HASO SWIR

Wavefront sensor
The InGaAs

High accuracy
SWIR range
Alignment-free

EMVA 1288 compatible

imagine optic

HASO SWIR +

A great choice for short wavelength infrared applications, ideal for industry and laboratories.

This generation features the new SpotTracker™ technology. It provides absolute wavefront and tilt information, eliminating alignment requirements for faster and easier implementation.

Compatible with the Optical Engineer Companion modular system: easily combine the accessories you need.

APPLICATIONS

Successfully used in the most demanding applications in optical metrology, microscopy, and laser diagnostics, the HASO SWIR performs multiple functions:

+ Quantify aberrations in optical systems for LIDAR, free-space communication, space and defense, etc.
+ Align the system to ensure that it performs at its best
+ Predict the performance of optical systems in terms of focusing capability (PSF) or imaging quality (MTF)
+ Verify that the optics comply with specifications
+ Directly measure the optical system's wavelength dependency
+ Drive a wavefront corrector to correct for system aberrations
+ Check whether the optical mount overly distorts the optics
+ Diagnostic of ultra-short-pulses with the Gated version

FEATURES

+ Laser beam deviation control better than 5 µrad RMS
+ Collimation diagnostic up to curvature radii over 300m
+ Live wavefront acquisition. Measurement accuracy λ/100 RMS guaranteed for beams down to F/5
+ True tilt measurement, curvature, astigmatism and high-order aberrations quantification
+ Optionnal Gated version with ultra-short exposure time feature to synchronize with a pulsed laser.

SPECIFICATIONS*

OPERATING SPECS

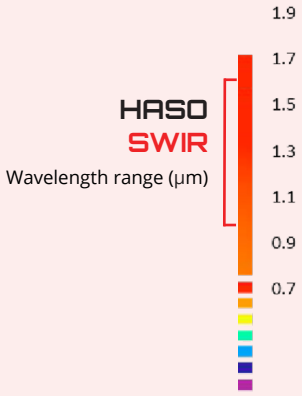
Aperture dimension	9.30 x 7.44 mm²
Number of microlenses	40 x 32
Maximum acquisition frequency	150 Hz (USB 3.0) or 49 Hz (with GigE converter)
Calibrated wavelength range	980 - 1 650 nm
Minimum power	0.3 pW
External trigger	TTL signal
Operating system	Windows 10 & 11

OPTICAL SPECS

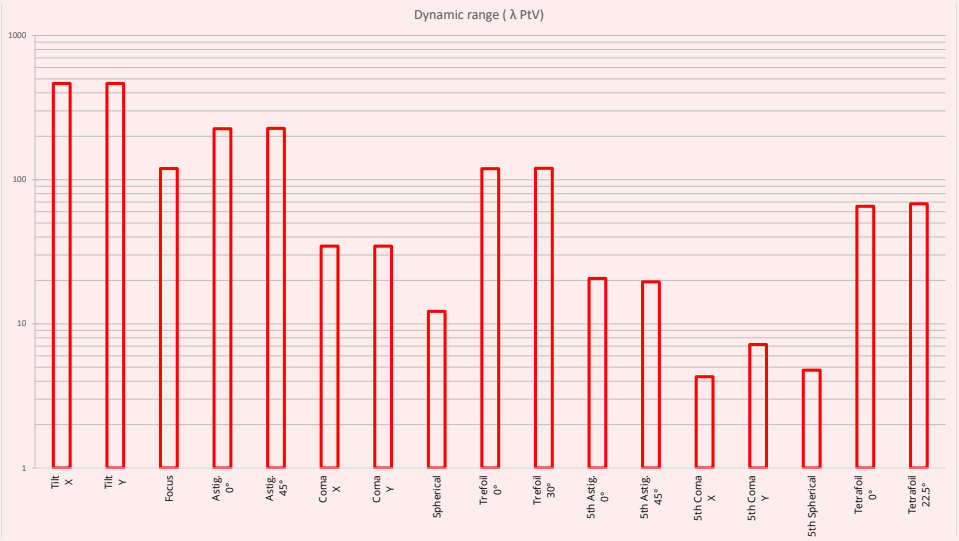
Repeatability	λ/200 RMS
Absolute wavefront measurement accuracy	λ/100 RMS
Spatial sampling	~ 232.5 µm
Local radius of curvature dynamic range	± 0.017 m to ± ∞
Curvature measurement accuracy	5 mδ

MISC

Dimensions (Height x Width x Length)	75 x 78 x 63 mm³
Weight for USB version	250 g
Working temperature	15 - 30 °C
Interface	USB 3.0 or optional GigE converter
Power consumption	< 5 W
Exposure time of Gated version	100 ns - 9 µs

