



- The ShaH-1220 - 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.

VISIONICA

WaveFront Sensor ShaH-1220

### TECHNICAL SPECIFICATIONS

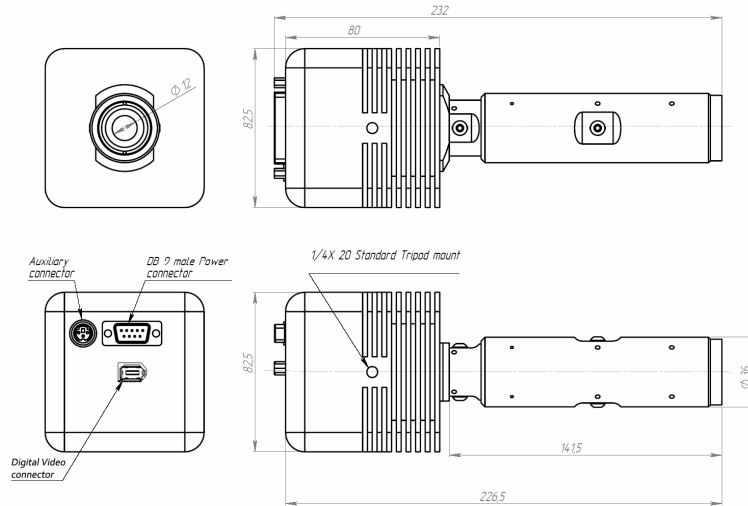
|  |  |
|--|--|
| Aperture diameter  | 12.5 mm                                |
| Spatial resolution   | 480 $\mu\text{m}$                      |
| Number of points for analysis  | 650                                    |
| Maximum tilt normal/extended mode                                    | $\pm 20/60$ mrad                       |
| Minimum curvature  | $\pm 0.3$ m                            |
| Repeatability RMS  | 0.6 nm                                 |
| Absolute accuracy RMS  | $\lambda/100$ *                        |
| Relative accuracy RMS<br>(at maximum angular source size $< 3$ mrad) | $\lambda/1000$                         |
| Relative measurement accuracy P-V<br>(within 90% of input aperture)  | $\lambda/200$                          |
| Tilt measurement sensitivity   | 0.18 $\mu\text{rad}$                   |
| Curvature measurement sensitivity                                    | 17 $\mu\text{m}$                       |
| Acquisition frequency normal/binning mode                            | 10/20 Hz                               |
| Processing frequency   | up to 20 Hz                            |
| Hartmann image acquisition   | 12 bit                                 |
| Working wavelength   | 300-1000 nm                            |
| Calibrated waveband  | 300 nm                                 |
| Maximal exposure (at wavelength 550 nm)                              | 0.02 $\text{nJ}/\text{cm}^2$           |
| Working temperature  | from $-10$ to $+50$ $^{\circ}\text{C}$ |
| Weight   | 1.2 kg                                 |
| Dimensions   | 232x83x93 mm                           |

\* Better accuracy available upon request



|                         |   |
|-------------------------|---|
| Digital Video Connector | IEEE1394  |
| Auxiliary Connector     | Mini DIN  |
| Power connector         | DB-9M   |
| Operating system        | Windows 2000/XP/Vista/7/8 (32/64-bit)   |
| 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>• Defocus/Curvature/Astigmatism</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> <li>• Turbulence parameters <math>C_n^2</math>, <math>R_0</math> and other</li> </ul> |

DIMENSIONS



SPECTRAL RESPONSIVITY

