

# AlignMeter

*Simultaneous measurements of position and angular displacements, using position sensing detectors.*

The system performs simultaneous measurements of centration (in  $\mu\text{m}$ ), angular deviations (in mrad) of the beam with respect to the outer housing or tube, as well as absolute power.

## Main applications in optics and metrology

- Alignment of articulated robotic beam delivery systems
- Alignment of lasers and laser tubes
- Examining errors in slideways
- Overall testing of laser beam parameters: Power, centration, alignment and long-term stability.
- Alignment of laser systems for wafer inspection.



PC version



**DUMA OPTRONICS LTD.**

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## ► Specifications

Photodetector (Default)	10*10mm dual axis silicon Lateral Effect 8mm calibrated diameter (* Other detector sizes are available on a special-order basis)
Usable beam size range	50µm < diameter < 8 mm
Position measurement range	8 mm diameter circle maximum centered on the detector
Position resolution	Better than ±1µm (with average on)
Position accuracy	±50 µm over 8mm diameter calibrated area (software linearization)
Angle measurement range	8 mm / Focal length (*) or 80 mrad in standard configuration
Angle resolution	±1 µm / focal length (*) or .01 mrad in standard configuration
Angle accuracy	±50 µm / focal length (*) or .5 mrad in standard configuration
Operational spectral range	300 - 1100 nm
Calibrated spectral range	350 - 1050 nm
Power range (**)	10 µW - 10 mW at the detector plane
Power accuracy (**)	±5% at the detector plane
Data update rate	5 Hz for software control of two PSD's
Environmental	Operating temperature range: 0° - 35°C
ND Filters	Optional per special order



(\*) Focal length for the standard configuration is f=100mm.

(\*\*) To maintain full calibration accuracy, attenuating optical filters (ND) may be necessary for operation with beams greater than 1 mW per detector (the total of 2-2.5 mW per assembly head). Saturating "non-linear" effects depend on the beam size, type and wavelength.

## ► Host Computer Requirements

**PC version:** IBM-PC 486 DX4 (or pentium), 16 MB RAM, 4MB free on HDD, Windows 95 or Windows 3.11, one FDD 3.5", VGA screen, keyboard / mouse.

**PCMCIA version:** IBM-PC 486 DX4 (or pentium) desktop computers equipped with a PCMCIA drive (or notebooks or laptop computers) 16 MB RAM, 4MB free on HDD, Windows 95, one FDD 3.5", VGA screen, keyboard / mouse.

## ► Ordering Information

**ALIGNLL:** 0.5 size PC ISA-bus board, software on 2x3.5" disks, beam splitter assembly including: beam splitter 50/50 A/R coated, lens, lens tube, 2 x Lateral Effect detector heads assembled to the beamsplitter assembly.

**ALIGNPC:** PCMCIA card, manifold box which plugs into the PCMCIA card, having 2 x 9-pin sockets for sensor heads connectors, software on 2 x 3.5" disks, beam splitter assembly (Same as for model ALIGNLL)



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