

Extreme versatility

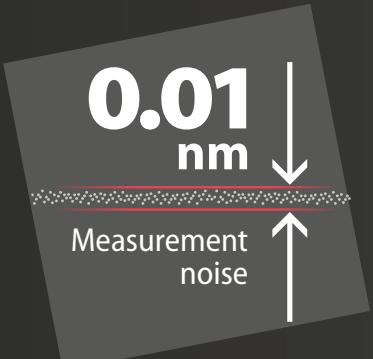
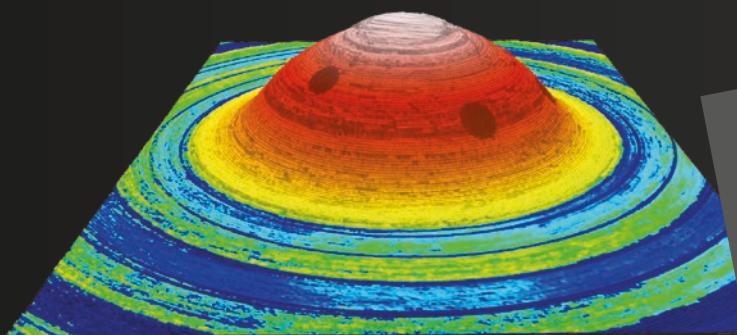
with high performance



4-in-1 technologies
Ai Focus Variation | Confocal
Interferometry | SR

4 LEDs
Red | Green | Blue | White

The **S neox** pushes versatility to the extreme with 4-in-1 technology, providing unparalleled adaptability for different application requirements and maximum measurement flexibility on any surface. The versatility of the S neox allows for having DIC that enhances contrast to spot surface defects while choosing from 37 different objectives. Also, the option to add a piezoelectric Z motor provides the S neox with the highest performance in optical metrology.



Objective lenses

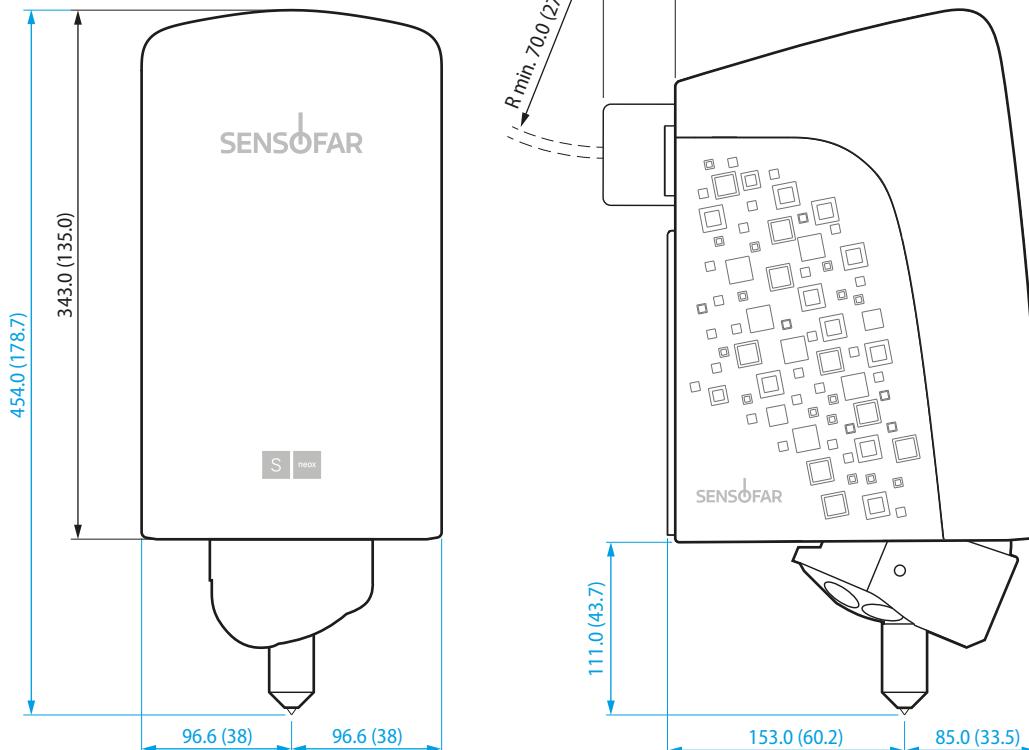
MAG	Brightfield						Interferometry						
	5X BF	10X BF	20X BF	50X BF	100X BF	150X EPI	5X MC	10X MC	10X MR	20X MC	20X MR	50X MR	100X MR
NA	0.15	0.30	0.45	0.80	0.90	0.90	0.14	0.10	0.28	0.10	0.38	0.50	0.70
WD (mm)	20.00	15.80	3.00	1.00	1.00	1.50	13.00	25.00	8.00	16.70	6.00	3.60	2.00
FOV ¹ (µm)	3378 x 2826	1689 x 1413	845 x 707	338 x 283	169 x 141	113 x 94	3378 x 2826	1689 x 1413	1689 x 1413	845 x 707	845 x 707	338 x 283	169 x 141
Spatial sampling ² (µm)	1.38	0.69	0.34	0.13	0.07	0.05	1.38	0.69	0.69	0.34	0.34	0.13	0.07
Optical resolution ³ (µm)	0.94	0.47	0.31	0.18	0.16	0.16	1.00	1.40	0.50	1.40	0.37	0.28	0.20
Measurement noise ⁴ (nm)	115	30	8	4	3	2	PSI/ePSI 0.1 nm (0.01 nm with PZT); CSI 1 nm						
Maximum slope ⁵ (°)	9	17	27	53	64	64	8	6	16	6	22	30	44

