

OP508

Fiber Optic Power Meter

Overview

Fiber Optic Power Meter Module

The **OP508** was specifically designed for applications where cost-effective solutions for measuring, monitoring and logging of insertion loss or power fluctuations are needed. The **OP508** is a small (4"x2"x1.25") desk-friendly module designed such that minimal movement and bending of the reference and test cables is necessary. This results in stable, accurate and repeatable measurements.

The **OP508** is offered with various detectors and connector styles with a fixed optical interface covering a wide variety of applications.

The USB powered module connects directly to the computer. OptoTest provides for drivers and applications allowing the user to perform common measurement tasks such as EXCEL data logging or time-stamped stability measurements.



Model OP508

Features

High precision fiber optic power measurement

- Extended optical power measurement range, depending on the selected detector*
+6dBm..-65dBm for InGaAs detector, +6dBm..-60dBm for Silicon detector.
- Wide wavelength range 830nm ... 1700nm (InGaAs), 580nm ... 1080nm (Si).
- Great measurement resolution of 0.001 dB
- Tight linearity specifications: +/- 0.05d

*detectors other than the fixed InGaAs or Si are available, for example 1mm & 3mm InGaAs, 3mm Si

USB powered, plug and play data acquisition

The **OP508** is a bus powered, lower power (<100mA) USB device. With the supplied drivers data can be transferred to and from the module at 0.2Mb/s.or per IEC specifications

The **OP508** measures the ambient temperature (fC or fF) within -10fC ...+55fC at a resolution of 0.1fC. This feature eliminates the need for an external temperature sensors during long-term stability testing.



Applications

Stability-and Long-term Loss Characteristic of Optical Components

Bundled with the **OPL5** Optical Power Meter Software the **OP508** is a cost-effective system for measuring stability of passive fiber optic components and optical sources.

For high precision, long term stability tests monitoring the ambient temperature is a necessity, minor fluctuations can influence the outcome of the measurements. The **OP508** measures and reports ambient

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Applications (Continued)

temperature. There is practically no need for an additional setup to monitor temperature.

Production Testing of Connectors and Components

In a production environment where the insertion loss of cables or other components is measured the **OP508** offers a cost effective solution. A computer, a stable source, the appropriate reference cables and an **OP508** is all that is required to test and log insertion loss data. The OP500 Power Meter Application has the capability to log the test data directly into spreadsheets.

	OP508-IN-XX	OP508-SI-XX	
Detail Specifications	Measurement Range	+3dBm...-65dBm	+3dBm...-60dBm
	Wavelength Range	830nm .. 1700nm	580 .. 1080nm
	Selectable Wavelength ¹⁾	850/1310/1550nm	630/850/980nm
	Measurement Resolution	0.001dB	0.001dB
	Measurement Linearity, Relative Accuracy	0.05dB ²⁾	0.05dB ³⁾
	Power & Data Interface	USB powered, less than 100mA, USB 1.1 compatible data rate	
	Operating Temperature Range	-10 °C ... 55 °C (14°F ... 131°F)	
	Mechanical Dimensions	105x55x30 mm (4 x 2 x 1.25 inch)	
	Optical Interface	fixed optical interface FC/ST/SC	

All specifications are valid within temperature range of 18 C to 24 C unless otherwise noted.

1) Calibration against NIST traceable standard @ -10dBm.

2) Linearity for loss <5dB and absolute power within 0dBm...-55dBm

3) Linearity for loss <5dB and absolute power within 0dBm and -50dBm

NOTE: Specifications are subject to change, please confirm specific performance characteristics of the product at the time of ordering.

Order Information

OP508 with fixed optical interface

For example a OP508-IN-FC is the fiber optics sensor with InGaAs detector and FC/PC interface.

High Precision Reference Cables

- Certified Specifications:
- Insertion loss <0.05dB
- Return loss >55dB(PC) >72dB(APC)
- Apex offset <50um
- Fiber height +/-50um(PC) +/-100um(APC)
- Fiber core position (excentricity) <0.25um

For measuring insertion loss and return loss accurately and repeatedly the reference connector needs to outperform the connector under test. Reference cables from OptoTest are manufactured and certified to exceed FOTP171A (A2.2.1).

For order information see HPR data sheet.

