

# HASO MULTISPECTRAL

Wavefront sensor **The Polychromatic** 

Spatio-temporal characterization Easy & fast to use Broad spectral range





# HASO MULTISPECTRAL +

The HASO MULTISPECTRAL is an excellent choice for most laboratories and large installations. It is Imagine Optic's proposal for direct spectrallyresolved wavefront measurement, ideal for compressor alignment.

This innovation is based on the proven Shack-Hartmann wavefront sensing technology.

# **APPLICATIONS**

HASO MULTISPECTRAL is the first-ever wavefront sensor on the market capable of resolving frequency on a broad spectral range from 550 - 1000 nm. Coupled with our standard HASO4 BROADBAND, it allows a complete characterization of TW and PW class lasers in order to optimize the peak intensity on the target.

This new device is perfectly suited for:

- + Compressor alignment
- + Characterization of compressed or stretched beams
- + Alignment of complex broadband systems
- + Understanding spatio-temporal coupling
- + Precise measurement of spatial chirp, chromatic curvature

# **FEATURES**

- + Fast measurement and direct post-processing
- + Compatible with compressed or stretched pulses
- + Nanometric spectral resolution
- + Handles very short laser pulses down to ~ 5 fs
- + Compatible with lowest repetition rates, ex. 0.1 Hz
- + Removable HASO4 BROADBAND for standalone use
- + Optional exchangeable collimating optics (contact us for available
- N.A. adapted to your laser beam)



# **SPECIFICATIONS**

#### HASO MULTISPECTRAL OPERATING SPECS

Input beam Aperture dimension Calibrated wavelength range Spectral resolution

#### MISC

Dimensions (Height x Width x Length) Weight for USB version Working temperature Interface

#### EMBEDDED HASO4 BROADBAND OPERATING SPECS

Aperture dimension Number of microlenses Maximum acquisition frequency Calibrated wavelength range Minimum power External trigger Operating system

#### **OPTICAL SPECS**

Repeatability Absolute wavefront measurement accuracy • λ between 350-600 nm • λ between 600-1100 nm Spatial sampling Tilt dynamic range Focus dynamics range

#### MISC

Dimensions (Height x Width x Length) Weight Working temperature Interface Power consumption collimated (default) or any F/# (option) 5.0 x 5.0 mm<sup>2</sup> 550 - 1000 nm 1 nm

80 x 262 x 280 x mm<sup>3</sup> 4 kg 15 - 30 °C Ethernet or USB 3.0

6.9 x 5.1 mm<sup>2</sup> 68 x 50 125 Hz 350 - 1100 nm 0.15 nW TTL signal Windows 10

## < λ/200 RMS ≤ 6 nm RMS ~ λ/100 RMS

~ 105 µm > ± 3° ± 0.010 m to ± ∞

42 x 47 x 60 mm<sup>3</sup> 200 g 15 - 30 °C USB 3.0 3.1 W



350

# MODULARITY

+ HASO MULTISPECTRAL is designed to be easy to set up and align. Only an attenuated 5 mm collimated beam is required as input. Any NA can be handled by adding an optional module

+ With its self-aligning magnetic mount, HASO4 WFS can be easily used as a stand-alone sensor for diagnostic, purposes, or to monitor an adaptive optic loop. Once repositioned on the MULTISPECTRAL platform, it is instantly realigned with SpotTracker<sup>™</sup>



# **SOFTWARE**

#### MULTISPECTRALVIEW<sup>™</sup> Metrology Software

+ MULTISPECTRALVIEW<sup>™</sup> is our dedicated software for spatio-temporal coupling analysis
+ It enables the alignment of the device and a complete and direct characterization of the beam





# **CONTACT US**

### **Imagine Optic Headquarters** 18, rue Charles de Gaulle

91400 ORSAY · France Phone +33 (0)1 64 86 15 60 sales@imagine-optic.com www.imagine-optic.com



HASO MULTISPECTRAL DATASHEET 2306