric Type Laser Power Meter Product Series



►► Advantages and Characteristics

- Four probes available
- 270-degree rotatable probe
- A variety of accessories for flexible installation
- Free space laser or fiber laser detectable
- Wavelength coverage: 400-1,700 nm
- Probe window of 10mm
- Maximum detection power 4W
- LCD and SMB analog data interface
- Smart PC software or APP
- Bluetooth or USB data connection
- Exquisite aesthetics and easy operation

►► Application Scenarios

- Highly accurate power measurement
- Silicon chip power measurement
- Point/Line/Face laser power measurement
- Laser coupled power measurement
- Diverging beam power measurement
- Fiber laser power measurement
- Optical component reflectance testing
- Cage stenosis system power measurement

►► Four Probes Available

Dimension-Labs' optoelectronic laser power meter probes are uniquely and innovatively designed in four forms, including one rotation type, suitable cage system type, narrow space sheet type and integral ball type. Each probe design fully considers the needs of various practical application scenarios to ensure that users can find the most suitable power detection solution in most environments.



►► 270 Degrees Rotating Probe, Flexible Mounting Accessories

The integrated laser power meter probe takes the ultra-thin design as the core, which not only looks fashionable, but also achieves a breakthrough in practicality. The user can flexibly adjust the measurement Angle of the probe according to the actual beam direction, and the maximum rotation range is up to 270 degrees, to ensure the accurate measurement of the beam power. The probe is equipped with professional attenuator panels, which can be changed by sliding them to meet the measurement requirements of different beam power.



►► Free space laser or fiber laser detectable

After careful design and manufacture, this series of laser power meters is not only suitable for beam power measurement in free space, but also can accurately determine the power of optical fiber coupled light source. In order to meet the needs of different users, each kind of laser power meter probe is equipped with the corresponding fiber flange converter, which is fully compatible with the diversified fiber connection standards on the market.



►► Maximum Detection Power 4W, Minimum Readable Accuracy 0.01

Dimension-Labs has revolutionary introduced a new laser power meter equipped with a 1-inch integrated ball probe, which greatly increases the upper limit of power measurement and achieves up to 4W measurement capability. At the same time, the probe uses a 5mm diameter of the integral ball opening, to meet the personalized needs of different application scenarios, and can be customized according to the needs of the user. It is worth mentioning that this series of power meters has ultra-high resolution, even small power fluctuations can be accurately captured.



►► Detection Window Diameter 10mm, Detection Band 400~1700nm

After careful design and optimization, this series of laser power gauges has demonstrated excellent performance and innovation. Its detector window size is up to 10mm in diameter, with strong compatibility, and can easily handle laser beam power measurement tasks with a diameter of 10mm and below. The high quality silicon probe is designed for laser power measurement at 400-1100nm wavelength. In addition, the germanium and indium gallium arsenic material probes are further introduced, which can accurately detect the laser power at 800-1700nm wavelength, providing a more comprehensive and accurate measurement choice for the user's scientific research experiments.



