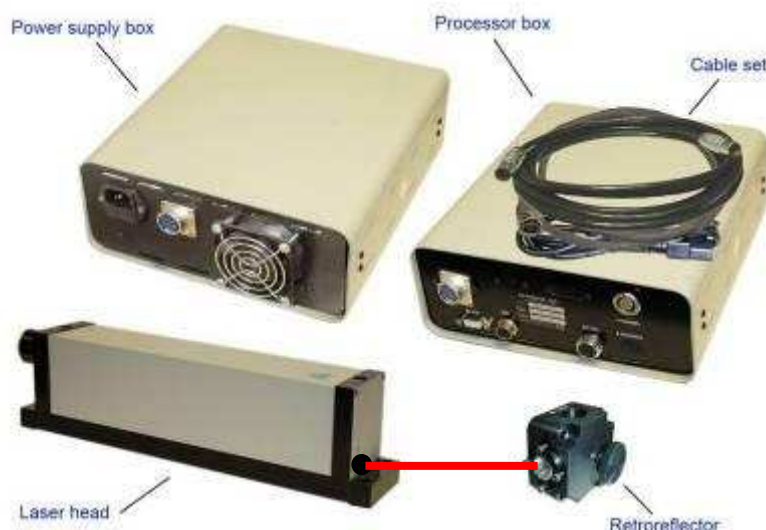


## **LDS-1000 HS High performance Laser system** 1 nm resolution, 0.01 ppm stability and 0.1 $\mu\text{m}/\text{m}$ accuracy for ultra-precision stage feedback or high accuracy calibration

Nano positioning measurement or feedback over centimeters range are needed for 1 or 2 axes applications in MEMS and Nano-technology applications. Conventional methods due to the low accuracy or short travel range may not meet the current requirement. Recently, Optodyne has developed a new LDS1000HS, which is a high performance Laser Doppler Displacement meter with high laser frequency stability of 0.01 ppm, high positioning accuracy of 0.1  $\mu\text{m}/\text{m}$  and high signal-to-noise ratio. This high performance laser system is designed for positioning feedback or calibration of such ultra-precision stages. The performances of the closed loops systems are enhanced by the fast response of the measuring system that have typical delay time of 300ns only. The system is compatible with flat mirrors or path multipliers that duplicate the resolution at any bouncing.

The major features are: high resolution and high accuracy, non-contact that means no backlash or memory errors and no need for periodic calibration.



The laser system, LDS1000HS, consists of a laser head, a processor box, a power supply box, a retroreflector and cable set as show above.

Optodyne, a California corporation, develops, manufactures and markets laser-based precision measurement equipment for machine tool calibration, metrology, OEM, and other industrial applications that require precision measurement through a worldwide distribution network. Optodyne is ISO/IEC 17025 accredited, which requires a quality system similar to ISO 9000, plus testing and calibration equipment, as well as knowledgeable testing and calibration personnel.