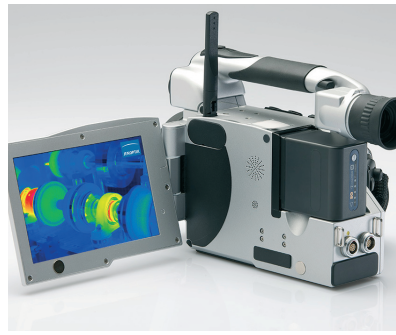




VarioCAM® HD Thermographic Cameras

Precision Thermography with up to 2048 × 1536 Pixel Resolution



High Definition Infrared made in Germany: Thermographic precision you can rely on.

If demanding thermal imaging is your assignment, the new VarioCAM® HD uncooled thermographic cameras will be your first choice solution.

VarioCAM® HD outputs crisp and most detailed radiometric images of up to 2048 × 1536 pixel spatial resolution enabled by Jenoptik's Resolution Enhancement technology and offers a thermal resolution of 50 mK NETD. Operating at a frame rate of up to 30 Hz, the camera provides a real-time image resolution of 1024 x 768 pixel.

VarioCAM® HD is the world's first thermographic camera featuring an integrated laser rangefinder for optimal temperature

correction, autofocus support and precise geo-referencing in connection with the built-in GPS module. For immediate image control the camera offers a robust and extra-large 5.6" TFT display and an tiltable viewfinder.

Versatile industry-proof standard interface options, including wireless and GigE-Vision allow for easy remote imaging.

Matching a broad variety of thermal imaging applications, a great choice of high quality infrared optics is available – of course, also made in Germany, manufactured by Jenoptik.

Applications:

- Industrial and scientific research & development
- Predictive and preventive maintenance
- Building inspection

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Specifications (preliminary) Status: April 2012

	VarioCAM® HD 1024 inspect	VarioCAM® HD 1024 research
Detector type	Uncooled microbolometer (Focal Plane Array)	
Image resolution [pixel]	1024 × 768	2048 × 1536 (RE mode) 1024 × 768
Image rate (@ max. image resolution)	30 Hz	n.s. ² 30 Hz
Subframe modes & frame rates (optional)	640 × 480 (60 fps) 384 × 288 (120 fps) 1024 × 96 (240 fps)	
Spectral range	7.5 µm ... 14 µm	
Temperature measurement range ¹	-40 °C ... +1,200 °C High temperature option: up to 2,000 °C	
Thermal resolution [NETD]	≤ 50 mK	
Measurement accuracy	± 1.5 K or ± 1.5 %	
Dynamic range	16 bit	
Laser rangefinder	Accuracy: ± 1.5 mm Range: 70 m Wavelength: 635 nm (red) Laser class: 2	
Focus	Laser rangefinder supported autofocus Passive autofocus Motorized manual focus	
Display	Extra-large 5.6" color TFT display 1280 × 800 pixel resolution Suitable for daylight operation	
Viewfinder	Tiltable LCoS color viewfinder display 800 × 600 pixel resolution	
Geo-localization	Built-in GPS for geo-referencing	
Digital VIS camera	CMOS color camera up to 8 Megapixel resolution for image and video recording	
Audio	Integrated microphone and loudspeaker for image annotations	
Image / video storage	SDHC memory card	
Interfaces for image transfer	GigE-Vision DVI-D C-Video WLAN (option)	
Interfaces for camera control	GigE-Vision RS-232 Trigger USB 2.0 Bluetooth	
Power supply	External: 12 VDC ... 24 VDC Battery: standard Li-Ion video camera battery	
Operating temperature	-25 °C ... +50 °C (operational)	
Storing temperature	-40 °C ... +70 °C	
Humidity	Relative humidity 10% ... 95%, non-condensing	
Shock	Operational: 25G, IEC 68-2-29	
Vibration	Operational: 2G, IEC 68-2-6	
Protection class	IP54	
Dimensions (with standard 1.0/30 mm lens)	210 mm × 125 mm × 155 mm [L × W × H]	
Weight (with standard 1.0/30 mm lens)	1.7 kg	
Measurement functions (selection)	Multiple measurement spots & ROIs Hot/cold spot detection Isotherms Profiles Differences	
Automatic functions (selection)	Focus Image Level Range NUC Lens recognition Image optimization Alarm sequence	
Correction functions	LDCTM - Laser rangefinder based Distance Correction Emissivity (manual or material table) Transmissivity Ambient temperature Humidity (option)	
Available lenses (with IP54-proof bayonet mount)	Wide angle: 1.0 / 15 mm (FOV 67° × 50°) Standard 1: 1.0 / 30 mm (FOV 32° × 24°) Standard 2: 1.0 / 60 mm (FOV 16° × 12°)	<i>Other lenses on request.</i>

¹⁾ Overall range available for measurement and visualization. Four discrete sensitivity levels are used.

²⁾ Single frame acquisition mode only. Frame rate for RE image series not specified yet.

It is our policy to constantly improve the design and specifications. Accordingly, the details represented herein cannot be regarded as final and binding.



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