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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 81625A, High Power Optical Head

HP Agilent Keysight 81625A High Power InGaAs Optical Power Head The Agilent 81625A is a 5 mm InGaAs high-power optical head for 81618A/81619A interface modules. OEM Agilent 8163A Selected Specifications list 850 to 1650 nm, +20 to minus 80 dBm, uncertainty less than plus or minus 2.5 percent at reference conditions (950 to 1630 nm), and linearity less than plus or minus 0.02 dB plus or minus 100 pW (CW +20 to minus 60 dBm at 23 C plus or minus 5 C). High-power connectorized and open-beam optical power with remote 5 mm InGaAs detector on the 816x platform. The Agilent 81625A is a 5 mm InGaAs high-power optical head for 81618A/81619A interface modules. OEM Agilent 8163A Selected Specifications list 850 to 1650 nm, +20 to minus 80 dBm, uncertainty less than plus or minus 2.5 percent at reference conditions (950 to 1630 nm), and linearity less than plus or minus 0.02 dB plus or minus 100 pW (CW +20 to minus 60 dBm at 23 C plus or minus 5 C). High-power connectorized and open-beam optical power with remote 5 mm InGaAs detector on the 816x platform. 5 mm InGaAs high-power head, +20 dBm class



MODEL

**Agilent / Keysight
81625A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

81625A

LISTING

<https://aumictechlabs.com/products/81625a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Agilent/Keysight 81625A is a high-power optical sensor head designed for precision optical power measurements across extended spectral ranges. Built around an InGaAs detector element with a 5 mm aperture, it delivers accurate measurements from -80 dBm to +20 dBm across the 850 nm to 1650 nm band. The unit integrates with Agilent/Keysight lightwave multimeter mainframes through dedicated interface modules, enabling high-power laser and amplifier characterization in demanding measurement environments.

Technical Specifications

Sensor Type: InGaAs
Detector Diameter: 5 mm
Aperture Diameter: 5 mm
Wavelength Range: 850 nm to 1650 nm
Optical Power Input Range: -80 dBm to +20 dBm
Wavelength Accuracy: $\pm 4.0\%$ (950 nm to 1630 nm); $\pm 2.5\%$
Analog Output: Not available
Physical Dimensions: 55 mm $\times$ 80 mm $\times$ 250 mm
Weight: 0.9 kg (without heat sink)

Key Features

- InGaAs sensor element optimized for near-infrared measurements
- Wide dynamic range spanning -80 dBm to +20 dBm
- Broad wavelength coverage from 850 nm to 1650 nm
- Compact 5 mm detector geometry
- Direct integration with Keysight lightwave multimeter ecosystems

Typical Applications

- High-power laser characterization and monitoring
- Optical amplifier output measurement
- Spectral power analysis in telecommunications and fiber-optic systems
- Precision optical power validation across extended wavelength bands

Compatibility & Integration

The 81625A requires either the 81618A single optical head interface module or 81619A dual optical head interface module for connection to Agilent/Keysight lightwave multimeter mainframes. This modular architecture enables flexible multi-channel measurement configurations within existing test systems.

Product Status: Manufacturer obsolete. Self-support resources available via Keysight website. Repair and calibration services may be available through Keysight Service Centers or authorized third-party providers.

Features & description

From manufacturer datasheet

Polarization uncertainty less than or equal to plus or minus 0.005 dB

Predecessor to the 81626B high-power head Technical Specifications Model: 81625A Instrument Type: High power optical power head Series Family: Agilent 8162xA optical heads Sensor Element: InGaAs, 5 mm diameter Wavelength Range: 850 nm to 1650 nm Minimum Wavelength: 850 nm Maximum Wavelength: 1650 nm Power Range: +20 dBm to minus 80 dBm Maximum Power: +20 dBm Minimum Power: minus 80 dBm Uncertainty At Reference Conditions: less than plus or minus 2.5 percent, 950 nm to 1630 nm

Polarization Dependent Uncertainty: less than or equal to plus or minus 0.005 dB

Spectral Ripple Typical: typical plus or minus 0.002 dB Linearity At 23 C: less than plus or minus 0.02 dB plus or minus 100 pW, CW +20 dBm to minus 60 dBm, 23 C plus or minus 5 C Host Interface Modules: 81618A single or 81619A dual 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 Related Ge Head: 81623A Ge 5 mm, 750 to 1800 nm, +10 to minus 80 dBm, uncertainty less than plus or minus 2.2 percent at 1000 to 1650 nm Related Ingaas Head: 81624A InGaAs 5 mm, 800 to 1700 nm, +10 to minus 90 dBm, uncertainty less than plus or minus 2.2 percent at 1000 to 1630 nm Full Specification Document: Agilent Technical Specifications p/n 5962-9321E for test conditions Successor Model: 81626B InGaAs high-power head minus 70 to +27/+23 dBm Notes Numeric rows from Agilent 8163A Lightwave Multimeter Selected Specifications, 81625A optical-head column. All optical heads in that sheet must be operated with 81618A or 81619A. Related-head rows are the adjacent columns of the same table, labeled as related, not as 81625A limits.

