

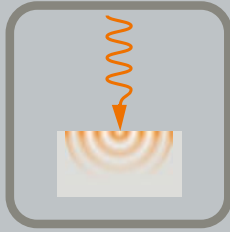


OTvis

*Optically excited
Lockin Thermography*

*Optically excited lock-in thermography is a contactless non-destructive testing method, which is well established for the characterization of carbon fiber reinforced plastics in aerospace and automotive industry. It allows for depth resolved defect and boundary detection. Large areas with complex structures can be inspected in one go. The lock-in technique is extremely robust, unsusceptible to external disturbances, and works even under harsh conditions. The method is suitable for quality assurance in production and maintenance. All edervis testing systems are modularly designed. The **OTvis** system can be extended with all other edervis excitation sources and software packages.*





APPS/CONCEPT

Industrial applications

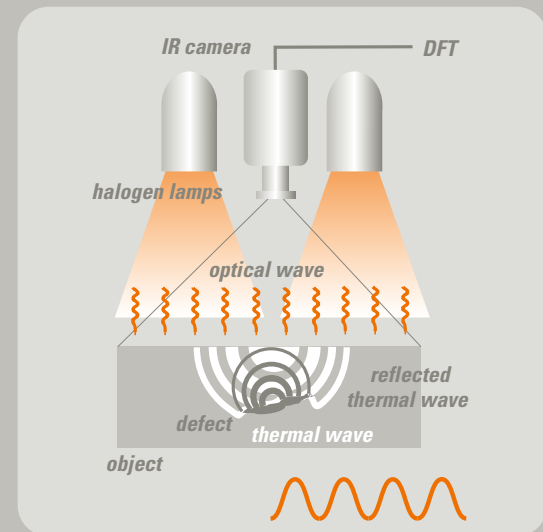
- CFRP/other fiber composites (delaminations, impacts, voids and porosity, bonding of inserts, content of resin, preform characterization ...)
- Leather (grain, inclusions, repairs)
- Corrosion detection
- Wall thickness measurements
- Characterization of adhesive joints
- Characterization of plastic welding
- Rotor blades (wind generator)
- Batteries, fuel cells

Principle of optically excited lock-in thermography

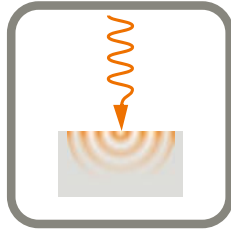
The basic idea of lock-in thermography is the visualization of thermal wave propagation. The phase angle of such waves provides information about thermal structures and inhomogeneities. The thermal waves are generated by intensity-modulated halogen lamps which heat up the surface. The signal is captured by a high-resolution infrared camera.

- Large inspection areas [m²]
- Non-destructive, contactless
- Excitation of complex structures
- Depth resolved results

Our new and patented evaluation method "R/L-Algorithm" allows for the determination of thicknesses and thermal reflection coefficients.



Subsurface structures visualized with **OTvis**



SPECIFICATIONS

OTvis is available as 2500 / 5000 / 7500 version

Lamp control

Output power	2,5 / 5 / 7,5 kW
Circuit points	1 / 2 / 3 lamps each with max. 2,5 kW
Power supply	230 / 400 / 400 V, 16A, 50Hz
Fan	Temperature controlled
Fuse protection	16A
Overload protection	√

Software

Real-time-lockin	√	Sequence measuring	P
Arbitrary signals	P	Parameter files (xml)	√
Offline storage	P	Remote control (DDE)	P
Phase images	√	R/L-Algorithm	P
Amplitude images	√		
Live image overlay	P		

P= in PRO version available; √= in Standard version available

Excitation

1 / 2 / 3 halogen lamps each with 2,5 kW
Temperature controlled fan
Changeable reflector with bayonet connector
Changeable filter
Changeable illuminants
Robust tripod incl. gear set

Camera (options)

Detector material	InSb or MCT
Detector arrays	640x512 or 320x256 Pixel
Spectral response	3-5 μm or 8-9 μm
Frame rate	100Hz @ 640x512
Interface	CamLink or Gigabit Ethernet
Lens	12mm, 25mm, 50mm, 100mm, G1- G5



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