System specifications

Measuring principle	Confocal, PSI, ePSI, CSI, Ai Focus Variation and Thin Film	Sample reflectivity	0.05 % to 100%
Measurement types	Image, 3D, 3D thickness, profile and coordinates	Advanced Software Analysis	Inc: SensoVIEW; Op: SensoPRO, SensoMAP
Camera	5 Mpx: 2448x2048 px (60 fps)	Communication protocol	DLL; XML (optional)
Confocal frame rate	60 fps (5 Mpx); 180 fps (1.2 Mpx)	Computer	Latest INTEL processor
Vertical scan range coarse	Linear stage: 40 mm range; 5 nm resolution	Operating system	Microsoft Windows 10®, 64 bit
Vertical scan range fine	Piezoelectric scanner with capacitive sensor: 200 µm range; 1.25 nm resolution	Cable Length	3 m (5 m, 10 m optional)
Max. Z measuring range	PSI 20 µm, ePSI 10 mm, CSI 10 mm; Confocal & Ai Focus Variation 34 mm	Environment	Temperature 10 °C to 35 °C; Humidity <80 % RH; Altitude <2000 m
LED light sources	Red (630 nm); green (530 nm); blue (460 nm) and white (575 nm; center)		
Nosepiece	6 positions fully motorized		

Dimensions

mm (inch)

Weight⁶: 8.3 Kg
(18.4 lbs)Head dimensions
Working distances

1 Maximum field of view with 3/2" camera and 0.5X optics. **2** Pixel size on the surface. **3** L&S: Line and Space, half of the diffraction limit according to the Rayleigh criterion. Spatial sampling could limit the optical resolution for interferometric objectives. Values for blue LED. **4** Measurement noise measured as the difference between two consecutive measures on a calibration mirror placed perpendicular to the optical axis. For interferometry objectives, PSI, 10 phase averages. The 0.01 nm are achieved with Piezo stage scanner and temperature-controlled room. Values for green LED (white LED for CSI). Values obtained in a VC-E vibration environment. **5** On smooth surfaces. Up to 86° on rough surfaces. **6** This is the weight of the sensor head with one objective in the turret.