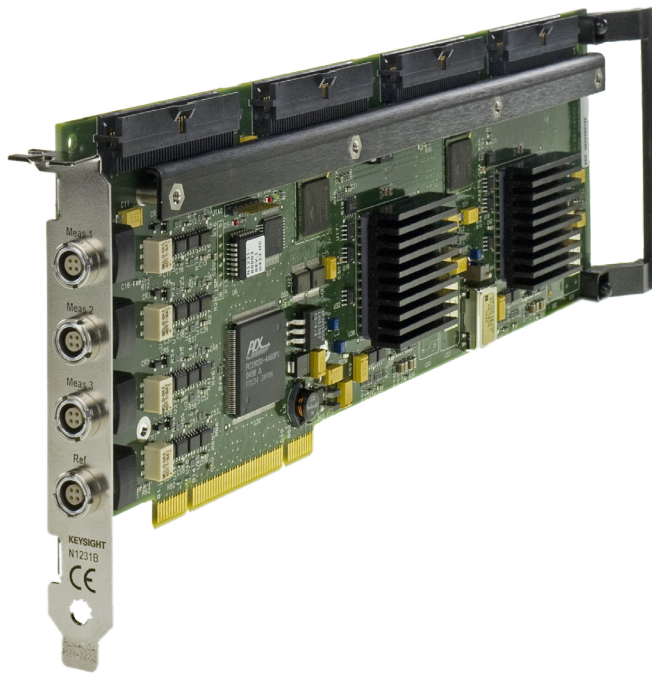


Keysight N1231B PCI Three-Axis Laser Board with External Sampling

Data Sheet



Overview

The Keysight Technologies, Inc. N1231B PCI Three-Axis Laser Board with External Sampling is a register-based PCI bus board that implements three axes of laser measurement for position monitoring and closed-loop servo control. There are four external sample inputs along with four data hold inputs that allow easy synchronization with user systems. Several threshold compare registers, with both hardware outputs and interrupt capability, can be used for travel limit and in window or out of window detection functions.

The dual mode hardware position outputs, controlled by the hold inputs, provide either a 32-bits per axis parallel or a 36-bit multiplexed interface to the 36-bit axis position data at rates up to 20 MHz. The user can programmatically access the externally sampled position and velocity data, as well as software sampled position and velocity data, over the PCI bus at rates up to 100 kHz (3 axes of position and velocity) or 200 kHz (position or velocity only).

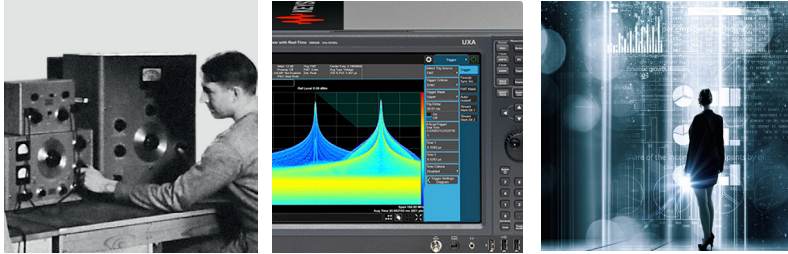
Features

- Measurement resolution of 0.15 nm ($\lambda/4096$) using plane mirror type interferometers
- Three axes of laser measurement on one board
- Four external sample inputs (1/axis + 1 system sample)
- Four external data hold inputs (for hardware position outputs)
- Eight threshold compare registers with HW output and IRQ capabilities.
- 20 MHz, 36-bits per axis internal position update rate
- Flexible hardware IO with adjustable output rate (20 MHz max)
- Simple programming API (Windows NT4/2000/XP)
- Software sample rates up to 200 kHz (3 axes of data)
- Power Requirements (typical)
 - +5 VDC ± 0.25 V / - 0.125 V at approximately 2.8 Amps
 - +12 VDC ± 0.5 V at approximately 50 milliamps
 - -12 VDC ± 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, sample, or threshold conditions
- Board Size: 98 x 312 mm

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