


高分解能 光波面センサー

LIFT SWIR

160

Wavefront sensor
The Prodigy

Ultra-high resolution
SWIR range
Alignment-free

 compatible



imagine
 optic



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LIFT SWIR 160 DATASHEET 2805

LIFT SWIR 160 +

A great choice for the most demanding SWIR optical metrology applications, the LIFT SWIR 160 wavefront sensor provides the highest resolution in SWIR.

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 LIFT SWIR 160 performs multiple functions :

- + Optical manufacturing metrology
- + Complex optics characterization
- + Middle frequencies mirror surface characterization
- + Optical quality control, metrology (LIDAR, free space communication, Automotive, Space and defense)
- + Predict the performance of optical systems in terms of focusing capability or imaging quality
- + Drive a wavefront corrector to correct for system aberrations
- + Quantify the effects of temperature and gravity on system performance

FEATURES

- + Direct wavefront acquisition of highly converging and diverging beams with an accuracy of $\lambda/100$ RMS, including astigmatism and high-order aberrations, and many other parameters, making it the perfect instrument for any complex optics alignment
- + Beam collimation with sensitivity > 1 km radius of curvature
- + Control and adjustment of axial laser beam deviation $> 3 \mu\text{rad}$ RMS
- + Complex optics characterization in single or double path configuration in combination with R-FLEX2 metrology systems or R-FLEX LA metrology platforms
- + 3D MTF measurements



SPECIFICATIONS*

OPERATING SPECS

Aperture dimension	9.3 x 7.4 mm ²
Phase sampling	160 x 128
Maximum acquisition frequency	150 Hz (USB 3.0) or 49 Hz (with GigE converter)
Calibrated wavelength range	980 - 1 650 nm
Minimum power	1 pW
External trigger	TTL signal
Operating system	Windows 10 & 11

OPTICAL SPECS

Repeatability	$\lambda/200$ RMS
Absolute wavefront measurement accuracy	$\lambda/100$ RMS
Spatial sampling	58 μ m
Local radius of curvature dynamic range	$\pm 0,040$ m to $\pm \infty$
Curvature measurement accuracy	5 m δ

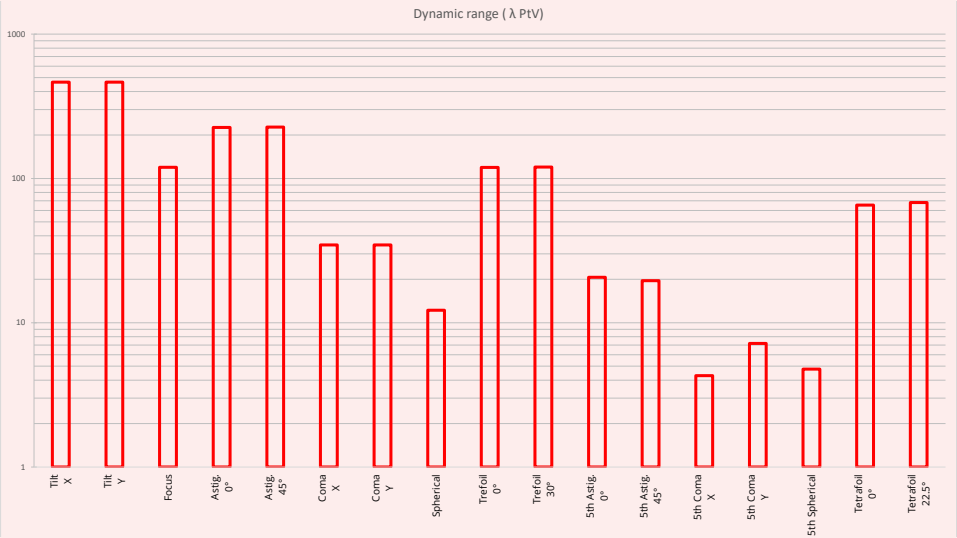
MISC

Dimension	75 x 78 x 63 mm ³ (USB 3.0)
Weight for USB version	250 g
Working temperature	15 - 30 °C
Interface	USB 3.0 or optional GigE converter
Power consumption	< 5 W

LIFT SWIR 160
Wavelength range (nm)

