OPM-200

High-Performance Optical Power Meter

Features

- Free-space 2mm InGaAs or integrating sphere detectors
- 840 to 1700 nm wavelength range
- 30 to -80 dBm power ranges
- 50µs averaging
- Touch screen display
- USB or Ethernet

Applications

- Optical alignment
- Transceiver testing
- Laser and amplifier characterization
- Transient testing
- Lab and R&D

Product Overview

The OPM-200 High Performance Optical Power Meter is the latest generation of Santec power meters. The 2mm InGaAs detector can measure power down to -80 dBm while the integrating sphere detector can measure up to 30 dBm over a wide wavelength range from 840 to 1700 nm. Superior accuracy and selectable averaging between 50 µs to 1 second make the OPM-200 a reliable power meter for almost any application.

The detector is free-space and compatible with our patented SD Slide Detector Adapters. Together with the analog output it is ideal for automated optical alignment. Additionally, choose from 1 to 4 detectors and remote-head options for the ultimate, flexible power meter solution.

Flexibility

Choose our remote-head option to give yourself maximum flexibility. There is a threaded mounting hole to help attach it to your work bench. The OPM-200 can be configured with up to 4 detectors.

Automated Measurements Made Easy

It's never been easier to integrate a power meter in an automated process. The OPM-200 is programmable via simple SCPI commands through USB or Ethernet. Automation is further facilitated with our patented, interchangeable SD Slide Detector Adapters.

Touch Screen Display

The large and intuitive touch screen display allows you to clearly see the measured values and easily change your power meter settings such as wavelength, averaging time, min/max function etc.

High Speed

With stable readings at averaging times as short as 50 µs and 128,000 point data logging, the OPM-200 can capture transient behaviours and is suitable for high speed applications.

OPM-200 Optical / Electrical Specifications

Parameter	Specification	
Detector Type	2 mm InGaAs	Integrating sphere (InGaAs)
Wavelength Range (nm)	840 to 1700	
Power Range (dBm)	8 to -80	30 to -50
Uncertainty at Ref Conditions [1, 2, 3]	± 3.7% (840 to 1200 nm) ± 2.7% (1200 to 1650 nm) [4]	
Power Resolution (dB)	0.001	
Wavelength Resolution (nm)	1	
Linearity (dB) [1, 2]	± 0.03 + 20 pW (840 to 1200 nm)	±0.04 + 2 nW (840 to 1200 nm)[6]
	± 0.02 + 5 pW (1200 to 1650 nm)[5]	± 0.04 + 500 pW (1200 to 1650 nm)[6,7]
Polarization Dependent Responsivity (dB) [2]	0.015	
Averaging Time	50 µs to 1 second	
Analog Output	0 to 2.2 V [8]	
Data Logging	128,000 points per detector	
Remote Interface	USB or Ethernet	
Display	5" touch screen	
Input Voltage	100 – 240 V AC, 50 – 60 Hz	
Power Consumption (VA)	60 maximum	

Notes:

[1] *Averaging time ≥ 10 ms*
[2] *At ambient temperature 23 ± 3 °C, within one year of calibration*
[3] *At -10 dBm, CW source, FWHM of source < 10 nm, center wavelength of source within 0.5 nm of OPM-200 setting*
[4] *± 3.7% above 1650nm*
[5] *For power ≤ 7 dBm. ± 0.03 + 20 pW above 1650 nm.*
[6] *For power ≤ 10 dBm. ± 0.07 dB from 10 to 20 dBm and ± 0.15 dB from 20 to 30 dBm*
[7] *± 0.04 + 2 nW above 1650 nm.*
[8] *Up to 10 kHz bandwidth*

Mechanical / Environmental Specifications

Parameter		Specification
Unit Dimensions W x H x D (cm)	OPM-200	23.5 x 12 x 32.5
	RD-IN2-OPM-200	8.5 x 5 x 13.3
	RD-INS-OPM-200	6.8 x 8.5 x 13.3
Remote-head Mounting Hole Thread Size		M6
Shipping Box Dimensions W x H x D (cm)		36.5 x 39 x 53
Unit Weight (kg)	OPM-200	3
	RD-IN2-OPM-200	0.4
	RD-INS-OPM-200	0.6
Total Shipment Weight (kg)[1]		4
Operating Temperature (°C)		5 to 40
Storage Temperature (°C)		-40 to 70
Humidity (Non-condensing)		Maximum 95% RH from 5 to 40 °C

[1] *OPM-200 only. Add weight for each remote-head.*

Ordering Scheme & Instructions

1. Configure OPM High-Performance Optical Power Meter

OPM-200 - □□ - □□□ - □□ - □□□ - □□

NUMBER OF DETECTORS

01	1 detector
02	2 detectors
03	3 detectors
04	4 detectors

DETECTOR TYPE

IN2	2 mm InGaAs
INS	Integrating sphere (InGaAs)
R	Remote-head port

NUMBER OF DETECTORS

01	1 detector
02	2 detectors
03	3 detectors
04	4 detectors

DETECTOR TYPE

IN2	2 mm InGaAs
INS	Integrating sphere (InGaAs)
R	Remote-head port

CHASSIS SIZE

1H	1U half rack (no display)
2H	2U half rack (with display)

**Optional 2nd detector type (not available with front panel integrating sphere detector, leave blank if only 1 detector type)*

2. Add accessories

Remote-head Detectors

RD - □□□ - OPM-200

DETECTOR TYPE

IN2	2 mm InGaAs
INS	Integrating sphere (InGaAs)

Slide Detector Adapters

SD - □□□

TYPE							
FC	FC	DSN	Duplex SN	MT	MT	BSF	Bare single fiber
SC	SC	MDC	MDC	SLED-FH-60	Fujikura FH-60	BSF-BARREL	Barrel for SD-BSF
LC	LC	U12	Universal 1.25 mm	SLED-FHM-12	Sumitomo FHM-12	BRF	Barrel ribbon fiber
MPO	Universal MPO	U25	Universal 2.5 mm	SLED-BARREL	Barrel for SD-SLED-x	BRF-BARREL	Barrel for SD-BRF

**many more detector adapters available upon request.*

In the Box

OPM-200 - High-Performance Optical Power Meter

- OPM-200
- Optional: remote-head detector and remote-head cable (1.5 m)
- Calibration certificate
- Detector cap (SD-CAP)
- AC power cord
- USB A to USB B cable (1.5 m)
- Ethernet cable (1.5 m)

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www.santec.com

The Photonics Pioneer