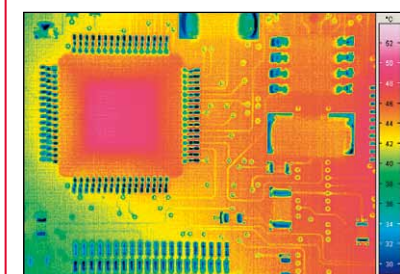# VarioCAM® hr head

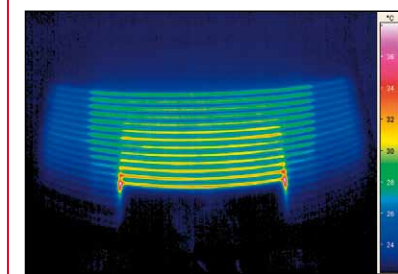## Thermographic solution for use in industry and research
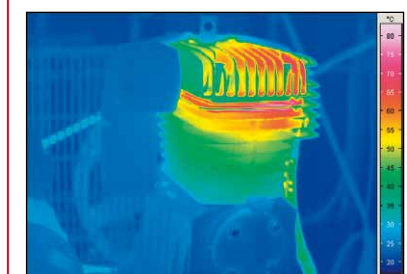
NEW | 0.03 K Thermal Resolution

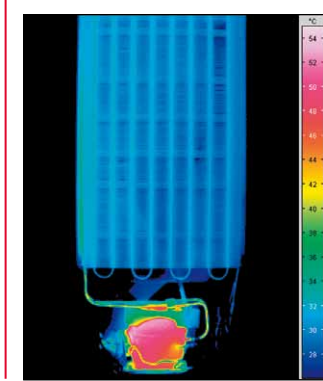PCB, close-up image

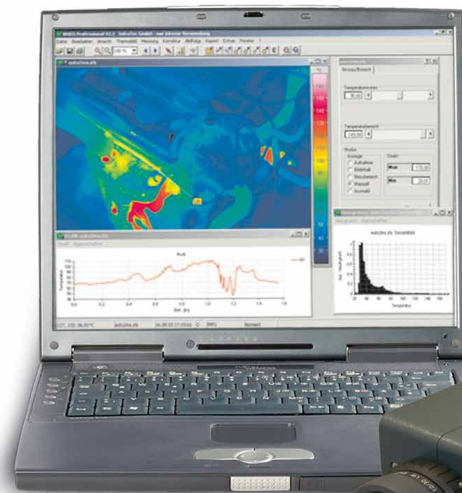Fault in heating of rear window

Compressor

Refrigerator

Die casting component
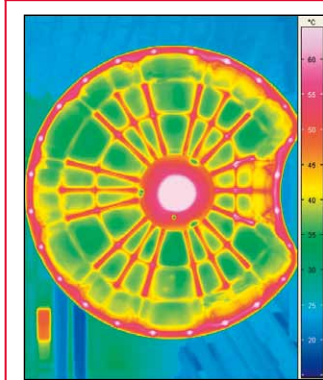
**up to
1,280 x 960
Infrared pixels**

Features

- uncooled FPA Detector with (384 x 288) or (640 x 480) pixels
- optomechanic microscan function provides up to (1,280 x 960) infrared pixels
- spectral range (7.5 ... 14) µm
- real-time thermography up to 60 Hz
- optional real-time digital interface via FireWire (IEEE 1394)

- wide standard temperature measuring range
- compact design
- rugged lightweight metal housing (IP 65) for use in tough industrial environment
- available in different versions
- wide range of accessories

VarioCAM® hr head

Thermographic solution for use in industry and research

Technical specifications

Spectral range	(7.5 ... 14) µm
Detector type	Microbolometer Focal Plane Array, uncooled
Detector format (pixel)	(384 x 288), optional „Resolution Enhancement" to (768 x 576)
	(640 x 480), optional „Resolution Enhancement" to (1,280 x 960)
Temperature measurement range	(-40 ... 1,200) °C, optional > 2,000 °C
Measurement accuracy	± 1.5 K (0 ... 100) °C; ± 2 % (< 0 resp. > 100) °C
Temperature resolution @ 30 °C	better than 0.05 K, optional 0.03 K
IR-frame rate	50/60 Hz
Standard lens (object field)	1.0/25 mm (30 x 23)° with a detector of (384 x 288) pixels
	1.0/30 mm (30 x 23)° with a detector of (640 x 480) pixels
Image storage	SD-card, optional FireWire (IEEE 1394)
Dynamic range	16 Bit
Interfaces	PAL/NTSC-FBAS, S-Video, RS232, FireWire (IEEE 1394)
Power supply	power adapter, optional FireWire (IEEE 1394)
Operation temperature, encapsulation	(-15 ... 50) °C, IP 65
Dimensions	(133 x 91 x 110) mm
Weight	1.3 kg with standard lens

The radiometric thermographic system VarioCAM® hr head is based on an uncooled Microbolometer FPA Detector with (384 x 288) or (640 x 480) pixels and has been designed for universal use. Due to the rugged metal housing (IP 65) VarioCAM® hr head installations can be realised easily and inexpensively in manufacturing processes. The various versions allow for an optimal adjustment of VarioCAM® hr head to different measurement tasks. The scope of performance reaches from automatic recognition and indication of threshold values via RS232 up to digital 60 Hz real-time IR data acquisition via IEEE 1394 and online-processing at the PC.

VarioCAM® hr head is recommended for various applications in research and development environments based on its wide standard temperature measurement range, a multitude of available lenses as well as a wide range of accessories and a high-speed digital IR data acquisition and analysis software. Specifically customised this easy to handle thermographic system can also be used for monitoring tasks that require continuous and automatic operation.

Lenses and close-up-lenses

Lens	Focal distance	FOV (°)	FOV (°)
Detektor type (pixel)		(384 x 288)	(640 x 480)
Wide angle lens	12.5 mm	(57 x 44)	(65 x 51)
Standard lens	25 mm	(30 x 23)	—
Standard lens	30 mm	(25 x 19)	(30 x 23)
Telephoto lens	50 mm	(15 x 12)	(18 x 14)
Telephoto lens	75 mm	(10 x 8)	(12 x 9)
Telephoto lens	130 mm	(6 x 4)	(7 x 5)

Close-up lenses	Focus	field of view (mm²)
0.17x	150 mm	(80 x 60)
0.5x	50 mm	(27 x 20)

Applications

- process control and monitoring
- monitoring of machines and installations
- real-time thermography in research and development
- security technology and early fire detection

Design and specifications subject to change without prior notice