

Overview

Fiber Optic Power Sensor 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-IN-FC
InGaAs Detector with fixed FC/PC Interface

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: **+/- 0.05dB**.

- Integrated ambient temperature tracking

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

- USB powered, plug&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.



Applications

Stability- and Long-term Loss Characteristic of Optical Components

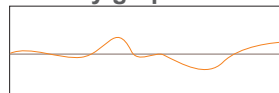
Bundled with the **OPL5 Optical Power Meter Software** the OP508 is a cost-effective system for measuring stability of passive fiber optic components and optical sources.

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

Production Testing of Connectors and Components

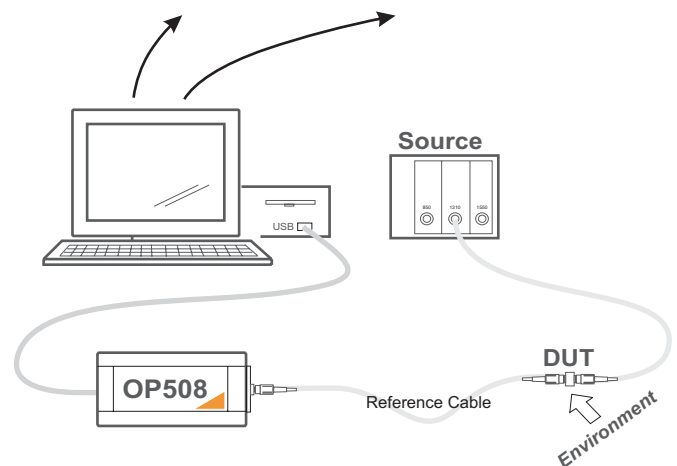
In a production environment where the insertion loss of cables or other components is measured the OP508 offers a cost effective solution. A computer, a stable source, the appropriate reference cables and an OP508 is all that is required to test and log insertion loss data. The OP500 Power Meter Application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

stability graph



spreadsheet data

#12A	0.15dB	1310nm
#12B	0.12dB	1310nm
#16A	0.55dB	850nm



	OP508-IN-XX	OP508-SI-XX	
Detail Specifications	Measurement Range	+6dBm..-65dBm	+6dBm..-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)	
	Mech Dimension	105x55x30 mm (4 x 2 x 1.25 inch)	
	Optical Interface	fixed optical interface FC/ST/SC	

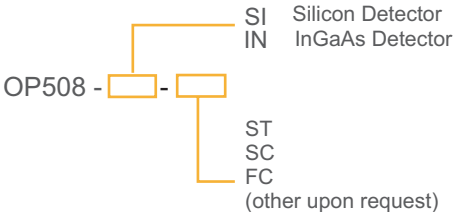

All specifications are valid within temperature range of 18 C to 24 C unless otherwise noted.

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	<h3>OP508 with fixed optical interface</h3>  <p>For example a OP508-IN-FC is the fiber optics sensor with InGaAs detector and FC/PC interface.</p>	<h3>High Precision Reference Cables</h3> <p>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</p>  <p>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).</p> <p>For order information see HPR data sheet.</p>
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about OptoTest	<p>With in-depth fiber optics experience dating back to the entrepreneurial years of Photodyne Inc. and RIFOCS Corp. OptoTest continues the rich tradition of break-through products and innovative solutions for the testing of fiber optics components and systems. Founded as a privately held company in Thousand Oaks, California, the OptoTest team pursues it's vision to become a leading provider of Test Solutions for Fiber Optics supported by the strong brand of OptoTest™ products.</p> <p>Based on our standard product line we implement your specific needs cost effectively and efficiently. We are open to design your custom products from scratch or tackle other challenges.</p> <ul style="list-style-type: none"> ● Optical power meters for specific applications, custom detectors, optical interfaces, various sampling speeds ● Singlemode LED and laser sources for specific wavelength, odd size fiber, POF and PM ● Multimode sources with specific mode conditioning ● Polarization and wavelength measurement products <p>OptoTest offers engineering services in the areas of design, implementation and deployment of test & measurement systems for fiber optic components (including sensors and cables) as well as fiber optics systems.</p> <ul style="list-style-type: none"> ● Test solutions conforming to TIA and FOTP ● Rugged qualification setups for R&D, QA and QC 	<p>design outstanding service & support fundamental technology in fiber optics test & measurement</p>
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