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Data Sheet
August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 81566A Optical Attenuator Module

HP Agilent Keysight 81566A Variable Optical Attenuator Module with Power Control SM Straight The Agilent 81566A isadual-slot variable optical attenuator with integrated monitor tap and power control for 8163/8164/8166 Lightwave platforms. OEM 8156xA/8157xA Optical Attenuators technical specifications (5988-2696EN) list 1250 to 1650 nm on 9/125 um SMF28, 0 to 60 dB, 0.001 dB resolution, plus or minus 0.1 dB accuracy at 1550 nm, and +22 dBm maximum input. BER test, receiver/transmitter characterization, DWDM channel equalization, loss simulation, and power-meter linearity checks with closed-loop output power setting. The Agilent 81566A isadual-slot variable optical attenuator with integrated monitor tap and power control for 8163/8164/8166 Lightwave platforms. OEM 8156xA/8157xA Optical Attenuators technical specifications (5988-2696EN) list 1250 to 1650 nm on 9/125 um SMF28, 0 to 60 dB, 0.001 dB resolution, plus or minus 0.1 dB accuracy at 1550 nm, and +22 dBm maximum input. BER test, receiver/transmitter characterization, DWDM channel equalization, loss simulation, and power-meter linearity checks with closed-loop output power setting.

MODEL **Agilent / Keysight 81566A**	CALIBRATION **Available on request**
CONDITION **Used**	STATUS **In stock**
RFQ / SKU **81566A**	LISTING **https://aumictechlabs.com/products/81566a-2/**

NIST-traceable cal · SAM registered · 30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keysight 81566A is a plug-in optical attenuator module for the Lightwave Solution Platform that delivers precise control of optical power levels across the C and L bands. It combines variable attenuation with integrated power control functionality, set a specific output power level directly while automatically compensating for input power fluctuations. This ensures stable output power independent of source variations, making it ideal for demanding photonic test environments.Technical Specifications Wavelength range: 1250 nm to 1650 nm Attenuation range: 0 dB to 60 dB Attenuation resolution: 0.001 dB Attenuation accuracy: ±0.1 dB Return loss: Typically 45 dB Maximum input power: +22 dBm Fiber type: Singlemode 9/125 µm SMF28Key Features Integrated power control with automatic input power compensation Two-slot plug-in module design Operating temperature range: 0°C to +55°C Storage temperature range: -40°C to +70°C Humidity: < 95% RH (0°C to 40°C) Straight connector interface with versatile compatibilityTypical Applications Bit Error Rate (BER) testing DWDM channel equalization Power meter linearity testing and calibration Optical power level regulation in laboratory and production environmentsCompatibility & Integration The 81566A integrates directly into Keysight's Lightwave Solution Platform. Compatible mainframes include the 8163A/B, 8164A/B, and 8166A/B. The module operates as a precision attenuator and power controller within these integrated test systems, providing automated optical power management for multi-instrument measurement workflows.

Features & description

From manufacturer datasheet

Polarization Dependent Loss: less than 0.08 dBpp

Return Loss Typical: typical 45 dB Maximum Input Power: +22 dBm, exposure time less than 2 h Shutter Isolation Typical: typical 100 dB Module Dimensions HxWxD: 75 mm x 64 mm x 335 mm Module Weight: 1.3 kg Recommended Recalibration Period: 2 years Operating Temperature: 10 C to 45 C Humidity: non-condensing Warm Up Time: 30 minutes Host Mainframes: 8163A/B, 8164A/B, 8166A/B Slot Occupancy: 2 slots Power Setting Repeatability Condition: output power greater than minus 50 dBm, input less than or equal to +17 dBm; add typical plus or minus 0.01 dB above +17 dBm Relative Meter Wavelength Limit: wavelength less than 1630 nm, SOP and temperature constant, 23 C plus or minus 5 C, input less than +17 dBm; add plus or minus 0.02 dB above +17 dBm Notes Numeric rows from Agilent 8156xA and 8157xA Optical Attenuators Technical Specifications December 2002 (5988-2696EN), 81566A straight-connector power-control column. 81567A is the angled counterpart.