wavelength range 200 400 500 700 1100 1700 2700 nm

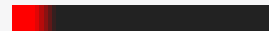
Si 400-1100nm



Ge 800-1700nm



InGaAs 800-1700nm



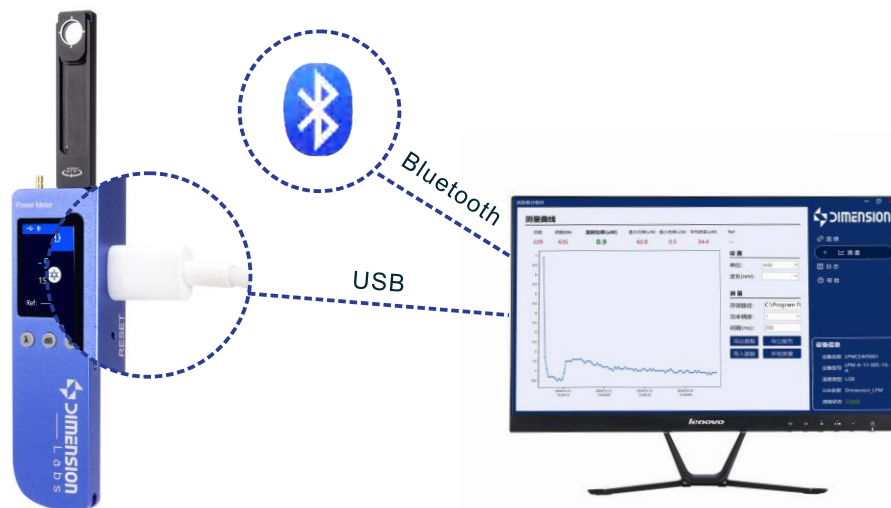
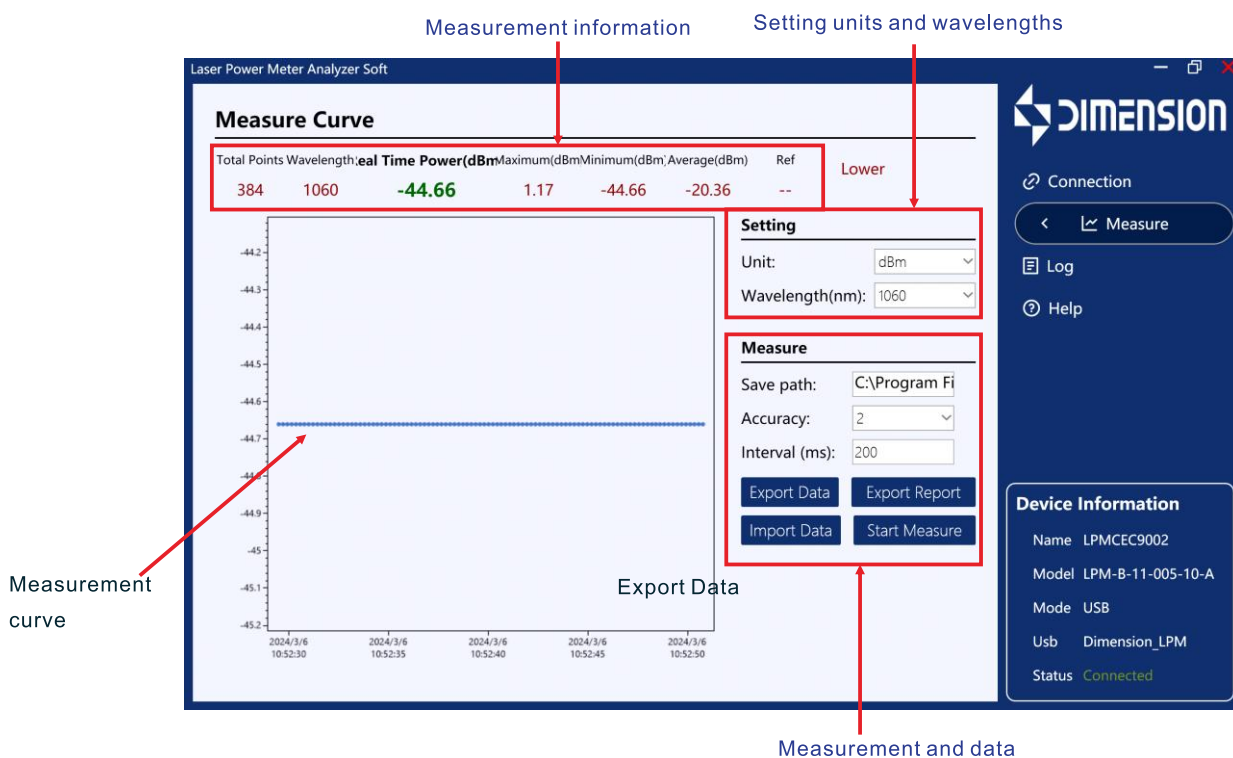
►► LCD and SMB Analog Data Interface

Dimension photoelectric laser power meter, exquisite shape is not only convenient for handheld use, but also can be stable and fixed, adapt to a variety of experimental scenarios. The body is equipped with high-definition LCD digital display, real-time presentation of measurement data. The unique wavelength and unit switching button design provides users with a more direct and efficient measurement experience. In addition, the configured SMB interface not only expands the device functions, but also provides users with the possibility to connect to other advanced devices, realizing the seamless transmission and sharing of data.



