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Test & measurement · bought, sold, repaired, calibrated

Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 81633A, Germanium Optical Head

Related Later Model: 81633B InGaAs sensor 800 to 1700 nm, +10 to minus 90 dBm Full Specification Document: Agilent Technical Specifications p/n 5962-9321E for test conditions Successor Noise Class: 81633B user's-guide noise less than 2 pW peak to peak; A-series noise is in 5962-9321E Numeric rows from Agilent 8163A Lightwave Multimeter Selected Specifications, 81633A column. Host interface rows are from the same sheet. Full Specification Document: Agilent Technical Specifications p/n 5962-9321E for test conditions Successor Noise Class: 81633B user's-guide noise less than 2 pW peak to peak; A-series noise is in 5962-9321E Numeric rows from Agilent 8163A Lightwave Multimeter Selected Specifications, 81633A column. Host interface rows are from the same sheet.



MODEL

**Agilent / Keysight
81633A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

81633A

LISTING

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

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 81633A is an optical power sensor module for precision measurements in lightwave communication systems. Built around an InGaAs detector with a 5 mm diameter active area, it delivers accurate power readings across the 800 nm to 1700 nm spectrum. The module integrates into Agilent/Keysight Lightwave Mainframes - including the 8163A/B Multimeter, 8164A/B Measurement System, and 8166A/B Multichannel System - via an external interface

module (81618A or 81619A). Operation requires SCPI programming and compatible optical connector adapters, sold separately.

Technical Specifications

Sensor Type: InGaAs Detector Area: 5 mm diameter Wavelength Range: 800 nm to 1700 nm Power Range: +10 dBm to -90 dBm Absolute Accuracy: $< \pm 2.5\%$ (1000 nm to 1630 nm) CW Linearity: $< \pm 0.015$ dB ± 2 pW (+10 dBm to -70 dBm) Polarization-Dependent Loss Uncertainty: ± 0.015 dB (typical) Spectral Ripple Uncertainty: ± 0.015 dB (typical) Operating Temperature: 0 to 40°C, non-condensating

Key Features

High-speed data logging up to 20,000 internally or externally triggered values Real-time measurement capability: 50,000 readings per second (system-dependent) SCPI standard programming interface Low polarization-dependent loss and spectral ripple characteristics Flexible optical connector options via separate 81000xl series adapters (FC, SC, LC, MU, bare fiber, open beam)

Typical Applications

Optical power measurements in communication system validation Spectral ripple characterization of optical components PDL measurement and analysis Long-wavelength lightwave system testing across the 800–1700 nm band

Compatibility & Integration

The 81633A requires a single (81618A) or dual (81619A) interface module for operation within supported Lightwave Mainframes. SCPI command syntax aligns with the 8164A, 8166A, and 8153A systems, enabling straightforward integration into existing measurement platforms.

Features & description

From manufacturer datasheet

Polarization Dependent Uncertainty: less than plus or minus 0.005 dB

Spectral Ripple: less than plus or minus 0.005 dB Linearity At 23 C: less than plus or minus 0.015 dB plus or minus 2 pW, CW +10 dBm to minus 70 dBm, 23 C plus or minus 5 C Host Mainframes: 8163A/B, 8164A/B, 8166A/B Host Display: graphical display, monochrome, on 8163A Host Interface Gpib: GPIB on 8163A Host Interface Serial: RS232C on 8163A Host Printer Interface: parallel Centronics on 8163A Programming: SCPI, compatible with 8164A, 8166A, and 8153A syntax Module Form: slim front-load 816x sensor module Related Later Model: 81633B InGaAs sensor 800 to 1700 nm, +10 to minus 90 dBm Full Specification Document: Agilent Technical Specifications p/n 5962-9321E for test conditions Successor Noise Class: 81633B user's-guide noise less than 2 pW peak to peak; A-series noise is in 5962-9321E Notes Numeric rows from Agilent 8163A Lightwave Multimeter Selected Specifications, 81633A column. Host interface rows are from the same sheet.

