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Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 10898D

Keysight 10898D High Resolution Dual Laser Axis Board The Keysight 10898D is a 6U VMEbus dual-axis laser interpolator for IC-fabrication and E-beam stage metrology. OEM datasheet 5990-7924 lists measurement resolution up to $\lambda/2048$, or 0.3 nm (3 angstrom) with the high-resolution plane-mirror interferometer, and testing at frequencies equivalent to 2700 mm/s plane-mirror slew rates. Variable data age is less than 1 nanosecond for most applications. A 36-bit position word in fractional wavelengths is readable over VMEbus and as a real-time hardware output on P2 rows A and C. The board complies electrically and mechanically with VMEbus Revision C.1. An onboard programmable low-pass filter stabilizes low SNR. Receiver cables are 10880A/B/C or N1250A/B/E; laser-head cables are 10881A/B/C/D/E/F. The Keysight 10898D is a 6U VMEbus dual-axis laser interpolator for IC-fabrication and E-beam stage metrology. OEM datasheet 5990-7924 lists measurement resolution up to $\lambda/2048$, or 0.3 nm (3 angstrom) with the high-resolution plane-mirror interferometer, and testing at frequencies equivalent to 2700 mm/s plane-mirror slew rates. Variable data age is less than 1 nanosecond for most applications. A 36-bit position word in fractional wavelengths is readable over VMEbus and as a real-time hardware output on P2 rows A and C. The board complies electrically and mechanically with VMEbus Revision



MODEL

**Agilent / Keysight
10898D**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

10898D

LISTING

<https://aumictechlabs.com/products/10898d-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Keysight 10898D is a dual-axis laser interferometry board engineered for high-resolution position measurement and motion control in precision industrial systems. It delivers 0.3 nm (3 Å) measurement resolution using plane mirror interferometer optics, with 0.6 nm plane mirror resolution and submicrosecond timing accuracy. The board integrates a proprietary interpolator and surface-mount architecture within a compact VMEbus form factor, supporting working ranges to ±10.6 m and slew rates to 2700 mm/s. Multi-board systems synchronize to ±2 ns, enabling coordinated motion across up to 7 boards per installation.

Technical Specifications

Measurement resolution: Up to 1/2048 (0.3 nm with high-resolution plane mirror interferometer)
Plane mirror resolution: 0.6 nm
System PM velocity limit: ±1100 mm/s
Tested slew rates: 2700 mm/s
plane mirror equivalent
Maximum linear interferometer velocity: 2.2 m/s
Working range (plane mirror optics): ±10.6 m
Data update rate: 10 MHz (single channel), 5 MHz (dual channel)
Backplane data rate: >100 kHz
Direct hardware output rate: 10000 kHz
Axes per board: 2
Data word format: 36-bit 2's complement
Variable data age: <800 ps over supply voltage range, <40 ps/°C
Fixed data age (time lag): Approximately 1.1 μs
Position data availability: 600 ns (N=262 ns) or 100 ns (N=762 ns) after sampling on VMEbus
Multi-board synchronization: ±2 ns

Key Features

Programmable low-pass filter for low signal-to-noise operation
VMEbus Revision C.1 electrical compliance
Programmable signal routing for flexible system layout
Reference and measurement signal routing from front panel or multiaxis interconnect cable
Real-time hardware outputs on P2 connector rows A and C

Typical Applications

Semiconductor fabrication equipment
Electron beam lithography systems
Step-and-scan IC lithography tools
Precision motion control platforms

Compatibility & Integration

Receiver cables: Keysight 10880A/B/C or N1250A/B/E
Laser head cables: Keysight 10881A/B/C/D/E/F
System scalability: Up to 7 boards per installation (consult Keysight for larger configurations)

10898D Characteristics / Specifications

PARAMETER	VALUE
Model	10898D
Instrument Type	High resolution dual laser axis interpolator board
Form Factor	6U VMEbus
Bus Compliance	VMEbus specification Revision C.1 electrical and mechanical
Measurement Resolution	up to $\lambda/2048$ or 0.3 nm (3 angstrom) with high resolution plane mirror interferometer
Slew Rate Test	frequencies equivalent to 2700 mm/s plane mirror slew rates
Variable Data Age	less than 1 nanosecond for most applications
Position Word	36-bit position word in fractional wavelengths
Vme Readout	position word readable over VMEbus
Hardware Output	real-time hardware output on A and C rows of P2
Filter	onboard programmable low-pass filter
Related Prior Board	10897D high resolution axis board
Receiver Cables	10880A/B/C or N1250A/B/E
Laser Head Cables	10881A/B/C/D/E/F
Related Laser Heads	5517C/D family two-frequency HeNe heads
Programming	register programmed position axis board
Manufacturer	Keysight Agilent HP
Use Case	dual axis laser stage interpolator
Literature	Keysight 10898D High Resolution Dual Laser Axis Board datasheet 5990-7924
Family	Keysight laser interferometer electronics
Documentation Type	OEM 10898D datasheet
Brand Lineage	Hewlett Packard Agilent Keysight
System Role	VME dual axis interpolator
Technology	proprietary interpolator, surface mount

PARAMETER	VALUE
Signal Routing	programmable reference and measurement routing from front panel or multiaxis interconnect

10898D Specifications

PARAMETER	VALUE
Keysight 10898D High Resolution Dual Laser Axis Board	Overview
Key Features	Resolution 0.3 nm plane mirror
Slew test 2700 mm/s	Variable data age less than 1 ns
Technical Specifications	Model: 10898D

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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System Role	VME dual axis interpolator
Technology	proprietary interpolator, surface mount

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Notes

From Keysight 10898D datasheet 5990-7924 ($\lambda/2048 = 0.3$ nm, 2700 mm/s test, less than 1 ns variable data age, 36-bit word, 6U VME C.1, 10880/N1250 and 10881 cables). Axis count population and exact filter corner frequencies are on the 10898D hardware reference.

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.