

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8166A

The Keysight (Agilent) 8166A is a Lightwave Multichannel System mainframe designed for complex, high-port-count optical component and system testing. Accommodating up to 17 single-slot optical modules, this 4U rackmount system provides a highly flexible platform for multiport power measurement, optical attenuation, and multichannel laser source configurations, controlled via GPIB or RS-232.

SPECIFICATIONS

General

Interfaces	GPIB (IEEE-488.2), RS-232 (serial), Centronics (parallel), Trigger I/O (BNC)
Display	Backlit LCD display for status monitoring

Physical

Power Supply	100 V to 240 V AC $\pm 10\%$, 50/60 Hz, 450 VA max
Operating Temperature	0 to 45 °C °C
Dimensions (W×H×D)	426 mm × 177 mm × 535 mm mm
Weight	20 kg kg

System Architecture & Capacity

Number of Module Slots	17 standard slots
Compatible Modules	Agilent/Keysight 816xxx series optical source, power meter, and attenuator modules
Module Swap Method	Mainframe must be powered down for module insertion/removal (not hot-swappable)

Triggering & Synchronization

Triggering Ports	2 BNC connectors (Trigger 0 and Trigger 1) on the rear panel
Internal Trigger Routing	Backplane routed trigger lines accessible by all 17 slots
Trigger Input Level	TTL compatible, active low, minimum pulse width 100 ns
Trigger Output Level	TTL compatible, active low, typical pulse width 20 μ s

Control & Connectivity

GPIB Compliance	IEEE-488.1 and IEEE-488.2 compliant
Command Language Support	SCPI (Standard Commands for Programmable Instruments)

Physical Characteristics

Chassis Form Factor	4U standard rack height
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Environmental & Compliance

Storage Temperature Range	-40 °C to +70 °C
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Power

Maximum Power Consumption	450 VA
Line Voltage	100 - 240 V AC ±10%
Line Frequency	50/60 Hz

Environmental

Cooling System	Forced air cooling via internal fan
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Compliance & Certifications

Safety Compliance	IEC 61010-1, EN 61010-1, CAN/CSA-C22.2 No. 1010.1
EMC Compliance	EN 61326-1, IEC 61326-1

TECHNOLOGY

Fiber Optic / Lightwave Test System

APPLICATIONS

Optical component characterization, multichannel DWDM testing, optical transceiver test

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