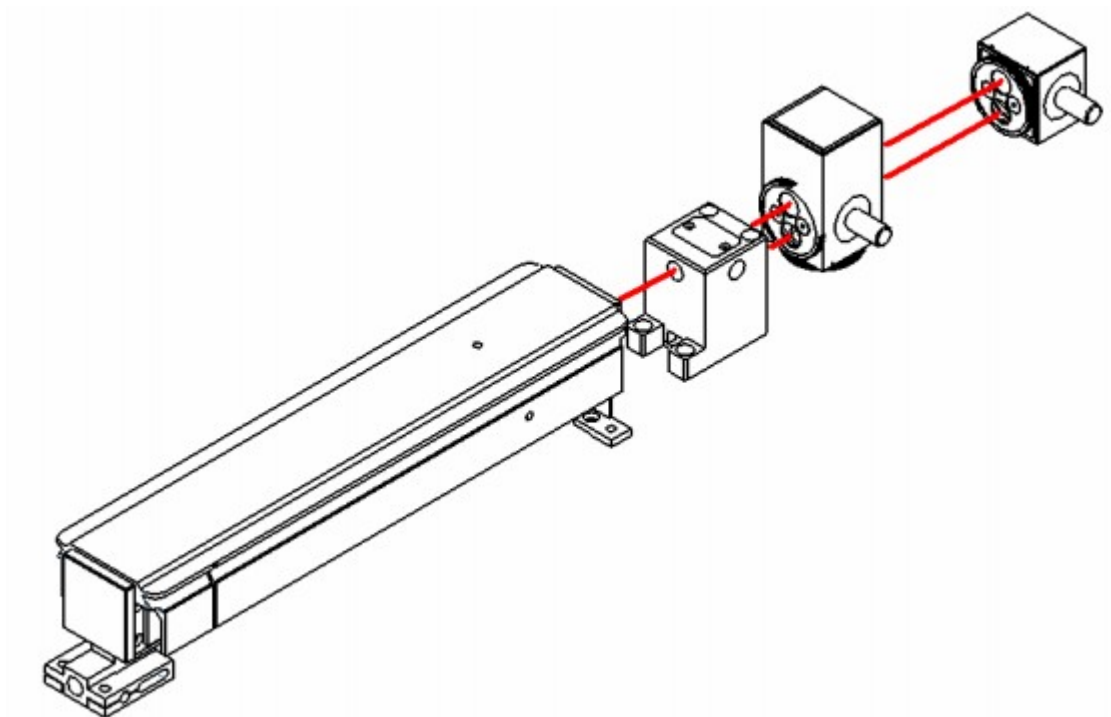


Laser liner LS10 – Basic elements for the measurements of the displacement





Nr.	Pic.	Description
1.		Laser head driver
2.		5 m cable to the control
3.		OR-1 - Optical receiver
4.		LR 01 - linear retroreflector
5.		Software for linear displacement measurement
6.		Mounting elements with crew thread diameter 5mm
7.		LI 01 – linear interferometer
8.		Temperature sensor
9.		LH 01 - laser head
10.		PS 01 - Power supply

Additionally setup can be expanded by magnetic mounting bases. Screw thread perfectly match to the thread from mounting elements.