81566A Characteristics / Specifications

PARAMETER	VALUE
Model	81566A
Instrument Type	Variable optical attenuator module with power control
Connector Style	straight connector, versatile interface
Fiber Type	9/125 um SMF28
Wavelength Range	1250 nm to 1650 nm
Attenuation Range	0 dB to 60 dB
Attenuation Resolution	0.001 dB
Attenuation Repeatability	plus or minus 0.01 dB
Power Setting Repeatability	plus or minus 0.015 dB
Attenuation Accuracy At 1550 Nm	plus or minus 0.1 dB, 1550 nm plus or minus 15 nm, input less than +10 dBm
Attenuation Accuracy Typical 1250 To 16	typical plus or minus 0.1 dB, 1250 nm to 1650 nm
Settling Time Attenuation Typical	100 ms, step size less than 1 dB; full range typical 6 s
Settling Time Power Typical	300 ms
Relative Power Meter Uncertainty	plus or minus 0.03 dB plus or minus 20 pW
Insertion Loss Typical	typical 2.2 dB, 1550 nm plus or minus 15 nm with Agilent reference connectors
Polarization Dependent Loss	less than 0.08 dBpp
Return Loss Typical	typical 45 dB
Maximum Input Power	+22 dBm, exposure time less than 2 h
Shutter Isolation Typical	typical 100 dB
Module Dimensions HxWxD	75 mm x 64 mm x 335 mm
Module Weight	1.3 kg
Recommended Recalibration Period	2 years
Operating Temperature	10 C to 45 C
Humidity	non-condensing

PARAMETER	VALUE
Warm Up Time	30 minutes
Host Mainframes	8163A/B, 8164A/B, 8166A/B
Slot Occupancy	2 slots
Power Setting Repeatability Condition	output power greater than minus 50 dBm, input less than or equal to +17 dBm; add typical plus or minus 0.01 dB above +17 dBm
Relative Meter Wavelength Limit	wavelength less than 1630 nm, SOP and temperature constant, 23 C plus or minus 5 C, input less than +17 dBm; add plus or minus 0.02 dB above +17 dBm
Attenuation	Range: 0 dB to 60 dB
Return loss	Typical: typical 45 dB

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
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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 (5988-2696EN) list 1250 to 1650 nm on 9/125 um SMF28, 0 to 60 dB, 0.001 dB resolution, plus or minus 0.1 dB accuracy at 1550 nm, and +22 dBm maximum input.

Applications
BER test, receiver/transmitter characterization, DWDM channel equalization, loss simulation, and power-meter linearity checks with closed-loop output power setting.

Key Features
Integrated monitor tap and photodiode for power control
Automatically holds user-set output power when power-control mode is on
0.001 dB resolution
Integrated shutter
Two-slot modular form

Technical Specifications

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Attenuation Repeatability	plus or minus 0.01 dB
Power Setting Repeatability	plus or minus 0.015 dB
Attenuation Accuracy At 1550 Nm	plus or minus 0.1 dB, 1550 nm plus or minus 15 nm, input less than +10 dBm
Attenuation Accuracy Typical 1250 To 1650	typical plus or minus 0.1 dB, 1250 nm to 1650 nm
Settling Time Attenuation Typical	100 ms, step size less than 1 dB; full range typical 6 s
Settling Time Power Typical	300 ms
Relative Power Meter Uncertainty	plus or minus 0.03 dB plus or minus 20 pW
Insertion Loss Typical	typical 2.2 dB, 1550 nm plus or minus 15 nm with Agilent reference connectors
Polarization Dependent Loss	less than 0.08 dBpp
Return Loss Typical	typical 45 dB
Maximum Input Power	+22 dBm, exposure time less than 2 h

PARAMETER	VALUE
Shutter Isolation Typical	typical 100 dB
Module Dimensions HxWxD	75 mm x 64 mm x 335 mm
Module Weight	1.3 kg
Recommended Recalibration Period	2 years
Operating Temperature	10 C to 45 C
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Host Mainframes	8163A/B, 8164A/B, 8166A/B
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Notes

Numeric rows from Agilent 8156xA and 8157xA Optical Attenuators Technical Specifications December 2002 (5988-2696EN), 81566A straight-connector power-control column. 81567A is the angled counterpart.

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

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