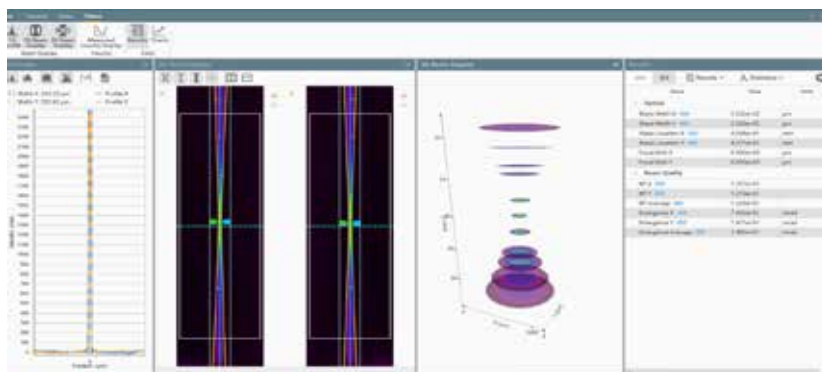


3.8.2 BeamWatch® & BeamWatch®Plus Non-contact, M^2 , Focus Spot Size and Position Monitor for high power NIR and VIS lasers

- Instantly measure focus spot size
- Dynamically measure focal plane location during start-up
- From 400W for NIR (3W for VIS) and up - no upper limit (So far, up to 100kW was measured)
- Non-contact, laser beam is completely pass-through
- Automation Control Interface for System Integration
- GigE camera interface for local network installation
- Patented



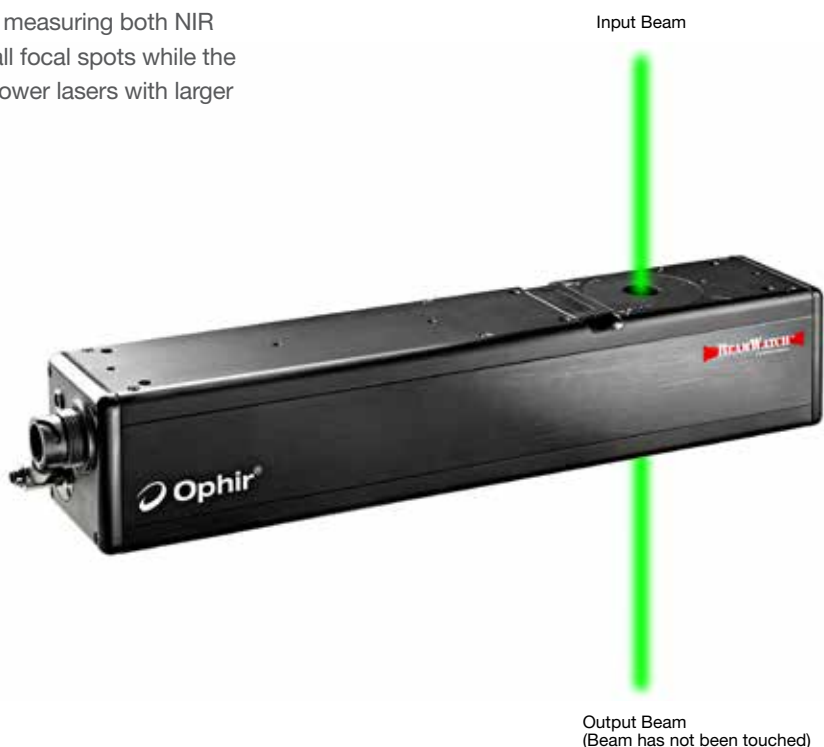
BeamWatch utilizes disruptive technology to measure laser beam characteristics of very high power lasers. By not intercepting the beam and yet providing instantaneous measurements, you can now monitor the beam at frequent intervals without having to shut down the process or remove tooling and fixtures to get access. In addition, you can now measure focal spot location at several times per second and know if there is any focal spot shift during those critical start-up moments.



The BeamWatch software accurately analyzes in real time the laser waist size and position, focal shift, M^2 , divergence and other parameters essential for industrial laser applications.

BeamWatch®Plus

The BeamWatch®Plus is capable of measuring both NIR and VIS high-power lasers with small focal spots while the BeamWatch® designated for high-power lasers with larger focal spots at NIR.



