VarioCAM® HD head
Thermographic Solution for Use in Industry and Research

European 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

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

www.InfraTec.eu

Made in Germany
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*


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 0.2x for 30 mm 70 75 51
Close-Up 0.5x for 30 mm 33 42 29
Close-Up 0.5x for 60 mm 78 42 28
Microscopic lens M=1.0x 50 25 17

Latest information on the internet.