

SpotOn USB 2.0

Optical Beam Positioning & Power Measurement



- Measures laser displacement and power on its detector's surface in real time
- Ideal for flatness and alignment testing of mechanical surfaces
- Monitors vibrations and deflections of laser beams
- 24 bit hardware, multiple devices operation available, data streaming on demand

Specifications

Detector	N - Lateral Effect	L - Lateral Effect	U - Four Quadrant	Q - Four Quadrant
Size	10 x 10 mm	9 x 9 mm	10 x 10 mm	10 x 10 mm
Type	Dual axis Si with glass cover	Dual axis Si	4x Si sectors separated by 10 μ m gap, glass cover	4x Si sectors separated by 30 μ m gap
Usable beam size	$\varnothing$ 50 μ m to $\varnothing$ 8 mm	$\varnothing$ 50 μ m to $\varnothing$ 9 mm	$\varnothing$ 50 μ m to $\varnothing$ 5 mm	$\varnothing$ 50 μ m to $\varnothing$ 5 mm
Position measurement range	$\varnothing$ 8 mm	$\varnothing$ 9 mm	One beam radius up to $\pm$ 2.5 mm	One beam radius up to $\pm$ 2.5 mm
Position resolution	Down to 0.1 μ m at 50 Hz digital filter plus averaging	Down to 0.1 μ m at 50 Hz digital filter plus averaging	Down to 0.25% of beam size	Down to 0.25% of beam size
Position accuracy	$\pm$ 25 μ m over 8 mm dia.	$\pm$ 12.5 μ m over 8 mm dia.	$\pm$ 1 μ m or $\pm$ 0.025% of beam size	$\pm$ 1 μ m or $\pm$ 0.025% of beam size
Update rate	Max. 150 Hz at 500 Hz digital filters			
Operational Spectral range	350 – 1100 nm			
Power range	10 μ W to 10 mW with attenuating ND filters			
Power accuracy (*)	$\pm$ 5%			

Ordering Information

SPOTUSB - A complete system including manifold box, USB2.0 cable, software and user manual on CD/Flash Drive, carrying case. Select one or two sensor heads, calibration files are saved on the PSD heads and loads automatically to the software:

L - Lateral Effect PnP 9mmx9mm, no glass cover
N - Lateral Effect PnP 10mmX10mm, with glass cover
Q - Four Quadrant PnP 10mmX10mm with 30 μ m gap, no glass cover
U - Four Quadrant PnP 10mmX10mm with 10 μ m gap, with glass cover

Additional optional heads:

L44 - Lateral Effect PnP , usable beam size < 25mm
L18 - Lateral Effect PnP 18mmX18mm with glass cover
L4 - Lateral Effect PnP 4mmX4mm, no glass cover

Optional accessories:

NG4 filter - ND filter in housing (3/4" - 32 thread)

NG9 filter " "

NG10 filter " "

Hood - 55mm long, for ambient light suppression

Hardware Requirements

Pentium 4, 2.4 GHz and above with 128MB
RAM, 15 MB HDD free, once CD ROM,
Windows XP/Vista, VGA 8 MB 1024x768
resolution, 16 bit, one USB2.0 socket

(*) – 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 3-6 mW or the Later Effect PSD above 1-m mW

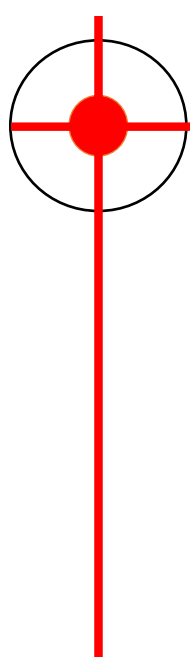
DUMA OPTRONICS LTD.

Website: <http://www.dumaoptronics.com>

E-mail: sales@duma.co.il

July 2025





SpotOn USB 2.0

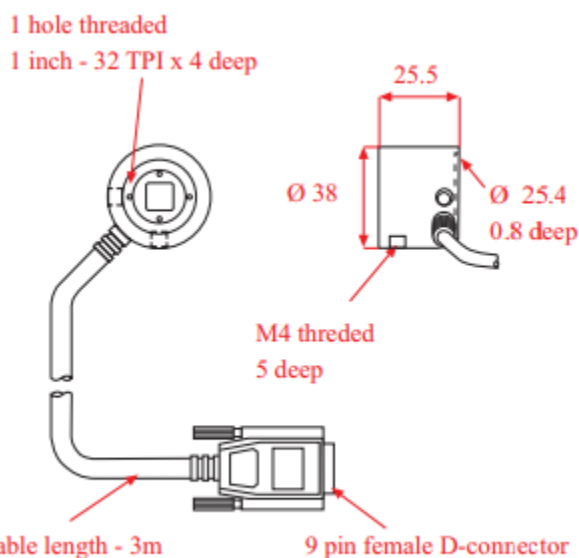
Optical Beam Positioning & Power Measurement

Manifold Box Dimensions



Dimensions are in millimeters

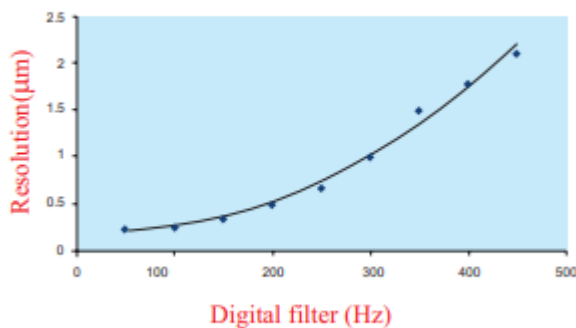
Sensor Head Dimensions



Dimensions are in millimeters

Resolution vs Digital Filter Bandwidth

Lateral Effect



DUMA OPTRONICS LTD.

Website: <http://www.dumaoptronics.com>

E-mail: sales@duma.co.il

July 2025

