

INTERFIRE II 10.6 INTERFEROMETER

Specifications

| CONFIGURATION | INTERFIRE II 10.6 |
|------------------------------|--|
| Description | <ul style="list-style-type: none"> LWIR Twyman-Green unequal path interferometer |
| Acquisition Mode | <ul style="list-style-type: none"> Temporal phase shifting |
| Alignment Mode | <ul style="list-style-type: none"> Visible alignment laser |
| Wavelength | <ul style="list-style-type: none"> LWIR 10.6μm or 10.3μm-10.8μm tuneable or 9.1μm-10.9μm tuneable |
| Maximum Output | <ul style="list-style-type: none"> Test laser: <25mW Alignment laser: <45mW at 633nm |
| Maximum Cavity Length | <ul style="list-style-type: none"> > 30m |
| Beam Diameter | <ul style="list-style-type: none"> 30mm collimated |
| Polarization | <ul style="list-style-type: none"> Linear |
| Pupil Focus Range | <ul style="list-style-type: none"> 800mm |
| Pupil Magnification | <ul style="list-style-type: none"> 1x to 4x |
| Camera Options | <ul style="list-style-type: none"> LWIR 50Hz, 384 x 288 uncooled ferroelectric focal plane array High resolution 50Hz, 640 x 480 LWIR camera uncooled ferroelectric focal plane arra |
| Motorized Controls | <ul style="list-style-type: none"> Zoom, Focus, Tip-Tilt Reference Mirror |
| Additional Option | <ul style="list-style-type: none"> Beam Attenuation (manual) for low reflectivity test surfaces |
| Computer System | <ul style="list-style-type: none"> Laptop 32BIT, 4GB RAM |
| Operating System | <ul style="list-style-type: none"> Windows 7[®] (XP upon request) |
| System Software | <ul style="list-style-type: none"> μShape[™] and FastFringe[™] from TRIOPTICS μShape[™] Phase Shifting data acquisition FastFringe[™] instantaneous data acquisition Fringe contrast controlled via camera and frame grabber settings Reference generation, subtraction, data averaging, masking 2D and 3D surface maps Zernike / Seidel / Slope / Geometric / Fourier Analysis Absolute sphere, prism & corner cube analysis, multiple aperture analysis |
| Physical Envelope | <ul style="list-style-type: none"> Base Unit with internal LWIR laser: L67.5 x W26.0 x H28.0cm |
| Weight | <ul style="list-style-type: none"> Base Unit: 35kg |
| Power consumption | <ul style="list-style-type: none"> 720 Watts |



Applications

- Designed to perform precise quantitative testing of:
 - Components @ 10.6nm
 - Modules
 - Systems

Temperature Range

- Operational: 10 to 30°C, stability +/-2°C, non-condensing
- Storage: 5 to 45°C, non-condensing

WARRANTY

- 1 Year, limited,
- On-site system installation
- Operator training

OPTIONS

Beam Expanders

- Range of beam expanders available on request from x3 to x10 magnification

Transmission Spheres

- Range of transmission spheres available on request from f#0.75 and f#8.0

System Software

- Add-on Modules to μ Shape™ including homogeneity of optical materials, cylinders, aspherics, torics & fiber connector analysis

SYSTEM PERFORMANCE

Acquisition Rate

- μ Shape™ : 0.16 secs to 1.33 secs
- FastFringe™ : 20 millisecs

Sample Reflectivity

- 10 to 100%

PV Accuracy

- μ Shape™ with active calibration: wave aberration $<\lambda/50$ (typically $\lambda/100$)
surface deviation $<\lambda/100$ (typically $\lambda/200$)
- FastFringe™ : wave aberration $<\lambda/20$ (typical λ/TBA)
surface deviation $<\lambda/40$ (typical λ/TBA)

RMS Repeatability

- μ Shape™ with active calibration: wave aberration $<\lambda/100$ (typically $\lambda/500$)
wave aberration $<\lambda/50$ (typical λ/TBA)

All specifications subject to change without notice

Name
INTERFIRE II 10.6 •

Characteristics
The INTERFIRE II family of infra-red interferometers are designed to perform routine quality monitoring tests for optical components and systems.

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