Unique system of calibration helps you to start measurements right away

Calibration Position

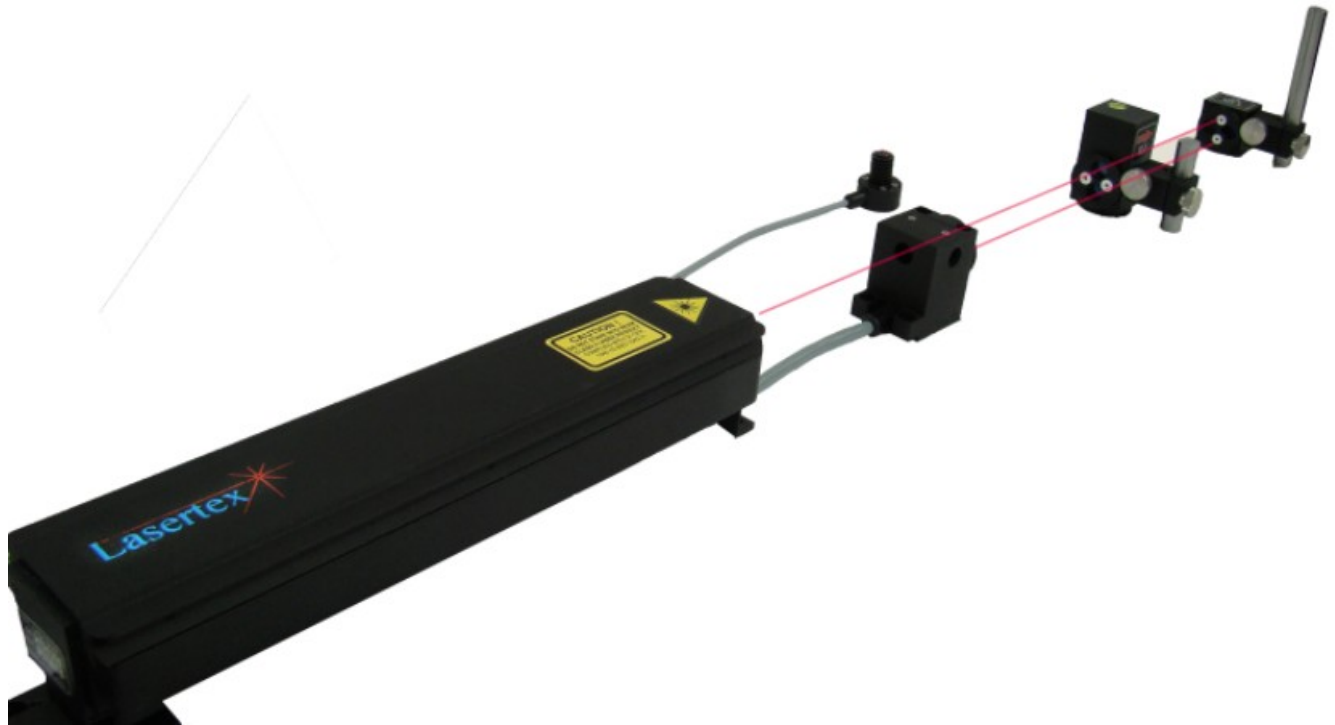


Work Position



Each optic element such as Retroreflectors or Interferometers has rotational shutter which change mode operation from Calibration Position to Work Position.

Basic displacement measurement setup



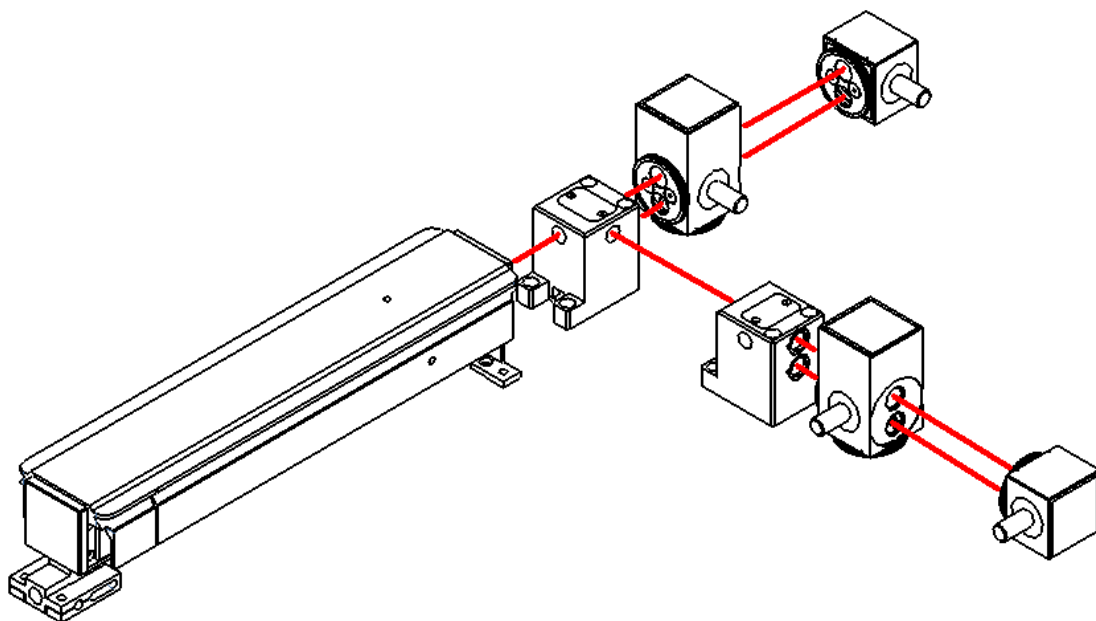
Features

- compact and light
- portability
- easy and fast start
- high resolution
- high precision
- low cost