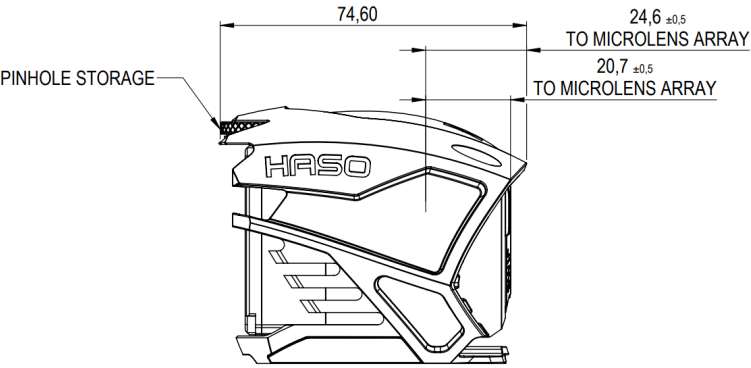
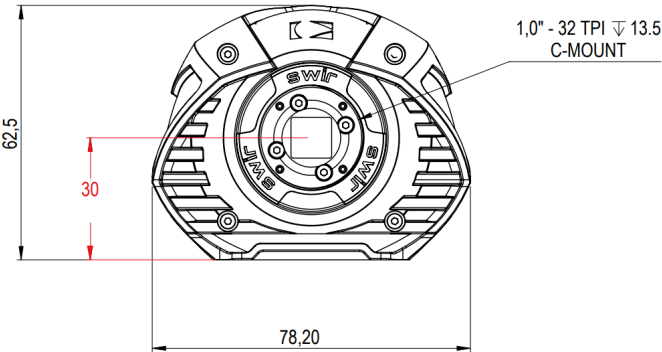


LIFT SWIR 160
Dynamic range at $\lambda = 1550$ nm



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

DIMENSIONS** (mm)



**USB 3.0 model

SOFTWARE

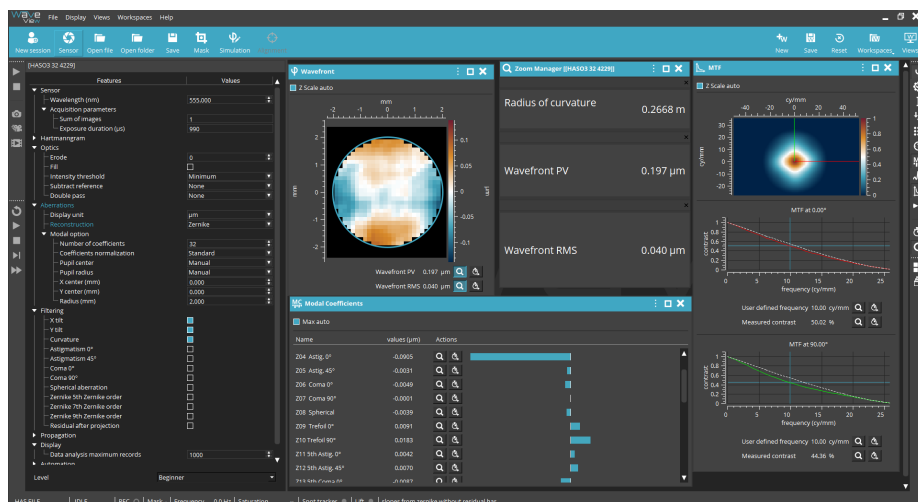
WAVEVIEW™ Metrology Software

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



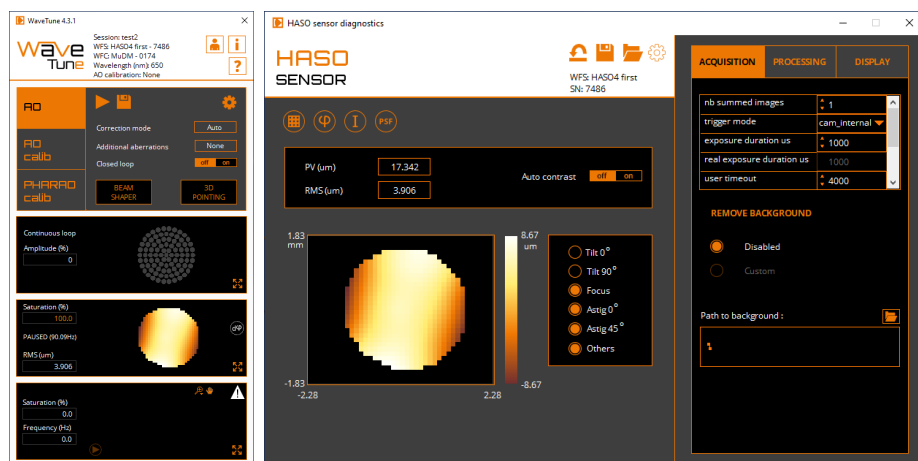
WAVETUNE™ Adaptive Optics Software

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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