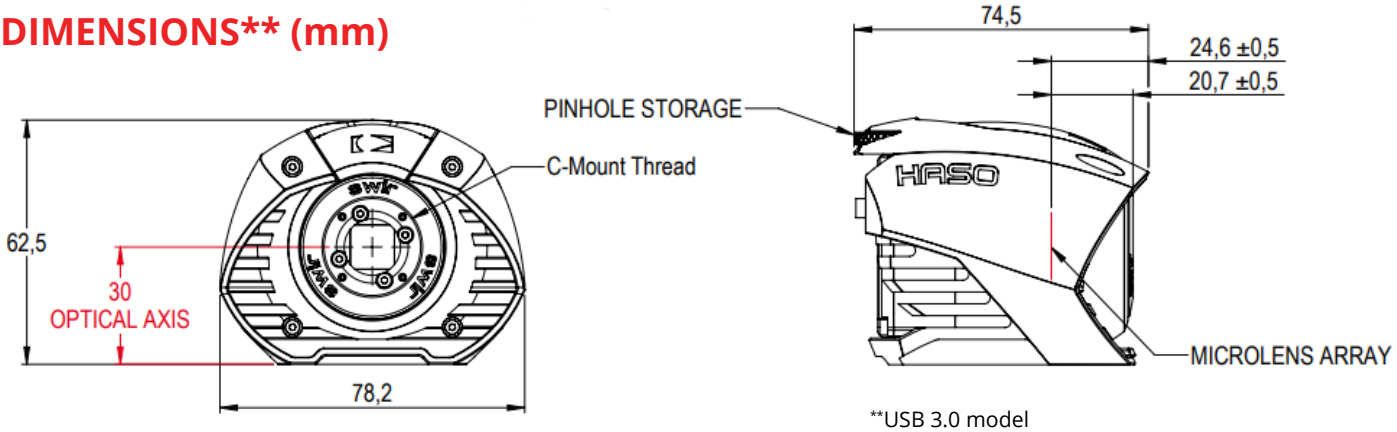


HASO SWIR
Dynamic range at λ = 1550 nm



*Subject to changes without further notice
/!\ Acquisition & processing frequencies depend on computer

DIMENSIONS** (mm)



**USB 3.0 model

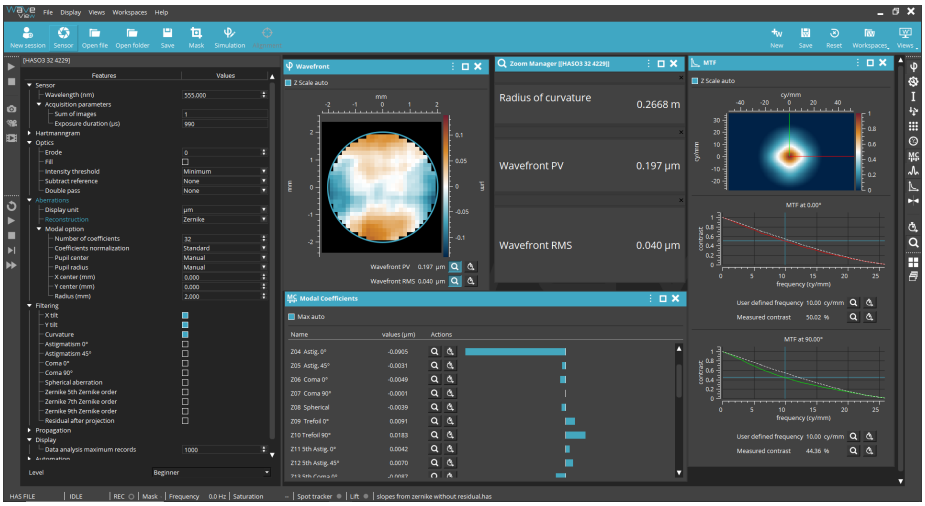
SOFTWARE

WAVEVIEW™
Metrology Software

WAVEVIEW™ is the most advanced wavefront measurement and analysis software.
It offers more than 150 features and tools optimized for a wide range of highly demanding applications.

Options :

+ Extensions for PSF, MTF, M², Strehl ratio and advanced Zernike
+ Optional SDK in C/C++, LabVIEW and Python

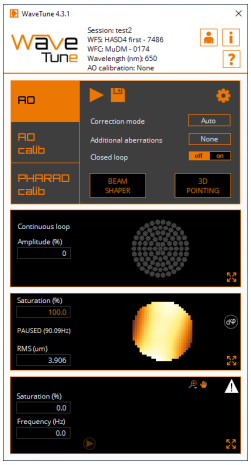


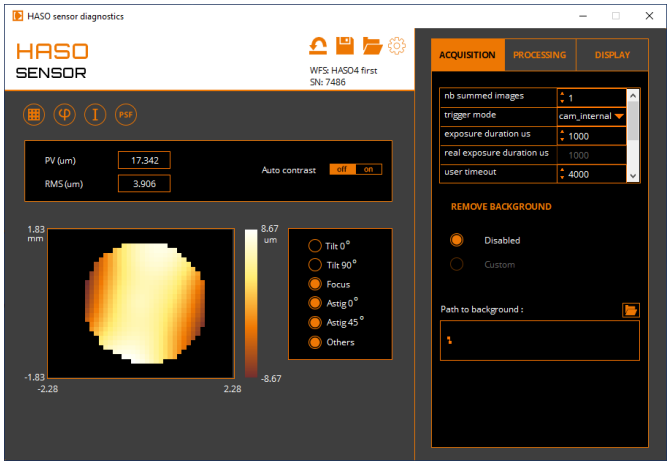
WAVETUNE™
Adaptive Optics Software

WAVETUNE™ is a unique software that seamlessly combines wavefront measurement and correction features with extensive instrument diagnostics.
It is perfectly adapted to our HASO wavefront sensors, ILAO STAR, MIRAO and mu-DM deformable mirrors, as well as to a wide range of active components.

Options :

+ Optional SDK in C/C++, LabVIEW and Python





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