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Data Sheet

August 13, 2026

KEYSIGHT / AGILENT / HP

Keysight / Agilent / HP 10897B High Resolution Laser Axis Board

HP Agilent 10897B High Resolution VMEbus Laser Axis Board The Keysight/Agilent/HP 10897B is a 6U VMEbus register-programmed laser interferometer axis board. Position resolution reaches $\lambda/2048$ or 0.3 nm (3 angstroms) with high-resolution plane-mirror optics. A 36-bit two's-complement position word is readable over the VMEbus (any 32 of 35 bits) and as real-time parallel output on P2 rowsAandCat a 10 MHz update. Plane-mirror slew is tested at 700 mm/s, double the 10897A. Variable data-age ambiguity is typically less than 800 ps over the full supply range and less than 60 ps per C. A programmable onboard low-pass filter stabilizes low SNR conditions. The board complies with VMEbus Rev. C.1. The Keysight/Agilent/HP 10897B is a 6U VMEbus register-programmed laser interferometer axis board. Position resolution reaches $\lambda/2048$ or 0.3 nm (3 angstroms) with high-resolution plane-mirror optics. A 36-bit two's-complement position word is readable over the VMEbus (any 32 of 35 bits) and as real-time parallel output on P2 rowsAandCat a 10 MHz update. Plane-mirror slew is tested at 700 mm/s, double the 10897A. Variable data-age ambiguity is typically less than 800 ps over the full supply range and less than 60 ps per C. A programmable onboard low-pass filter stabilizes low SNR conditions. The board complies with VMEbus Rev. C.1. IC stepper, step-and-scan, and E-beam stage metrology

**MODEL****Keysight / Agilent /
HP 10897B****CALIBRATION****Available on
request****CONDITION****Used****STATUS****In stock****RFQ / SKU****10897B****LISTING**[https://aumictechlabs.c
om/products/10897b-2/](https://aumictechlabs.com/products/10897b-2/)

NIST-traceable cal

SAM registered

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NAICS 423690 • 811210 • 541380

This unit

The Keysight/Agilent/HP 10897B High Resolution Laser Axis Board is a VMEbus-integrated positioning feedback component delivering sub-nanometer measurement resolution for precision motion control. This 6U board enables closed-loop systems in semiconductor manufacturing, metrology, and advanced imaging applications where positional accuracy below the nanometer scale is essential. Technical Specifications Measurement Resolution $\lambda/2048$, equivalent to 0.3 nm (3 Angstroms) Slew Rate Performance 700 mm/s plane mirror equivalent; double the performance of the 10897A model Data Age and Timing Ambiguity: less than 1 ns Fixed delay: user-selectable at 290 ns or 790 ns post-synchronous sample Variable delay: typically less than 800 ps across full power supply range; less than 60 ps/°C temperature coefficient Data Transfer VMEbus backplane rate: greater than 100 kHz Power Requirements 5 Vdc +0.25 V/-0.125 V at less than 3.5 A +12 V ± 0.5 V at less than 0.1 A -12 V ± 0.5 V at less than 0.025 A Key Features 36-bit position word output in fractional wavelengths (2's Complement) Programmable low-pass filter for noise-optimized operation Hardware position output via P2 connector (A and C rows) VMEbus Revision C.1 electrical and mechanical compliance Minimal position data latency for real-time motion compensation in E-beam and step-and-scan systems Typical Applications Semiconductor lithography, electron-beam patterning, optical metrology, precision stage positioning, and IC fabrication equipment requiring deterministic closed-loop feedback with sub-wavelength accuracy. Compatibility & Integration Designed for VMEbus backplane integration with standard 6U form factor. Position data accessible via VMEbus interface and P2 connector hardware outputs simultaneously.

Features & description

From manufacturer datasheet

Features

- 0.3 nm resolution with high-resolution interferometer (versus coarser 10895A)

10897B Characteristics / Specifications

PARAMETER	VALUE
Model	10897B
Manufacturer	Hewlett Packard / Agilent / Keysight
Instrument Type	VMEbus high resolution laser axis board
Alias	10897B; HP 10897B; Agilent 10897B
Form Factor	6U VME
VME Revision	C.1
Axes Per Board	1
Position Word	36 bit two's complement fractional wavelength
VME Read Width	any 32 of 35 bits
P2 Output	36 bit parallel binary on rowsAandC VME Data Rate: greater than 100 kHz over backplane
P2 Update Rate	10 MHz (hardware to sync to slower clocks)
Resolution Linear Optics	1.2 nm ($\lambda/512$)
Resolution Plane Mirror	0.6 nm ($\lambda/1024$)
Resolution High Resolution Optics	0.3 nm ($\lambda/2048$)
Working Range Linear	plus/minus 21.2 m
Working Range Plane Mirror	plus/minus 10.6 m
Working Range High Resolution	plus/minus 5.3 m
Plane Mirror Slew Test	700 mm/s class (double 10897A)
Linear Velocity 5517D	1000 mm/s
Plane Mirror Velocity 5517D	500 mm/s
High Resolution Velocity 5517D	250 mm/s
Sample Age Fixed 2	290 ns user selectable
Sample Age Fixed 7	790 ns user selectable
VME Data Delay 2	600 ns after sample
VME Data Delay 7	100 ns after sample

