Polytec

MSA-060 Micro System Analyzer

Full-field vibration measurement on small parts & microstructures

Product brochure

Highlights

- Compact vibration measurement system with laser precision
- Real-time response measurement up to 24 MHz
- Picometer out-of-plane displacement resolution
- Easy setup and documentation with integrated HD+ camera
- Powerful DAQ incl. reference channel and signal generator
- Scanning option with motorized xy-stage
- Software for comprehensive data analysis and animation of deflection shapes

The MSA-060 Micro System Analyzer is a compact optical measurement system for the comprehensive assessment of the vibrational behavior of MEMS and microsystems, dynamics of precision mechanics and reliability of electronics. This entry-level solution helps identify resonance frequencies, vibration amplitudes and even visualizes operational deflection shapes on entire samples.

The MSA-060 is designed for full-field vibration analysis, solving critical design tasks in early R&D phases and quality control applications. Its non-contact principle of operation leaves samples completely undisturbed, capturing true vibration dynamics from very small and delicate to meso-scale test structures. The digital laser Doppler vibrometer comes with powerful data acquisition VibSoft-PRO, offering reference channel plus signal generator. The optional xy-stage allows for scanning entire sample surfaces, supported by the comprehensive PSV Software package. The MSA-060 provides real-time vibration data with picometer resolution on an extended bandwidth from DC up to 24 MHz. For extended working distances and additional flexibility, use the sensor head mounted on conventional tripods.

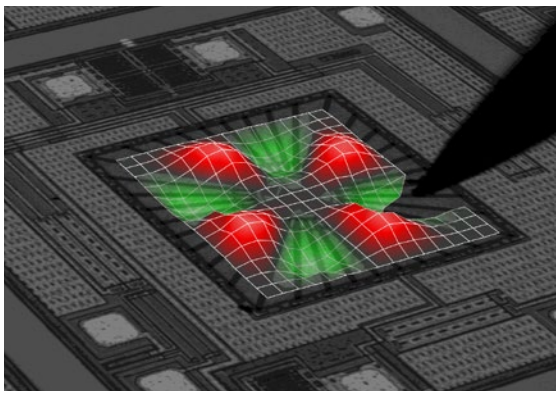
For higher frequency testing, 3D motion analysis and topography options, explore the entire MSA family:

polytec.com/msa

Application areas

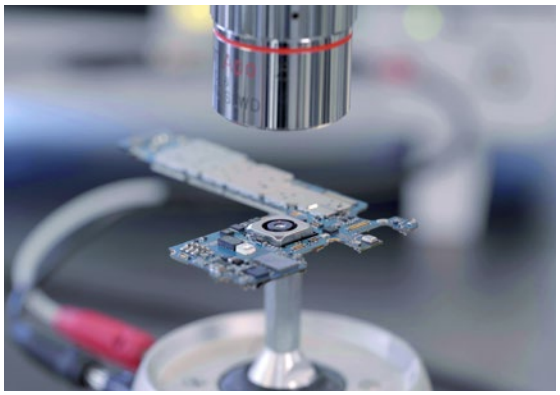
MEMS

Whether they are sensors or actuators, the characteristics of MEMS are critical for their performance. The understanding and optimization of their operation are key steps in the development process. Typical MEMS devices under test are motion sensors, micromirrors, microphones, speakers and environmental sensors. The MSA-060 with its microscopic measurement spot size enables fast and efficient assessments of microstructure dynamics in a single shot resolved in the nm range. It also allows scanning entire sample surfaces with xy-stage for measuring deflection shapes over a large bandwidth.



Precision mechanics

In industries like semiconductor, biomedical, watchmaking or aerospace the multitude of electro-mechanical systems, micro optics, micro actuators and other precision mechanics are essential elements within high technology products. The non-contact and broadband measurement technology allows for thorough characterization of the dynamic properties, functionality and reliability of fine-mechanical parts and assemblies, helping to develop better products in less time.



Options and accessories

Modular and flexible, from micro to macro

With compact stand and optional tripod mounting, positioning freedom, different microscope objectives or as entry-level scanning system for both micro and meso-scaled samples.