▶▶ Smart PC software or APP, Bluetooth or USB Data Connection

This series of laser power meter is equipped with intelligent PC and mobile terminal measurement software exclusively developed by dimension, which not only has intuitive and easy to use graphical interface and rich setting options, but also has efficient data storage and report generation functions. Users can easily connect with the software through Bluetooth or USB data connection mode, so as to realize the precise control of the laser power meter setting of various parameters and the comprehensive management of the measurement process.



Application Scenarios

Laser is widely used in scientific research, medical treatment, optical communication and other aspects. Accurate measurement of laser power is crucial to the normal progress of scientific research, the accurate output of project parameters and the normal operation and safety of equipment.

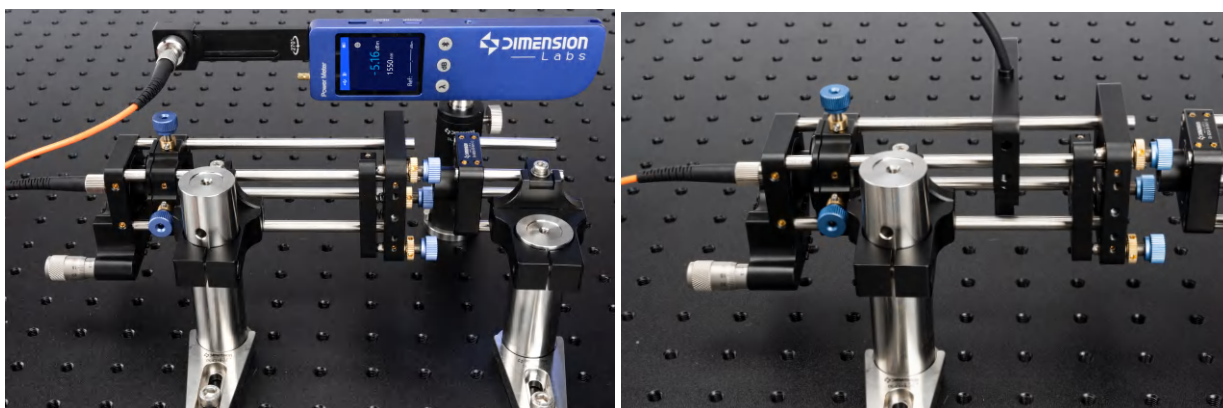
▶▶ Tight Space, Large Area Laser Power Measurement

The ultra-thin shape design of the all-in-piece power meter probe enables it to easily integrate into a variety of compact environments, whether narrow gaps or complex internal structure. The probe has a 270-degree rotating design, the user can make arbitrary steering according to the actual needs, and can maintain a stable measurement performance.



▶▶ Laser-Coupled Power Detection

In order to ensure the best effect of beam coupling, precise power measurement technology can be used to monitor the coupling process in real time, so as to accurately evaluate the beam coupling efficiency and provide a solid guarantee for the excellence of the experimental results.



►► Measurement of reflectance of optical elements

In the precise optical system, the propagation of the laser beam is often cleverly divided into multiple light paths through the reflecting elements. Every time the laser beam passes through the reflecting elements, it will produce energy loss due to absorption, scattering and other effects. These small losses of energy, in optical experiments seeking extreme precision, may be a key factor affecting the experimental results. In order to accurately quantify the loss, can use high precision LPPM photoelectric laser power meter to measure the power of beam, the power meter



product has 10 pW high resolution, can accurately detect laser power changes, through comparative analysis of component reflection performance of accurate data, and the reflected beam on the subsequent experimental measurement potential impact.

►► Suitable Cage-type System Optical Power Measurement

Caged optical systems perform well in most scenarios, but often face a series of challenges in laser power measurement, such as spatial limitations, instability of the in probe measurement process, and difficulty fixation, which can lead to unstable measurement results. In view of the above problems, the dimensional cage laser power meter probe adopts a unique design, which can easily and quickly be stuck in the 30mm or 60mm cage system, and can detect the laser power



in any position in the system at will, providing users with unprecedented freedom of measurement, and greatly improving the stability and accuracy of the measurement results.

