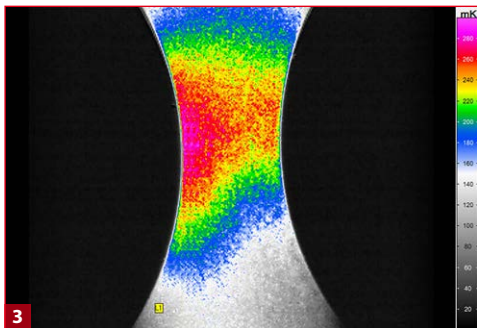
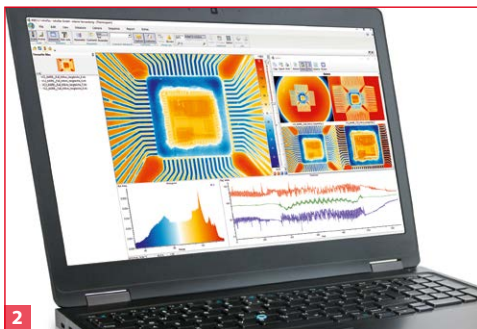


# ImageIR<sup>®</sup> 8300

High-end Thermography Camera



- 1) ImageIR<sup>®</sup> 8300 with interchangeable lenses from InfraTec
- 2) Software IRBIS<sup>®</sup> 3
- 3) Thermal Stress Analysis with Lock-in Thermography

## INFRA<sup>TEC</sup>.

Europe's leading specialist for infrared sensors and measurement technology

Cooled FPA photon detector with (640 × 512) IR pixels

Opto-mechanical MicroScan with (1,280 × 1,024) IR pixels

Full-frame rate up to 125 Hz, GigE Vision compatible

Snapshot detector, internal trigger interface

Extremely short integration times in the microsecond range

Pixel size with microscopic lens less than 2 μm

Thermal resolution better than 0.02 K



[www.InfraTec.eu](http://www.InfraTec.eu)

[www.InfraTec-infrared.com](http://www.InfraTec-infrared.com)

Made in Germany



Spectral range	(2.0 ... 5.7) $\mu\text{m}$
Pitch	15 $\mu\text{m}$
Detector	MCT or InSb
Detector format (IR pixels)	(640 $\times$ 512)
Image format with opto-mechanical MicroScan (IR pixels)*	(1,280 $\times$ 1,024)
Image acquisition	Snapshot
Readout mode	ITR/IWR
Aperture ratio	f/3.0 or f/2.0
Detector cooling	Stirling cooler
Temperature measuring range	(-40 ... 1,500) $^{\circ}\text{C}$ , up to 3,000 $^{\circ}\text{C}^*$
Measurement accuracy	$\pm 1$ $^{\circ}\text{C}$ or $\pm 1\%$
Temperature resolution @ 30 $^{\circ}\text{C}$	Better than 0.02 K
Frame rate (full / half / quarter / sub frame)*	Up to 125 / 404 / 1,051 / 2,996 Hz
Window mode	Yes
Focus	Manual, motorised or automatically*
Dynamic range	Up to 16 bit*
Integration time	(0.6 ... 20,000) $\mu\text{s}$
Rotating filter wheel*	Up to 5 positions
Rotating aperture wheel*	Up to 5 positions
Interfaces	GigE, CAMLink*, HDMI*
Trigger	3 IN / 2 OUT, TTL
Tripod adapter	1/4" and 3/8" photo thread, 2 $\times$ M5
Power supply	24 V DC, wide-range power supply (100 ... 240) V AC
Storage and operation temperature	(-40 ... 70) $^{\circ}\text{C}$ , (-20 ... 50) $^{\circ}\text{C}$
Protection degree	IP54, IEC 60529
Dimensions, weight	(250 $\times$ 120 $\times$ 160) mm*, 3.3 kg (without lens)
Further functions	High-speed mode*, Multi Integration Time*
Analysis and evaluation software	IRBIS <sup>®</sup> 3, IRBIS <sup>®</sup> 3 view, IRBIS <sup>®</sup> 3 plus*, IRBIS <sup>®</sup> 3 professional*, IRBIS <sup>®</sup> 3 control*, IRBIS <sup>®</sup> 3 online*, IRBIS <sup>®</sup> 3 process*, IRBIS <sup>®</sup> 3 active*, IRBIS <sup>®</sup> 3 mosaic*, IRBIS <sup>®</sup> 3 vision*

\* Depending on model

With its ImageIR<sup>®</sup> 8300, InfraTec introduces another top level thermographic camera model belonging to the ImageIR<sup>®</sup> high-end camera series. The implementation of a **digitally interfaced (640  $\times$  512) IR pixel MWIR detector** allows **125 Hz full-frame** real-time imaging without compromising any thermal accuracy. Like all camera models of this series the ImageIR<sup>®</sup> 8300 and its cooled focal-plane array photon detector reach an outstanding **thermal resolution better than 0.02 K**. The new version was developed for most demanding operations in research and development and process monitoring fields. 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** as well as application-specific apertures, filters and reference elements. All exchangeable ImageIR<sup>®</sup> 8300 standard lenses can be **equipped with a motorised focus unit** easily operable from the camera's application software. It allows **precise, fast and remotely controlled motorised focusing** and is part of the autofocus function.

Lenses	Focal length (mm)	FOV ( $^{\circ}$ )	IFOV (mrad)
Wide-angle lens	12	(43.6 $\times$ 35.5)	1.3
Standard lens	25	(21.7 $\times$ 17.5)	0.6
Telephoto lens	50	(11.0 $\times$ 8.8)	0.3
Telephoto lens	100	(5.5 $\times$ 4.4)	0.15
Telephoto lens	200	(2.7 $\times$ 2.2)	0.08

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

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