81633A Characteristics / Specifications

PARAMETER	VALUE
Model	81633A
Instrument Type	Optical power sensor module
Series Family	Agilent 8163xA power sensors
Sensor Element	InGaAs
Wavelength Range	800 nm to 1700 nm
Minimum Wavelength	800 nm
Maximum Wavelength	1700 nm
Power Range	+10 dBm to minus 90 dBm
Maximum Power	+10 dBm
Minimum Power	minus 90 dBm
Uncertainty At Reference Conditions	less than plus or minus 2.5 percent, 1000 nm to 1630 nm
Polarization Dependent Uncertainty	less than plus or minus 0.005 dB
Spectral Ripple	less than plus or minus 0.005 dB
Linearity At 23 C	less than plus or minus 0.015 dB plus or minus 2 pW, CW +10 dBm to minus 70 dBm, 23 C plus or minus 5 C
Host Mainframes	8163A/B, 8164A/B, 8166A/B
Host Display	graphical display, monochrome, on 8163A
Host Interface Gpib	GPiB on 8163A
Host Interface Serial	RS232C on 8163A
Host Printer Interface	parallel Centronics on 8163A
Programming	SCPI, compatible with 8164A, 8166A, and 8153A syntax
Module Form	slim front-load 816x sensor module
Related Later Model	81633B InGaAs sensor 800 to 1700 nm, +10 to minus 90 dBm
Full Specification Document	Agilent Technical Specifications p/n 5962-9321E for test conditions
Successor Noise Class	81633B user's-guide noise less than 2 pW peak to peak; A-series noise is in 5962-9321E

81633A Specifications

PARAMETER	VALUE
Applications	Higher-accuracy InGaAs power and IL logging to minus 90 dBm on the 816x platform.
Key Features	InGaAs sensor, +10 to minus 90 dBm
Slim 816x power sensor module	SCPI programming via host mainframe
Technical Specifications	Model: 81633A
Notes	Numeric rows from Agilent 8163A Lightwave Multimeter Selected Specifications, 81633A column. Host interface rows are from the same sheet.

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 list 800 to 1700 nm, +10 to minus 90 dBm, uncertainty less than plus or minus 2.5 percent at reference conditions (1000 to 1630 nm), polarization and ripple less than plus or minus 0.005 dB, and linearity less than plus or minus 0.015 dB plus or minus 2 pW (CW +10 to minus 70 dBm at 23 C plus or minus 5 C).

Applications

Higher-accuracy InGaAs power and IL logging to minus 90 dBm on the 816x platform.

Key Features

InGaAs sensor, +10 to minus 90 dBm

Tight polarization and spectral-ripple uncertainty

Slim 816x power sensor module

SCPI programming via host mainframe

Technical Specifications

Technical Specifications

PARAMETER	VALUE
Model	81633A
Instrument Type	Optical power sensor module
Series Family	Agilent 8163xA power sensors
Sensor Element	InGaAs
Wavelength Range	800 nm to 1700 nm
Minimum Wavelength	800 nm
Maximum Wavelength	1700 nm
Power Range	+10 dBm to minus 90 dBm
Maximum Power	+10 dBm
Minimum Power	minus 90 dBm
Uncertainty At Reference Conditions	less than plus or minus 2.5 percent, 1000 nm to 1630 nm
Polarization Dependent Uncertainty	less than plus or minus 0.005 dB
Spectral Ripple	less than plus or minus 0.005 dB
Linearity At 23 C	less than plus or minus 0.015 dB plus or minus 2 pW, CW +10 dBm to minus 70 dBm, 23 C plus or minus 5 C
Host Mainframes	8163A/B, 8164A/B, 8166A/B
Host Display	graphical display, monochrome, on 8163A
Host Interface Gpib	GPiB on 8163A
Host Interface Serial	RS232C on 8163A
Host Printer Interface	parallel Centronics on 8163A

PARAMETER	VALUE
Programming	SCPI, compatible with 8164A, 8166A, and 8153A syntax
Module Form	slim front-load 816x sensor module
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Notes

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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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NIST-traceable calibration · SAM registered ·
30-day returns
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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.