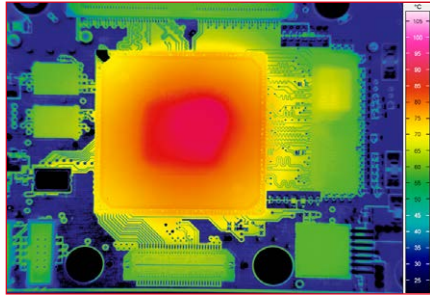


Seat heater



Assembled circuit board



VarioCAM® HD head

Thermographic Solution for Use in Industry and Research

**1,024
x
768**
Detector

Detector Format

Efficient measurement of smallest details on large-scale objects

3,1
MegaPixel

MicroScan

IR pixels by genuine camera hardware

**≥ 20
mK**

Thermal Resolution

Precise detection of smallest temperature differences

240 Hz

IR-Frame Rate

Analysis of extreme temperature changes and gradients

GigE

GigE Vision Compatible

Standard interface for easy integration into existing process environment

IP67

Protection Degree

Camera operation under harsh environmental conditions

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

Technical Specifications

| | |
|---|--|
| 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)* |
| 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) |
| 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* |

* Modellabhängig

| Detector format (IR pixels) | Focal length (mm) | FOV (°) |
|-----------------------------|-------------------|---------------|
| Super wide-angle lens | 7.5 | (98.5 × 82.1) |
| Wide-angle lens | 15 | (60.3 × 47.0) |
| Standard lens | 30 | (32.4 × 24.6) |
| Telephoto lens | 60 | (16.5 × 12.4) |
| Telephoto lens | 120 | (8.3 × 6.2) |

| Macro and microscopic lenses | Minimum object distance (mm) | Pixel size (μm) |
|------------------------------|------------------------------|------------------------------|
| Close-Up 0.2× for 30 mm | 137 | 83 |
| Close-Up 0.5× for 30 mm | 47 | 38 |
| Close-Up 0.5× for 60 mm | 100 | 35 |
| Microscopic lens M=1.0× | 50 | 17 |



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