Imagine **Copt**ic















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Our HASO3 Fast Shack-Hartmann wavefront sensors provide fast accurate and reliable measurements by uniting the standard HASO family's standard functionalities that customers have come to rely on, including absolute measurement, unequalled accuracy and insensitivity to vibration, with an acquisition speed of 905 Hz and 14 x 14 sampling points.



When coupled with our HASOv3 software package, you can perform both zonal and modal wavefront reconstruction; calculate the PSF*, MTF* and Strehl ratio*; visualize the spot diagram; and obtain the M^{2*} parameter. Adaptive optics users can take advantage of our CASAOTM software package to control adaptive optics loops to compensate for atmospheric turbulence, optimize the focal spots of laser beams and Freespace communications.

Number of microlenses14 x 14Refractive microlens technologystandard squareTilt dynamic range> ± 3 °Focus dynamic range - minimum local radius of curvature± 0.025 mFocus dynamic range - maximum NA0.1Repeatability (rms)< $\lambda/200$	Aperture dimension	1.7 x 1.7 mm ²
Refractive microlens technologystandard squareTilt dynamic range> ± 3 °Focus dynamic range - minimum local radius of curvature± 0.025 mFocus dynamic range - maximum NA0.1Repeatability (rms)< λ/200	Number of microlenses	14 x 14
Tilt dynamic range > ± 3 ° Focus dynamic range - minimum local radius of curvature ± 0.025 m Focus dynamic range - maximum NA 0.1 Repeatability (rms) < $\lambda/200$	Refractive microlens technology	standard square
Focus dynamic range - minimum local radius of curvature± 0.025 mFocus dynamic range - maximum NA0.1Repeatability (rms)< λ/200	Tilt dynamic range	> ± 3 °
Focus dynamic range - maximum NA0.1Repeatability (rms)< λ/200	Focus dynamic range - minimum local radius of curvature	± 0.025 m
Repeatability (rms) < λ/200	Focus dynamic range - maximum NA	0.1
	Repeatability (rms)	< \\/200
Wavefront measurement accuracy in absolute mode rms ¹ $\sim \lambda/100$	Wavefront measurement accuracy in absolute mode rms ¹	~ \\/100
Wavefront measurement accuracy in relative mode rms^2 ~ $\lambda/150$	Wavefront measurement accuracy in relative mode rms ²	~ \\/150
Tilt measurement sensitivity (rms) 6 µrad	Tilt measurement sensitivity (rms)	6 µrad
Focus measurement sensitivity (rms) 5x10 ⁻³ m ⁻¹	Focus measurement sensitivity (rms)	5x10 ⁻³ m ⁻¹
Spatial sampling ~ 110 µm	Spatial sampling	~ 110 µm
Maximum acquisition frequency 905 Hz	Maximum acquisition frequency	905 Hz
Processing frequency 800 Hz	Processing frequency	800 Hz
Working wavelength 350-1100 nm	Working wavelength	350-1100 nm
Calibrated wavelength band On request	Calibrated wavelength band	On request
Extended calibrated wavelength band On request	Extended calibrated wavelength band	On request
Dimensions / weight 115 x 51 x 60 mm / 400 g	Dimensions / weight	115 x 51 x 60 mm / 400 g
Working temperature 15 – 30°	Working temperature	15 – 30°
Power supply 12 V / 6 W	Power supply	12 V / 6 W
Interface CamLink	Interface	CamLink

1) Difference between the real wavefront and a reference wavefront obtained in similar conditions (10 λ of shift maximum). 2) Wavefront as seen by the wavefront sensor. Performance kept on the whole spectral range.

Contact us for more information: contact@imagine-optic.com or +33 1 64 86 15 60





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