Optical Power Meter

The Dimension OPM optical power meter series modules encompass four major types: high-performance series, high-power series, Cost-effective series, and high-speed series. All modules are compatible with the Dimension ALPHA and OMEGA universal optical test platforms. Through platform-based test solutions, they deliver fast, accurate, and flexible power measurements, including the detection of weak signals and small signal variations, as well as precise measurement of ultra-high optical power.

To facilitate user convenience and achieve maximum flexibility, the Dimension optical power meter modules offer a wide range of interchangeable detector adapter connectors (compatible with various connector types; see the attached table for details), as well as fiber holders for bare fiber measurement. The product comes standard with an FC detector adapter, and an optional external probe extension cable is also available to meet the needs of remote head users.

Platform + Modular design

All OPM modules are compatible with ALPHA and OMEGA universal optical test platforms. Through software programming control, it can work with other Dimension functional test modules and realize one-stop automatic test solutions.

High-Performance

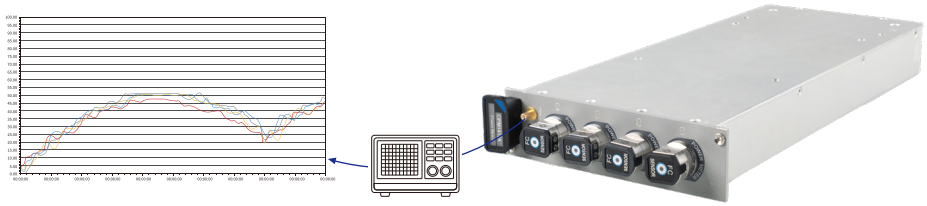
High-Performance Series Optical Power Meter Modules are engineered for high-precision, high-stability and automatic precision optical testing scenarios. Equipped with professional detection architecture, they realize faint signal acquisition and wide-range accurate measurement, serving as the preferred core option for optoelectronic component R&D, precision inspection and automatic production-line testing.

Main Features

- One,two or four detectors on a single module.
- Wavelength range:850nm~1650nm.
- User-configurable trigger input and analog output.
- Compatible with single-mode and multimode fiber.

Applications

- Precision Power Measurement for Optical Communication Devices.
- Automated Optical Power Testing for Factory Production.
- Detection of Faint Optical Signals and Tiny Signal Variations.



Specifications [4]

Model	OPM1XXXA
Number of detectors	1/2/4
Detector type	InGaAs
Detector size	2mm
Wavelength range	850nm~1650nm
Power range	+10dBm~~-75dBm(Typ.)
Maximum safe power	+13dBm
Linearity [1]	±0.05dB(+5dBm~-55dBm)
Polarization-dependent responsivity [2]	±0.01dB(0dBm~-50dBm)(Typ.)
Uncertainty [3]	±(5%+30pW)
Display accuracy	0.001dB
Wavelength resolution	1nm
Averaging resolution	10us~1s
Return loss	>55 dB
Buffer size	NA
Trigger input	Support
Analog output	Support
Fiber type	SM/MM

High Power Series

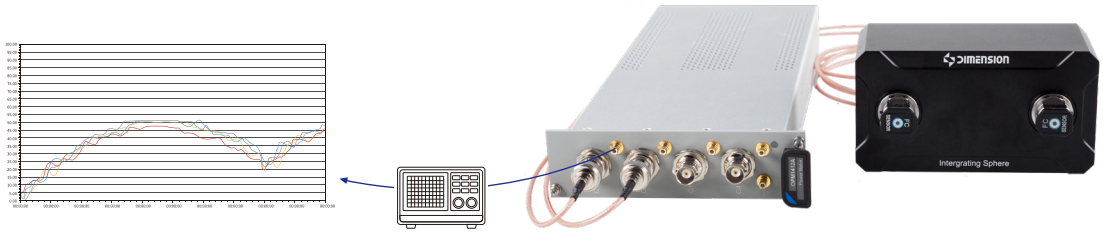
This series of high power optical power meter modules adopts an integrating sphere design. It enables safe and uniform attenuation of high-power optical signals to prevent local overheating and damage to detectors, while ensuring measurement accuracy across a wide power range. Combined with Dimension's stabilized light source series, it delivers a highly reliable solution for testing high-power optical devices, high-power optical modules and high-power optical fiber links.

Main Features

- "One, two or four high-power optical power detectors on a single module."
- Equipped with integrating sphere design; safely handles optical signals up to 26dBm and protects detectors from damage.
- Wavelength range: 850nm ~ 1650nm.
- Compatible with single-mode and multi-mode optical fibers.

