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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 81624B Optical Power Head

Agilent Keysight 81624B Optical Power Head The Agilent/Keysight 81624B is an InGaAs optical power head with a 5 mm detector for 81618A/81619A interfaces. OEM optical-head specifications list 800 to 1700 nm, +10 to minus 90 dBm, $\pm 2.2\%$ uncertainty at reference conditions (1000 to 1630 nm), linearity less than ± 0.02 dB ± 5 pW, and less than 5 pW peak-to-peak noise. Highest-accuracy connectorized and open-beam optical power; metrology reference with special calibration options; low-noise measurements to minus 90 dBm. The Agilent/Keysight 81624B is an InGaAs optical power head with a 5 mm detector for 81618A/81619A interfaces. OEM optical-head specifications list 800 to 1700 nm, +10 to minus 90 dBm, $\pm 2.2\%$ uncertainty at reference conditions (1000 to 1630 nm), linearity less than ± 0.02 dB ± 5 pW, and less than 5 pW peak-to-peak noise. Highest-accuracy connectorized and open-beam optical power; metrology reference with special calibration options; low-noise measurements to minus 90 dBm. 5 mm InGaAs detector for lowest noise in the 8162xBfamily



MODEL

**Agilent / Keysight
81624B**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

81624B

LISTING

<https://aumictechlabs.com/products/81624b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keysight 81624B is a high-sensitivity InGaAs optical power head engineered for precision optical power measurement across the 800 nm to 1700 nm wavelength range. This remote detector head integrates with Keysight's Lightwave Measurement platform via interface modules (81618A or 81619A) and 816xB series mainframes, delivering measurement capabilities from +10

dBm to -90 dBm with exceptional linearity and low polarization dependence. The 5 mm diameter InGaAs detector accommodates standard single-mode and multimode fibers (max. 100 μm core, $\text{NA} < 0.3$) through a flexible connector interface palette supporting FC/PC, SC/PC, E-2000, and bare fiber configurations.

Technical Specifications

Detector Type: InGaAs with 5 mm diameter, large area design

Wavelength Range: 800 nm to 1700 nm

Power Measurement Range: +10 dBm to -90 dBm

Linearity (CW): -70 dBm to +10 dBm

Measurement Uncertainty at Reference Conditions (-20 dBm, 1000–1630 nm): $\pm 2.2\%$

Polarization Dependence: ± 0.002 dB typical; $\leq \pm 0.005$ dB maximum

Spectral Ripple Uncertainty: $< \pm 0.002$ dB typical; $\leq \pm 0.005$ dB maximum

Analog Output: Included

Applicable Fiber Types: Single-mode and multimode (max. 100 μm core, $\text{NA} < 0.3$)

Key Features

Averaging time settings from 100 μs to 10 s with automatic power ranging

Minimum and maximum value monitoring with up to 20k sample logging capability

Large area detector minimizes connector misalignment effects, ensuring repeatable results

Lower power density per unit area supports high power measurements with superior linearity

Designed for low return loss and minimal wavelength-dependent measurement drift

Typical Applications

Optical component characterization and fiber optic link assessment

Photonics research requiring high-accuracy power measurement

Wavelength-sensitive optical testing across the near-infrared spectrum

Compatibility & Integration

Interface Modules: Agilent 81618A (single-channel) or 81619A (dual-channel)

Mainframes: 8163B, 8164B, 8166B multichannel mainframes

Connector Options: Magnetic D-shape adapter, removable 81624DD adapter ring, with interchangeable connectors (81000FA FC/PC, 81000KA SC/PC, 81000PA E-2000), MT ribbon fiber, and bare fiber clamp support.

Features & description

From manufacturer datasheet

Polarization Dependent Uncertainty: $\leq \pm 0.005$ dB (typical ± 0.002 dB)

Spectral Ripple: $\leq \pm 0.005$ dB (typical ± 0.002 dB) Linearity At 23 C ± 5 C: less than ± 0.02 dB ± 5 pW, CW +10 to minus 70 dBm, 1000 to 1630 nm Return Loss Typical: greater than 60 dB typical Noise Peak To Peak: less than 5 pW Analog Output: included Minimum Averaging Time: 100 us Dimensions: 57 mm x 66 mm x 156 mm Weight: 0.5 kg Recalibration Period: 2 years Operating Temperature: 0 C to +40 C Warm Up Time: 40 minutes Host Interface Modules: 81618A single or 81619A dual Host Mainframes: 8163 8164 8166 class lightwave meters Notes Numeric rows from Agilent 81618A/9A Optical Head Interface Modules and 8162xB Optical Heads specifications. 81624B is the highest-accuracy 5 mm InGaAs head in that table.

