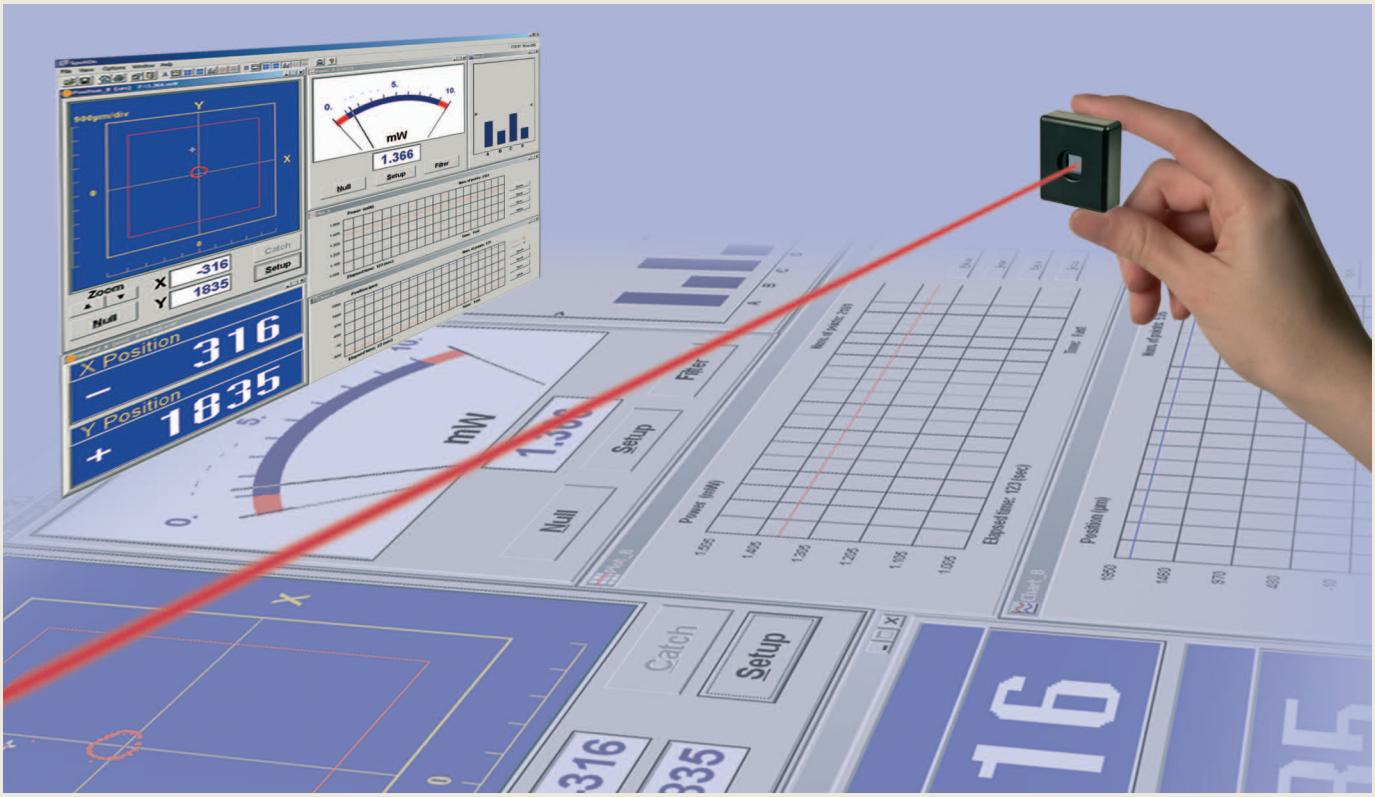
SpotOn Compact

Optical Beam Position and Power Measurement System



A compact, fast and accurate positioning system

- Versatile: Measures both Beam Position (over area up to 9mm diameter) and power (from 1µW to 2.5mW @ 633nm without filters)
- Precise: Available with dual axis Lateral Effect detector (down to 0.1µm resolution @ 50Hz digital filter, ±6µm absolute accuracy) or with a 4-Quadrant detector (accuracy down to ±0.025% of beam diameter)
- Convenient: USB2.0 interface, detector and software work with any Notebook/Desktop under WinXP/Vista/7/8
- Easy to use: User friendly software, complete on-line Help routine
- Compact: Built-in electronics within sensor head

Key Features

- Power input through USB2.0 port
- Convenient automatic Gain setting
- New hardware having 24 bit A/D
- SDK for integration in user application program
- Multiple devices operation available
- Real time display of Position and Power measurements
- Data streaming via RS232 or TCP/IP
- Direct data logging to Excel files

Main Applications

- Measure CW laser power and centration or displacement
- Align beams and quality control optical systems
- Measure target rotation and displacement
- Calibrate surface flatness and machine tool alignment
- Monitor vibration, deflection and motion

DUMA OPTRONICS LTD.

