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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 81634A, InGaAs Optical Head (Large Area)

HP Agilent Keysight 81634A High Sensitivity InGaAs Optical Power Sensor Module The Agilent 81634A is a high-sensitivity InGaAs optical power sensor module for 8163/8164/8166 mainframes. OEM Agilent 8163A Selected Specifications list 800 to 1700 nm, +10 to minus 110 dBm, uncertainty less than plus or minus 2.5 percent at reference conditions (1000 to 1630 nm), and linearity less than plus or minus 0.015 dB plus or minus 0.2 pW (CW +10 to minus 90 dBm at 23 C plus or minus 5 C). Low-level optical power and high-isolation IL measurements to minus 110 dBm on the 816x platform. The Agilent 81634A is a high-sensitivity InGaAs optical power sensor module for 8163/8164/8166 mainframes. OEM Agilent 8163A Selected Specifications list 800 to 1700 nm, +10 to minus 110 dBm, uncertainty less than plus or minus 2.5 percent at reference conditions (1000 to 1630 nm), and linearity less than plus or minus 0.015 dB plus or minus 0.2 pW (CW +10 to minus 90 dBm at 23 C plus or minus 5 C). Low-level optical power and high-isolation IL measurements to minus 110 dBm on the 816x platform. Highest-sensitivity 8163xA InGaAs sensor, to minus 110 dBm



MODEL Agilent / Keysight 81634A	CALIBRATION Available on request
CONDITION Used	STATUS In stock
RFQ / SKU 81634A	LISTING https://aumictechlabs.com/products/81634a-2/

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 81634A is an InGaAs optical power measurement head engineered for precision characterization across the 800 nm to 1700 nm wavelength range. This module interfaces with Agilent/Keysight 816x series lightwave mainframes to deliver accurate optical power measurements in communications systems and component testing. The large-area InGaAs sensor provides excellent sensitivity across broad spectral bands with measurement accuracy of 2.5% at reference conditions (1000 nm to 1630 nm).

Technical Specifications

Sensor Element:
InGaAs Wavelength Range: 800 nm to 1700 nm Power Range: +10 dBm to -110 dBm, +10 dBm to -90 dBm, or +10 dBm to -80 dBm (selectable) Measurement Accuracy: 2.5% (1000 nm to 1630 nm at 23°C ±5°C) Linearity: 55 dB Operating Temperature: 0°C to 40°C (specifications valid at 23°C ±5°C) Humidity: Non-condensing Data Storage: Up to 100,000 samples Fiber Compatibility: Standard SM and MM up to 62.5 µm core

Key Features Supports both single-channel (81618A) and dual-channel (81619A) interface modules SCPI-compliant programming; compatible with 8164A, 8166A, and 8153A systems Data logging with min/max value tracking and stability measurements Trigger synchronization for spectral measurements with tunable laser sources 81634B variant includes BNC analog output signal Dimensions: 57 mm × 66 mm × 156 mm; weight: 0.5 kg (81634B)

Typical Applications Optical power measurement in fiber-optic communication systems Optical component characterization (detectors, modulators, attenuators) Wavelength-dependent power analysis in the near-infrared band Multichannel lightwave system testing

Compatibility & Integration The 81634A is a plug-in module for Agilent/Keysight 816x mainframe systems. Operation requires an interface module (single or dual channel) and warm-up, zeroing, and auto-range configuration for specification validity.

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 0.2 pW, CW +10 dBm to minus 90 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: 81634B InGaAs sensor 800 to 1700 nm, +10 to minus 110 dBm, analog output, greater than 55 dB return loss Full Specification Document: Agilent Technical Specifications p/n 5962-9321E for test conditions Successor Return Loss Class: 81634B user's-guide return loss greater than 55 dB; A-series return loss is in 5962-9321E Notes Numeric rows from Agilent 8163A Lightwave Multimeter Selected Specifications, 81634A column. Host interface rows are from the same sheet.

81634A Characteristics / Specifications

PARAMETER	VALUE
Model	81634A
Instrument Type	High sensitivity 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 110 dBm
Maximum Power	+10 dBm
Minimum Power	minus 110 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 0.2 pW, CW +10 dBm to minus 90 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	81634B InGaAs sensor 800 to 1700 nm, +10 to minus 110 dBm, analog output, greater than 55 dB return loss
Full Specification Document	Agilent Technical Specifications p/n 5962-9321E for test conditions
Successor Return Loss Class	81634B user's-guide return loss greater than 55 dB; A-series return loss is in 5962-9321E

PARAMETER	VALUE
Return loss	Full Specification Document: Agilent Technical Specifications p/n 5962-9321E for test conditions

81634A Specifications

PARAMETER	VALUE
Applications	Low-level optical power and high-isolation IL measurements to minus 110 dBm on the 816x platform.
Key Features	Highest-sensitivity 8163xA InGaAs sensor, to minus 110 dBm
Slim 816x power sensor module	SCPI programming via host mainframe
Technical Specifications	Model: 81634A
Notes	Numeric rows from Agilent 8163A Lightwave Multimeter Selected Specifications, 81634A 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 110 dBm, uncertainty less than plus or minus 2.5 percent at reference conditions (1000 to 1630 nm), and linearity less than plus or minus 0.015 dB plus or minus 0.2 pW (CW +10 to minus 90 dBm at 23 C plus or minus 5 C).

Applications

Low-level optical power and high-isolation IL measurements to minus 110 dBm on the 816x platform.

Key Features

Highest-sensitivity 8163xA InGaAs sensor, to minus 110 dBm

Tight polarization and spectral-ripple uncertainty

Slim 816x power sensor module

SCPI programming via host mainframe

Technical Specifications

Technical Specifications

PARAMETER	VALUE
Model	81634A
Instrument Type	High sensitivity 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 110 dBm
Maximum Power	+10 dBm
Minimum Power	minus 110 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 0.2 pW, CW +10 dBm to minus 90 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

PARAMETER	VALUE
Module Form	slim front-load 816x sensor module
Related Later Model	81634B InGaAs sensor 800 to 1700 nm, +10 to minus 110 dBm, analog output, greater than 55 dB return loss
Full Specification Document	Agilent Technical Specifications p/n 5962-9321E for test conditions
Successor Return Loss Class	81634B user's-guide return loss greater than 55 dB; A-series return loss is in 5962-9321E

Notes

Numeric rows from Agilent 8163A Lightwave Multimeter Selected Specifications, 81634A column. Host interface rows are from the same sheet.

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.