

KEYSIGHT TECHNOLOGIES (AGILENT HP)

8164B

The Keysight 8164B Lightwave Measurement System is the premium mainframe designed for the host of high-performance tunable laser sources and optical measurement modules. Highly regarded in the industry for passive and active optical component characterization, the 8164B features a dedicated slot for a tunable laser source, 4 additional slots for optical power sensors, attenuators, or switches, and robust system-level synchronization capabilities.

SPECIFICATIONS

General

Interfaces	GPIB (IEEE 488.2), LAN (10/100 Base-T), USB 2.0 (Host & Device), VGA Video Output
Display	6.4-inch Color TFT LCD, 640 x 480 VGA resolution

Physical

Power Supply	100 - 240 V AC $\pm 10\%$, 50/60 Hz, 450 VA maximum
Operating Temperature	0 °C to +45 °C °C
Dimensions (W×H×D)	426 mm x 177 mm x 545 mm mm
Weight	16 kg kg

Mainframe Configuration & Slot Architecture

Total Number of Module Slots	5 slots
Tunable Laser Source (TLS) Slots	1 dedicated slot (Slot 1, supports single- or dual-width TLS modules)
Power Sensor / Optical Attenuator Slots	4 slots (Slots 2 to 5, support single-width modules)
Module Compatibility	Keysight/Agilent 816xxx series modules

System Performance & Synchronization

BNC Trigger Inputs	2 configurable BNC connectors (Trigger 1 and Trigger 2, each configurable as input or output)
BNC Trigger Outputs	2 configurable BNC connectors (Trigger 1 and Trigger 2, each configurable as input or output)
Trigger Input/Output Electrical Standard	TTL compatible

Display & User Interface

Front Panel Controls	Rotary push-knob, context-sensitive softkeys, and numeric keypad
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Connectivity & Interfaces

GPIB Interface Standard	IEEE 488.1 and IEEE 488.2 compatible
LAN Compliance	LXI Class C compliant
USB Host Port	1x USB 2.0 Type-A (front panel)
USB Device Port	1x USB 2.0 Type-B (rear panel)
External Video Output Port	15-pin standard VGA D-Sub connector

Software & Programming

Programming Language	SCPI (Standard Commands for Programmable Instruments)
Legacy Compatibility	Replaces and emulates Agilent 8164A code

Power & Electrical Specifications

Input Voltage Range	100 to 240 V AC (±10%)
Input Frequency Range	50/60 Hz
Power Consumption (Maximum)	450 VA

Physical Characteristics

Rackmount Height	4 U (Rack Units)
Chassis Weight (Without Modules)	16 kg (approx. 35 lbs)
Cooling System	Forced air cooling via internal rear fans

Environmental Specifications

Storage Temperature Range	-40 °C to +70 °C
Warm-up Time	1 hour (for specified optical performance)
Maximum Operating Altitude	2000 m

Display

Display Size	6.4 in (diagonal)
Display Resolution	640 × 480 pixels (VGA)

Triggering

Trigger Input Impedance	10 kΩ nominal
Trigger Input Level	TTL compatible (0 to 5 V)

Software & Features

Built-in Applications	Insertion Loss (IL), Return Loss (RL), Wavelength Logging, Stability
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Compliance & Safety

Overvoltage Category	Category II
Pollution Degree	2
Safety Standards Compliance	IEC 61010-1, EN 61010-1, UL 61010-1, CAN/CSA-C22.2 No. 61010-1
EMC Standards Compliance	IEC 61326-1, EN 61326-1, CISPR 11, EN 55011 Group 1 Class A

Inputs & Outputs

Rear Safety Interlock	BNC connector, disables laser when open-circuit
Trigger Configuration	Configurable for rising or falling edge

Interfaces

USB Standard	USB 2.0
LAN Interface Speed	10/100 Base-T
GPIB Address Range	0 to 30

TECHNOLOGY

Lightwave Test System Mainframe

APPLICATIONS

Optical Component Characterization

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.