81624B Characteristics / Specifications

PARAMETER	VALUE
Model	81624B
Instrument Type	Optical power head
Series Family	Agilent 8162x optical heads
Sensor Element	InGaAs, 5 mm diameter
Wavelength Range	800 nm to 1700 nm
Power Range	+10 dBm to minus 90 dBm
Applicable Fiber	standard SM and MM max 100 um core, NA ≤0.3; parallel beam max 4 mm diameter
Uncertainty At Reference Conditions	±2.2 percent, 1000 to 1630 nm
Total Uncertainty	±3.5 percent ±5 pW, 1000 to 1630 nm
Polarization Dependent Uncertainty	≤ ±0.005 dB (typical ±0.002 dB)
Spectral Ripple	≤ ±0.005 dB (typical ±0.002 dB)
Return Loss Typical	greater than 60 dB typical
Noise Peak To Peak	less than 5 pW
Analog Output	included
Minimum Averaging Time	100 us
Dimensions	57 mm x 66 mm x 156 mm
Weight	0.5 kg
Recalibration Period	2 years
Operating Temperature	0 C to +40 C
Warm Up Time	40 minutes
Host Interface Modules	81618A single or 81619A dual
Host Mainframes	8163 8164 8166 class lightwave meters
Return loss	Typical: greater than 60 dB typical

81624B Specifications

PARAMETER	VALUE
Agilent Keysight 81624B Optical Power Head	Overview
Key Features	5 mm InGaAs detector for lowest noise in the 8162x B family
Technical Specifications	Model: 81624B

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 C to +40 C
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Warm Up Time	40 minutes
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Host Mainframes	8163 8164 8166 class lightwave meters Notes Numeric rows from Agilent 81618A/9A Optical Head Interface Modules and 8162xB Optical Heads specifications. 81624B is the highest-accuracy 5 mm InGaAs head in that table.

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, ±2.2% uncertainty at reference conditions (1000 to 1630 nm), linearity less than ±0.02 dB ±5 pW, and less than 5 pW peak-to-peak noise.

Applications

Highest-accuracy connectorized and open-beam optical power; metrology reference with special calibration options; low-noise measurements to minus 90 dBm.

Key Features

5 mm InGaAs detector for lowest noise in the 8162xBfamily

±2.2% reference uncertainty

Special calibration options C01/C02 for metrology-lab uncertainty

Magnetic D-shaped adapters

Analog output included

Technical Specifications

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PARAMETER	VALUE
Model	81624B
Instrument Type	Optical power head
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Sensor Element	InGaAs, 5 mm diameter
Wavelength Range	800 nm to 1700 nm
Power Range	+10 dBm to minus 90 dBm
Applicable Fiber	standard SM and MM max 100 um core, NA ≤0.3; parallel beam max 4 mm diameter
Uncertainty At Reference Conditions	±2.2 percent, 1000 to 1630 nm
Total Uncertainty	±3.5 percent ±5 pW, 1000 to 1630 nm
Polarization Dependent Uncertainty	≤ ±0.005 dB (typical ±0.002 dB)
Spectral Ripple	≤ ±0.005 dB (typical ±0.002 dB)

Linearity At 23 C ±5 C: less than ±0.02 dB ±5 pW, CW +10 to minus 70 dBm, 1000 to 1630 nm

Specifications

PARAMETER	VALUE
Return Loss Typical	greater than 60 dB typical
Noise Peak To Peak	less than 5 pW
Analog Output	included
Minimum Averaging Time	100 us
Dimensions	57 mm x 66 mm x 156 mm

PARAMETER	VALUE
Weight	0.5 kg
Recalibration Period	2 years
Operating Temperature	0 C to +40 C
Warm Up Time	40 minutes
Host Interface Modules	81618A single or 81619A dual
Host Mainframes	8163 8164 8166 class lightwave meters

Notes

Numeric rows from Agilent 81618A/9A Optical Head Interface Modules and 8162xB Optical Heads specifications. 81624B is the highest-accuracy 5 mm InGaAs head in that table.

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 ·
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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.