



The SHSInspect RL module is a versatile wavefront measurement tool for functional testing of optics in double pass or for surface measurements. It unites SHSLab wavefront sensor, light source and imaging optics in a single, compact device and can be easily integrated into table top set-ups, testing platforms or production lines.

Benefits:

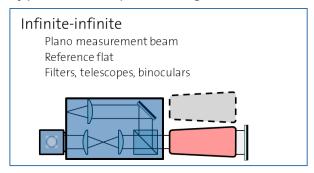
- Large variety of measurement configurations
- Modular illumination unit for easy wavelength change
- Well established calibration procedures for high accuracy measurements
- Wavefront sensor can be used separately

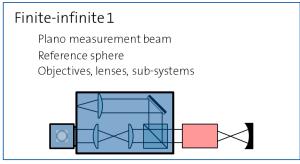
Illumination System	SHSInspect RL module		
Operation wavelength Exit pupil diameter VIS (400nm-700nm) or NIR (700nm-1050nm) Exit pupil diameter 4.2mm / 10mm (plane wavefront) Mechanical Properties of RL module without SHSCam and additional optics Dimensions (LxWxH) 275 x 180 x 90 mm³ Weight 4 kg Included Accessories Cat's eye module Tilt calibration unit Plano mirror lambda/20 PV on exit pupil diameter of RL module SHSLab (quoted separately, see separate data sheets for further information) Lateral resolution Lateral resolution 111 x 93 / 203 x 203 microlenses (SHSCam HR3/ UHR3) Evaluation rate (typ.) 10Hz / 4Hz Measurement accuracy Typical lambda/20 PV; depends on application and calibration method Software SHSWorks Wavefront and Zernike analysis, PSF, MTF, Strehl ratio, etc. Performance of the RL module with SHSLab Measurement Measurement accuracy Typical lambda/20 PV; depends on application and calibration method Repeatability 2nm rms¹ Optional Accessories Null lenses Microscope objectives with different NA available (up to NA=0.8) Beam expander For adaption of the diameter of the collimated out-put beam Beam	Illumination Custom		
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Reference spheres For double pass measurement of optics and for calibration of objectives	Light sources		
objectives	Calibration flats		
	Reference spheres		
	Workstation PC		

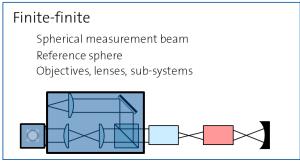
Customization of the RL module possible upon request:
- Other operation wavelength range (UV / SWIR)
- Other light sources (lasers, laser diodes)
- Other null lenses

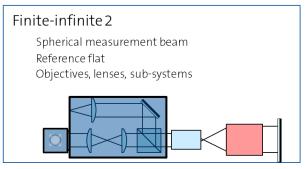
¹ The repeatability is the difference between two successive wavefront measurements.

Typical double pass configurations

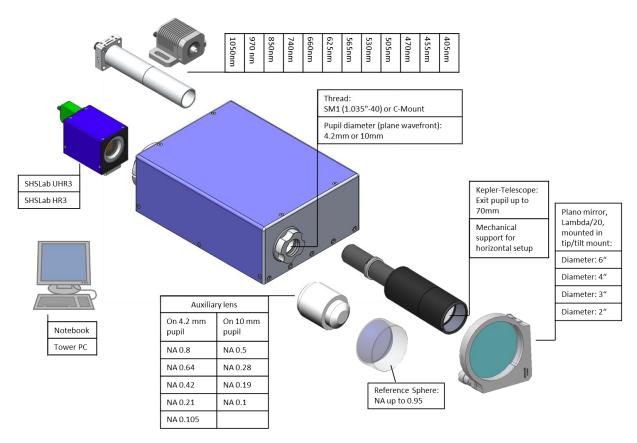








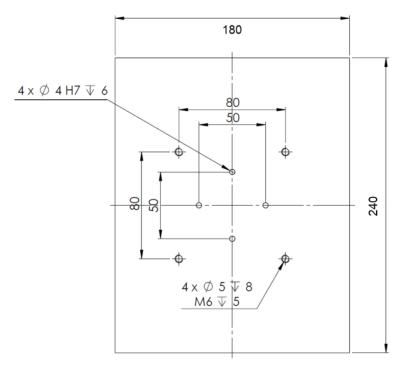
Overview of Options



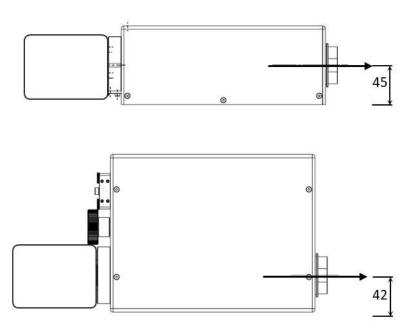
Light Sources: Different fibre-coupled LEDs available in combination with quick-change collimator tubes. When coupled to the RL module, all light sources will yield an output beam with a top hat like intensity profile and a plane wave-front profile.

Microscope Objectives: The objectives listed above are optimized for the VIS wavelength range. Further objectives for NIR range are available.

Schematic drawings



Base plate of the module and position of threaded holes.



Side- and top-view of the SHSInspect RL module, optical axis is indicated (SHSCam shown only schematically)