

## WaveFront Sensor ShaH-10020

- The ShaH-10020 - industrial Shack-Hartman wavefront sensor is intended for a wide range of applications including fast and precise quality control of optical elements, airflow analysis, measurement of laser beam parameters, etc.

- A special high-precision algorithm for locating hartmann image spots centers provides very accurate measurements even in difficult viewing conditions.

- The SDK (C++) allows to operate all functions of the sensor and to achieve easy integration with user software.

### TECHNICAL SPECIFICATIONS

Aperture dimension (diameter)	100 mm
Spatial resolution	2.5 mm
Number of points for analysis	1500
Maximum tilt normal/extended mode	±1.5/4.5 mrad
Minimum measured curvature	±35 m
Repeatability RMS	0.4 nm
Absolute measurement accuracy RMS	$\lambda/100$ *
Relative measurement accuracy RMS (At maximum angular source size <0.7 mrad)	$\lambda/1800$
Relative measurement accuracy P-V (Within 90% of input aperture)	$\lambda/450$
Tilt measurement sensitivity	0.015 $\mu$ rad
Curvature measurement sensitivity	1600 km
Acquisition frequency normal/binning mode	20/60 Hz
Processing frequency	up to 60 Hz
Hartmann image acquisition	8/10 bit
Working wavelength	350-1100 nm
Calibrated waveband	200 nm
Maximal exposure (at wavelength 700 nm)	0.05 nJ/cm <sup>2</sup>
Working temperature	0-+40 °C
Weight	15 kg
Dimensions (LxHxW)	400x170x255 mm

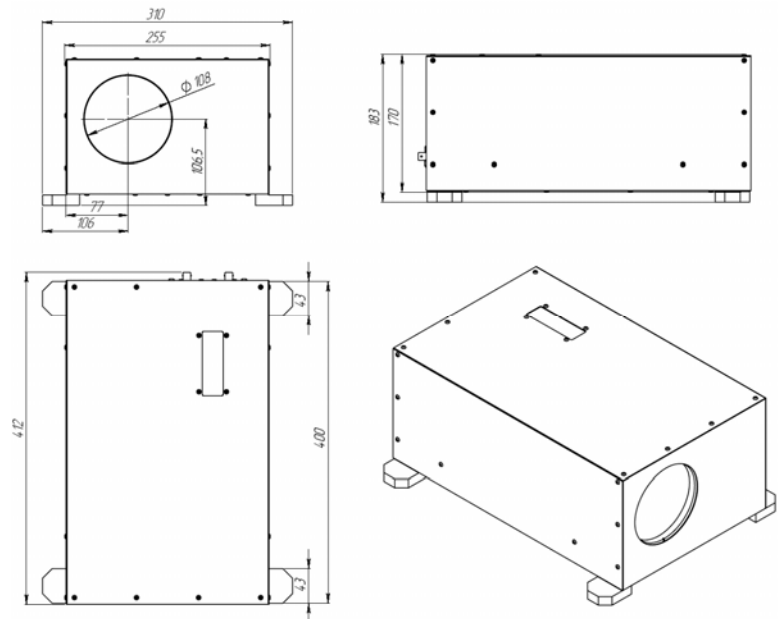


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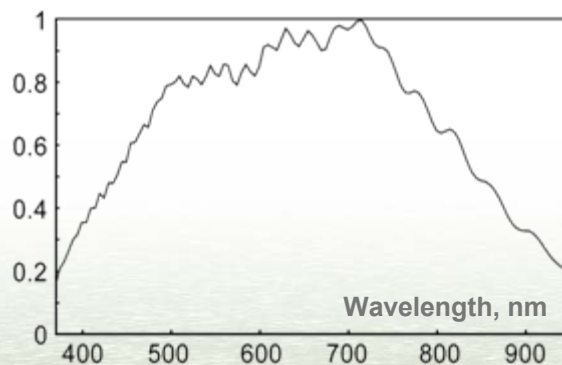
TECHNICAL SPECIFICATIONS	
Interface/power supply	USB-2
Connector for INPUT/OUTPUT synchronization	Mini DIN
Operating system	Windows 2000/XP/Vista
Output data	<ul style="list-style-type: none"> <li>• Sequence of raw hartmann images</li> <li>• Spot shift map</li> <li>• Wavefront aberration map (3D plot, 2D projection, synthesized interferogram, up to 55 Zernike polynomials)</li> <li>• Measurement error map</li> <li>• PSF (point spread function)</li> <li>• MTF (modulation transfer function)</li> <li>• Strehl ratio</li> <li>• M2 factor</li> <li>• Gauss-Hermite modes</li> </ul>

\* Better accuracy available upon request

MECHANICAL DIMENSIONS



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