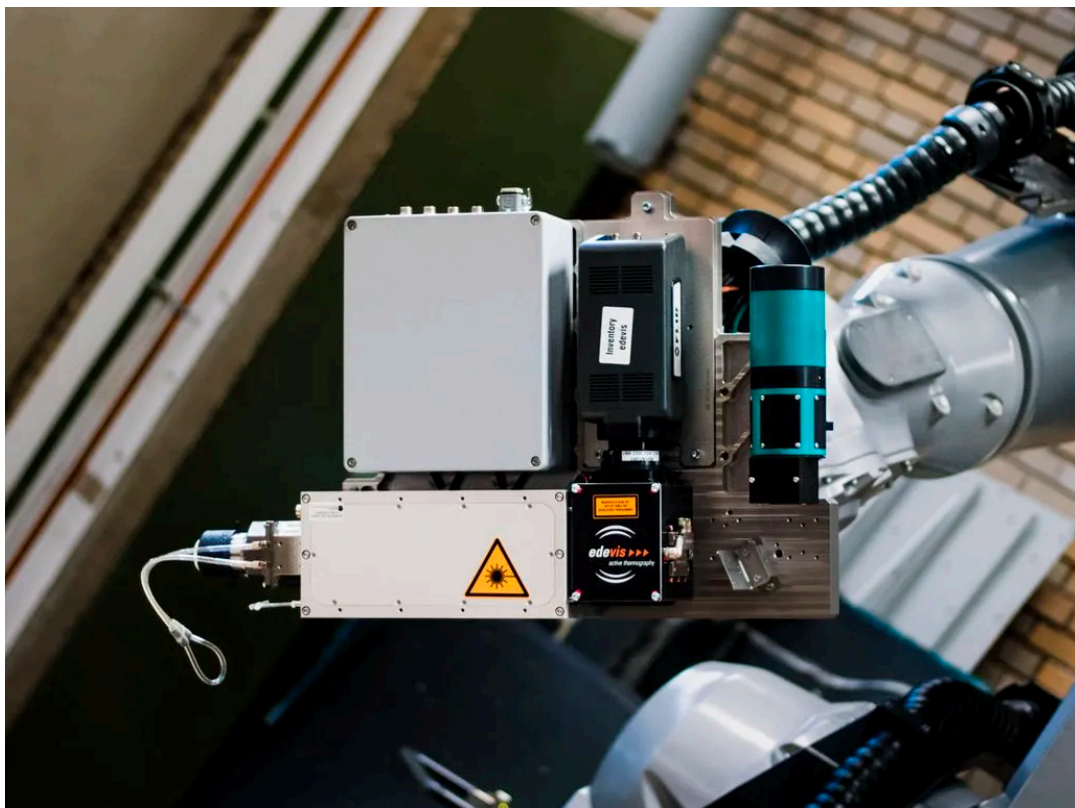


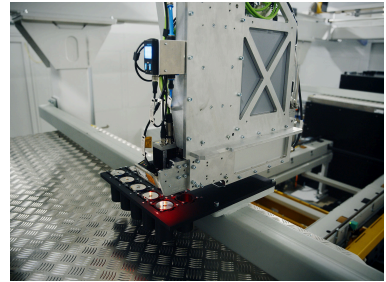
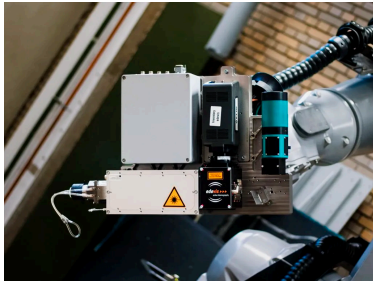
LTHEAD

Laser thermography for inline inspection of welded joints



LTHEAD

Laser thermography for inline inspection of welded joints



Inspect welded joints quickly, without contact and with reproducible results. LTHead is a highly integrated system for non-destructive inspection of welds and joints using laser thermography. Particularly for cell connectors in EV batteries and joints made of aluminum, copper and steel, the system enables quantitative quality control directly within the production process.

A high-power diode laser provides targeted thermal excitation while a fast MWIR camera captures the resulting heat flow. Bonding defects, cracks and voids alter the thermal response and can be detected and evaluated automatically. With inspection times of less than one second and industrial interfaces, LTHead is designed for integration into automated production lines and robotic cells.

YOUR ADVANTAGES AT A GLANCE

Fast inline inspection: Inspection times of less than one second support integration into short production cycles

High inspection sensitivity: Bonding defects, cracks and voids become visible through their influence on heat flow

Versatile material inspection: Suitable for welds and joints made of aluminum, copper and steel

Flexible laser excitation: Spot sizes from 3×3 to 70×70 mm allow adaptation to different inspection areas

High level of automation: PROFINET, OPC UA and TCP/IP support integration into PLC-controlled systems and robotic cells

Reproducible evaluation: Automated OK/NOK evaluation and documentation support consistent quality assurance

TECHNICAL INFORMATION

INSPECTION METHOD:	Active laser thermography
INSPECTION TIME:	< 1 s
LASER:	Diode laser, blue or NIR
LASER POWER:	Up to 4 kW
SPOT SIZE:	3 × 3 to 70 × 70 mm
LASER CLASS:	Class 4
COOLING:	Water cooling
DETECTOR:	MWIR, 2–5 µm
RESOLUTION:	640 × 512 px
THERMAL RESOLUTION:	20 mK
FRAME RATE:	Up to 1000 Hz
MATERIALS:	Aluminum, copper, stainless steel
CABLE LENGTH:	Up to 30 m
INTEGRATION:	Robot and PLC integration
INTERFACES:	PROFINET, OPC UA, TCP/IP
EVALUATION:	Automated OK/NOK evaluation
SOFTWARE:	DisplayImg

ACCESSORIES



EDECAM

High-speed LWIR infrared camera for active thermography



DISPLAYIMG SOFTWARE

Modular software platform for thermography and automated inspection



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