PARAMETER	VALUE
Variable Data Age	less than 800 ps over full supply range
Variable Data Age Tempco	less than 60 ps perC P2 Fixed Data Age: 1190 plus/minus 20 ns
Power 5 V	5 Vdc plus 0.25 V / minus 0.125 V at less than 3.5 A
Power Plus 12 V	plus 12 V plus/minus 0.5 V at less than 0.1 A
Power Minus 12 V	minus 12 V plus/minus 0.5 V at less than 0.025 A
Cooling 40 C	19 linear m/min (60 linear ft/min) minimum
Cooling 55 C	76 linear m/min (250 linear ft/min) minimum
Weight	0.45 kg (1 lb)
Receiver Cable	10880A/B/C
Laser Head Cable	10881A/B/C/D/E/F
Axis Cable Options	002 through 007 for 2 to 7 axis systems
Related Lower Res	10895A
Related Dual Axis	10898A
Related Compensation	10896B
VME Cycles	A16, A24, D16, D32, D08(O) interrupt acknowledge Notes Specs from Keysight/Agilent High Performance Laser Interferometer Positioning for VMEbus Systems product overview (5965-1569 class) 10897B section. Maximum axis velocity depends on laser head plus optics. Do not apply 10898A dual-axis or 2.7 m/s figures to a 10897B.
Data Rate	greater than 100 kHz over backplane

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	10897B
Manufacturer	Hewlett Packard / Agilent / Keysight
Instrument Type	VMEbus high resolution laser axis board
Specifications	
PARAMETER	VALUE
Alias	10897B; HP 10897B; Agilent 10897B
Form Factor	6U VME
VME Revision	C.1
Specifications	
PARAMETER	VALUE
Axes Per Board	1
Position Word	36 bit two's complement fractional wavelength
VME Read Width	any 32 of 35 bits
Specifications	
PARAMETER	VALUE
P2 Output	36 bit parallel binary on rowsAandC VME Data Rate: greater than 100 kHz over backplane
P2 Update Rate	10 MHz (hardware to sync to slower clocks)
Resolution Linear Optics	1.2 nm ($\lambda/512$)
Specifications	
PARAMETER	VALUE
Resolution Plane Mirror	0.6 nm ($\lambda/1024$)
Resolution High Resolution Optics	0.3 nm ($\lambda/2048$)
Working Range Linear	plus/minus 21.2 m

Specifications

PARAMETER	VALUE
Working Range Plane Mirror	plus/minus 10.6 m
Working Range High Resolution	plus/minus 5.3 m
Plane Mirror Slew Test	700 mm/s class (double 10897A)

Specifications

PARAMETER	VALUE
Linear Velocity 5517D	1000 mm/s
Plane Mirror Velocity 5517D	500 mm/s
High Resolution Velocity 5517D	250 mm/s

Specifications

PARAMETER	VALUE
Sample Age Fixed 290	290 ns user selectable
Sample Age Fixed 790	790 ns user selectable
VME Data Delay 290	600 ns after sample

Specifications

PARAMETER	VALUE
VME Data Delay 790	100 ns after sample
Variable Data Age	less than 800 ps over full supply range
Variable Data Age Tempco	less than 60 ps perC P2 Fixed Data Age: 1190 plus/minus 20 ns

Specifications

PARAMETER	VALUE
Power 5 V	5 Vdc plus 0.25 V / minus 0.125 V at less than 3.5 A
Power Plus 12 V	plus 12 V plus/minus 0.5 V at less than 0.1 A
Power Minus 12 V	minus 12 V plus/minus 0.5 V at less than 0.025 A

Specifications

PARAMETER	VALUE
Cooling 40 C	19 linear m/min (60 linear ft/min) minimum
Cooling 55 C	76 linear m/min (250 linear ft/min) minimum
Weight	0.45 kg (1 lb)

Specifications

PARAMETER	VALUE
Receiver Cable	10880A/B/C
Laser Head Cable	10881A/B/C/D/E/F
Axis Cable Options	002 through 007 for 2 to 7 axis systems

Specifications

PARAMETER	VALUE
Related Lower Res	10895A
Related Dual Axis	10898A
Related Compensation	10896B

VME Cycles: A16, A24, D16, D32, D08(0) interrupt acknowledge

Notes

Specs from Keysight/Agilent High Performance Laser Interferometer Positioning for VMEbus Systems product overview (5965-1569 class) 10897B section. Maximum axis velocity depends on laser head plus optics. Do not apply 10898A dual-axis or 2.7 m/s figures to a 10897B.

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.