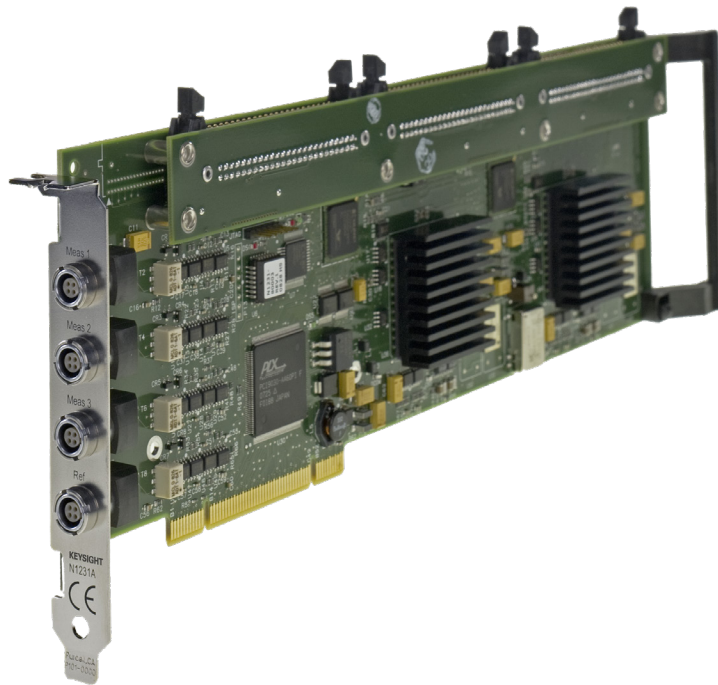


# Keysight N1231A PCI Three-Axis Laser Board

## Data Sheet



## Overview

The Keysight Technologies, Inc. N1231A PCI Three-Axis Laser Board is a register-based PCI bus board that implements three axes of laser measurement for position monitoring and closed-loop servo control. The hardware outputs, optimized for connection to a DeltaTau PMAC servo control system, provide parallel digital position data at rates up to 4 MHz. The same position data along with velocity data is available over the PCI bus at rates up to 100 kHz (3 axes of position and velocity) or 200 kHz (position or velocity only).

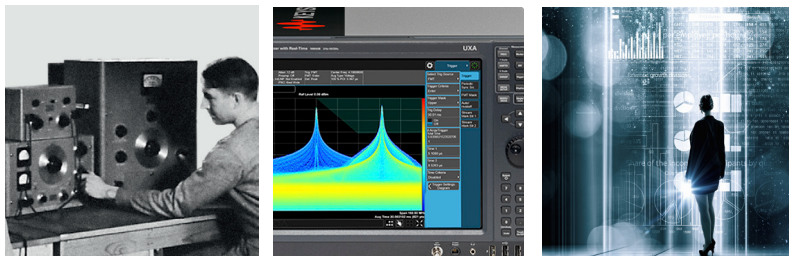
## Features and Benefits

- Three axes of laser measurement on one board
- 20 MHz hardware update rate
- Adjustable hardware output rate (4 MHz max)
- Simple programming API (Windows NT4/2000/XP)
- Software sample rates up to 200 kHz (3 axes of data)
- Measurement resolution
  - 0.6 nm ( $\lambda/1024$ ) using linear or single beam interferometers
  - 0.3 nm ( $\lambda/2048$ ) using plane mirror type interferometers
  - 0.15 nm ( $\lambda/4096$ ) using high resolution interferometers
- Power Requirements (typical)
  - +5 VDC  $\pm 0.25$  V / -0.125 V at approximately 2.8 Amps
  - +12 VDC  $\pm 0.5$  V at approximately 50 milliamps
  - -12 VDC  $\pm 0.5$  V at approximately 50 milliamps
- PCI Compliant
- Bus Interface: 33 MHz @ 3.3 or 5 Volt signal levels
- Data Transfers: 16 or 32 bit transfers
- IRQ: can generate IRQ on error conditions
- Board Size: 98 x 312 mm

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