Full visual control

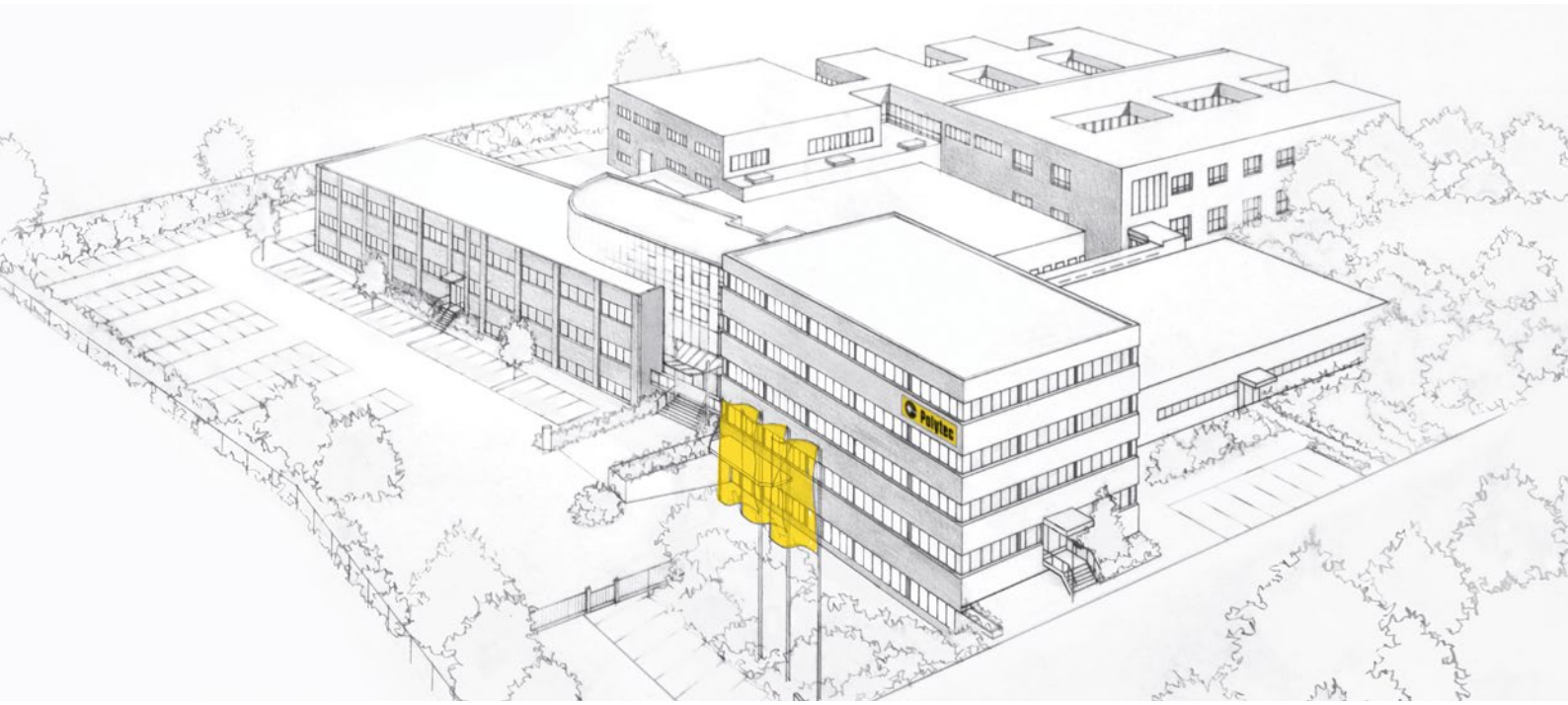
Easy setup and test reporting with integrated HD+ camera and inline illumination unit for best video quality and scan grid definition.

Powerful data acquisition

Up to 24 MHz, reference channel, signal generator, also for stand-alone use.

Comprehensive data evaluation

Benefit from the gold standard software in scanning laser Doppler vibrometry, using profound data analysis and evaluation, programmable signal processor, intuitive visualization of measurement data, animation of deflection shapes



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2023/05 – Technical specifications are subject to change without notice.