81625A Characteristics / Specifications

PARAMETER	VALUE
Model	81625A
Instrument Type	High power optical power head
Series Family	Agilent 8162xA optical heads
Sensor Element	InGaAs, 5 mm diameter
Wavelength Range	850 nm to 1650 nm
Minimum Wavelength	850 nm
Maximum Wavelength	1650 nm
Power Range	+20 dBm to minus 80 dBm
Maximum Power	+20 dBm
Minimum Power	minus 80 dBm
Uncertainty At Reference Conditions	less than plus or minus 2.5 percent, 950 nm to 1630 nm
Polarization Dependent Uncertainty	less than or equal to plus or minus 0.005 dB
Spectral Ripple Typical	typical plus or minus 0.002 dB
Linearity At 23 C	less than plus or minus 0.02 dB plus or minus 100 pW, CW +20 dBm to minus 60 dBm, 23 C plus or minus 5 C
Host Interface Modules	81618A single or 81619A dual
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
Related Ge Head	81623A Ge 5 mm, 750 to 1800 nm, +10 to minus 80 dBm, uncertainty less than plus or minus 2.2 percent at 1000 to 1650 nm
Related Ingaas Head	81624A InGaAs 5 mm, 800 to 1700 nm, +10 to minus 90 dBm, uncertainty less than plus or minus 2.2 percent at 1000 to 1630 nm
Full Specification Document	Agilent Technical Specifications p/n 5962-9321E for test conditions

PARAMETER	VALUE
Successor Model	81626B InGaAs high-power head minus 70 to +27/+23 dBm

81625A Specifications

PARAMETER	VALUE
Applications	High-power connectorized and open-beam optical power with a remote 5 mm InGaAs detector on the 816x platform.
Key Features	5 mm InGaAs high-power head, +20 dBm class
Must be used with 81618A single or 81619A dual interface	Polarization uncertainty less than or equal to plus or minus 0.005 dB
Technical Specifications	Model: 81625A

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 850 to 1650 nm, +20 to minus 80 dBm, uncertainty less than plus or minus 2.5 percent at reference conditions (950 to 1630 nm), and linearity less than plus or minus 0.02 dB plus or minus 100 pW (CW +20 to minus 60 dBm at 23 C plus or minus 5 C).

Applications

High-power connectorized and open-beam optical power with a remote 5 mm InGaAs detector on the 816x platform.

Key Features

5 mm InGaAs high-power head, +20 dBm class

Must be used with 81618A single or 81619A dual interface

Polarization uncertainty less than or equal to plus or minus 0.005 dB

Predecessor to the 81626B high-power head

Technical Specifications

Technical Specifications

PARAMETER	VALUE
Model	81625A
Instrument Type	High power optical power head
Series Family	Agilent 8162xA optical heads
Sensor Element	InGaAs, 5 mm diameter
Wavelength Range	850 nm to 1650 nm
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Power Range	+20 dBm to minus 80 dBm
Maximum Power	+20 dBm
Minimum Power	minus 80 dBm
Uncertainty At Reference Conditions	less than plus or minus 2.5 percent, 950 nm to 1630 nm
Polarization Dependent Uncertainty	less than or equal to plus or minus 0.005 dB
Spectral Ripple Typical	typical plus or minus 0.002 dB
Linearity At 23 C	less than plus or minus 0.02 dB plus or minus 100 pW, CW +20 dBm to minus 60 dBm, 23 C plus or minus 5 C
Host Interface Modules	81618A single or 81619A dual
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
Related Ge Head	81623A Ge 5 mm, 750 to 1800 nm, +10 to minus 80 dBm, uncertainty less than plus or minus 2.2 percent at 1000 to 1650 nm
Related Ingaas Head	81624A InGaAs 5 mm, 800 to 1700 nm, +10 to minus 90 dBm, uncertainty less than plus or minus 2.2 percent at 1000 to 1630 nm
Full Specification Document	Agilent Technical Specifications p/n 5962-9321E for test conditions
Successor Model	81626B InGaAs high-power head minus 70 to +27/+23 dBm

Notes

Numeric rows from Agilent 8163A Lightwave Multimeter Selected Specifications, 81625A optical-head column. All optical heads in that sheet must be operated with 81618A or 81619A. Related-head rows are the adjacent columns of the same table, labeled as related, not as 81625A limits.

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.