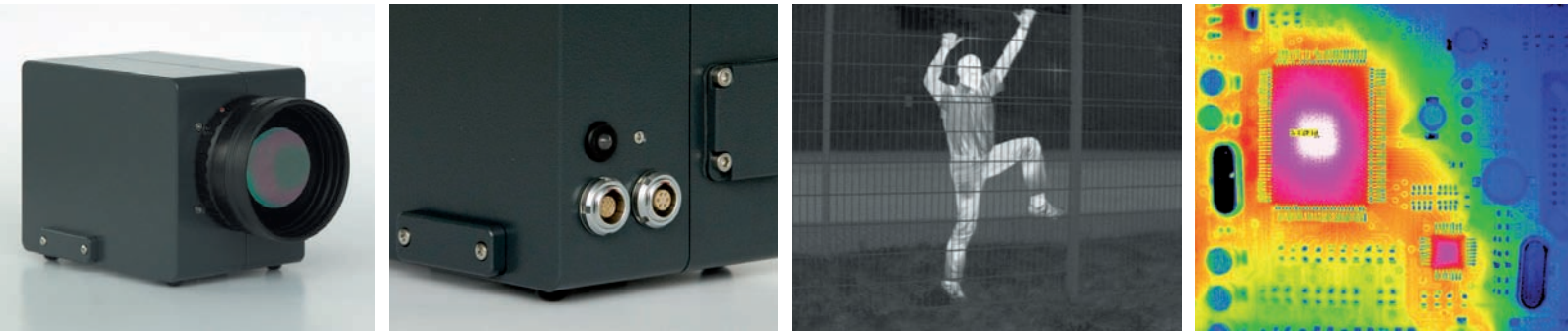




IR-TCM 640 high resolution IR Camera Module

Thermal images with 640 × 480 pixel or 1.2 megapixel resolution



First commercially available camera module for VGA resolution in real-time

Whether visualizing or measuring heat distributions, the reliable uncooled OEM camera module IR-TCM 640 outputs infrared images of 640 × 480 pixel resolution with a sharpness and distinctness so far unknown at commercial level. What's more, it does so in real-time! If configured with an optional hardware extension for resolution enhancement, it produces photo-realistic IR pictures with 1.2 megapixel resolution. This can also work out helpfully in security environments since the module's extremely high image resolution capability can handle large enough data volumes for wide-angle objective lenses to monitor great visual fields.

Equipped with standard interfaces as FireWire, S-/C-Video, VGA, RS-232, or optionally Gigabit-Ethernet the camera module can easily be integrated into a variety of applications in little time.

Applications:

- Machine vision and process monitoring
- Property monitoring
- Aerial inspection
- Thermography
- Security engineering and Fire detection
- Detection of persons, animals, vehicles or boats
- Thermal inspection systems
- Military engineering¹

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Specifications

	IR-TCM 640
Detector type	Uncooled microbolometer (Focal Plane Array)
Image format	640 × 480 pixel (1.2 megapixel in RE Mode)
Spectral range	7.5 μm ... 14 μm
Range for measuring / visualization ²	-40 °C ... +300 °C Option: up to +2000 °C
Temperature resolution	NETD < 70 mK With filtering: NETD < 30 mK
Measurement accuracy ³	± 1.5 K (0 °C ... 100 °C) otherwise ± 2 K, ± 2%
Dynamic range	16 bit
Image rate	50 Hz (PAL) or 60 Hz (NTSC)
Interfaces	IEEE-1394 (FireWire), S-/C-Video, VGA, RS-232
Power supply	9 VDC ... 24 VDC
Operating temperature	-15 °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
Dimensions (without lens)	153 mm × 91 mm × 111 mm
Weight (with housing)	1050 g
Options	<ul style="list-style-type: none"> + Opto-mechanical Resolution Enhancement (RE) for 1.2 megapixel image resolution + High temperature calibration up to 1,200 °C or 2,000 °C + Further interface options (e.g. Gigabit-Ethernet) + Wireless remote control and image transfer by WLAN + Implementable image processing functionality (e.g. image filtering, zoom, auto-image, hot- & cold-spot-detection, measurement spots, measurement value correction, etc.) + CMOS video camera for combined IR-VIS imaging, including IR-VIS image merging + Remote control and image capturing software + Image analysis software + Lenses: <ul style="list-style-type: none"> - Wide angle lens: 1.0 / 12.5 mm (FOV 65° × 51°) - Standard lens 1: 1.0 / 30 mm (FOV 30° × 23°) - Standard lens 2: 1.0 / 25 mm (FOV 36° × 27°) - Telephoto lens 1: 1.0 / 50 mm (FOV 18° × 14°) - Telephoto lens 2: 1.0 / 75 mm (FOV 12° × 9.1°) - Telephoto lens 3: 1.0 / 130 mm (FOV 7° × 5.3°)

¹⁾ IR-TCM 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.

²⁾ Overall range available for measurement or visualization. Two discrete sensitivity levels are used: -40 °C ... +120 °C and 0 °C ... +300 °C.

³⁾ For measuring camera modules only.

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