SpotOn

Optical Beam Position and Power Measurement System

Dual PSD's Stand Alone

A perfect solution for simultaneous position measurements of two PSD's

The rugged small footprint instrument is perfect for environments like a factory floor, areas where shock and vibration are common and too harsh for a commercial PC, and where simplified mode of operation is required.

- **Versatile**: Measures both Beam Position (over area up to 8 mm diameter) and power (from 10 µW to 10 mW).
- **Precise**: Available with Quadrant detector (1µm position accuracy, down to 0.1 µm position resolution) or dual-axis Lateral Effect detector (50 µm position accuracy, 3 µm position resolution).

The instrument measures and displays:

- **Beam position** X, Y (µm or %) for both sensor heads, either absolute or relative measurements
- **Beam power** at a selected wavelengh
- Save data files on the built-in 3.5" FDD for further analysis
- Data transmission via RS232 link to another computer

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

	4-Quadrant Detector	Lateral Effect Detector
Photodetector	10mm X 10mm silicon 4 sectors separated by 30µm gap (Optional:10µm gap separation)	10mm X 10mm dual axis silicon 8mm calibrated diameter
Usable Beam size range	50µm < diameter < 8mm	
Position Measurement range	4mm diameter circle maximum centered on the detector center The beam must overlap all 4 sectors	8 mm diameter circle maximum centered on the detector center
Position Resolution	Better than 0.5µm	Better than ±1µm
Position accuracy	±1µm or ±0.25% of beam diameter whichever is greater	±50µm over 8mm diameter calibrated area (software linearization)
Operational Spectral range:	350-1100nm	
Power Range: (*)	10µW to 10mW	
Power Accuracy: (*)	±5%	
Measurement update rate:	20Hz	

* To maintain the full calibration accuracy, attenuating optical ("neutral-density") filters may be necessary for operation with beams greater than 1mW. Saturating "non-linear" effects depend on the beam size, type and wavelength, but caution should be exercised when using the quadrant detector above 3-6mW or the lateral effect detector above 1-3mW.

Stand Alone unit specifications

Construction:	Heavy-duty steel
Power supply maximum output:	60 Watts AC input voltage: 90 VAC to 264 VAC
Input frequency:	47 to 63 Hz
EMI standards:	Meets FCC standards, CE mark, Meets UL standards
Vibration (operating):	5Hz to 15Hz, 0.24" peak to peak, 15 to 500Hz, 2.5G peak to peak
Display:	1/4 VGA Mono LCD, resolution 320x240 dots/picture
FDD:	The unit is equipped with one 3.5" FDD 1.44MB

Dimensions

Sensor Heads:	38mm diameter, 25.5mm long, M4 tapped post-mounting hole, aligned to detector axes to <±0.5°, Optical aperture threaded 1"-32 TPI ("C") for mounting filters
Cable:	3m long, attached to sensor head
Stand Alone unit:	248mm x 122mm x 215mm
Weights:	Sensor Head: 175g with cable, Stand Alone unit: 4.5kg
Environmental:	Operating Temperature Range: 0° to +35°C

Ordering Information

SPOTQQ-SA Quadrant system with 2x30µm gap detectors
SPOTUU-SA Quadrant system with 2x10µm gap detectors
SPOTLL-SA Lateral Effect system with two 10x10mm dual axis Lateral Effect detectors
SPOTLQ-SA One Quadrant 30µm gap detector and one Lateral Effect detector system
SPOTLU-SA One Quadrant 10µm gap detector and one Lateral Effect detector system
Optionals: C-mount optical ND filters. Other detectors are available by special order.

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