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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 81620C Optical Power Head

Agilent Keysight 81620C Silicon Optical Power Head The Keysight 81620C is a 5 mm silicon optical power head for short-wavelength work. OEM 8162-C and N7749C Optical Power Meter Heads data sheet lists 450 to 1020 nm (specified 600 to 1020 nm), minus 90 to +10 dBm, ± 2.2 percent uncertainty at reference conditions, and operation with the N7749C two- or four-channel head interface. 850 nm VCSEL and multimode transceiver power; open-beam alignment with analog output; Si-detector metrology from 600 to 1020 nm. The Keysight 81620C is a 5 mm silicon optical power head for short-wavelength work. OEM 8162-C and N7749C Optical Power Meter Heads data sheet lists 450 to 1020 nm (specified 600 to 1020 nm), minus 90 to +10 dBm, ± 2.2 percent uncertainty at reference conditions, and operation with the N7749C two- or four-channel head interface. 850 nm VCSEL and multimode transceiver power; open-beam alignment with analog output; Si-detector metrology from 600 to 1020 nm. Magnetic D-shaped adapters without twisting fibers



MODEL

**Agilent / Keysight
81620C**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

81620C

LISTING

<https://aumictechlabs.com/products/81620c-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 81620C Optical Power Head is a precision measurement component featuring a large-area silicon detector optimized for optical power characterization across visible and near-infrared wavelengths. It integrates with the Keysight N7749C Optical Head Interface to enable flexible remote measurement in telecommunications, research, and manufacturing

environments. The detector accepts parallel beams up to 4 mm diameter and is compatible with standard single-mode and multimode fiber (core $\leq 100\text{ }\mu\text{m}$, NA ≤ 0.3), as well as open-beam applications via optional adapters.

Technical Specifications

Detector: Silicon (Si), 5 mm diameter

Wavelength Range: 450 nm to 1020 nm (specified 600 nm to 1020 nm)

Power Measurement Range: -90 dBm to +10 dBm

Maximum Safe Input Power: +16 dBm (CW and peak)

Minimum Averaging Time: 100 μs

Beam Input: Parallel beams up to 4 mm diameter; compatible with SM and MM fiber (core $\leq 100\text{ }\mu\text{m}$, NA ≤ 0.3)

Analog Output: 0 to 2 V (BNC connector), proportional to optical power. Configurable as linear or logarithmic scaling. Requires autoranging disabled for consistent output.

Data Buffering: Dual 1 M sample buffers per head with internal or external triggering

Key Features

- Low-noise performance optimized for 850 nm measurements
- SCPI command set compatibility with Keysight optical power meters
- LAN and USB interfaces with built-in web-browser GUI
- Family-wide synchronized trigger architecture
- Rapid magnetic D-shaped adapters for fiber connector types and bare fibers

Typical Applications

Optical power characterization in fiber-optic networks, photonics research, component manufacturing, and field testing requiring stable, low-noise measurements across the visible to near-infrared spectrum.

Compatibility & Integration

Designed for operation with the Keysight N7749C Optical Head Interface. Also compatible with 8162-B and 8162-C series optical heads.

81620C Characteristics / Specifications

PARAMETER	VALUE
Model	81620C
Instrument Type	Optical power head
Series Family	Keysight 8162-C
Sensor Element	Si, 5 mm diameter
Wavelength Range	450 nm to 1020 nm
Specification Wavelength Range	600 nm to 1020 nm unless stated differently
Power Range	minus 90 dBm to +10 dBm
Maximum Safe Input Power	+16 dBm CW and peak
Minimum Averaging Time	100 us
Applicable Fiber	standard SM and MM max 100 um core, NA ≤0.3
Open Beam	parallel beam max 4 mm diameter
Uncertainty At Reference Conditions	±2.2 percent
Total Uncertainty	±4.0 percent ±0.5 pW
Linearity Over Operating Temperature	less than ±0.15 dB
Noise Peak To Peak	less than 0.5 pW, 700 nm to 900 nm
Host Interface	N7749C two or four channel optical head interface
Logging Memory Per Port Family	1 M samples plus 1 M sample buffer
Averaging Time Span Family	100 us to 10 s
Operating Temperature Family	0 C to +40 C class 8162-C general table
Warm Up Time Family	40 minutes
Dimensions Family	57 mm x 66 mm x 156 mm
Weight Family	0.5 kg
Operating temperature	less than ±0.15 dB

81620C Specifications

PARAMETER	VALUE
Agilent Keysight 81620C Silicon Optical Power Head	Overview
Applications	850 nm VCSEL and multimode transceiver power; open-beam alignment with analog output; Si-detector metrology from 600 to 1020 nm.
Key Features	Large-area Si detector, 5 mm diameter
Must be used with N7749C (not 81618A/81619A)	Analog output at the head and on the N7749C front panel
Technical Specifications	Model: 81620C

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	less than ±0.15 dB
Operating Temperature	less than ±0.15 dB
Noise Peak To Peak	less than 0.5 pW, 700 nm to 900 nm
Host Interface	N7749C two or four channel optical head interface
Logging Memory Per Port Family	1 M samples plus 1 M sample buffer
Averaging Time Span Family	100 us to 10 s
Operating Temperature Family	0 C to +40 C class 8162-C general table
Warm Up Time Family	40 minutes
Dimensions Family	57 mm x 66 mm x 156 mm
Weight Family	0.5 kg Notes Numeric rows from Keysight 8162-C and N7749C Optical Power Meter Heads and Optical Head Interface data sheet, 81620C specification table and general specifications. 8162-C heads are not compatible with 81618A/81619A or 8153A.

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	
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PARAMETER	VALUE
Model	81620C
Instrument Type	Optical power head
Series Family	Keysight 8162-C
Sensor Element	Si, 5 mm diameter
Wavelength Range	450 nm to 1020 nm
Specification Wavelength Range	600 nm to 1020 nm unless stated differently
Power Range	minus 90 dBm to +10 dBm
Maximum Safe Input Power	+16 dBm CW and peak
Minimum Averaging Time	100 us
Applicable Fiber	standard SM and MM max 100 um core, NA ≤0.3
Open Beam	parallel beam max 4 mm diameter
Uncertainty At Reference Conditions	±2.2 percent
Total Uncertainty	±4.0 percent ±0.5 pW
Linearity At 23 C ±5 C: less than ±0.04 dB, CW minus 70 dBm to +10 dBm	
Specifications	
PARAMETER	VALUE
Linearity Over Operating Temperature	less than ±0.15 dB
Noise Peak To Peak	less than 0.5 pW, 700 nm to 900 nm
Host Interface	N7749C two or four channel optical head interface
Logging Memory Per Port Family	1 M samples plus 1 M sample buffer
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Notes

Numeric rows from Keysight 8162-C and N7749C Optical Power Meter Heads and Optical Head Interface data sheet, 81620C specification table and general specifications. 8162-C heads are not compatible with 81618A/81619A or 8153A.

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 ·
30-day returns
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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.