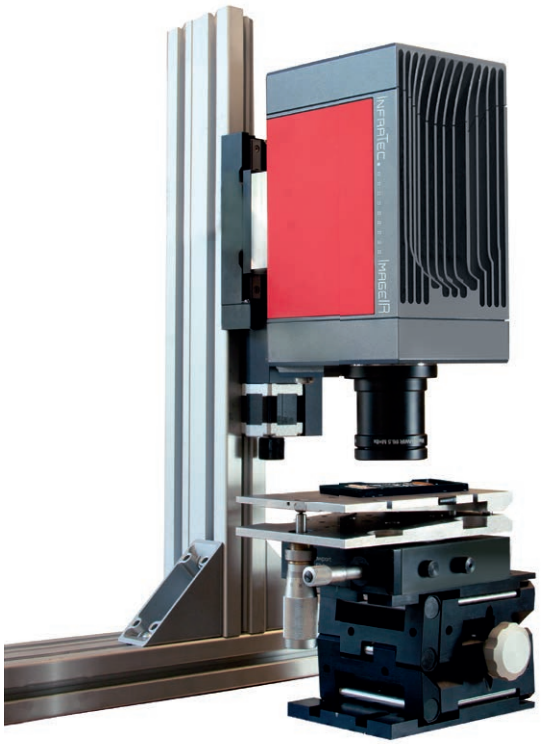
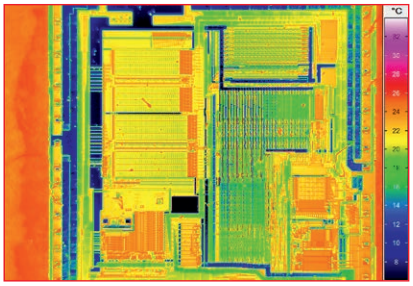
MADE
IN
GERMANY

InfraTec.
Infrarotsensorik und Messtechnik



Controlling and acquisition software
for facility protection



Microscopic thermography: detail of a circuit board

ImageIR® 9300

High-end Thermography Camera with High Image Quality and High Sensitivity

Detector Format
Efficient measurement of smallest structures on large-scale objects

IR-Frame Rate
Analysis of extreme temperature changes and gradients in full frame

Measurement Accuracy
Highly accurate and repeatable measurements

Thermal Resolution
Precise detection of smallest temperature differences

10 GigE Interface
High-speed, long-distance interference proof data transmission

HighSense
Flexible setting of temperature measurement ranges / integration times beyond calibration ranges

Motor Focus
Precise, fast and remotely controllable; including multiple autofocus functions

With its ImageIR® 9300 InfraTec introduces another top-level thermographic camera model from the ImageIR® high-end camera series. It is equipped with a cooled focal-plane array photon detector that provides a format of (1,280 × 1,024) IR pixels – four times higher than comparable competitive units. Combining an outstanding thermal resolution up to 0.025 K with very high frame rates of 106 Hz and extremely short integration times of only a few microseconds, this camera offers you a whole new range of applications.

ImageIR® 9300 was developed for demanding operations in research and development, non-destructive material testing and process monitoring sectors. Its modular structure, which consists of optical, detector and interface modules, makes it easily adaptable to the respective application.

A snapchot detector and an integrated trigger interface guarantees a repeatable high-precision triggering of quick procedures. Multiple configurable digital in- and outputs serve as control ports for the camera or as a generator of control signals for external devices. The optical channel consists of exchangeable infrared lens systems and application-specific apertures, filters and optical elements. All exchangeable radiometric precision lenses of the ImageIR® can be equipped with a motorised focus unit, which is operated from the camera's application software. As part of the optional autofocus function it allows quick,, precise and remotely controllable motorised.

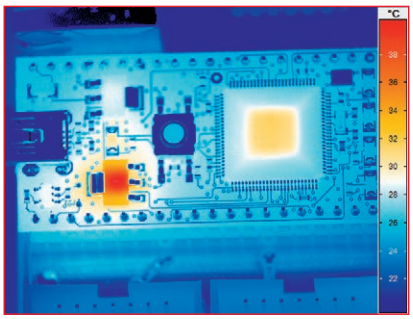
Technical Specifications

Spectral range	(1.5 … 5.5) µm
Pitch	15 µm
Detector	InSb
Detector format (IR pixels)	(1,280 × 1,024)
Image acquisition	Snapshot
Readout mode	ITR / IWR
Aperture ratio	f/2.0 or f/4.6
Detector cooling	Stirling cooler
Temperature measuring range	(-40 … 1,500) °C, up to 3,000 °C*
Measurement accuracy	± 1 °C or ± 1 %
Temperature resolution @ 30 °C	Better than 0.025 K
Frame rate (full / half / quarter / sub frame)*	Up to 106 / 200 / 390 / 3,200 Hz
Window mode	Yes
Focus	Manually, motorised or automatic*
Dynamic range	Up to 16 bit*
Integration time	(0.5 … 18,000) µs
Rotating filter wheel*	Up to 7 positions
Rotating aperture wheel*	Up to 5 positions
Interfaces	GigE, 10 GigE*, 2 × CAMLink*, HDMI*
Trigger	4 IN / 2 OUT, TTL
Analogue signals*, IRIG-B*	2 IN / 2 OUT, yes
Tripod adapter	1/4" and 3/8" photo thread, 2 × M5
Power supply	24 V DC, wide-range power supply (100 … 240) V AC
Storage and operation temperature	(-40 … 70) °C, (-20 … 50) °C
Protection degree	IP54, IEC 60529
Dimensions; weight	(235 × 120 × 160) mm*; 4.0 kg (without lens)
Further functions	Multi Integration Time*, HighSense*
Analysis and evaluation software	IRBIS® 3, IRBIS® 3 view, IRBIS® 3 plus*, IRBIS® 3 professional*, IRBIS® 3 control*, IRBIS® 3 online*, IRBIS® 3 process*, IRBIS® 3 active*, IRBIS® 3 mosaic*, IRBIS® 3 vision*

* Depending on model

Lenses	Focal length (mm)	FOV (°)	IFOV (mrad)
Wide-angle lens	25	(42.0 × 34.2)	0.6
Standard lens	50	(21.7 × 17.5)	0.3
Telephoto lens	100	(11.0 × 8.8)	0.15
Telephoto lens	200	(5.5 × 4.4)	0.08

Macro and microscopic lenses	Minimum object distance (mm)	Object size (mm)	Pixel size (µm)
Close-up for standard lens 50 mm	300	(115 × 92)	90
Close-up for telephoto lens 100 mm	500	(96 × 77)	75
Microscopic lens M=1.0×	40	(19 × 15)	15
Microscopic lens M=8.0×	14	(2.4 × 1.92)	1.9



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