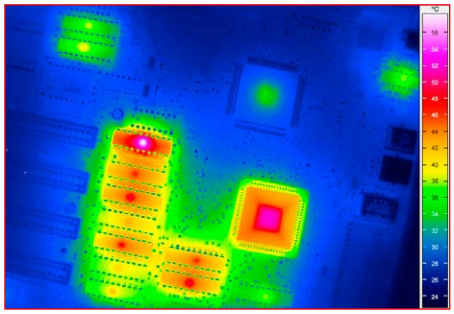
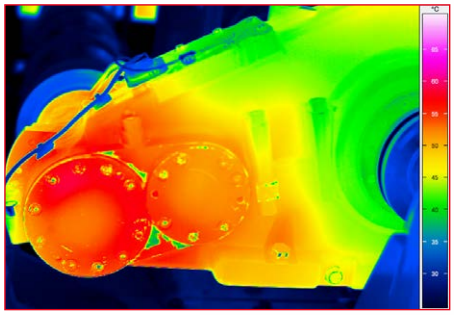
InfraTec.
Made in Germany



Optimisation of electronic components



Heating of a drive

VarioCAM® HDx head

Entry-level Access to Stationary Thermography at Premium Level

640 × 480 Detector

Detector Format
Efficient measurement of smallest details on large-scale objects

GigE

GigE Vision Compatible
Standard interface for easy integration into existing process environment

≥ 30 mK

Thermal Resolution
Precise detection of smallest temperature differences

IP67

Rugged Light Metal Housing
Easy and inexpensive installation in harsh process environments

f/1.0

Complete Optical Assortment
Adaptation of the image geometry to almost every measuring situation

The thermographic camera VarioCAM® HDx head is based on an uncooled microbolometer FPA detector with (640 × 480) IR pixels. Thanks to its wide standard temperature measuring range it is suitable for universal measuring, testing and monitoring tasks in many sectors.

Even the low-cost models of the VarioCAM® HDx head as entry-level access to the class of professional, stationary microbolometer thermography systems provide brilliant thermographic images in high quality that can be created and evaluated very easily using the powerful software family IRBIS® 3. The high-quality processing, modular design and motorised focusing are among the details that benefit users.

The VarioCAM® HDx head convinces with its extensive range of standard options. The range includes automatic threshold detection and signalling by means of digital real-time image acquisition via the integrated GigE Vision interface as well as online processing of thermographic data for controlling time-critical thermal processes. With the industrial-grade light metal housing (IP67) installations in manufacturing processes are easily possible even in harsh process environments. Even monitoring tasks requiring automatic continuous operation can be implemented easily.

Technical Specifications

Spectral range	(7.5 … 14) µm
Detector	Uncooled microbolometer focal-plane array
Detector format (IR pixels)	(640 × 480)
Temperature measuring range	(-40 … 600) °C, optional up to 1,700 °C*
Measurement accuracy	± 2 °C or ± 2%
Temperature resolution @ 30 °C	Up to 0.03 K*
Frame rate	Full-frame: 30 Hz (640 × 480), sub-frame: 60 Hz (384 × 288)
Window mode*	Yes
Storage media	SDHC Card, external control computer for camera control and data acquisition*
Image storage	Time-, trigger- and temperature controlled recording of 16 bit single frames or image sequences with timestamp, video streaming in MPEG format
Lens mount	Automatic objective detection
Focus	Motor-driven, automatic or manual, accurately adjustable
Zoom	Up to 32× digital, stepless
Dynamic range	16 bit
Interfaces	GigE Vision, DVI-D (HDMI), C-Video, RS232, WLAN*, Process interface*
Trigger*	2 × digital I/O, 2 × analogue I/O
Tripod adapter	1/4" photo thread
Power supply	AC adapter, (12 … 24) V DC, PoE*
Storage and operation temperature	(-40 … 70) °C, (-25 … 55) °C
Protection degree	IP54, IEC 60529, IP67 with screw-on interface*
Impact strength, vibration resistance in operation	25 G (IEC 68 - 2 - 29), 2 G (IEC 68 - 2 - 6)
Dimensions, weight	(221 × 90 × 94) mm, 1.15 kg (basic configuration with standard lens)
Further functions*	Camera internal emissivity correction, shutter free operation, temperature alarm
Analysis and evaluation software*	IRBIS® 3, IRBIS® 3 plus, IRBIS® 3 professional, IRBIS® 3 view, IRBIS® 3 remote HD, IRBIS® 3 online, IRBIS® 3 process, IRBIS® 3 vision, IRBIS® 3 active, IRBIS® 3 mosaic

* Depending on model

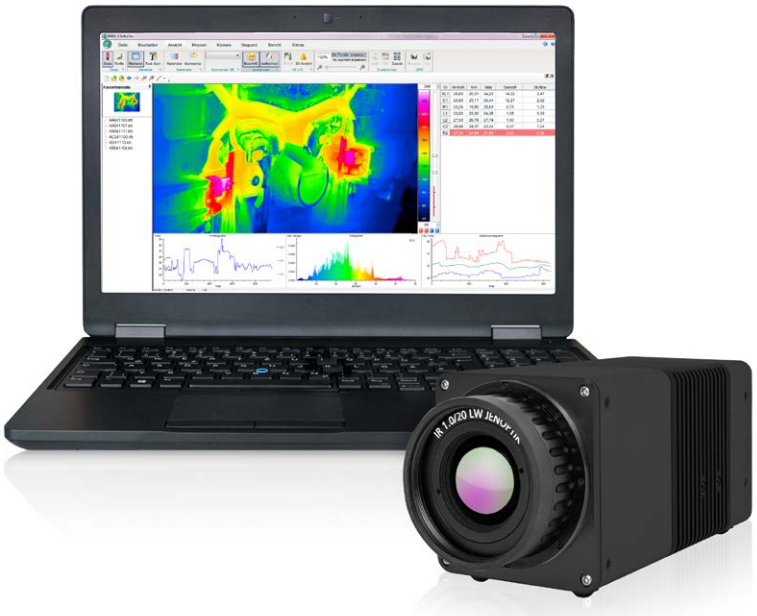
Lens	Focal lens (mm)	FOV (°)
Wide-angle lens	10	(57.1 × 44.4)
Standard lens	20	(30.4 × 23.1)
Telephoto lens	40	(15.5 × 11.6)

Macro and microscopic lenses	Min. object distance (mm)	Pixel (µm)
Close-Up 0.2× for lens: 40 mm / 20 mm	137	60 / 121
Close-Up 0.5× for lens: 40 mm / 20 mm	47	24 / 49
Microscopic lens M=1.0×	50	17

Additional infrared interchangeable lenses are available on request.

Application areas:

- Real-time thermography for industry and science
- Assembly control and process monitoring
- Machine and plant monitoring
- Security engineering
- Early fire detection



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