

Press Release

InfraTec GmbH Infrarotsensorik und Messtechnik

Dresden, 2026-09-24

E-LIT: Thermography Test Bench Becomes Even More Efficient

Lens turret speeds up measurement processes; new microscope lenses available

InfraTec's modular, automated E-LIT test bench enables contactless and non-destructive testing of electronic and semiconductor components. Using so-called Lock-in Thermography, in which the components are electrically excited, E-LIT can detect thermal anomalies in the mK and μ K ranges, thereby locating point and line short circuits, oxidation defects, and transistor and diode faults – even in multilayer PCBs and multi-chip modules.

Thanks to the lens turret, measurements can now be performed even faster and more accurately. Its compact design – achieved by angling the axis of rotation – facilitates the positioning of contacts against the sample, as required for excitation in Lock-in Thermography.

Quick Lens Changes Save Time

The analysis of electronic and semiconductor components is often carried out in stages: It begins with an overview measurement to detect large-area defects. Wide-angle or standard lenses, for example, are used for this purpose. To examine details with increasing depth, the thermographic system is then equipped with microscope lenses offering progressively higher magnification.

Until now, the electronic test had to be interrupted to change the lens; the lens on the infrared camera had to be replaced manually. With InfraTec's compact, motorized lens turret, this time-consuming step – which can compromise measurement accuracy – is no longer necessary. The lens can now be changed simply by rotating the turret, which holds up to five lenses. The desired lens is selected using the IRBIS® camera software supplied with the thermographic system, which also controls camera focusing and sample positioning. This allows for quick and convenient measurements ranging from overview images to detailed images at maximum magnification.

Reliable Measurement Without Vibration or Heat Input

In addition to quick deployment, the lens turret offers another key benefit: Once a "region of interest" (ROI) has been identified by the user, it remains in place even if the field of view changes after a lens change, eliminating the need for time-consuming repositioning. At the same time, vibrations and unintended heat input are minimized.

In particularly sensitive or hard-to-reach environments, the lens can also be changed remotely from a greater distance. This is especially beneficial for radiometric measurements, as the camera's temperature calibration ensuring objective comparability and greater stability of the measurement results.

Flexible and High-Precision

InfraTec offers its customers a broad portfolio of high-quality lenses for equipping the lens turret. These lenses for the ImageIR® series of cooled cameras in-house-manufactured are designed for maximum transmission and optical quality, as well as minimal distortion, ensuring that even the finest structures are imaged with high sharpness and resolution. The company has recently expanded its product line to include new microscope objectives with 5× and 10× magnification (M=5.0× and M=10.0×), which can resolve structures down to the 1- μ m range.

In addition to the microscope objectives, the lens turret can also accommodate an additional sensor connected by the customer, for example, a VIS camera. The connection is facilitated by the turret's integrated cable routing.

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Ready for Automation

A programming interface is available for integrating the thermography system – including the lens turret – into automated processes. Measurement distances and focus settings for the microscope stand can be conveniently stored and controlled using scripts via the camera SDK.

Information: 3,691 characters (incl. spaces)

About InfraTec

The InfraTec infrared sensor and measurement technology company was founded in 1991 and has its headquarters in Dresden, Germany. The privately held company employs more than 240 employees and has its own design, manufacturing and distribution capabilities.

With its infrared measurement business unit, InfraTec is one of the leading suppliers of commercial thermal imaging technology. In addition to the high-end camera series ImageIR® and the camera series TarisIR® and VarioCAM® High Definition, InfraTec offers turnkey thermographic automation solutions e.g. for industry processes, non-destructive testing and fire detection and prevention.

The Infrared Sensor division produces custom-made components – especially pyroelectrical infrared detectors – for clients worldwide. The product range includes analogue single and multi-channel detectors as well as digital multi-channel detectors (PyriQ®) and high-performance detectors (PYRONEER®) for analytical instruments. The detectors are used in gas analysis, fire and flame sensors and spectroscopy.

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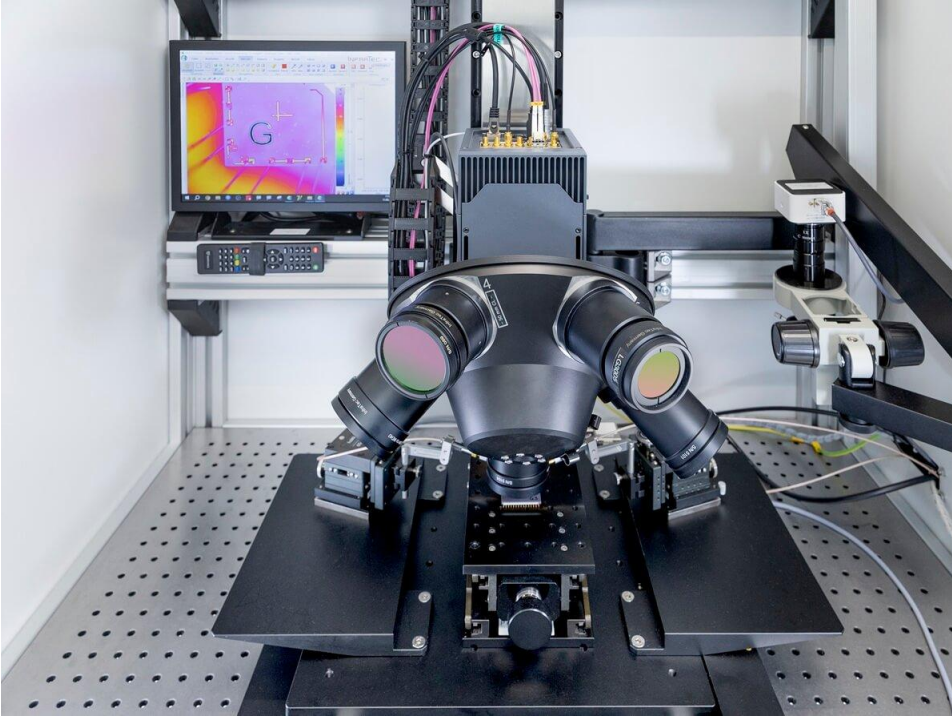
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Picture:



Lens turret by InfraTec, picture credit: InfraTec GmbH

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