

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



ON Semiconductor compatible



imagine  
optic



光貿易株式会社 〒113-0034 東京都文京区湯島3-13-8 湯島不二ビル301  
メール: [contact@hikari-trading.com](mailto:contact@hikari-trading.com) ウェブサイト: <http://www.hikari-trading.com>  
TEL: 03-3832-3117 FAX: 03-3832-3118

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

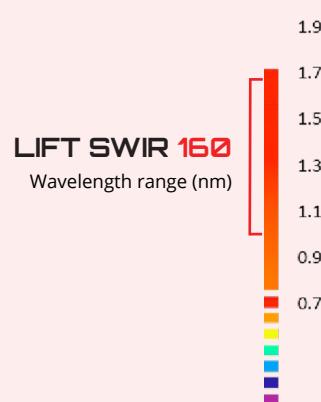
Aperture dimension	9.3 x 7.4 mm <sup>2</sup>
Phase sampling	160 x 128
Maximum acquisition frequency	150 Hz (USB 3.0) or 49 Hz (with GigE converter)
Calibrated wavelength range	980 - 1 650 nm
Minimum power	1 pW
External trigger	TTL signal
Operating system	Windows 10 & 11

### OPTICAL Specs

Repeatability	$\lambda/200$ RMS
Absolute wavefront measurement accuracy	$\lambda/100$ RMS
Spatial sampling	58 $\mu$ m
Local radius of curvature dynamic range	$\pm 0.040$ m to $\pm \infty$
Curvature measurement accuracy	5 m $\delta$

### MISC

Dimension	75 x 78 x 63 mm <sup>3</sup> (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

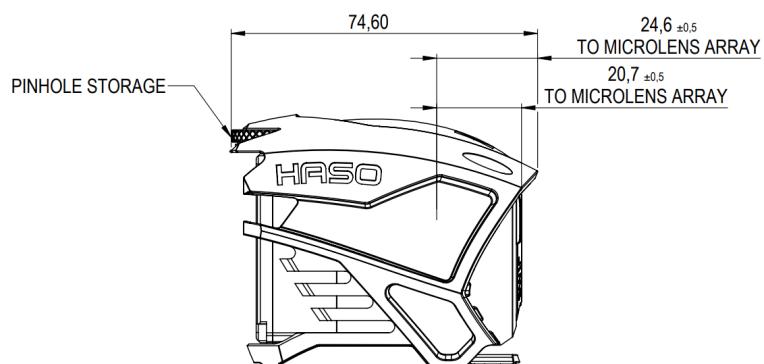
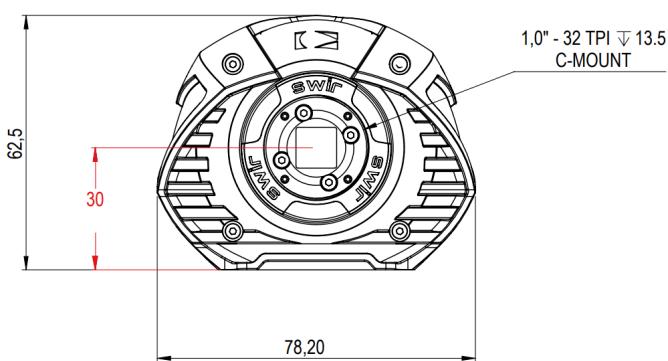
Dynamic range at  $\lambda = 1550$  nm



\*Subject to changes without further notice

! Acquisition & processing frequencies depend on computer

## DIMENSIONS\*\* (mm)



\*\*USB 3.0 model

# SOFTWARE

## WAVEVIEW™

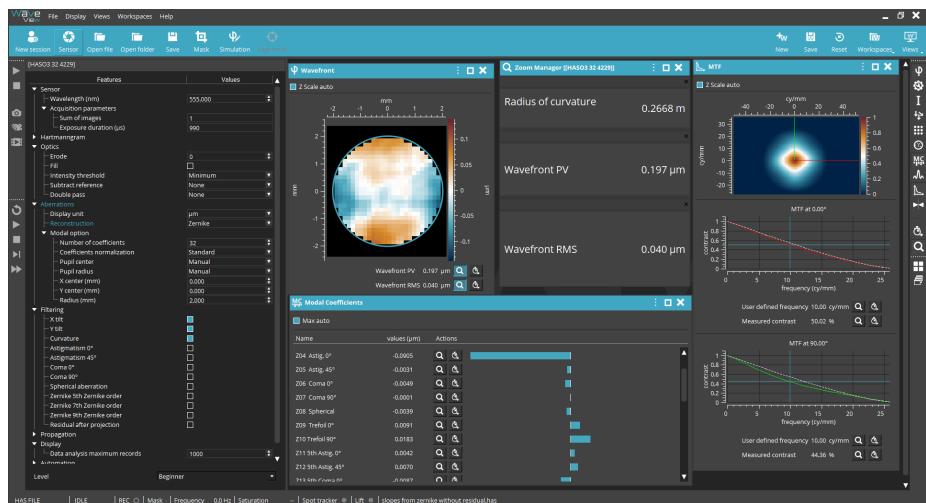
### Metrology Software

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, M<sup>2</sup>, 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

