

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 with glass cover	4x Si sectors separated by 10 μ m gap, glass cover	4x Si sectors separated by 30 μ m gap, glass cover
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 Lateral Effect PSD above 1-m mW

DUMA OPTRONICS LTD.

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

E-mail: sales@duma.co.il

April 2022



SpotOn USB 2.0

Optical Beam Positioning & Power Measurement

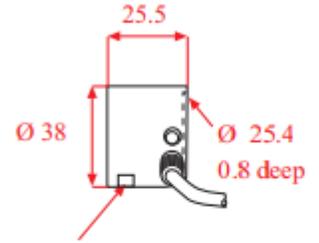
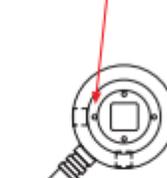
Manifold Box Dimensions



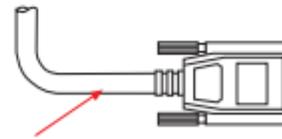
Dimensions are in millimeters

Sensor Head Dimensions

1 hole threaded
1 inch - 32 TPI x 4 deep



M4 threaded
5 deep



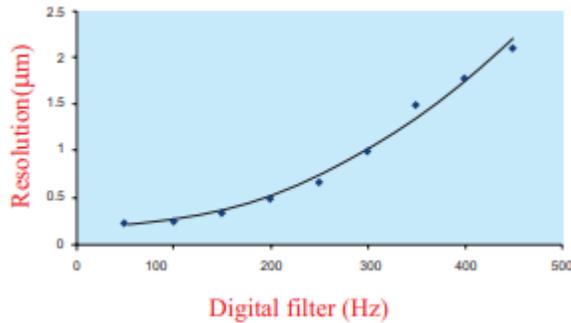
Cable length - 3m

9 pin female D-connector

Dimensions are in millimeters

Resolution vs Digital Filter Bandwidth

Lateral Effect



DUMA OPTRONICS LTD.

