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Data Sheet

August 13, 2026

AGILENT / HP

Agilent HP 81633B / 86133A Optical Power Sensor for 8163A / 8164A

Agilent HP 81633B / 86133A Optical Power Sensor for 8163A / 8164A, Precision optical sensor providing accurate power readings in fiber optic testing setups.



MODEL

**Agilent / HP
81633B/86133A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

81633B/86133A

LISTING

<https://aumictechlabs.com/products/81633b-86133a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent HP 81633B / 86133A is a precision optical power sensor module for the 8163A, 8164A, and 8166 series mainframes. Built on an InGaAs sensor element, it delivers accurate power measurements across the near-infrared spectrum with $\pm 2.5\%$ uncertainty from 1000 nm to 1630 nm. The sensor handles power levels from +10 dBm to -90 dBm with exceptional linearity (± 0.015 dB ± 0.2 pW) across +10 dBm to -70 dBm in the 1000-1630 nm band. Return loss exceeds 55 dB, and noise remains below 2 pW peak-to-peak. Configurable averaging from 100 μ s to 1 s, selectable display resolution as fine as 0.0001 dB/dBm, and high-speed data logging up to 20k values enable rapid characterization of optical signals in telecommunications and fiber optic networks. Technical Specifications Sensor Type: InGaAs Wavelength Range: 800 nm to 1700 nm Power Range: +10 dBm to -90 dBm Linearity (CW): ± 0.015 dB ± 0.2 pW (1000-1630 nm, +10 dBm to -70 dBm, 23 $^{\circ}$ C ± 5 $^{\circ}$ C) Measurement Accuracy: $\pm 2.5\%$ (1000 nm to 1630 nm) Return Loss: >55

dB Noise: 55 dB) minimizes signal reflections Sub-picoWatt noise floor enables low-power measurements Fine resolution and wide dynamic range support both CW and pulsed optical characterization SCPI programming and GPIB/RS232C connectivity for integration into automated test systems Typical Applications Optical transmitter and receiver power measurements Fiber optic component characterization Telecommunications network testing Data center optical link validation Compatibility & Integration Compatible with Agilent 8163A/B, 8164A/B, and 8166A/B mainframes Accepts 81000xl connector interfaces for standard fiber types and bare fibers SCPI standard programming; GPIB and RS232C communication ports

Features & description

From manufacturer datasheet

Features

• InGaAs single input sensor element • Wavelength coverage 800 to 1700 nm • Power range +10 dBm to -90 dBm • Reference accuracy +/-2.5 percent from 1000 to 1630 nm • Polarization relative uncertainty less than +/-0.005 dB • Fits 8163B 8164B 8166B lightwave mainframes • User interchangeable optical connector interfaces

Applications

• Absolute and relative optical power measurements 800 to 1700 nm • Fiber component loss and source power verification • Multichannel power monitoring in 8166B systems • Low PDL power measurements for coherent and telecom sources

81633B86133A Characteristics / Specifications

PARAMETER	VALUE
Model	81633B
Manufacturer	Agilent / Keysight
Instrument Type	Optical Power Sensor Module
Alias	81633B; Agilent 81633B; Keysight 81633B; listing 86133A associated
Sensor type	InGaAs
Channel count	1
Wavelength range	800 nm to 1700 nm
Power range	+10 dBm to -90 dBm
Uncertainty at reference conditions	+/-2.5 percent (1000 nm to 1630 nm)
Total uncertainty class	+/-4.5 percent +/-2 pW (1000 nm to 1630 nm)
Relative uncertainty due to polarization	less than +/-0.005 dB
Spectral ripple due to interference	less than +/-0.005 dB
Linearity at 23 plusminus 5 C	less than +/-0.015 dB +/-2 pW (CW +10 to -70 dBm, 1000 to 1630 nm)
Linearity operating temp range	less than +/-0.05 dB +/-2 pW
Noise peak to peak	less than 2 pW
Compatible mainframes	8163B, 8164B, 8166B
Also compatible legacy	8163A, 8164A, 8166A class
Optical connector	user interchangeable interface adapters
Return loss class	high return loss sensor design
Averaging time	host controlled averaging
Autorange mode	yes per module specifications
Storage temperature	-40 C to +70 C
Related dual sensor	81635A
Related higher sensitivity	81634B
Listing companion identity	86133A associated optical module listing

PARAMETER	VALUE
Form factor	single slot lightwave plug-in module Notes Specs from Agilent 8163xB power sensor module user guide/spec tables for 81633B. 86133A appears on some reseller listings as an associated optical identity; confirm faceplate marking and connector adapter on the unit.
Return loss	class: high return loss sensor design

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	40 C to +70 C
Related dual sensor	81635A
Related higher sensitivity	81634B
Listing companion identity	86133A associated optical module listing
Form factor	single slot lightwave plug-in module Notes Specs from Agilent 8163xB power sensor module user guide/spec tables for 81633B. 86133A appears on some reseller listings as an associated optical identity; confirm faceplate marking and connector adapter on the unit.

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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Instrument Type	Optical Power Sensor Module
Alias	81633B; Agilent 81633B; Keysight 81633B; listing 86133A associated
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Listing companion identity	86133A associated optical module listing
Form factor	single slot lightwave plug-in module

Notes

Specs from Agilent 8163xB power sensor module user guide/spec tables for 81633B. 86133A appears on some reseller listings as an associated optical identity; confirm faceplate marking and connector adapter on the unit.

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.