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Data Sheet

August 13, 2026

HP / AGILENT

HP / Agilent 81630B High Power Optical Sensor +28dBm

Agilent 81630B High Power InGaAs Optical Power Sensor Module The Agilent/Keysight 81630B is the high-power InGaAs sensor module for 8163B/8164B/8166B lightwave mainframes. Power range is -70 dBm to +28 dBm (maximum safe input +28.5 dBm) over 970 nm to 1650 nm. Reference uncertainty is plus/minus 3.0 percent from 1255 nm to 1630 nm. Analog output is included. Fiber up to 100 um core, NA 0.3 is supported. EDFA and high-power transmitter output measurements; +28 dBm-class optical power; SM/MM power monitoring where 81634B +10 dBm max is insufficient. The Agilent/Keysight 81630B is the high-power InGaAs sensor module for 8163B/8164B/8166B lightwave mainframes. Power range is -70 dBm to +28 dBm (maximum safe input +28.5 dBm) over 970 nm to 1650 nm. Reference uncertainty is plus/minus 3.0 percent from 1255 nm to 1630 nm. Analog output is included. Fiber up to 100 um core, NA 0.3 is supported. EDFA and high-power transmitter output measurements; +28 dBm-class optical power; SM/MM power monitoring where 81634B +10 dBm max is insufficient.



MODEL

**HP / Agilent
81630B**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

81630B

LISTING

<https://aumictechlabs.com/products/81630b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The HP/Agilent 81630B is a high-power optical sensor module engineered for precise optical power measurements across the near-infrared spectrum. Built on an InGaAs sensor element, it

delivers accurate characterization of high-power optical sources and components with measurement capability extending to +28 dBm. The module integrates directly into Agilent/Keysight Lightwave mainframes via standard slot configuration.

Technical Specifications

Sensor Element: InGaAs Wavelength Range: 970 nm to 1650 nm Power Range: +28 dBm to -70 dBm Linearity (Power): $< \pm 0.05$ dB (970 nm – 1630 nm) Relative Uncertainty (polarization): $< \pm 0.01$ dB Relative Uncertainty (spectral ripple): 55 dB Averaging Time (minimum): 100 μ s Applicable Fiber Types: Standard single-mode and multi-mode fibers up to 100 μ m core size, $NA \leq 0.3$ Operating Temperature: 0°C to +35°C Storage/Shipment Temperature: -40°C to +70°C Humidity: Non-condensing Dimensions: 75 mm $\times$ 32 mm $\times$ 335 mm Weight: 0.6 kg

Key Features

- High-power measurement capability up to +28 dBm eliminates range limitations in high-power applications
- Low polarization dependence and minimal spectral ripple ensure measurement accuracy in demanding test scenarios
- Analog output via BNC connector enables integration with external monitoring and control systems
- NIST and PTB measurement traceability provides standards compliance and result confidence
- Compact module form factor fits directly into existing Lightwave measurement systems

Typical Applications

High-power optical component characterization, fiber amplifier testing, laser source verification, and system-level power budgeting where precision and high dynamic range are required.

Compatibility & Integration

The 81630B works with direct installation in Agilent/Keysight Lightwave mainframes: 8163A/B Multimeter, 8164A/B Measurement System, and 8166A/B Multichannel System. Optical input requires a compatible connector interface or bare fiber adapter matching the fiber type. Analog output integrates via standard BNC connector.

Features & description

From manufacturer datasheet

Features

- Highest power sensor in the 8163xB plug-in set (+28 dBm) • Analog output included • Return loss greater than 55 dB (angled SM conditions) • 100 us minimum averaging • 0 C to +35 C operating (narrower than 81632B) • One slim slot; 81000-series adapters

81630B Characteristics / Specifications

PARAMETER	VALUE
Model	81630B
Manufacturer	Agilent / Keysight
Instrument Type	High power optical power sensor module (plug-in)
Sensor Element	InGaAs
Wavelength Range	970 nm to 1650 nm
Power Range	-70 dBm to +28 dBm
Applicable Fiber	standard SM and MM up to 100 um core, NA 0.3 or less
Uncertainty At Reference 1255 to 1630 nm	plus/minus 3.0 percent
Uncertainty At 980 nm	plus/minus 3.5 percent (add plus/minus 0.5 percent per nm if 980 nm is not center)
Uncertainty At 1060 nm	plus/minus 4.0 percent (add plus/minus 0.6 percent per nm if 1060 nm is not center)
Total Uncertainty 1255 to 1630 nm	plus/minus 5 percent plus 1.2 nW
Total Uncertainty At 980 nm	plus/minus 5.5 percent plus 1.2 nW
Total Uncertainty At 1060 nm	plus/minus 6.0 percent plus 1.2 nW
Relative Uncertainty Polarization	less than plus/minus 0.01 dB
Spectral Ripple	less than plus/minus 0.005 dB
Linearity At 23 plus/minus 5 C	less than or equal to plus/minus 0.05 dB (CW -50 to +28 dBm, 970 to 1630 nm)
Linearity Over Operating Temp	less than or equal to plus/minus 0.15 dB
Return Loss	greater than 55 dB
Noise Peak To Peak	less than 1.2 nW (1255 to 1630 nm)
Averaging Time Minimal	100 us
Maximum Safe Input Power	+28.5 dBm
Analog Output	included
Dimensions	75 mm x 32 mm x 335 mm

PARAMETER	VALUE
Weight	0.6 kg
Recommended Recalibration	2 years
Operating Temperature	0 C to +35 C
Humidity	non-condensing
Warm Up	20 min
Reference Power	80 uW CW; SM 9 um NA 0.1; 23 plus/minus 5 C
Host Mainframes	8163B, 8164B, 8166B and 816xA
Related Standard Sensor	81632B +10 to -80 dBm
Related High Sensitivity	81634B +10 to -110 dBm

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 C to +35 C
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Humidity	non-condensing
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Host Mainframes	8163B, 8164B, 8166B and 816xA
Related Standard Sensor	81632B +10 to -80 dBm
Related High Sensitivity	81634B +10 to -110 dBm Notes Specs from the Keysight Power Sensor Modules, Optical Heads, and Return Loss Modules data sheet 81630B table. For input power greater than +10 mW add the high-power linearity note on that sheet. Confirm 81630B versus 81634B if the listing isahigh-sensitivity rather than high-power module.

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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Notes

Specs from the Keysight Power Sensor Modules, Optical Heads, and Return Loss Modules data sheet 81630B table. For input power greater than +10 mW add the high-power linearity note on that sheet. Confirm 81630B versus 81634B if the listing is a high-sensitivity rather than high-power module.

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.