►► Model Specification

Product Type	Integrated LPM		Adaptation to Cage System LPM		Integrating Sphere Probe LPM	Ultra-thin Probe LPM	
Product Diagram							
Model	LPM-A-11-500-10-A	LPM-A-17-500-10-A	LPM-B-11-005-10-A	LPM-B-17-005-10-A	LPM-C-17-101-S5-A	LPM-D-11-005-10-A	LPM-D-17-005-10-A
Wavelength Range	400~1100nm	800-1700nm	400-1100nm	800-1700nm	800-1700nm	400-1100nm	800-1700nm
Power Range	500pW~500mW (10 mW no attenuator)	10nW~500mW (10 mW no attenuator)	500pW~500mW (10 mW no attenuator)	10nW~500mW (10 mW no attenuator)	500nW-4W	500pW~500mW (10 mW no attenuator)	10nW~500mW (10 mW no attenuator)
Types of Detector	Si	Ge	Si	Ge	InGaAs	Si	Ge
Detection Window Size	Φ 10mm				Φ 5mm	Φ 10mm	
Minimum Readable Accuracy	0.01						
Linearity	≤0.1dB						
Uncertainty	≤0.3dB						
Data Interface	Type-c(rechargeable)						
Power Adapter	DC 5V/2A						
Analog Interface	SMB						
Wireless Connections	Bluetooth						
Cable Length	/		1m				
Body Size	150×40×15(mm)						
Probe Size	230×40×15(mm) (including the fuselage)		76×63×10(mm)		45×45×35(mm)	35×10(mm)	
Install Thread	M4						

►► Optional Accessories

Dimension Labs Fiber flanges are available in SM05 and SM1 types and can be used to transfer FC/PC, FC/APC, SMA connectors to standard SM series threads, including LPM photoelectric optical power meters. Fiber flanges can be used for coupling single - and multimode fiber couplers with other free space mechanical components, and can also be used with lens sleeves to block light coupling in SM05 (0.535"-40) or SM1 (1.035"-40) systems. All fiber optic adapters are made of 304 stainless steel and are treated with electromagnetic demagnetization.

Product Type	Integrated LPM		Adaptation to Cage System LPM		Integrating Sphere Probe LPM		Ultra-thin Probe LPM	
Product Diagram								
Item	SM05-FC	SM05-SMA	SM05-FC	SM05-SMA	SM1-FC	SM1-SMA	SM05-FC	SM05-SMA
Adapter Image								
Connector Type	FC 2.0mm Narrow Key	SMA	FC 2.0mm Narrow Key	SMA	FC 2.0mm Narrow Key	SMA	FC 2.0mm Narrow Key	SMA
Threading	SM05 Internal thread(0.535"-40)				SM1 Internal thread(0.535"-40)		SM05 Internal thread(0.535"-40)	

Dimension-labs global one-stop photoelectric service platform

Dimension-labs under Dimension Technology Co., LTD, to boost break through technical barriers, break the foreign monopoly, accelerate the localization alternative for the mission, establish one-stop photoelectric products service platform (Dimension-Labs), the Internet electronic commerce and photoelectric industry depth fusion, form an innovative digital industry chain, for the global universities, scientific research, enterprises and a guest group:

High quality one-stop photoelectric products spot, fast supply service, products covering optomechanics, optical components, photoelectric detection instruments, laser light source, optical imaging lens, scientific research camera, beam analysis, etc.

- "Lighthouse" photoelectric open research laboratory and photoelectric database, providing technical research, technical development, instrument sharing, scientific and technological resources sharing, scientific research exchange, inspection and testing, system construction and other in-depth technical services.
- Based on the service platform, connecting online and offline, connecting both ends of supply and demand, and connecting domestic and foreign markets, enabling the digital transformation of the economy and society and the social construction in the post-epidemic era.
- Help improve the efficiency of scientific research, reduce the cost of enterprise innovation and research and development, boost the break through technical barriers, accelerate the replacement of localization, cultivate and build a digital and intelligent network photoelectric industry ecological chain.

Mission: To build a one-stop service platform for providing high-quality photoelectric products and advanced technology solutions for scientific research and enterprises

Vision: Promote the formation of a network photoelectric industry chain, improve the efficiency of scientific research, promote enterprise innovation, and reduce research and development





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