Applications

- adjustment CNC and CMM machines
- machine geometry examination
- propeller calibration
- rotary table calibration
- length pattern calibration
- maintenance

LS10 system can be expanded to measure displacement in more than one axis by adding extra optical elements. For forward information please contact our sales manager.



Additional options:

1. ECU 02 - environmental compensation unit with sensors and environmental sensor certificate (sensors for temperature, pressure, humidity of air and 3 material temperature sensors), 4 x 5 m temperature sensor cable,
2. Additional optics for displacement measurements in two axis. Extra setup consists of
 OR-1 - Optical receiver LR 01 - linear retroreflector
 LI 01 - linear interferometer

The Total price includes:

- ◆ The certificate of the laser frequency calibration made by Lasertex
- ◆ Instruction
- ◆ Warranty – 12 month (the warranty service will be performed by Lasertex in Poland)
- ◆ Additional 2 year guarantee – 1 000 Euro

Delivery: 4 weeks after date of order.
 Offer is valid 3 months

More detail information will give:

Dr J. Rzepka

Lasertex Co. LTD

Tel/fax +48-71-372-43-06 or mobile 48-509-495-023

Email: lasertex@lasertex.eu

Laser measurement system LS 10
The most compact laser liner on the market.

TECHNICAL DATA

Laser head

- laser type	Two mode HeNe laser with frequency stabilization
- heating time (time to start of measurements)	approx. 10 min
- wavelength (vacuum)	632,991354 nm
- wavelength accuracy	$\pm 0,08$ ppm
- short time stability	$\pm 0,001$ ppm (1 hour)
- output power	400 μ W
- beam diameter	8 mm
- distance between out- and ingoing beam	12,7 mm
- laser head dimensions	240x30x30 mm
- net weight	300 g
- safety class	Class 2 Laser product
- dimensions	according to PN-91/T-06700 52x50x240 mm

System work conditions

- temperature range	15 – 35 °C
- humidity range	10 – 90 %

Power supply

- voltage	230/110 VAC, 50 Hz
	35 W (during preheating)
	10 W (work)

PC interface

- type	USB
- data rate	115 200 bps

Encoder interface

1,2,5,10 μ m step (software selectected),
up to 1MHz, Sin-Cos A-Quand-B or TTL.
0,1 μ m resolution

PC display –

- Any PC computer with Windows – not in included the setup

Environment compensation

Wavelength compensation

- manual
Environments parameters entered from keyboard
- automatic
With the use of the environment station.

Parameters of the environment compensation

- air temperature
Range 0 – 40 °C, accuracy 0,1 °C
- pressure
Range 940 – 1060 hPa, accuracy 1 hPa

- humidity Range 10 – 90 %, accuracy 5 %
- time constants Temperature 3 s, pressure 2s, humidity 5 s
- dimension $\phi 50 \times 55$ mm
- net weight 100 g

Material temperature compensation

- manual Temperature of material entered from keyboard
- automatic 3 temperature sensors, calibrated Pt-1000 class 1/3 B, range 0 – 40 °C, accuracy 0,05°C

in oil resistant casing.

- time constant 3 s
- net weight 50 g

Measuring parameters

Measurement	Range	Resolution	Accuracy*
Distance	0 – 30 m	1 nm (with PC) 1,2,5,10 μm (Sin – Cos)- programmable	0,4 μm /m in air or 1,0 μm /m for steel base
Velocity	0 –1m/s (2m/s on request)	0.25 μm /s	0,1 %
Vibration	0 – 100 kHz	80 nm	0,1%

* for the material extension coefficient 11,7 $\mu\text{m}/\text{m } ^\circ\text{C}$