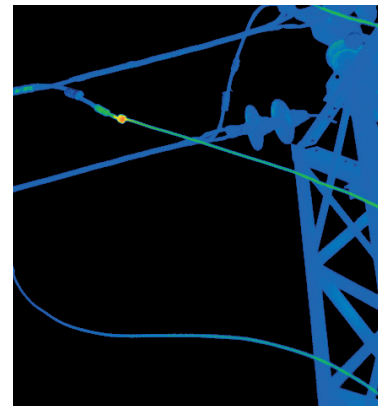
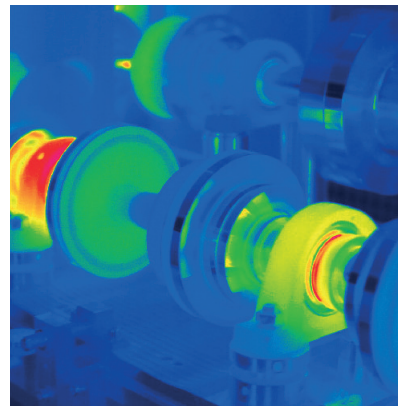




## IR-TCM HD 640 LWIR Infrared Cameras

Precision Thermography with up to 1280 × 960 IR Pixels Resolution



### Thermal imaging precision you can rely on.

If demanding thermal imaging is your assignment, the IR-TCM HD series of uncooled infrared thermography stationary cameras is your first choice solution.

For visualizing or accurately measuring heat distributions the uncooled IR-TCM HD 640 camera module outputs detailed radiometric images of **up to 1280 × 960 IR pixel** spatial resolution and offers a thermal resolution of **30 mK NETD**. Operating at a frame rate of up to 60 Hz at 640 x 480 pixel resolution, the stationary IR camera modules deliver high-quality thermograms fast and in real-time - allowing to record radiometric image series and videos.

Versatile **industry-proof standard interface** options, including wireless and **GigE-Vision** allow for easy integration into individual system solutions.

The cameras can be used for a broad variety of thermal imaging applications, since a **great choice of high quality infrared optics** is available - also made in Germany, manufactured by Jenoptik.

### Applications:

- Industrial and scientific research & development
- Predictive and preventive maintenance
- Process control and machine vision
- Aerial imaging
- Security engineering and fire detection
- Thermal inspection systems
- Military engineering<sup>1</sup>

# IR-TCM HD 640 Stationary LWIR Infrared Cameras

Precision Thermography with up to 1280 × 960 IR Pixels Resolution

## Specifications


	IR-TCM HD 640	IR-TCM HD 640 RE	
Detector type	Uncooled microbolometer (Focal Plane Array)		
Image resolution [pixel]	640 × 480	1280 × 960 (RE mode <sup>3</sup> )	640 × 480
Image rate (@ max. image resolution)	60 Hz	60 Hz	60 Hz
Subframe modes & frame rates (optional)	384 × 288 (120 fps)   640 × 120 (240 fps)		
Spectral range	7.5 μm ... 14 μm		
Temperature measurement range <sup>2</sup>	-40 °C ... +1,200 °C   High temperature option: up to 2,000 °C		
Temperature resolution [NETD]	≤ 30 mK		
Measurement accuracy	± 1.5 K or ± 1.5 %		
Dynamic range	16 bit		
Interface options for image transfer	GigE-Vision   DVI-D   C-Video   WLAN		
Interface options for camera control	GigE-Vision   RS232   Trigger   Analog output   Digital I/O   WLAN   Bluetooth		
Power supply	12 VDC ... 24 VDC		
Operating temperature range	switch on: -15 °C ... +50 °C operating: -25 °C ... +50 °C		
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 (bayonet lens mount) or IP67 (lens thread mount)		
Dimensions (housing, without lens)	190 mm × 90 mm × 94 mm [L × W × H]		
Weight (housing, without lens)	1.15 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	Emissivity (manual or material table)   Transmissivity   Ambient temperature   Humidity (optional)		

<sup>1</sup>) IR-TCM HD 640 is designed and intended for standard civil applications in the fields of industrial automation and R&D, security engineering and emergency services.

Special module design & configuration for military applications is available on request. Please contact us for more information.

<sup>2</sup>) Overall range available for measurement and visualization. Four discrete sensitivity levels are used.

<sup>3</sup>) RE: Jenoptik's opto-mechanical *Resolution Enhancement* technology

Available lenses and converters with IP54-proof bayonet mount or IP67-proof thread mount	Type	f / Focal length	HFOV × VFOV	Minimum focus distance
	Super wide angle	1.0 / 7.5 mm	125° × 93°	200 mm
	Wide angle	1.0 / 15 mm	62° × 46°	500 mm
	Standard	1.0 / 30 mm	31° × 23°	750 mm
	Telephoto	1.0 / 60 mm	15° × 11°	2,000 mm
	Super telephoto	1.0 / 120 mm	7.5° × 5.7°	6,000 mm
	M 0.2× Close-up lens for Standard lens			IFOV: 119 μm
M 0.5× Close-up lens for Standard lens			IFOV: 47 μm	Working distance: 47 mm
M 0.5× Close-up lens for Telephoto lens			IFOV: 50 μm	Working distance: 100 mm

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



JENOPTIK | Defense & Civil Systems  
 ESW GmbH | Business Unit Sensors  
 Pruessingstrasse 41 | 07745 Jena | Germany  
 Phone +49 3641 65-3671 | Fax -3494  
 infraredtechnology.dcs@jenoptik.com  
 www.jenoptik.com/variocam