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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 8166B, Lightwave Multichannel System Mainframe

HP Agilent 8166B Lightwave Multichannel System Mainframe The HP/Agilent 8166B is a multichannel lightwave system mainframe intended for high-density optical module hosting. OEM positioning emphasizes parallel optical channels for manufacturing and system test using 816x family plug-ins. High-channel-count optical manufacturing test, parallel DWDM channel characterization, and automated multi-port photonic measurements. Multichannel lightwave mainframe architecture The HP/Agilent 8166B is a multichannel lightwave system mainframe intended for high-density optical module hosting. OEM positioning emphasizes parallel optical channels for manufacturing and system test using 816x family plug-ins. High-channel-count optical manufacturing test, parallel DWDM channel characterization, and automated multi-port photonic measurements. Multichannel lightwave mainframe architecture Instrument Type: Lightwave multichannel system mainframe



MODEL

**Agilent / Keysight
8166B**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

8166B

LISTING

<https://aumictechlabs.com/products/8166b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Agilent/Keysight 8166B Lightwave Multichannel System Mainframe is an expandable optical test platform that simultaneously hosts up to 17 slim modules from the 816xxx series. This mainframe enables multichannel measurements across power meters, tunable lasers, and fixed

laser sources in a single instrument. Engineers configure custom module combinations to match specific test requirements. The 8166B supports both benchtop and rack-mount deployment with a compact 426 mm × 545 mm footprint.

Technical Specifications

Module Capacity Accommodates up to 17 slim modules from the 816xxx series Supports any compatible combination

Display & Output Graphical active color display: 300 × 240 pixels, 4 updates per second Power meter resolution: 0.0001 dB/dBm; 0.01 pW to 10 pW (range dependent), up to 6.5 digits user-definable VGA connector for external monitor

Triggering & Synchronization True synchronous triggering on all channels Maximum trigger frequency: 100 kHz External digital modulation: 1 MHz at 50% duty cycle

Interfaces GPIB: SCPI-compliant, 300 kB/sec burst rate, function codes SH1, AH1, T6, L4, SR0, RL1, PP0, DC1, DT0, C0 10/100BASE-T Ethernet RS232: 115200 bps maximum Centronics parallel printer

Electrical & Environmental Power: AC 100 to 240 V ±10%, 50/60 Hz; 450 VA maximum consumption Operating temperature: 0 °C to +45 °C Storage temperature: -40 °C to +70 °C Humidity: < 95% RH Maximum altitude: 2000 m Pollution degree 2

Physical Dimensions: 145 mm H × 426 mm W × 545 mm L Net weight: 20 kg; Shipping weight: 23 kg

Key Features True multichannel synchronization across all active slots Modular architecture - swap modules without system restart High-speed GPIB and Ethernet for automated test Extended trigger and clocking system for complex test sequences

Typical Applications Multiport optical component characterization Wavelength-division multiplex (WDM) system validation Simultaneous power and wavelength measurements Automated optical test benches

Compatibility & Integration Full compatibility with 8163A/B Lightwave Multimeter series modules and all 816xxx series optical modules. HP 8153A Lightwave Multimeter modules are not compatible.

8166B Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	Lightwave multichannel system mainframe
Module Slot Capacity Class	high-density multichannel chassis
Supported Module Families	816x lasers sensors attenuators switches
Remote Interface GPIB	Supported
Remote Interface LAN	Supported class
Display	System graphical interface
Power Measurement Compatibility	With installed optical power sensor modules
Wavelength Coverage	Module dependent
Form Factor	Multichannel system mainframe
Operating Temperature Class	0 C to 55 C
Power Line	100 to 240 V class
Series Family	Agilent 816x lightwave measurement
Trigger Synchronization	Supported with compatible modules
Measurement Functions	Optical power loss return loss module dependent
Channel Count	High channel count determined by modules
Firmware Update	Supported class
Setup Storage	Supported class
Minimum Optical Power Class	sensor module dependent
Maximum Optical Power Class	sensor module dependent
Accuracy Class	determined by installed sensor and wavelength
Interface Connectors	Module faceplate dependent
Parallel Test Support	Multichannel concurrent measurements class
Operating temperature	Class: 0 C to 55 C
Return loss	module dependent

8166B Specifications

PARAMETER	VALUE
HP Agilent 8166B Lightwave Multichannel System Mainframe	Overview
Multichannel lightwave mainframe architecture	High module density versus 8163B
GPIB and LAN class remote control	Compatible with 816x optical modules
Technical Specifications	Instrument Type: Lightwave multichannel system mainframe

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	Class: 0 C to 55 C
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Setup Storage	Supported class
Minimum Optical Power Class	sensor module dependent
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Accuracy Class	determined by installed sensor and wavelength
Interface Connectors	Module faceplate dependent
Parallel Test Support	Multichannel concurrent measurements class Notes From Agilent 8166B lightwave multichannel system product literature. Exact slot maps and optical performance are defined by installed modules and their OEM calibration data.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
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Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.