

KEYSIGHT TECHNOLOGIES (AGILENT HP)

81576A

The Keysight 81576A is a high-power Variable Optical Attenuator (VOA) module featuring an integrated power sensor, designed for single-mode fiber-optic applications in the 1200 nm to 1700 nm wavelength range. Built for compatibility with Keysight 8163A/B, 8164A/B, and 8166A/B Lightwave mainframes, it delivers precision attenuation control, low polarization dependence, high return loss, and real-time power monitoring for high-power optical component testing.

SPECIFICATIONS

General

Interfaces	Controlled through host mainframe (GPIB, LAN, USB depending on mainframe configuration)
Display	None (uses host mainframe display)

Physical

Power Supply	Powered internally by the host mainframe
Operating Temperature	0 °C to 40 °C °C
Dimensions (W×H×D)	32 mm × 75 mm × 335 mm mm
Weight	0.6 kg kg

Optical Performance

Wavelength Range	1200 nm to 1700 nm
Attenuation Range	0 dB to 60 dB
Attenuation Resolution	0.001 dB
Minimum Insertion Loss	≤ 1.4 dB (excluding connectors)
Maximum Input Power	+27 dBm
Polarization Dependence Loss	≤ 0.05 dB (at 1550 nm)

Power Sensor Performance

Power Sensor Wavelength Range	1200 nm to 1700 nm
Power Sensor Measurement Range	-50 dBm to +27 dBm
Power Sensor Uncertainty	±0.11 dB (at calibration conditions)

Physical & Mechanical

Fiber Type	Single-mode 9/125 μm
Required Mainframe Slots	1 slot

System Compatibility

Compatible Mainframes	Keysight 8163A/B, 8164A/B, 8166A/B
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Performance

Calibration Wavelengths	1310 nm, 1550 nm
Attenuation Accuracy	±0.05 dB (0 to 45 dB at calibration wavelengths), ±0.15 dB (45 to 60 dB at calibration wavelengths)
Spectral Ripple	< ±0.01 dB (typical, 1520 nm to 1620 nm)
Shutter Isolation	> 80 dB

Power Monitor

Power Sensor Linearity	±0.05 dB (+23 dBm to -45 dBm)
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Environmental

Storage Temperature Range	-40 °C to +70 °C
Operating Humidity Range	15% to 95% R.H. (non-condensing)

Optical Interface

Connector Interface	Keysight 81000xl series (requires 2)
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TECHNOLOGY

Fiber-optic

APPLICATIONS

Optical transceiver testing, receiver sensitivity analysis, high-power optical component characterization

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