Applications

- Power measurement of high-power optical devices.
- High-power optical power testing for manufacturing automation.
- Calibration and verification of high-power optical systems in laboratories.



Specifications [4]

Model	OPM3XXXB
Number of detectors	1/2/4
Detector type	InGaAs
Detector size	2mm
Wavelength range	850nm~1650nm
Power range	+26dBm~~-40dBm(Typ.)
Maximum safe power	+27dBm
Linearity [1]	±0.1dB(+26dBm~-20dBm)
Polarization-dependent responsivity [2]	±0.01dB(26dBm~-20dBm)(Typ.)
Uncertainty [3]	±(5%+30pW)
Display accuracy	0.001dB
Wavelength resolution	1nm
Sampling rate	10us~1s
Return loss	>55 dB
Buffer size	NA
Trigger input	Support
Analog output	Support
Fiber type	SM/MM

Cost-effective series

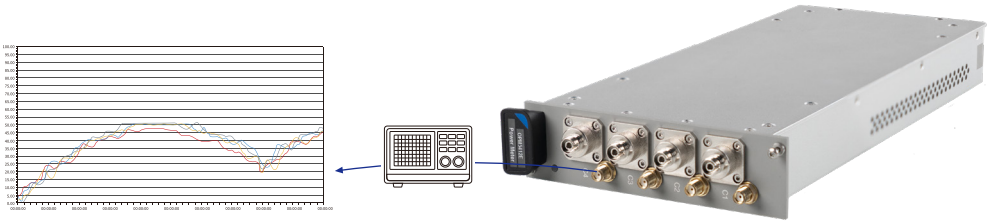
Cost-Effective Series Optical Power Meter Modules feature balanced performance and controllable costs, designed for mass production, long-term online monitoring and routine laboratory testing. Adopting a platform-based modular design, they are compatible with ALPHA and OMEGA universal optical test platforms, capable of linking with various test modules to rapidly build all-in-one automated test systems.

Main Features

- Wavelength range:850nm-1650nm.
- Customized wavelength settings,wavelength revolution:0.1nm.
- lower cost,but high quality.
- Compatibility SM/MM fibers.

Applications

- large amount of deployment for industrials.
- Reliability test in laboratory.
- Constant monitoring of optical power.



Specifications [4]

Model	OPM5XXXA
Channels	1/2/4
Detector Type	InGaAs
Detector Size	2mm
Wavelength Range	850nm~1650nm
Detect Range	+10dBm~~-60dBm(Typ.)
Maximum Power	+13dBm
Linearity [1]	±0.1dB（+6dBm~-50dBm)
Polarization-dependent responsivity [2]	±0.1dB(0dBm~-50dBm)（Typ.)
Uncertainty [3]	±（5%+30pW)
Display accuracy	0.001dB
Wavelength resolution	1nm
Sampling rate	10us~1s
Return loss	＞55dB
Buffer size	NA
Trigger input	Support
Analog output	Support
Fiber type	SM/MM

High-speed series

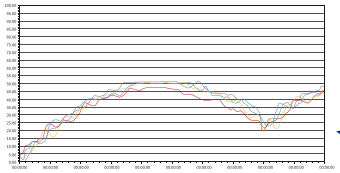
High-Speed Series Optical Power Meter Modules are developed for high-speed dynamic optical power acquisition applications. Equipped with self-developed high-speed sampling circuits, they break the speed limitation of traditional optical power meters.At high-speed mode, the maximum optical power sampling rate reaches 200 KHz, enabling precise capture of instantaneous optical power fluctuations and fast-changing signals, and resolving the issues of slow response and sampling delay during high-speed testing.

Main Features

- One,two or four detectors on a single module.
- Wavelength range:850nm~1650nm.
- Up to 10 million measured data buffer size(per channel).
- Provide 10 KHZ(MAX)power data acquisition speed.
- User-configurable trigger input and analog output.
- Compatible with singlemode and multimode fiber.

Applications

- Optical devices power high-speed measurement.
- Manufacture automated power high-speed measurement.
- Laboratory application.