1st Hazait St., P.O.Box 3370 Nesher 20306, Israel Tel:972-4-8200577 Fax: 972-4-8204190

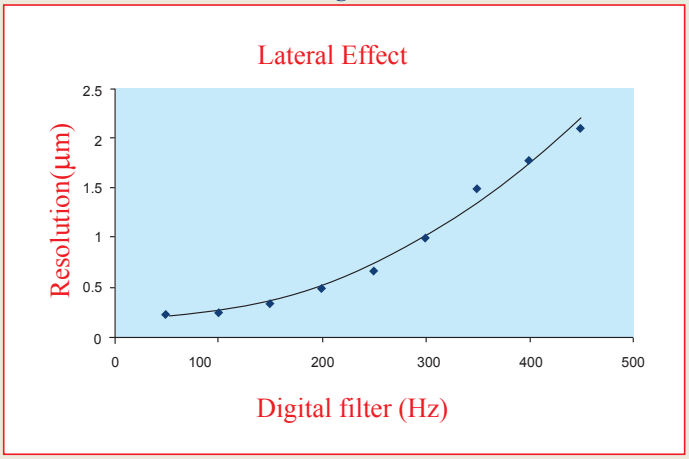
Website:http://www.duma.co.il E-mail:sales@duma.co.il

Measurement Specifications

Detector	L – Lateral Effect	Q – Four Quadrant	L04
Size	9mmx9mm	10mmx10mm	4mmx4mm
Type	Dual-axis Si resin No glass cover	4XSi resin sectors separated by 30µm gap, no glass cover	Dual-axis Si resin, no glass cover
Usable beam size	50µm to ø9mm	50µm to ø5mm	50µm to ø4mm
Position measurement range	⍁9mm	One beam radius up to ±2.5mm	⍁4mm
Position resolution	Down to 0.1µm at 50Hz digital filter plus averaging	Down to ±0.025% of beam size	Down to 0.1 µm at 50 Hz, digital filter plus averaging
Position accuracy	±12.5 µm over 9 mm dia.	±1 µm or ±0.025% of beam size	±6µm over 4mm dia.
Update rate	Max 150Hz at 500Hz digital filter		
Operational spectral range	350-1100nm		
Power range	1µW to 10 mW with attenuating ND filters		
Power accuracy(*)	±5%		

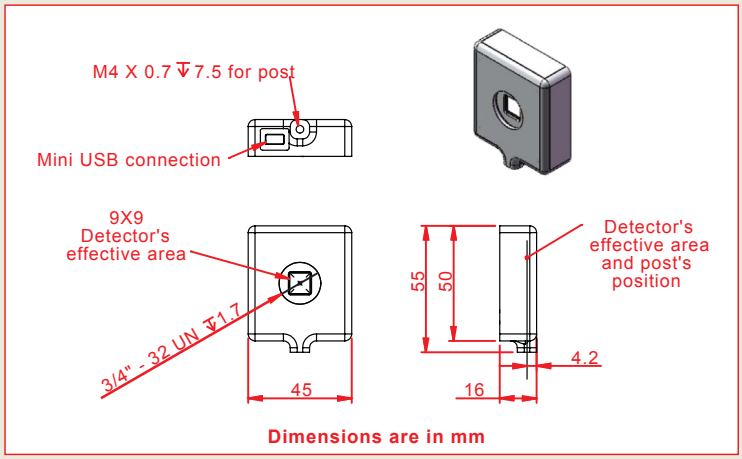
* To maintain full calibration accuracy, attenuating optical filters may be necessary for operation with beams greater than 1 mW. Saturating "non-linear" effects depend on the beam size, type and wavelength, but caution should be exercised when using the 4Quad PSD above 3-6mW or the Lateral Effect PSD above 1-3mW.

Resolution versus Digital Filter bandwidth



Controls the bandwidth of detector's response, where lower digital Filter attenuates the system noise and increases system's resolution

Sensor head dimensions



Weight: 60 G

Ordering information

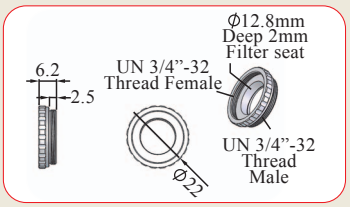
SPOTCOM - Complete system including sensor head, USB2.0 mini 1.8m cable, software and user manual on CD, carrying case.
Select any one of the heads, calibration files are saved on the PSD heads and loads automatically to the software:
L – Lateral Effect PnP 9mmX9mm, no glass cover
Q – Four Quadrant PnP 10mmX10mm with 30µm gap, no glass cover
L04 – Lateral Effect PnP 4mmX4mm, no glass cover

Hardware Requirements

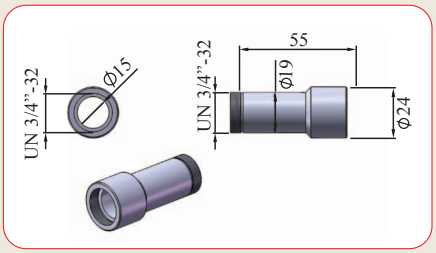
Pentium 4, 2.4GHz and above with 128MB RAM, 15MB HDD free, one CD ROM, Windows XP/Vista/7/8 (32 or 64 bit), one USB2.0 port

Optional accessories

NG4/NG9/NG10 – ND filter in housing (3/4" –32 thread)
Hood – 55mm long, for ambient light suppression



Filter



Hood

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