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) I 384 × 288 (120 fps) I 1024 × 96 (240 fps)		
Spectral range	7.5 µm ... 14 µm		
Temperature measurement range [1]	-40 °C ... +1,200 °C I 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 I Range: 70 m I Wavelength: 635 nm (red) I Laser class: 2		
Focus	Laser rangefinder supported autofocus I Passive autofocus I Motorized manual focus		
Display	Extra-large 5.6“ color TFT display I 1280 × 800 pixel resolution I Suitable for daylight operation		
Viewfinder	Tiltable LCoS color viewfinder display I 800 × 600 pixel resolution		
Geo-localization	Built-in GPS for geo-referencing		
Digital VIS camera	CMOS color camera I 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 I DVI-D I C-Video I WLAN (option)		
Interfaces for camera control	GigE-Vision I RS-232 I Trigger I USB 2.0 I Bluetooth		
Power supply	External: 12 VDC ... 24 VDC I 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 I Hot/cold spot detection I Isotherms I Profiles I Differences		
Automatic functions (selection)	Focus I Image I Level I Range I NUC I Lens recognition I Image optimization I Alarm sequence		
Correction functions	LDC™ - Laser rangefinder based Distance Correction I Emissivity (manual or material table) Transmissivity I Ambient temperature I 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°)		*Other lenses on request.*

[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.

JENOPTIK I Defense & Civil Systems Division
JENOPTIK Defense, Inc.
16490 Innovation Drive I Jupiter, FL 33478 I USA
Phone 561.881.7400 ext 1230 I Fax 561.881.1947
jdi.sales@jenoptik-inc.com
www.jenoptik.com/us-defense

Global Sales & Manufacturing:
JENOPTIK I Defense & Civil Systems
ESW GmbH I Sensor Systems Business Unit
Pruessingstrasse 41 I 07745 Jena I Germany
Phone +49 3641 65-3942 I Fax -3494
infraredtechnology.dcs@jenoptik.com
www.jenoptik.com/infraredtechnology

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