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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 81533A – Optical Head

Agilent 81533A Optical Head Interface Module The HP 81533A is the optical head interface module for 8153A-class lightwave multimeters. The HP 81533B/81520A/81521B/81524A/81525A user's guide states that the same manual also applies to the HP 81533A interface. Optical power specifications are those of the attached 8152x head through this interface. Remote optical-head average-power measurements on 8153A and later 816x lightwave mainframes. Interface for 81520A Si, 81521B Ge, and 81524A/81525A InGaAs heads The HP 81533A is the optical head interface module for 8153A-class lightwave multimeters. The HP 81533B/81520A/81521B/81524A/81525A user's guide states that the same manual also applies to the HP 81533A interface. Optical power specifications are those of the attached 8152x head through this interface. Remote optical-head average-power measurements on 8153A and later 816x lightwave mainframes. Interface for 81520A Si, 81521B Ge, and 81524A/81525A InGaAs heads 0.001 dB display resolution via the host mainframe



MODEL

**Agilent / Keysight
81533A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

81533A

LISTING

<https://aumictechlabs.com/products/81533a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 81533A is an optical head interface module that connects compatible optical heads to mainframe units for optical power measurement systems. It functions as the interconnect bridge between 81500-series optical heads and mainframe controllers, enabling single-channel optical power characterization across the visible and near-infrared spectrum. Technical

Specifications Wavelength Range: 450 to 1020 nm Power Range: +10 to -100 dBm Display Resolution: 0.001 dBm or 0.1 pW Measurement Uncertainty: $\pm 2.2\%$ at reference conditions Linearity: +3 to -80 dBm Noise Floor: <50 pW Operating Temperature: 0° to +40°C Channels: 1 Analog Output: BNC connector Dimensions: 12.4 in. (L) $\times$ 1.25 in. (W) $\times$ 2.7 in. (H) Weight: 1 lb

Key Features Single-channel optical power measurement interface Wide dynamic range from +10 to -100 dBm accommodates both high-power and ultra-low-power measurement scenarios Sub-picowatt noise performance enables detection of weak optical signals Fiber compatibility includes parallel beam configurations from 9/125 μm to 100/140 μm with numerical aperture <0.3 Compact form factor integrates into benchtop and rack-mount test systems Analog signal output via BNC connector supports external data acquisition and instrumentation

Compatibility & Integration The 81533A interfaces with optical heads 81521B and 81524A, connecting to mainframe units in the 8153, 8163, and 8164 series. This modular architecture supports flexible optical test configurations for communication, photonic component characterization, and power monitoring applications. Proper mainframe and optical head selection ensures accurate measurements within specified uncertainty bounds.

81533A Characteristics / Specifications

PARAMETER	VALUE
Model	81533A
Instrument Type	Optical head interface module
Manual Coverage	HP 81533B optical head interface user's guide also applies to 81533A
Host Mainframes	HP 8153A; later 8163/8164/8166 class with compatible interface slots
Display Resolution Via Host	0.001 dB/dBm (0.0001 dB/dBm on printout)
Power Display Resolution Watts	0.01 pW to 10 pW depending on range
Applicable Fiber With Heads	parallel beam, 9/125 um to 100/140 um, NA less than or equal to 0.3
Head 81520A Sensor	Si 5 mm
Head 81520A Wavelength	450 to 1020 nm
Head 81520A Power Range	+10 to minus 100 dBm
Head 81520A Reference Uncertainty	plus or minus 2.2 percent (600 to 1020 nm)
Head 81520A Total Uncertainty	plus or minus 4 percent plus or minus 0.5 pW (600 to 1020 nm)
Head 81520A Noise 1 s	less than 0.5 pW (700 to 900 nm)
Head 81521B Sensor	Ge 5 mm
Head 81521B Wavelength	900 to 1700 nm
Head 81521B Power Range	+3 to minus 80 dBm
Head 81521B Reference Uncertainty	plus or minus 2.2 percent (1000 to 1650 nm)
Head 81521B Total Uncertainty	plus or minus 4 percent plus or minus 50 pW (1000 to 1650 nm)
Head 81521B Noise 1 s	less than 50 pW (1200 to 1600 nm)
Head Operating Temperature	0 C to +40 C for 81520A/81521B columns
Head Dimensions	37.5 mm diameter x 140 mm length
Head Mass Net	0.45 kg
Warm Up Time	20 minutes
Recalibration Period Heads	2 years
Operating temperature	0 C to +40 C for 81520A/81521B columns

