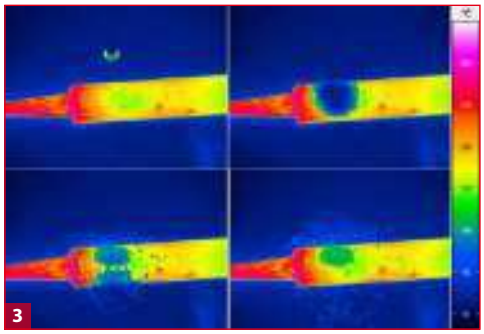
ImageIR® 9400

High-performance Thermography Camera

1


2


3

1) ImageIR® 9400 with interchangeable lenses from InfraTec
2) Lock-in thermography of an electronic device with the thermographic software IRBIS® 3 active
3) Impact of a drop of water on a soldering iron, recorded with high-speed mode

InfraTec.

Europe's leading specialist for infrared sensors and measurement technology

Cooled FPA photon detector with (1,280 × 1,024) IR pixels
Opto-mechanical MicroScan with (2,560 × 2,048) IR pixels
Available with high-speed mode thanks to binning technology
Snapshot detector, integrated trigger interface
Thermal resolution up to 0.02 K
Extremely short integration times in the microsecond range
Pixel size with microscopic lens up to 1.3 µm
Made in Germany

www.InfraTec.eu
www.InfraTec-infrared.com

NEW

Latest information on the internet.

Spectral range	(2.0 … 5.5) µm or (3.6 … 4.9) µm
Pitch	10 µm
Detector	InSb
Detector format (IR pixels)	(1,280 × 1,024)
Image format with opto-mechanical Micro-Scan (IR pixels)	(2,560 × 2,048)
Image acquisition	Snapshot
Readout mode	ITR / IWR
Aperture ratio	f/2.2 or f/3.0
Detector cooling	Stirling cooler
Temperature measuring range	(-40 … 1,500) °C, up to 2,000 °C*
Measurement accuracy	± 1 °C or ± 1 %
Temperature resolution @ 30 °C	Up to 0.03 K / up to 0.02 K in high-speed mode
Frame rate (full / half / quarter / sub frame)*	Up to 180 / 342 / 622 / 2,601 Hz; high-speed mode: up to 622 / 1,053 / 1,615 / 3,343 Hz
Window mode	Yes
Focus	Manually, motorised or automatically*
Dynamic range	Up to 16 bit*
Integration time	(1 … 20,000) µs
Rotating filter wheel*	Up to 5 positions
Rotating aperture wheel*	Up to 5 positions
Interfaces	10 GigE, HDMI*, GigE**, CAMLink**
Trigger	3 IN / 2 OUT, TTL
Analogue signals*, IRIG-B*	3 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	(241 × 123 × 160) mm; 4.3 kg (without lens)
Further functions	High-speed mode, 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, ** expectedly available in July 2019

To analyse the thermal behavior of objects and processes from a wide variety of perspectives InfraTec introduces ImageIR® 9400. The camera is equipped with a new generation **cooled focal-plane array photon detector** that provides a **format of (1,280 × 1,024) IR pixels.** Besides the standard mode users can choose a **high-speed** mode utilising binning technology. Due to a reduced number of pixels but the same field of view (FOV) this enables **very high frame rates up to 622 Hz** and an excellent thermal resolution at the same time.

ImageIR® 9400 was developed for demanding operations in research and development, **non-destructive testing and process monitoring.** Its **modular structure, which consists of optical, detector and interface modules,** makes it easily adaptable to the respective application.

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 generator of control signals for external devices. The optical channel consists of exchangeable infrared lens systems as well as application-specific apertures, filters and optical elements. The **exchangeable radiometric precision lenses** of the ImageIR® 9400 can be combined with a motorised focus unit, which is operated from the camera's application software. It allows quick, precise and remotely controllable motorised focusing.

Lenses	Focal length (mm)	FOV (°)	IFOV (mrad)
Standard lens	25	(29 × 23)	0.4
Telephoto lens	50	(15 × 12)	0.2
Telephoto lens	100	(7.3 × 5.9)	0.1
Telephoto lens	200	(3.7 × 2.9)	0.05

Macro and microscopic lenses	Object distance (mm)	Object size (mm)	Pixel size (µm)
Close-up for telephoto lens 50 mm	300	(77 × 61)	60
Close-up for telephoto lens 100 mm	500	(64 × 51)	50
Microscopic lens M=1.0×	40	(13 × 10)	10
Microscopic lens M=8.0×	14	(1.6 × 1.3)	1.3

Headquarters
InfraTec GmbH
Infrarotsensorik und Messtechnik
Gostritzer Str. 61 – 63
01217 Dresden / GERMANY
Phone +49 351 871-8630
Fax +49 351 871-8727
E-mail thermo@InfraTec.de

USA office
InfraTec infrared LLC
5048 Tennyson Pkwy.
Plano TX 75024 / USA
Phone +1 844-226-3722 (toll free)
E-mail thermo@InfraTec-infrared.com