



Description:	<p>SCALA basic platform includes:</p> <ul style="list-style-type: none"> • Integrated electronics and optical measurement unit. • CPU with control software included. • TFT monitor + keyboard + mouse. • Sample monitoring webcam (optional).
Detection modes on basic platform:	<p>STATIC</p> <ul style="list-style-type: none"> • 1 Point measurements (adjustable position). • Profile measurements. <p>DYNAMIC</p> <ul style="list-style-type: none"> • Thermal noise measurements.
Scanning range:	<p>XY scan field area: 12x12 mm². XY scan repeatability: ±50 nm. XY scanning speed: 0.0001 - 10 mm/s. XY motor's minimum step: 100 nm.</p>
Optical system:	<p>High quality circular CW laser beam:</p> <ul style="list-style-type: none"> • Spot size from 4-8 μm (upon request). • Wavelength = 635 nm. • Max. Power = 5 mW (laser power tuneable upon customer's petition). <p>Low-Noise, High-Sensitive, duolateral-2D-PSD + Amplifier bundle:</p> <ul style="list-style-type: none"> • Maximum PSD bandwidth, $f_{3dB} = 400$ KHz • Available PSD Sizes = 10x10 mm² and 20x20 mm² (Max. rise time depending on PSD size).
Vibration isolation:	Passive vibration isolation platform.
Vertical detection range:	Topography gradients measurement range from 0.1 nm to 30 μm.
Lateral resolution:	Limited by laser spot size.
Relative humidity control:	<p>Range: 0..100%. Accuracy: 0.1% (nitrogen flow required). Maximum flow rate: 5 L/min. 3 operational modes: manual, automatic (control of a desired RH value) and profile (control of continuous increasing and decreasing ramps of RH with different velocities).</p>
Temperature control:	<p>Range: $T_{ROOM} - 5^{\circ}C .. T_{ROOM} + 20^{\circ}C$. Accuracy: 0.05°C. 3 operational modes: manual, automatic (control of a desired T value) and profile (control of continuous increasing and decreasing ramps of T with different velocities).</p>
Calorimetric module:	Extended temperature control range: -10°C..250°C
3D Imaging module:	<p>In plane resolution limited by laser spot size. Subnanometric vertical resolution. Topography gradients measurement range from 0.1 nm to 30 μm.</p>
Dynamic module:	<ul style="list-style-type: none"> • Piezo acoustic excitation for multiple sensor arrays with a high sensitive, low noise, lock-In amplifier (Bandwidth, $f_{3dB} = 1$ MHz). • Excited Frequency Measurements: Measurements of the dynamic behavior of mechanical sensors excited through a piezostack. • Eigenmode Shape Measurements: 2D and 3D measurements of the shape of eigenmodes excited through a piezostack.
Liquids module:	<p>Liquid Chamber:</p> <ul style="list-style-type: none"> • I/O Liquid Ports: 1 inlet, and 1 outlet (liquid handling must be done with an external system of your choice). • Volume = 250 μl. • Material = PEEK.
Sample Mounting:	One loading cartridge with a sample holder (customizable).
Software:	Own multi-functional software based on National Instruments LabVIEW™.
Electrical Requirements:	AC Input Voltage: 110-230 V _{AC} , 50-60 Hz.