



HASO™ - 32 eye

Shack-Hartmann wavefront sensor

Technical Specifications

HASO 32 - eye wavefront sensors are specially designed for the needs of researchers and integrators. These quality devices unite plug and play installation with high resolution and wide dynamic range to provide excellent measurement capabilities for a wide array of ophthalmic and adaptive optics applications.

Package contents:

- HASO wavefront sensor & connection cables (plug-n-play)
- installation CD-ROM with HASOV3 software
- user manual

HASO 32 - eye	
Aperture dimension	4.5 x 3.6 mm ²
Sub-apertures dedicated to analysis	40 x 32
Number of lenslets	1280
Tilt dynamic range	>± 3° (400λ)
Focus dynamic range	± 0.015 m to ± ∞ (400λ)
Repeatability (RMS)	< λ / 200
Wavefront measurement accuracy (absolute mode)*	~ λ / 100
Wavefront measurement accuracy (relative mode)**	~ λ / 150
Tilt measurement sensitivity	5 μrad
Focus measurement sensitivity	3.10 ⁻³ m ⁻¹
Spatial resolution	~110 μm
Maximum acquisition frequency ***	60 Hz
Calibrated wavelength	780 nm
Working temperature	15 - 30° C
Dimensions / weight	30 x 35 x 54 mm / 150 g
Power supply	12 V / 2 W
Connectivity	Firewire
Software Compatibility	Windows XP, Windows 7 (version B for x64)
INCLUDED SOFTWARE	
HASO driver - functions library	DLL in C/C++ or VI for Labview Functions: acquisition, wavefront local slope processing, reconstruction, zonal mode.
HASOV3	HASOV3 is a user friendly application that provides a variety of wavefront measurement and analysis tools.
ADDITIONAL SOFTWARE ****	
CASAO adaptive optics software (SDK & other options available)	AO software package that includes wavefront sensor control, AO diagnostics and closed-loop operations.
Optional packages for HASOV3	Wavefront and extended wavefront reconstruction, PSF, MTF, laser beam characterisation

*Wavefront seen by the analyser. **Difference between the real wavefront obtained in similar conditions (5 λ of shift maximum).
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