ImageIR® 8300

High-end Thermography Camera

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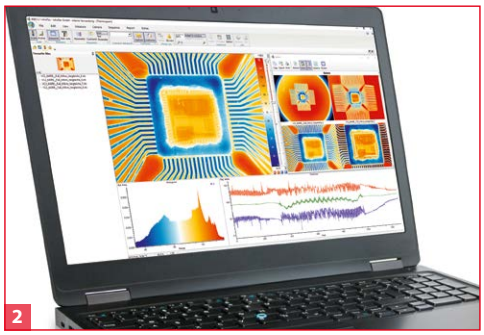
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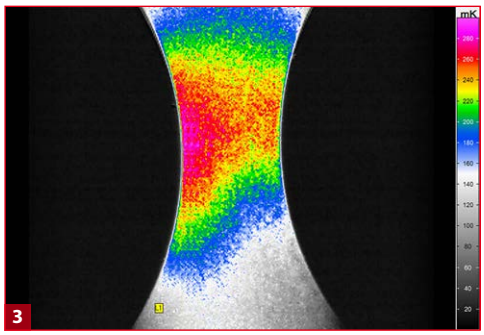
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1) ImageIR® 8300 with interchangeable lenses from InfraTec
2) Software IRBIS® 3
3) Thermal Stress Analysis with Lock-in Thermography

InfraTec.

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
www.InfraTec-infrared.com

Made in Germany

Latest information on the internet.

Spectral range	(2.0 … 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 aquisition	Snapshot
Readout mode	ITR / IWR
Aperture ratio	f/3.0 or f/2.0
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	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) µs
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 × 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	(250 × 120 × 160) mm*, 3.3 kg (without lens)
Further functions	HighSense*, Multi Integration Time*
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

With its ImageIR® 8300, 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 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® 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® 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 (°)	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

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