

Optical Component Test

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HP 8163A Lightwave Multimeter

HP 8163A

- Variety of plug-in modules for optimized set-ups
- Power meters at lowest PDL and spectral ripple
- Output power of laser sources (FP) up to 13 dBm
- ITU channel sources (DFB) with high precision
- Optimized return loss solutions



The HP 8163A—Modular Stimulus-Response Solutions with Excellent Performance

NEW

The HP 8163A Lightwave Multimeter is a basic measurement tool in the fiberoptic industry. It ensures accurate and fast results even for the most demanding measurements on optical components and systems.

Its modular format makes it flexible enough to meet changing measurement needs whether measuring optical power, insertion loss or return loss for single- or multimode components.

Precise, Sensitive, Stable and Fast Power Measurements

Four different power sensor modules and three external power sensors (optical heads) cover the important wavelengths and power ranges. Thanks to the excellent accuracy, high linearity and low polarization dependent loss (PDL) best measurement results are ensured. The measurement speed can come down to 200 μ s which further optimizes the power measurements. Each power sensor and each optical head is individually calibrated over its wavelength range and is traceable to NIST and German PTB for precise optical power measurements.

A broad variety of advanced interfaces and adapters make it easy to connect the test devices.

Stable Fixed Laser Source Modules

The source modules are stabilized for short and long term applications and are also not sensitive to backreflections. There is a choice of single and dual wavelength source modules, available with an output power of up to 13 dBm. The output power can be attenuated by up to 6 dB. All source modules are able to output CW or pulse-modulated light (internal modulation 270Hz to 10kHz).

For ITU source modules (DFB) please refer to the ordering guide to select the appropriate wavelength.

Compact Tunable Laser Source Modules

These modules enable measurements at freely selectable fixed wavelengths or allow characterization of the test device as a function of wavelength. One compact tunable laser module and one single or dual power sensor can be hosted in the HP 8163A Lightwave Multimeter mainframe. This set-up is a compact and complete solution for wavelength dependent loss measurements.

The compact tunable laser module offers continuous, mode-hop free tuning, and is set quickly and easily to the target wavelengths and power levels, even for the most complex configurations, just by using the vernier keys. The compact tunable laser modules are available with both standard single-mode fiber and Panda-type PMF.

Return Loss Solutions

The return loss modules offer high precision and high accuracy for the best possible measurements. In addition the return loss modules give the convenience of self-calibration, possible due to the excellent stability of the built-in laser source, when speed is of the essence.

Compatibility

The HP 8163A Lightwave Multimeter mainframe is compatible with the modules from its successful predecessor, the HP 8153A Lightwave Multimeter series. Also both the modules of the HP 8163A series and the HP 8153A series can be used together in the 8163A mainframe.

The programming syntax used by the HP 8153A Multimeter is compatible with the HP 8164A Lightwave Measurement System (the tunable laser mainframe) the HP 8166A Lightwave Multichannel System and with the HP 8163A Lightwave Multimeter.

Key Literature

HP 8163A Lightwave Multimeter, Product Overview, p/n 5968-3404E

Ordering Information

The HP 8163A Mainframe has two slots for any combination of the modules listed or modules of the HP 8153A Lightwave Multimeter series. Connector interfaces should be ordered for each input and output. The HP 8163A supports a wide range of fiber connectors. For details please refer to the HP 8163A Configuration Guide. Optical heads require an interface module HP 81618A (single) or HP 81619A (dual).

Mainframe

HP 8163A Lightwave Multimeter Mainframe

Power sensor modules

HP 81632A InGaAs, +10dBm to -80dBm, 800 to 1650nm

Opt 001 \pm 0.015 polarization sensitivity

HP 81635A (dual sensor) InGaAs, +10dBm to -80dBm, 800 to 1650nm

Opt 001 \pm 0.015 polarization sensitivity

HP 81633A InGaAs, +10dBm to -90dBm, 800 to 1700nm

HP 81634A InGaAs, +10dBm to -110dBm, 800 to 1700nm

Optical heads

HP 81623A Ge, +10dBm to -80dBm, 750 to 1800nm

HP 81624A InGaAs, +10dBm to -90dBm, 800 to 1700nm

HP 81625A InGaAs, +20dBm to -80dBm, 850 to 1650nm

Source modules 0 dBm (Fabry Perot)

HP 81650A 1310nm, single mode

HP 81651A 1550nm, single mode

HP 81652A 1550/1625nm, single mode

HP 81653A 1650nm, single mode

HP 81654A 1310/1550nm, single mode

Source modules 13 dBm (Fabry Perot)

HP 81655A 1310nm, single mode

HP 81656A 1550nm, single mode

HP 81657A 1310/1550nm, single mode

Compact tunable source module

HP 81689A 1525 to 1575nm, 6dBm

ITU source modules

HP 81661A (please see separate ordering guide)

Return loss modules

HP 81610 A InGaAs, no internal source, dynamic range 70dB

HP 81611A InGaAs, 1300nm, dynamic range 75dB

HP 81612A InGaAs, 1550nm, dynamic range 75dB

HP 81613A InGaAs, 1310/1550nm, dynamic range 75dB

HP 81614A InGaAs, 1550/1625nm, dynamic range 75dB