



# 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 µm gap, glass cover	4x Si sectors separated by 10 µm gap, glass cover
Usable beam size	ø50µm to ø8 mm	ø50µm to ø9 mm	ø50µm to ø5 mm	ø50µm to ø5 mm
Position measurement range	ø8 mm	ø9 mm	One beam radius up to ±2.5 mm	One beam radius up to ±2.5 mm
Position resolution	Down to 0.1 µm at 50 Hz digital filter plus averaging	Down to 0.1 µm at 50 Hz digital filter plus averaging	Down to 0.25% of beam size	Down to 0.25% of beam size
Position accuracy	±25 µm over 8 mm dia.	±12.5 µm over 8 mm dia.	±1µm or ±0.025% of beam size	±1µm or ±0.025% of beam size
Update rate	Max. 150 Hz at 500 Hz digital filters			
Operational Spectral range	350 – 1100 nm			
Power range	10 µW to 10 mW with attenuating ND filters			
Power accuracy (*)	±5%			

### Ordering Information

SPOTUSB - A complete system including manifold box, USB2.0 cable, software and user manual on CD/Flash, 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 30um gap, no glass cover  
 U - Four Quadrant PnP 10mmX10mm with 10um 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

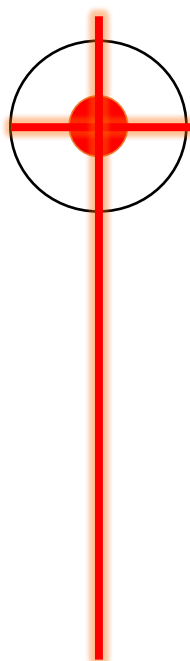
(\*) – To maintain full calibration accuracy, attenuating optical filters may be necessary for operation with beams greater than 1 mW. Saturating "non-linear" effects depend on the beam size, type and wavelength, but caution should be exercised when using the 4Quad PSD above 3-6 mW or the Later Effect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

## DUMA OPTRONICS LTD.

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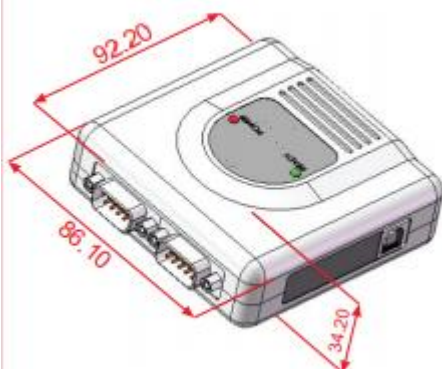
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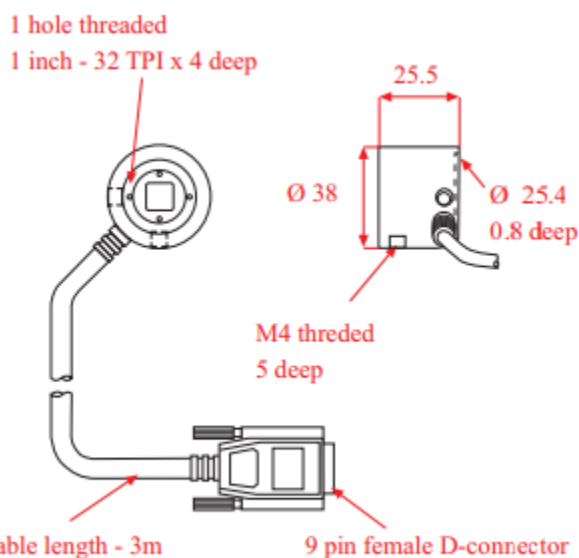
## Optical Beam Positioning & Power Measurement

### Manifold Box Dimensions



Dimensions are in millimeters

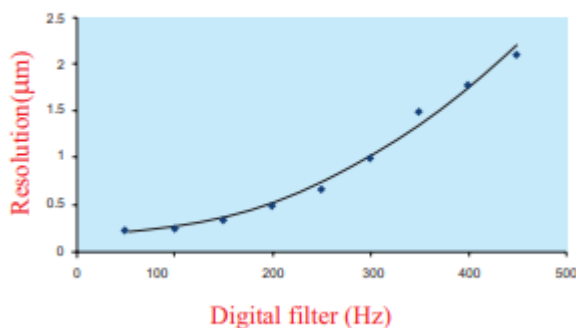
### Sensor Head Dimensions



Dimensions are in millimeters

### Resolution vs Digital Filter Bandwidth

#### Lateral Effect



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