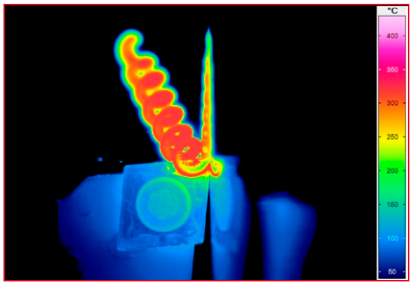
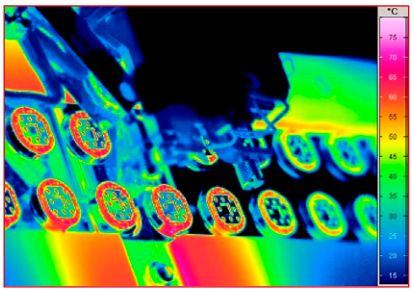
MADE
IN
GERMANY

InfraTec.
Infrarotsensorik und Messtechnik



Machining process with a tool bit



Bonding of sensors

ImageIR® 8300 hp

High-speed Thermography Camera – Allrounder in VGA Format

640 × 512 Detector
Detector Format
Large detector enables highest sensivity

1.3 MegaPixel
MicroScan
(1,280 × 1,024) IR pixels by genuine camera hardware

640 × 512 355 Hz
IR-Frame Rate
Analysis of extreme temperature changes and gradients in full frame

±1 %
Measurement Accuracy
Highly accurate and repeatable measurements

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

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

HDR
HDR
Facilitates the analysis of objects with extreme temperature gradients

With its ImageIR® 8300 hp, InfraTec introduces another top level thermographic camera model belonging to the ImageIR® high-end camera series. The implementation of a digitally interfaced (640 × 512) IR pixels MWIR detector (snapshot) allows 355 Hz full-frame real-time imaging without compromising any thermal accuracy. The ImageIR® 8300 hp and its cooled focal-plane array photon detector reach an outstanding thermal resolution – better than 0.02 K – and extremely short integration times in the microsecond range. The new version was developed for most demanding operations in research and development and process monitoring fields. Thanks to HighSense, ImageIR® users have the option of setting up individual measuring ranges and integration times while maintaining the factory calibration and thus aligning the camera performance with the respective task.

Its modular structure consisting of the optical, detector and interface section, makes the camera easily compatible to the related applications and for tailored configurations. An integrated trigger interface guarantees a repeatable high-precision triggering of quick procedures. Multiple configurable digital inputs and outputs serve as control ports for the camera or as generator of digital control signals for external devices. The optical channel consists of the exchangeable infrared lens completed by application-specific apertures, filters and reference elements. All exchangeable ImageIR® 8300 hp standard lenses can be combined with a motorised focus unit easily operable from the camera's application software. As part of the autofocus function it allows precise, fast and remotely controlled motorised focusing.

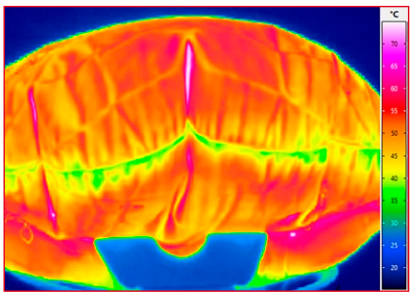
Technical Specifications

Spectral range	MCT: (1.5 … 5.5) µm
	InSb: (1.5 … 5.7) µm
Pitch	15 µm
Detector	MCT or InSb
Detector format (IR pixels)	(640 × 512)
Image format with opto-mechanical MicroScan (IR pixels)*	(1,280 × 1,024)
Image acquisition	Snapshot
Readout mode	ITR / IWR
Aperture ratio	f/3.0
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	MCT: Better than 0.02 K; InSb: Better than 0.025 K
Frame rate (full / half / quarter / sub frame)*	MCT: Up to 232 / 828 / 2,300 / 3,725 Hz
	InSb: Up to 355 / 670 / 1,200 / 5,000 Hz
Window mode	Yes
Focus	Manual, motorised or automatic*
Dynamic range	Up to 16 bit*
Integration time	(0.6 … 20,000) µs
Rotating filter wheel*	Up to 6 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	MCT: (241 × 120 × 160) mm*; InSb: (235 × 120 × 160) mm*; 3.3 kg (without lens)
Further functions	Multi Integration Time*, HighSense*, HDR*
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*

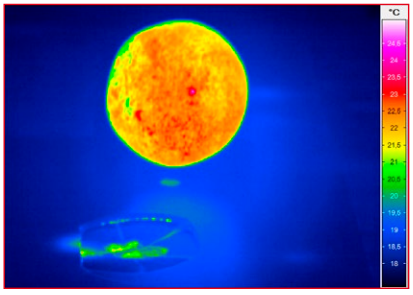
* Depending on model

Lenses	Focal length (mm)	FOV (°)	IFOV (mrad)
Wide-angle lens	12	(43.6 × 35.5)	1.3
Standard lens	25	(21.7 × 17.5)	0.6
Telephoto lens	50	(11.0 × 8.8)	0.3
Telephoto lens	100	(5.5 × 4.4)	0.15
Telephoto lens	200	(2.7 × 2.2)	0.08

Macro and microscopic lenses	Minimum object distance (mm)	Object size (mm)	Pixel size (µm)
Close-up for telephoto lens 50 mm	300	(58 × 46)	90
Close-up for telephoto lens 100 mm	500	(48 × 38)	75
Microscopic lens M=1.0×	40 / 195 / 300	(9.6 × 7.7)	15
Microscopic lens M=3.0×	22	(3.2 × 2.6)	5
Microscopic lens M=8.0×	14	(1.2 × 0.96)	1.9



Airbag test



Impact of a steel ball

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