



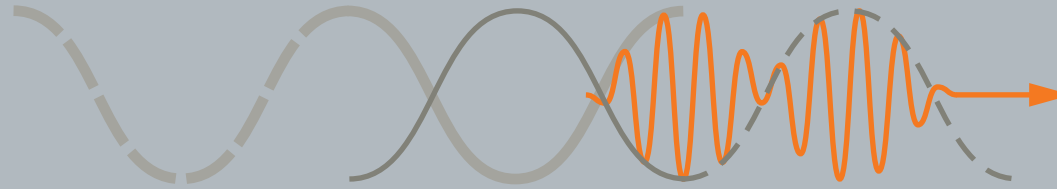
ITvis

Induction
Thermography

Non-destructive test system for laboratories or automated industrial applications

Inductive Thermography is a non-contact imaging test method for defect detection in metallic structures. The method provides excellent detection capabilities comparable to color penetrant or magnetic flux testing while the test duration is extremely short. Sample preparation and use of chemicals isn't needed. The lock-in technology makes the method robust against environmental influences, and surface properties, leading to optimum sensitivity. Using this imaging method, interpretation and documentation of test results is easy and simple. It can be optimally used in manufacturing lines as an inline quality control tool. The system is modular and extendable all with other edevis excitation modules like OTvis, UTvis or PTvis.





APPS/CONCEPT

Typical applications

Industrial applications

- Crack detection in metallic components (e.g. cast-, forging- or thermdrawn)
- Detection of faults in adhesive joints, rivet joints and weldings
- Characterization of metal-polymer compounds
- Detection of double skin in rolled plates

Aerospace applications

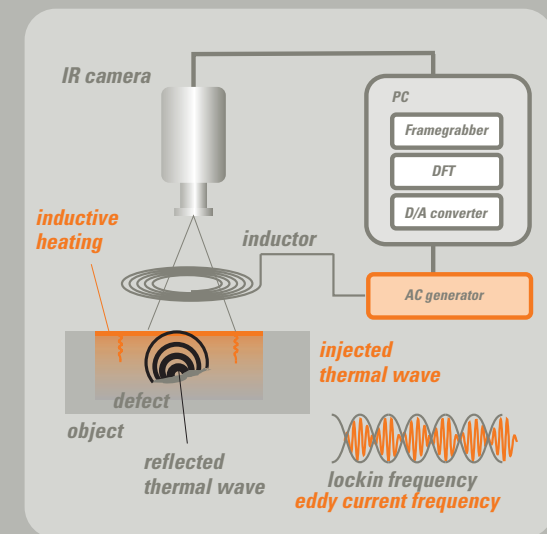
- Crack detection in structural components

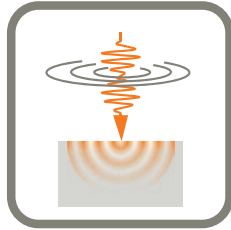
Other

- Non-contact crack detection
- Detection of double skin in rolled plates

The principle of induction thermography

Inductive thermography induces eddy currents in a specimen which are visualized using an infrared camera. Inhomogeneities in the eddy current distribution indicate material defects. As measurement result, the time lag between inductive excitation and thermal response is evaluated, providing an extremely robust signal, which is insensitive to irregularities or impurities of the component surface. For stimulation, highly accurate industry-proven induction technology is used. Detection is done with sensitive and fast cooled detectors or cost efficient uncooled cameras.





SPECIFICATIONS

ITvis is available as ITvis 5000 / ITvis 10000 version

Induction generator

Output power	5kW / 10kW
Connections	1 inductor
Supply	400V alternating current, 16A, 50Hz
Cooling	Water cooler or air cooling system
Fusing	16A
Overload protection	√

Software

Real-time lockin	√	Sequence acquisition	P
Arbitrary Signals	P	Parameter storing	√
Offline storing	P	Remote control (DDE)	P
Phase representation	√	Adjustable	
Amplitude representation	√	induction parameter	√
Live image overlay	P		

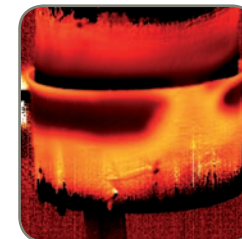
P= only for PRO version; √= Standard and PRO version

Inductor

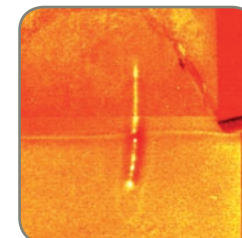
*Copper, water cooled, variable geometry
Uncooled flexible inductors
Adjustable external resonant circuit and transformer*

Camera (options)

Detector	InSb, MCT or uncooled
Pixel	640x512 or 320x256 Pixel
Spectral sensitivity	3-5 μm or 8-12 μm
Frame rate	100 Hz @ 640x512
Interfaces	CamLink or Gigabit Ethernet
Exchangable lenses	12mm, 25mm, 50mm, 100mm, G1- G5



Characterization of soldering



Detection of crack in an axle



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