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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

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

Agilent Keysight 81634B Optical Power Sensor Module The Agilent/Keysight 81634B is a high-sensitivity InGaAs optical power sensor module for 8163/8164/8166 Lightwave Measurement mainframes. OEM 81630B/4B/6B/7B and 81635A user specifications list 800 to 1700 nm, +10 to minus 110 dBm, ± 2.5 percent uncertainty at reference conditions (1000 to 1630 nm), greater than 55 dB return loss, and analog output. Low-level optical power and IL logging; DWDM filter isolation with a tunable laser; analog-output monitoring of slow optical transients. The Agilent/Keysight 81634B is a high-sensitivity InGaAs optical power sensor module for 8163/8164/8166 Lightwave Measurement mainframes. OEM 81630B/4B/6B/7B and 81635A user specifications list 800 to 1700 nm, +10 to minus 110 dBm, ± 2.5 percent uncertainty at reference conditions (1000 to 1630 nm), greater than 55 dB return loss, and analog output. Low-level optical power and IL logging; DWDM filter isolation with a tunable laser; analog-output monitoring of slow optical transients. Recessed lens interface for high return loss



MODEL

**Agilent / Keysight
81634B**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

81634B

LISTING

<https://aumictechlabs.com/products/81634b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keysight 81634B is an InGaAs optical power sensor head designed for precision measurements across the 800 nm to 1700 nm wavelength range. It integrates into Keysight 8163,

8164, and 8166 multichannel lightwave mainframes, delivering traceable measurement performance across single and multi-channel configurations. The thermally stabilized, hermetically sealed detector operates behind a glass window to isolate measurements from environmental factors including humidity, dust, and temperature variations.

Technical Specifications

Wavelength Range: 800 nm to 1700 nm Power Measurement Range: +10 dBm to -110 dBm Accuracy at Reference Conditions (1260–1630 nm): $\pm 3\%$ Total Uncertainty (1260–1630 nm): $\pm 5\%$ ± 20 pW Low Power Uncertainty: $\pm 2.5\%$ Polarization Uncertainty: $< \pm 0.005$ dB Spectral Ripple Uncertainty: $< \pm 0.005$ dB Power Linearity: 40 dB Noise Floor (1260–1630 nm): < 20 pW peak-to-peak Minimal Averaging Time: 100 μ s Data Logging Capacity: 20,000 samples Operating Temperature: 0°C to +35°C Warm-up Time: 20 min Recalibration Interval: 2 years

Key Features

Detector traceability to NIST and PTB standards Analog output for external integration Hardware trigger lines, filtering, and event trigger capability Hardware timer support for time-stamped logging Flexible connector interface: optimized for 2.5 mm ferrule; compatible with LC and MU 1.25 mm ferrule connectors via adapters; accepts both straight and angled-polish connector types Records minimum and maximum values over measurement intervals

Typical Applications

Optical power monitoring in communication systems Stability analysis and trending measurements Spectral characterization with tunable laser synchronization Multi-channel power distribution assessment

Compatibility & Integration

The 81634B fits all Keysight 8163, 8164, and 8166 mainframes. For LC or MU connectors, use adapters 81002LI or 81002MI respectively.

Dimensions: 75 mm $\times$ 32 mm $\times$ 335 mm. Weight: 0.6 kg.

Features & description

From manufacturer datasheet

Polarization Dependent Uncertainty: less than ± 0.005 dB

Spectral Ripple: less than ± 0.005 dB Linearity At 23 C ± 5 C: less than 0.015 dB ± 0.2 pW, CW +10 to minus 90 dBm, 1000 to 1630 nm Linearity Over Operating Temperature: less than ± 0.05 dB ± 0.5 pW Return Loss: greater than 55 dB Noise Peak To Peak: less than 0.2 pW Minimum Averaging Time: 100 us Analog Output: included Dimensions: 75 mm x 32 mm x 335 mm Weight: 0.5 kg Recalibration Period: 2 years Operating Temperature: 0 C to +45 C Warm Up Time: 20 minutes Host Mainframes: 8163A/B, 8164A/B, 8166A/B Connector Ferrule Note: 2.5 mm ferrule, fiber tip offset not more than 0.3 mm Notes Numeric rows from Keysight 81630B/4B/6B/7B Power Sensor Modules and 81635A Dual Power Sensor Module user specifications. Reference conditions include 10 uW CW, 50 um GI fiber NA 0.2, 23 C ± 5 C, day of calibration.

