Optical Power Meter

Dimension OPM series modules include High-Performance series, high-speed series, high-power series, high-sensitivity series and Cost-effective series. All modules are compatible with Dimension ALPHA and OMEGA universal optical test platforms.Through the platform based test solution we can provide faster, more accurate and more flexible power measurement solutions, including the measurement of weak signal and the detection of tiny signal jump, as well as the accurate measurement of ultra-high light power.

For user convenience and maximum flexibility, Dimension provides a wealth of interchangeable detector adapters (Applicable to various fiber connector types, as detailed in the attached table below), as well as an fiber clamps that allow the bare fiber power measurement. The product comes with FC adapters in the form of a standard accessory, and also provides an external detector extension cable for remote head user selection.

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 series

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

- Optical devices power measurement
- Manufacture automated optical power measurement

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~-50dBm）
Polarization-dependent responsivity[2]	±0.01dB（0dBm~-50dBm） (Typ.)
Uncertainty[3]	±（5%+30pW）
Display accuracy	0.001dB
Wavelength resolution	1nm
Averaging time	10us~1s
Return loss	>55 dB
Buffer size	NA
Trigger input	Support
Analog output	Support
Fiber type	SM/MM

High-speed series

The high-speed OPM module designs and adopts the high-speed sampling circuit, in high speed mode, can provide 10 KHZ(-MAX) power data acquisition speed, and 10 million measured data buffer size (per channel). Cooperate with the Dimension SLS light source, It provides an efficient and low-cost test solution for the fast scan test of passive devices.

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	OPM2XXXA
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~-50dBm)
Polarization-dependent responsivity [2]	±0.01dB (0dBm~-50dBm) (Typ.)
Uncertainty [3]	± (5%+100pW)
Display accuracy	0.001dB
Wavelength resolution	1nm
Sampling rate	10Khz(MAX)
Return loss	>55 dB
Buffer size	10 million/CH
Trigger input	Support
Analog output	Support
Fiber type	SM/MM

High-power series

Main Features

- One, two or four detectors on a single module
- Wavelength range: 850nm~1650nm
- Up to +26dBm, +36dBm two high-power model options
- User-configurable trigger input and analog output
- Compatible with single-mode and multimode fiber

Applications

- Amplifier characterization test
- Absolute power measurement
- Laboratory application

Specifications [4]

Model	OPM3XXXB	OPM3XXXC
Number of detectors	1/2/4	1/2/4
Detector type	InGaAs	InGaAs
Detector size	2mm	2mm
Wavelength range	850nm~1650nm	850nm~1650nm
Power range	+26dBm~-50dBm(Typ.)	+36dBm~-40dBm(Typ.)
Maximum safe power	+30dBm	+40dBm
Linearity [1]	±0.25dB (+15dBm~-30dBm)	±0.5dB (+20dBm~-25dBm)
Polarization-dependent responsivity [2]	±0.01dB (0dBm~-50dBm) (Typ.)	±0.01dB (0dBm~-40dBm) (Typ.)
Uncertainty [3]	± (5%+1nW)	± (5%+10pW)
Display accuracy	0.01dB	0.01dB
Wavelength resolution	1nm	1nm
Averaging time	10us~1s	10us~1s
Return loss	>55 dB	>55 dB
Buffer size	NA	NA
Trigger input	Support	Support
Analog output	Support	Support
Fiber type	SM/MM	SM/MM

High-sensitivity series

Main Features

- Wavelength range: 850nm~1650nm
- Up to -90dbm weak signal detection and wide dynamic range (100dB)
- User-configurable trigger input and analog output
- Compatible with single-mode and multimode fiber

Applications

- Optical weak signal power measurement field
- Laboratory application

Specifications [4]

Model	OPM4XXXA
Number of detectors	1/2
Detector type	InGaAs

Detector size	300μm
Wavelength range	850nm~1650nm
Power range	+10dBm~-90dBm(Typ.)
Maximum safe power	+13dBm
Linearity[1]	±0.05dB (+5dBm~-50dBm) ±0.15dB (-50dBm~-70dBm)
Polarization-dependent responsivity [2]	±0.01dB (0dBm~-50dBm) (Typ.)
Uncertainty [3]	± (5%+1pW)
Display accuracy	0.001dB
Wavelength resolution	1nm
Averaging time	10us~1s
Return loss	>55 dB
Buffer size	NA
Trigger input	Support
Analog output	Support
Fiber type	SM/MM

Cost-elective series

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]

Product Number	OPM5XXXX
Channels	1/2/4
Detector Type	InGaAs
Detector Size	1mm
Wavelength Range	850nm~1650nm
Detect Range	+ 6dBm~-75dBm(Tpy.)
Maximum Power	+ 13dBm
Linearity	0dBm~-50dBm：±0.15dB -50dBm~-65dBm：±0.25dB
Power Resolution	0.001dB
Wavelength Resolution	0.1nm
Testing Period	10us~1s
Return Loss	>55 dB
Buffer Size	NA
Fiber Type	SM/MM

General Specifications

Control 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)

Remark

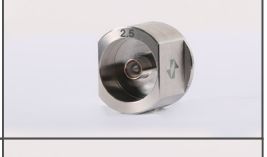
[1] ot contain noise and drift, CW model, 1000 to 1600 nm.

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

[3] The temperature is 23 °C ± 1 °C, using a non-angle FC connector, 1000 to 1640 nm wavelength, When the wavelength is less than 1000 nm, the uncertainty 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

Detector Adaptors Selection Guide

Number	PN	Name	Description	Image
1	204810002	OPM FC adapter	Detection interface, suitable for FC connector	
2	204810003	OPM SC adapter	Detection interface, suitable for SC connector	
3	204810004	OPM LC adapter	Detection interface, suitable for LC connector	
4	204810007	OPM 2.5 ferrule adapter	Detection interface, suitable for FC/SC/ST ... connector and 2.5mm ferrule	
5	204810006	OPM 1.25 ferrule adapter	Detection interface, suitable for LC/duplex LC /SN ... connector and 1.25mm ferrule	
6	204810014	OPM Integrating Sphere	Provide wide numerical aperture, can be used with MPO/ duplex LC adapters	
7	204810015	OPM MPO adapter	Detection interface, suitable for MPO12/MPO16 connector	
8	204810016	OPM duplex LC adapter	Detection interface, suitable for LC/duplex LC connector	
9	204810017	OPM Bare- fiber adaptor	Detection interface, suitable for bare-fiber power test application	

Ordering Information

OPM [ ] [ ] [ ] [ ] [ ]

OPM Mode	
1	High-Performance series
2	High-speed series
3	High-power series
4	High-sensitivity series
5	Cost-elective series

Channel Quantity	
1	1CH
2	2CH
4	4CH

Detector type	
1	InGaAs detector
2	Si detector

Detector size	
1	300 μm
2	2mm
3	3mm

Expanded option	
A	MAX power (+10dBm)
B	MAX power (+26dBm)
C	MAX power (+36dBm)
D	MAX power (+6dBm)
X	Specified by Customer

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

Related Products

SLS Light Source

Optical switch module

Optical attenuator module

Autoget

Dimension Technology Co.,Ltd
Tel：+86 755-26480850
Email：sales@dimension-tech.com
Web：www.dimension-tech.com