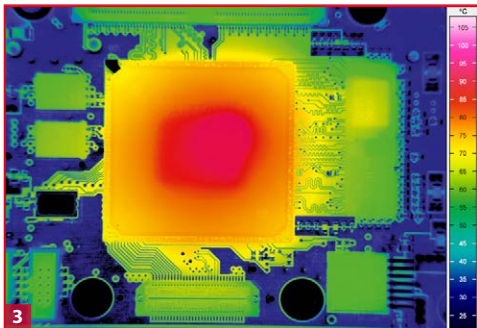
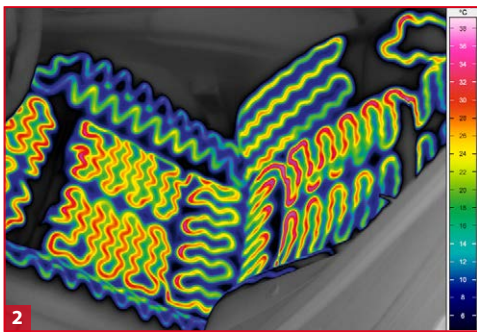


VarioCAM® HD head

Thermographic Solution for Use in Industry and Research



- 1) VarioCAM® HD head
- 2) Seat heater
- 3) Assembled circuit board

INFRA^{TEC}.

Europe's leading specialist for infrared sensors and measurement technology

- Microbolometer detector with up to (1,024 × 768) IR pixels
- Opto-mechanical MicroScan with up to (2,048 × 1,536) IR pixels
- Frame rate of up to 240 Hz, GigE Vision interface
- Process- and trigger interface
- Solid light metal housing (IP67)
- Pixel size with microscopic lens up to 17 μm



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Spectral range	(7.5 ... 14) μm
Detector	Uncooled Microbolometer Focal Plane Array
Detector format (IR pixels)	(1,024 × 768), with built-in opto-mechanical high-precision scan unit (2,048 × 1,536)* (640 × 480), with built-in opto-mechanical high-precision scan unit (1,280 × 960)*
Temperature measuring range	(-40 ... 2,000) °C*
Measurement accuracy	± 1 °C or ± 1 %*
Temperature resolution @ 30 °C	Up to 0.02 K*
Frame rate	Full-frame: 30 Hz (1,024 × 768), sub-frame formats*: 60 Hz (640 × 480) / 120 Hz (384 × 288) / 240 Hz (1,024 × 96) Full-frame: 60 Hz (640 × 480), sub-frame formats*: 120 Hz (384 × 288) / 240 Hz (640 × 120)
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
Realtime storage*	Computer-aided storage of radiometric sequences by GigE interface with up to 240 Hz
Lens mount	Bayonet to comfortably switch objectives, automatic objective detection and data transfer; screw-on interface*
Focus	Motor-driven, automatic or manual, accurately adjustable
Zoom	Up to 32× digital, stepless
Dynamic range	16 bit
Interfaces; Trigger*	GigE Vision*, DVI-D (HDMI), C-Video, RS232, USB 2.0, WLAN*; 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, use of various colour sets, contrast enhancement, user profile, language selection
Analysis and evaluation software*	IRBIS® 3, IRBIS® 3 view, IRBIS® 3 plus*, IRBIS® 3 professional*, IRBIS® 3 remote HD, IRBIS® 3 control*, IRBIS® 3 online*, IRBIS® 3 process*, IRBIS® 3 active*, IRBIS® 3 mosaic*, IRBIS® 3 vision*, FORNAX 2*, FORNAX 2 plus*

* Depending on model

The **thermographic high-resolution system VarioCAM® HD head** was conceived for demanding stationary monitoring and measurement tasks. The VarioCAM® HD head produces **brilliant high-quality thermographic images with 16 bits**, which allows unprecedented efficiency, especially when capturing smallest details on large object surfaces. Because of the maximum frame rate of 240 Hz, **very quick temperature changes can be recognised reliably**.

The **various sets of equipment** make it easy to adjust the setup to the respective measurement task: The application range includes automatic threshold recognition and signalling, digital real-time image acquisition via GigE, online processing of thermographic data and much more. The industrial light metal housing (IP67) allows easy and inexpensive **installation in tough process environments**.

Application examples:

- High-resolution thermography in research and development
 - Stationary microthermography
- Security engineering and early fire detection
 - Monitoring and controlling of fast-running processes

Detector format (IR pixels)		(640 × 480)	(1,024 × 768)
Lens	Focal length (mm)	FOV (°)	FOV (°)
Super wide-angle lens	7.5	(93.7 × 77.3)	(98.5 × 82.1)
Wide-angle lens	15	(56.1 × 43.6)	(60.3 × 47.0)
Standard lens	30	(29.9 × 22.6)	(32.4 × 24.6)
Telephoto lens	60	(15.2 × 11.4)	(16.5 × 12.4)
Telephoto lens	120	(7.6 × 5.7)	(8.3 × 6.2)
Macro and microscopic lenses	Minimum object distance (mm)	Pixel size (μm)	Pixel size (μm)
Close-Up 0.2× for 30 mm	70	75	51
Close-Up 0.5× for 30 mm	33	42	29
Close-Up 0.5× for 60 mm	78	42	28
Microscopic lens M=1.0×	50	25	17

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