81634B Characteristics / Specifications

PARAMETER	VALUE
Model	81634B
Instrument Type	Optical power sensor module
Series Family	Keysight 8163xB power sensors
Sensor Element	InGaAs
Wavelength Range	800 nm to 1700 nm
Power Range	+10 dBm to minus 110 dBm
Applicable Fiber	standard SM and MM up to 100 um core, NA ≤0.3
Uncertainty At Reference Conditions	±2.5 percent, 1000 nm to 1630 nm
Total Uncertainty	±4.5 percent ±0.2 pW, 1000 nm to 1630 nm
Polarization Dependent Uncertainty	less than ±0.005 dB
Spectral Ripple	less than ±0.005 dB
Linearity Over Operating Temperature	less than ±0.05 dB ±0.5 pW
Return Loss	greater than 55 dB
Noise Peak To Peak	less than 0.2 pW
Minimum Averaging Time	100 us
Analog Output	included
Dimensions	75 mm x 32 mm x 335 mm
Weight	0.5 kg
Recalibration Period	2 years
Operating Temperature	0 C to +45 C
Warm Up Time	20 minutes
Host Mainframes	8163A/B, 8164A/B, 8166A/B
Connector Ferrule Note	2.5 mm ferrule, fiber tip offset not more than 0.3 mm

81634B Specifications

PARAMETER	VALUE
Agilent Keysight 81634B Optical Power Sensor Module	Overview
Applications	Low-level optical power and IL logging; DWDM filter isolation with a tunable laser; analog-output monitoring of slow optical transients.
Recessed lens interface for high return loss	Analog output included (unlike 81635A dual sensor)
Technical Specifications	Model: 81634B

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	less than ± 0.05 dB ± 0.5 pW
Operating Temperature	less than ± 0.05 dB ± 0.5 pW
Return Loss	greater than 55 dB
Noise Peak To Peak	less than 0.2 pW
Minimum Averaging Time	100 us
Analog Output	included
Dimensions	75 mm x 32 mm x 335 mm
Weight	0.5 kg
Recalibration Period	2 years
Warm Up Time	20 minutes
Host Mainframes	8163A/B, 8164A/B, 8166A/B
Connector Ferrule Note	2.5 mm ferrule, fiber tip offset not more than 0.3 mm Notes Numeric rows from Keysight 81630B/4B/6B/7B Power Sensor Modules and 81635A Dual Power Sensor Module user specifications. Reference conditions include 10 uW CW, 50 um GI fiber NA 0.2, 23 C ± 5 C, day of calibration.

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, ±2.5 percent uncertainty at reference conditions (1000 to 1630 nm), greater than 55 dB return loss, and analog output.

Applications

Low-level optical power and IL logging; DWDM filter isolation withatunable laser; analog-output monitoring of slow optical transients.

Key Features

Recessed lens interface for high return loss

Analog output included (unlike 81635A dual sensor)

Logs up to 20 k samples with internal or external trigger

Min-max function overachosen sample count

Fits 8163B, 8164B, and 8166B plus earlier 816xA mainframes

Technical Specifications

Technical Specifications

PARAMETER	VALUE
Model	81634B
Instrument Type	Optical power sensor module
Series Family	Keysight 8163xB power sensors
Sensor Element	InGaAs
Wavelength Range	800 nm to 1700 nm
Power Range	+10 dBm to minus 110 dBm
Applicable Fiber	standard SM and MM up to 100 um core, NA ≤0.3
Uncertainty At Reference Conditions	±2.5 percent, 1000 nm to 1630 nm
Total Uncertainty	±4.5 percent ±0.2 pW, 1000 nm to 1630 nm
Polarization Dependent Uncertainty	less than ±0.005 dB
Spectral Ripple	less than ±0.005 dB

Linearity At 23 C ±5 C: less than 0.015 dB ±0.2 pW, CW +10 to minus 90 dBm, 1000 to 1630 nm

Specifications

PARAMETER	VALUE
Linearity Over Operating Temperature	less than ±0.05 dB ±0.5 pW
Return Loss	greater than 55 dB
Noise Peak To Peak	less than 0.2 pW
Minimum Averaging Time	100 us
Analog Output	included

PARAMETER	VALUE
Dimensions	75 mm x 32 mm x 335 mm
Weight	0.5 kg
Recalibration Period	2 years
Operating Temperature	0 C to +45 C
Warm Up Time	20 minutes
Host Mainframes	8163A/B, 8164A/B, 8166A/B
Connector Ferrule Note	2.5 mm ferrule, fiber tip offset not more than 0.3 mm

Notes
Numeric rows from Keysight 81630B/4B/6B/7B Power Sensor Modules and 81635A Dual Power Sensor Module user specifications. Reference conditions include 10 uW CW, 50 um GI fiber NA 0.2, 23 C ±5 C, day of calibration.

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.