Specifications

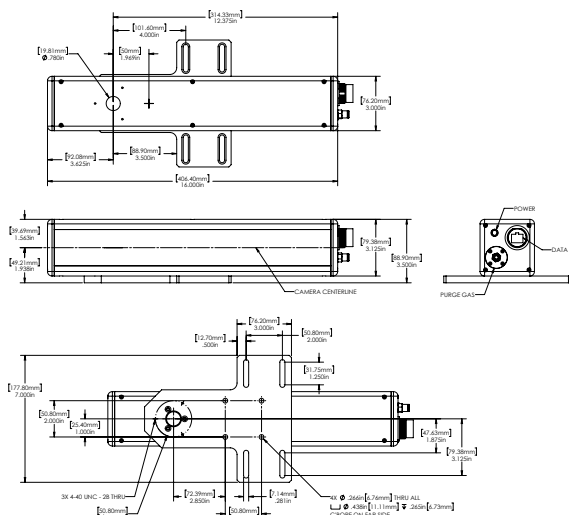
Model	BW-NIR-130	BW-PLUS-45	
Beam Profiling			
Wavelengths	950-1100nm	420-635nm	950-1100nm
Minimum Linear Power density ⁽¹⁾	15 kW/cm	230 W/cm	34 kW/cm
Minimum Power	400 W	3 W	400 W
Minimum spot size	130 μm ⁽²⁾		45 μm
Maximum Power	No limit		No limit
Field of View (FOV)	25.74mm x 8.55mm		9.01mm x 2.99mm
FOV resolution	16.5 μm		5.5 μm
Max Rayleigh Range	8.5mm		3mm
Maximum beam diameter at entrance/exit ⁽³⁾	12.5mm		12.5mm
Distance from top to center of FOV ⁽⁴⁾	39.7mm		39.7mm
Accuracy ⁽⁵⁾			
Waist width (Spot size)	$\pm 5\%$		$\pm 5\%$
Waist location	$\pm 125 \mu\text{m}$		$\pm 125 \mu\text{m}$
Focal shift	$\pm 50 \mu\text{m}$		$\pm 50 \mu\text{m}$
Beam parameter product	$\pm 2\%$ RMS		$\pm 2\%$ RMS
Divergence	$\pm 2\%$ RMS		$\pm 2\%$ RMS
M ²	$\pm 2\%$ RMS		$\pm 2\%$ RMS
General			
Communication to PC	GigE	GigE	
Power supply	12 Volts DC, 1.67 Amps max, 100-240V AC	12 Volts DC, 1.67 Amps max, 100-240V AC	
Particulate purge	Clean Dry Gas, approximately 35 PSI / 2.5 BAR Particle size < 5 μm , oil and water free	Clean Dry Gas, approximately 35 PSI / 2.5 BAR Particle size < 5 μm , oil and water free	
Weight	3.9 Kg	3.9 Kg	
Dimensions	16in x 7in x 35in 406.4mm x 177.8mm x 88.9mm	16in x 7in x 35in 406.4mm x 177.8mm x 88.9mm	
Operating / Storage Temperature	10 to 40°C / -20 to 80°C	10 to 40°C / -20 to 80°C	
Operating / Storage Humidity	20% to 80%, relative, non-condensing	20% to 80%, relative, non-condensing	
Compliance	CE, UKCA, China RoHS	CE, UKCA, China RoHS	
Ordering information			
Part Number	SP90623	SP90613	

Notes: (1) Linear Power Density calculated by Power / beam diameter.
 (2) Minimum spot size possible down to 125µm with additional 2% error.
 (3) OEM solutions available for larger aperture needs.
 (4) Cup aperture accessory (SP90476) has a 23.8mm distance to the center of the FOV. The deep cup accessory (SP98008) for BW-PLUS-45 only has a 12mm distance to the center of the FOV.
 (5) Specified accuracy for beam tilt < 5°.

Suggested Add-Ons

Item	Description	P/N
Cup aperture for BW-NIR-130	For applications requiring closer positioning of laser to center of FOV, Includes alignment tool.	SP90476
Cup aperture for BW-Plus-45	Enables down to 23.8mm distance to the center of the FOV	SP98008
Rotation Mount	Enables down to 12mm distance to the center of the FOV	SP90346
Locking Ethernet Cable	Add-on 180° manual rotation mount to bottom of BeamWatch	SP90394
5000W-BB-50	Replace standard Ethernet cable with one that locks into place, IP67 rated	7Z07111
10K-W-BB-45-V4	5kW water cooled power sensor	7Z07102
30K-W-BB-74	10kW water cooled power sensor	7Z07108
120K-W	30kW water cooled power sensor	7Z02691
Juno	Calorimetric, 120kW water circulated power sensor for laser with an approximately Gaussian beam and fiber output	7Z01250
Vega	Compact module to operate one Ophir sensor from your PC USB port	7Z01566
	Hand held color universal power meter	

BeamWatch



BeamWatch-Plus