Specifications [4]

Model	OPM6XXXA
Number of detectors	1/2/4
Detector type	InGaAs
Detector size	2mm
Wavelength range	850nm~1650nm
Power range	+10dBm~~-70dBm(Typ.)
Maximum safe power	+13dBm
Linearity [1]	±0.05dB(+5dBm~-45dBm)
Polarization-dependent responsivity [2]	±0.01dB(0dBm~-50dBm)(Typ.)
Uncertainty [3]	±(5%+500pW)
Display accuracy	0.001dB
Wavelength resolution	1nm
Sampling rate	200Khz(MAX)
Return loss	>55 dB
Buffer size	10 million/CH
Trigger input	Support
Analog output	Support
Fiber type	SM/MM

General Specifications

Contro interface	Network,USB,Touch screen and Button
Result output	mW/dB/dBm options
Recalibration period	two years
Warming up time	20 minutes (if the storage temperature is different from the service temperature,the preheating time is 60 minutes)
Working temperature	10℃~40℃
Storage temperature	-40℃~70℃
Input power	90~260V AC
Size	Machine:359mmX274mmX115mm;Module:285mmX133mmX35mm
Weight	~4.05kg(ALPHA platform+2CH OPM module)

Notes:

[1] ot contain noise and drift, CW model,1000 to 1600 nm.

[2] The temperature is 23℃±1℃,using a non-angle FC connector, 1550nm wavelength, the power is constant.

[3] The temperature is 23℃±1°℃, using a non-angle FC connector, 1000 to 1640nm wavelength, When the wavelength is less than 1000 nm, theuncerta inty of 1% is increased, and when the wavelength exceeds 1640 nm,the uncertainty is increased by 6%.

[4] The test fiber type was standard SM 9/125 fiber and MM 62.5/125 fiber.

[5] The linearity specification test is conducted at a wavelength of 1550 nm.

Detector Adaptors Selection Guide

Number	PN	Name	Description	Image
1	204910332	OPM SC adapter	Detection interface, compatible with SC connector	
2	204910329	OPM LC adapter	Detection interface, compatible with LC connector	
3	204910315	OPM FC adapter	Detection interface, compatible with FC connector	
4	204810014	OPM Integrating Sphere	Provides wide numerical aperture, can be used with LC duplex, MPO and other interfaces	
5	204810017	OPM Bare Fiber adapter	Detection interface, suitable for bare fiber power testing	
6	204910312	OPM 1.25 Universal adapter	Optical power detection interface, compatible with LC, duplex LC, SN connectors and 1.25mm ferrule.	

Number	PN	Name	Description	Image
7	204910313	OPM detector2.5 Universal adapter	Optical power detection interface, compatible with FC, SC, ST connectors and 2.5mm ferrule.	
8	204910314	OPM Fixed Integrating Sphere MPO adapter	Optical power detection interface, compatible with MPO12 and MPO16 connectors.	
9	204910318	Duplex LC connector	Detection interface, compatible with duplex LC connector	
10	204910319	OPM Fixed Integrating Sphere MMC adapter	Detection interface, ompatible with MMC connector	
11	204910324	OPM Fixed Integrating Sphere MDC-JR adapter	Detection interface, compatible with MDC-JR connector	
12	204910325	OPM Fixed Integrating Sphere MDC-SR adapter	Detection interface, compatible with MDC-SR connector	
13	204910326	OPM Fixed Integrating Sphere SN adapter	Detection interface, compatible with SN connector	
14	204910327	OPM MINI LC-LC adapter	Detection interface, compatible with MINI LC-LC connector	
15	204910328	OPM Fixed Integrating Sphere JUMPER-MT adapter	Detection interface, compatible with JUMPER-MT ferrule	
16	204910330	OPM Fixed Integrating Sphere MT-1.25 MINI adapter	Detection interface, compatible with MT-1.25 MINI ferrule	
17	204910331	OPM Fixed Integrating Sphere MT adapter	Detection interface, compatible with MT ferrule	
18	204910337	OPM MPO Ribbon Fiber Positioning Fixture	Detection interface, clamps MPO ribbon fiber	

Ordering Information

OPM □ □ □ □ □

OPM Mode		Channel Quantity		Detector type		Detector size		Expanded option	
1	High- Performance series	1	1CH	1	InGaAs detector	1	300μm	A	MAX power(10dBm)
3	High-Power Series	2	2CH			2	2mm	B	MAX power(26dBmOnly high-power series)
5	Cost-effective series	4	4CH			3	3mm	X	Specified by Cutomer
6	High-speed series	x	Specified by Cutomer			4	4-12mm		

eg.OPM2212A High speed OPM, 2CH,2mm InGaAs detector, MAX power+10dBm.

Related Products

SLS Light Source

Optical switch module

Optical attenuator module

Autoget MT

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