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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 81623B Optical Power Head

Agilent Keysight 81623B Optical Power Head The Agilent/Keysight 81623B is a germanium optical power head with a 5 mm detector for 81618A/81619A interface modules in 8163/8164/8166 mainframes. OEM optical-head specifications list 750 to 1800 nm, +10 to minus 80 dBm, $\pm 2.2\%$ uncertainty at reference conditions (1000 to 1650 nm), and less than 100 pW peak-to-peak noise. Calibrated free-space and connectorized optical power measurements; metrology-grade power with optional special calibration; open-beam and large-core multimode work. The Agilent/Keysight 81623B is a germanium optical power head with a 5 mm detector for 81618A/81619A interface modules in 8163/8164/8166 mainframes. OEM optical-head specifications list 750 to 1800 nm, +10 to minus 80 dBm, $\pm 2.2\%$ uncertainty at reference conditions (1000 to 1650 nm), and less than 100 pW peak-to-peak noise. Calibrated free-space and connectorized optical power measurements; metrology-grade power with optional special calibration; open-beam and large-core multimode work. 5 mm Ge detector for wide 750 to 1800 nm coverage



MODEL	CALIBRATION
Agilent / Keysight 81623B	Available on request
CONDITION	STATUS
Used	In stock
RFQ / SKU	LISTING
81623B	https://aumictechlabs.com/products/81623b-2/

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keysight 81623B Optical Power Head is a germanium-based detector for precision optical power measurements across the near-infrared spectrum. This remote sensor head integrates with Keysight's 816xA/B Lightwave Mainframes via 81618A or 81619A interface modules, enabling

flexible positioning for component characterization, laser analysis, and amplifier testing in telecommunications and research applications. The 5 mm germanium detector delivers calibrated accuracy across distinct wavelength bands, with polarization-insensitive performance and real-time data acquisition capabilities including automated ranging and extended logging.

Technical Specifications

Sensor Element: Germanium (Ge) **Detector Diameter:** 5 mm **Wavelength Range:** 750 nm to 1800 nm **Power Range:** +10 dBm to -80 dBm **Detector for Fiber NA:** Up to 0.3 **Detector for Open Beams:** Up to 5 mm diameter **Calibration Uncertainty (800–1000 nm):** $\pm 2.5\%$ **Calibration Uncertainty (1000–1650 nm):** $\pm 1.7\%$ **Relative Uncertainty (Polarization):** Typically $< \pm 0.01$ dB (typical $< \pm 0.005$ dB) **Relative Uncertainty (Spectral Ripple):** Typically $< \pm 0.006$ dB (typical $< \pm 0.003$ dB) **Averaging Time:** 100 μ s to 10 s **Data Logging Capacity:** Up to 20,000 samples **Analog Output:** 0–2 V via BNC connector **Dimensions:** 55 mm (H) $\times$ 80 mm (W) $\times$ 250 mm (D) **Weight:** 0.9 kg (without heat sink)

Key Features

- Automatic power ranging with min/max monitoring
- Magnetic D-shaped connector adapters for quick optical input switching
- Accepts 81000xl connectors, bare fiber adapters, and threaded adapters with removable ring
- Analog output proportional to optical signal (requires autoranging disabled for stable DC level)
- Operating temperature range per mainframe specifications; maximum 80% relative humidity (non-condensing); rated to 2000 m altitude

Typical Applications

- Optical component characterization and wavelength-dependent power analysis
- Laser and optical amplifier measurement in telecommunications
- Research-grade spectral power profiling from 750 nm to 1800 nm

Compatibility & Integration

Compatible Mainframes: Keysight 8163A/B, 8164A/B, 8166A/B **Lightwave Mainframes Interface Modules:** 81618A (single-channel) or 81619A (dual-channel) **Connector Support:** MT ribbon fiber connectors and bare fiber clamps available

Features & description

From manufacturer datasheet

Polarization Dependent Uncertainty: $\leq \pm 0.01$ dB (typical ± 0.005 dB)

Spectral Ripple: $\leq \pm 0.006$ dB (typical ± 0.003 dB) Linearity At 23 C ± 5 C: less than ± 0.025 dB ± 100 pW, CW +10 to minus 60 dBm, 1000 to 1650 nm Return Loss Typical: greater than 50 dB typical, greater than 55 dB typical 60 dB class adapters Noise Peak To Peak: less than 100 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 81622B/3B/4B/6B/7B/8B Optical Heads specifications. Reference conditions include 10 uW CW, 3 mm parallel beam, 23 C ± 5 C, day of calibration.

81623B Characteristics / Specifications

PARAMETER	VALUE
Model	81623B
Instrument Type	Optical power head
Series Family	Agilent 8162x optical heads
Sensor Element	Ge, 5 mm diameter
Wavelength Range	750 nm to 1800 nm
Power Range	+10 dBm to minus 80 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 1650 nm
Total Uncertainty	± 3.5 percent ± 100 pW, 1000 to 1650 nm
Polarization Dependent Uncertainty	$\leq \pm 0.01$ dB (typical ± 0.005 dB)
Spectral Ripple	$\leq \pm 0.006$ dB (typical ± 0.003 dB)
Return Loss Typical	greater than 50 dB typical, greater than 55 dB typical 60 dB class adapters
Noise Peak To Peak	less than 100 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 50 dB typical, greater than 55 dB typical 60 dB class adapters

81623B Specifications

PARAMETER	VALUE
Agilent Keysight 81623B Optical Power Head	Overview
Key Features	5 mm Ge detector for wide 750 to 1800 nm coverage
Analog output included	Optional C01/C02 and C85/C86 special calibrations
Technical Specifications	Model: 81623B

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 C to +40 C
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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 81622B/3B/4B/6B/7B/8B Optical Heads specifications. Reference conditions include 10 uW CW, 3 mm parallel beam, 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 750 to 1800 nm, +10 to minus 80 dBm, ±2.2% uncertainty at reference conditions (1000 to 1650 nm), and less than 100 pW peak-to-peak noise.

Applications
Calibrated free-space and connectorized optical power measurements; metrology-grade power with optional special calibration; open-beam and large-core multimode work.

Key Features
5 mm Ge detector for wide 750 to 1800 nm coverage
Magnetic D-shaped adapters for rapid connector change
Works with 81618A single or 81619A dual head interfaces
Analog output included
Optional C01/C02 and C85/C86 special calibrations

Technical Specifications

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Model	81623B
Instrument Type	Optical power head
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Sensor Element	Ge, 5 mm diameter
Wavelength Range	750 nm to 1800 nm
Power Range	+10 dBm to minus 80 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 1650 nm
Total Uncertainty	±3.5 percent ±100 pW, 1000 to 1650 nm
Polarization Dependent Uncertainty	≤ ±0.01 dB (typical ±0.005 dB)
Spectral Ripple	≤ ±0.006 dB (typical ±0.003 dB)

Linearity At 23 C ±5 C: less than ±0.025 dB ±100 pW, CW +10 to minus 60 dBm, 1000 to 1650 nm

Specifications

PARAMETER	VALUE
Return Loss Typical	greater than 50 dB typical, greater than 55 dB typical 60 dB class adapters
Noise Peak To Peak	less than 100 pW
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Operating Temperature	0 C to +40 C
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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 81622B/3B/4B/6B/7B/8B Optical Heads specifications. Reference conditions include 10 uW CW, 3 mm parallel beam, 23 C $\pm$ 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.