81533A Specifications

PARAMETER	VALUE
Agilent 81533A Optical Head Interface Module	Overview
Applications	Remote optical-head average-power measurements on 8153A and later 816x lightwave mainframes.
Key Features	Interface for 81520A Si, 81521B Ge, and 81524A/81525A InGaAs heads
Technical Specifications	Model: 81533A

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 C to +40 C for 81520A/81521B columns
Operating Temperature	0 C to +40 C for 81520A/81521B columns
Head Dimensions	37.5 mm diameter x 140 mm length
Head Mass Net	0.45 kg
Warm Up Time	20 minutes
Recalibration Period Heads	2 years Notes Interface identity from the HP 81533B/81520A/81521B/81524A/81525A user's guide statement that the manual also applies to HP 81533A. Numeric optical rows from HP 8153A Lightwave Multimeter Technical Specifications columns for 81533B+81520A and 81533B+81521B, which that head-interface manual binds to the 81533A/B path.

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 are those of the attached 8152x head through this interface.

Applications

Remote optical-head average-power measurements on 8153A and later 816x lightwave mainframes.

Key Features

Interface for 81520A Si, 81521B Ge, and 81524A/81525A InGaAs heads

0.001 dB display resolution via the host mainframe

Parallel-beam and connectorized fiber through the attached head

Same user's-guide coverage as 81533B

GPIB/SCPI control via the host mainframe

Technical Specifications

Technical Specifications

PARAMETER	VALUE
Model	81533A
Instrument Type	Optical head interface module
Manual Coverage	HP 81533B optical head interface user's guide also applies to 81533A
Host Mainframes	HP 8153A; later 8163/8164/8166 class with compatible interface slots
Display Resolution Via Host	0.001 dB/dBm (0.0001 dB/dBm on printout)
Power Display Resolution Watts	0.01 pW to 10 pW depending on range
Applicable Fiber With Heads	parallel beam, 9/125 um to 100/140 um, NA less than or equal to 0.3
Head 81520A Sensor	Si 5 mm
Head 81520A Wavelength	450 to 1020 nm
Head 81520A Power Range	+10 to minus 100 dBm
Head 81520A Reference Uncertainty	plus or minus 2.2 percent (600 to 1020 nm)
Head 81520A Total Uncertainty	plus or minus 4 percent plus or minus 0.5 pW (600 to 1020 nm)
Head 81520A Noise 1 s	less than 0.5 pW (700 to 900 nm)
Head 81521B Sensor	Ge 5 mm
Head 81521B Wavelength	900 to 1700 nm
Head 81521B Power Range	+3 to minus 80 dBm
Head 81521B Reference Uncertainty	plus or minus 2.2 percent (1000 to 1650 nm)
Head 81521B Total Uncertainty	plus or minus 4 percent plus or minus 50 pW (1000 to 1650 nm)
Head 81521B Noise 1 s	less than 50 pW (1200 to 1600 nm)
Head Operating Temperature	0 C to +40 C for 81520A/81521B columns
Head Dimensions	37.5 mm diameter x 140 mm length

PARAMETER	VALUE
Head Mass Net	0.45 kg
Warm Up Time	20 minutes
Recalibration Period Heads	2 years

Notes

Interface identity from the HP 81533B/81520A/81521B/81524A/81525A user's guide statement that the manual also applies to HP 81533A. Numeric optical rows from HP 8153A Lightwave Multimeter Technical Specifications columns for 81533B+81520A and 81533B+81521B, which that head-interface manual binds to the 81533A/B path.

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.