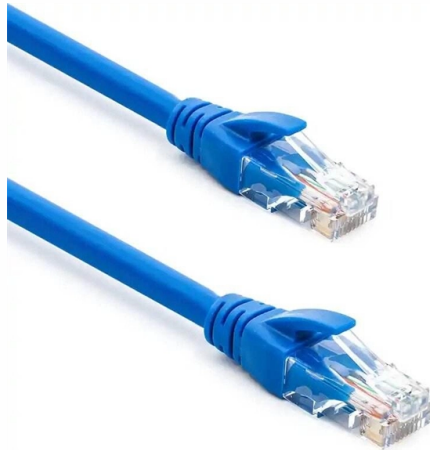


Inaccurate light measurement by optical power meter



Overview

The basic process is straightforward: turn the meter on, set it to the correct wavelength, clean your connectors, plug in, and read the display. But getting accurate, meaningful results depends on understanding a few key details about wavelength settings, reference levels. An optical power meter (OPM) is a device used to measure the power in an optical signal. Other general purpose light power measuring devices are usually called radiometers, photometers, laser power. Total measurement error is the sum of all possible sources of error, with detector or meter uncertainty being one of multiple sources of error in the measurement. Due to the fact that this capability largely depends on the quality of the calibration process, it is important to carefully select your calibration provider. To augment the absolute power measurements NIST provides nonlinearity, spectral responsivity, and uniformity measurements.

Article Content

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application note 015 Calibration of optical power meters

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Learn how to use an optical power meter to test fiber links, read power levels, measure loss, and work safely around active fiber.

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This discussion will review the different contributors to measurement error and how they may be incorporated into an estimate of the total measurement uncertainty.

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OPTICAL FIBER POWER MEASUREMENTS

For the tunable laser calibrations, NIST has developed a measurement system to calibrate optical fiber power meters using either collimated-beam or optical fiber/connector configurations.

How to calibrate optical power meter?

Optical power meters can drift over time and show increasingly lower readings, if not calibrated regularly. This can result in erroneous readings, which is precisely why it is so essential to ...

How to calibrate your optical fiber power meter?

This is a testing setup developed by NIST to calibrate optical power meters using either collimated-beam or connectorized-fiber configurations. This calibration system uses tunable laser diodes which ...

Optical power meter

Such a single-direction measurement may quite inaccurate if there are multiple fibers in a link, since the back-scatter coefficient is variable between fibers. Accuracy can be increased if a bidirectional ...

How to Measure Fiber Loss with Optical Power Meter and Light Source

If we want to measure the optical power of the line more accurately, we need to calibrate the wavelength of the optical power meter before measurement to make it consistent with the ...

Contact Us

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