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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 81530A – Optical Head

Agilent HP 81530A Silicon Power Sensor Module The Agilent 81530A Silicon Power Sensor Module is a plug-in optical power sensor for the HP 8153A Lightwave Multimeter. OEM HP 8153A Technical Specifications (5962-9321E) list Si sensing, 450 to 1020 nm, plus 3 to minus 100 dBm, and the reference/total uncertainty and noise rows below. Average optical power and loss measurements on 8153A dual-channel lightwave systems. 9/125 to 100/140 μ m fiber NA less than or equal to 0.3 The Agilent 81530A Silicon Power Sensor Module is a plug-in optical power sensor for the HP 8153A Lightwave Multimeter. OEM HP 8153A Technical Specifications (5962-9321E) list Si sensing, 450 to 1020 nm, plus 3 to minus 100 dBm, and the reference/total uncertainty and noise rows below. Average optical power and loss measurements on 8153A dual-channel lightwave systems. 9/125 to 100/140 μ m fiber NA less than or equal to 0.3 Display Resolution: 0.001 dB/dBm (0.0001 dB/dBm on printout)



MODEL

**Agilent / Keysight
81530A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

81530A

LISTING

<https://aumictechlabs.com/products/81530a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 81530A is an optical power sensor head delivering high-precision measurements across the visible and near-infrared spectrum. It houses a Silicon photodiode sensor element and connects to compatible Agilent/Keysight mainframe units to provide traceable optical power characterization for communications and component testing. Technical Specifications Sensor Type: Si (Silicon) Photodiode Wavelength Range: 450 nm to 1020 nm Power

Range: +3 dBm to -100 dBm Measurement Accuracy: $\pm 2.5\%$ (600 nm to 1020 nm) Linearity: ± 0.015 dB ± 0.3 pW Bandwidth: DC to 300 Hz-1000 Hz (range and head dependent) Analog Output Voltage: 0-2 V (open circuit) Output Impedance: 600 Ω typical Maximum Input Voltage: ± 10 V Internal Modulation Modes: 270 Hz, 1 kHz (selectable) Calibration: NIST and PTB traceable for insertion loss

Key Features Direct integration with 8153A, 8163, and 8166 series mainframes via proprietary module interface PC-type optical connector (81000xl Series interface connectors sold separately) Wide dynamic range spanning visible to near-IR wavelengths Low-impedance analog output suitable for data acquisition systems Selectable digital modulation for dynamic measurement protocols

Typical Applications Optical component characterization and quality assurance Fiber optic system power monitoring LED and laser source validation Insertion loss and attenuation measurement

Compatibility & Integration The 81530A is designed exclusively for mainframe-based systems. It requires a compatible Agilent/Keysight 8153A, 8163, or 8166 series mainframe for operation. Optical connectors are procured separately.

Product Status: This model is obsolete and no longer manufactured by Keysight. Availability through third-party channels may vary.

81530A Characteristics / Specifications

PARAMETER	VALUE
Sensor Element	Si
Wavelength Range	450 to 1020 nm
Power Range	plus 3 to minus 100 dBm
Display Resolution	0.001 dB/dBm (0.0001 dB/dBm on printout)
Power Display Resolution Watts	0.01 pW to 10 pW depending on range
Application Fiber Type	9/125 um to 100/140 um NA less than or equal to 0.3
Reference Uncertainty	plus or minus 2.5 percent 600 to 1020 nm
Total Uncertainty	plus or minus 5 percent plus or minus 0.5 pW 600 to 1020 nm
Linearity 18 To 28 C Const Temp	plus or minus 0.015 dB plus or minus 0.3 pW 0 to minus 90 dBm
Linearity Operating Temp Const	plus or minus 0.05 dB plus or minus 0.5 pW
Noise Peak To Peak 1 s Avg	less than 0.5 pW 700 to 900 nm
Module Dimensions	75 mmHx 32 mmWx 335 mmDModule Mass Net: 0.6 kg
Module Mass Shipping	1 kg
Recalibration Period	2 years
Warm Up Time	20 minutes
Reference Power Level	10 uW (minus 20 dBm) CW
Reference Fiber	50 um graded index NA 0.2
Reference Temperature	23 C plus or minus 5 K
Reference Connector	Diamond HMS-10/HP
Aging Add One Year	0.3 percent
Aging Add Two Years	0.6 percent
Spectral Width Source For Spec	less than 10 nm
Mainframe	HP 8153A
Operating Temperature Via Mainframe	0 to plus 55 C
Na Greater Than 0.2 Add	1 percent uncertainty

PARAMETER	VALUE
Biconic Connector Add	plus or minus 1 percent
Operating temperature	Via Mainframe: 0 to plus 55 C
Fiber type	9/125 um to 100/140 um NA less than or equal to 0.3

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
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Na Greater Than 0.2 Add	1 percent uncertainty
Biconic Connector Add	plus or minus 1 percent Notes From HP 8153A Lightwave Multimeter Technical Specifications power sensor module columns (5962-9321E). Specs apply at end of 2 m fiber with Diamond HMS-10 connectors unless noted.

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 (5962-9321E) list Si sensing, 450 to 1020 nm, plus 3 to minus 100 dBm, and the reference/total uncertainty and noise rows below.

Applications

Average optical power and loss measurements on 8153A dual-channel lightwave systems.

Key Features

Plug-in 8153A sensor module

0.001 dB display resolution

9/125 to 100/140 um fiber NA less than or equal to 0.3

HP-IB programmable via mainframe

2 year recalibration period

Technical Specifications

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Operating Temperature Via Mainframe	0 to plus 55 C
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Biconic Connector Add	plus or minus 1 percent

Notes

From HP 8153A Lightwave Multimeter Technical Specifications power sensor module columns (5962-9321E). Specs apply at end of 2 m fiber with Diamond HMS-10 connectors unless noted.

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.