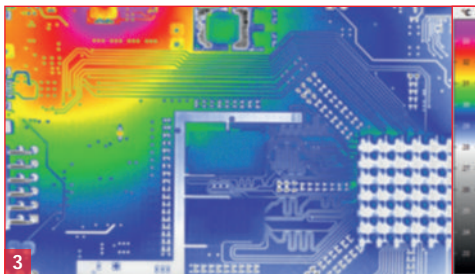
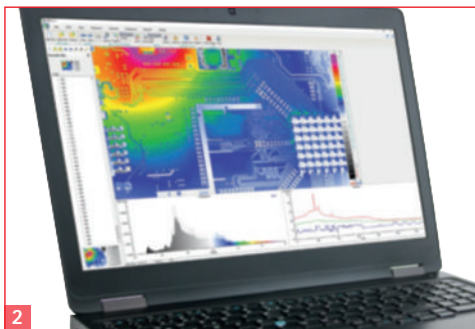


# ImageIR® 9500

High-end Thermography Camera

## INFRAtec.

Europe's leading specialist for infrared sensors and measurement technology



- 1) ImageIR® 9500 with interchangeable lenses from InfraTec
- 2) Thermographic software IRBIS® 3
- 3) Microscopic thermography with (1,280 × 720) IR pixels

Cooled FPA photon detector with (1,280 × 720) IR pixels  
Opto-mechanical MicroScan with (2,560 × 1,440) IR pixels  
Full-frame rate up to 120 Hz, GigE Vision compatible  
Up to 1.5 kHz with (320 × 180) IR pixels  
Snapshot detector, integrated trigger interface  
Extremely short integration times in the microsecond range  
Thermal resolution better than 0.025 K  
Made in Germany



NEW

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

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Spectral range	(3.5 ... 4.8) $\mu\text{m}$
Pitch	12 $\mu\text{m}$
Detector	MCT
Detector format (IR pixels)	(1,280 $\times$ 720)
Image format with opto-mechanical MicroScan (IR pixels)	(2,560 $\times$ 1,440)
Image acquisition	Snapshot
Readout mode	ITR / IWR
Aperture ratio	f/2.0
Detector cooling	Stirling cooler
Temperature measuring range	(-20 ... 1,200) $^{\circ}\text{C}$ , up to 2,000 $^{\circ}\text{C}^*$
Measurement accuracy	$\pm 1^{\circ}\text{C}$ or $\pm 1\%$
Temperature resolution @ 30 $^{\circ}\text{C}$	Better than 0.025 K
Frame rate (full / half / quarter / sub frame)*	Up to 120 Hz / 446 Hz / 1,517 Hz / 16,053 Hz
Window mode	Yes
Focus	Manually, motorised or automatically*
Dynamic range	14 bit
Integration time	(1 ... 20,000) $\mu\text{s}$
Rotating aperture wheel and filter wheel*	Up to 5 positions
Interfaces	10 GigE, GigE*, 2 $\times$ CAMLink*, HDMI*
Trigger	3 IN / 2 OUT, TTL
Analogue signals*, IRIG B*	2 IN / 2 OUT, yes
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	(241 $\times$ 123 $\times$ 160) mm; 4.7 kg (without lens)
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

In regard to InfraTec's wide range of products, the ImageIR® 9500 thermographic camera offers an alternative especially for the international market. Its highly sensitive **cooled focal plane array photon detector** is based on mercury cadmium telluride (MCT) and provides **(1,280  $\times$  720) IR pixels**. The geometrical resolution can even be increased to (2,560  $\times$  1,440) IR pixels with the MicroScan function. Due to its **outstanding thermal sensitivity up to 0.025 K**, users can create low-noise, fine-resolution images using the quadruplication of the image formats. In addition, this model of the high-end ImageIR® camera series impresses with **extremely short integration times in the microsecond range**, very high frame rates of 120 Hz, which increase to 1,500 Hz in sub-frame with (320  $\times$  180) IR pixels.

The ImageIR® 9500 is suitable for highly demanding applications in science and industry, object monitoring and microthermographic analysis of extremely small structures. It is equipped with an integrated 10 GigE interface that enables data exchange between camera and computer at a speed of 10 Gbps. Due to the **modular concept consisting of optics, detector and interface modules**, the camera can be individually configured and optimally adapted to the respective task. The same purpose is served by the **range of high-quality, radiometric precision optics**, which ranges from telephoto lenses, standard and wide-angle lenses to macro- and microscopic lenses.

Lenses	Focal length (mm)	FOV ( $^{\circ}$ )	IFOV (mrad)
Standard lens	25	(34.2 $\times$ 19.6)	0.48
Telephoto lens	50	(17.5 $\times$ 9.9)	0.24
Telephoto lens	100	(8.8 $\times$ 4.9)	0.12
Supertelephoto lens	200	(4.4 $\times$ 2.5)	0.06

Macro and microscopic lenses	Object distance (mm)	Object size (mm)	Pixel size ( $\mu\text{m}$ )
Close-up for telephoto lens 50 mm	300	(92 $\times$ 52)	72
Close-up for telephoto lens 100 mm	500	(77 $\times$ 43)	60
Microscopic lens M=1.0 $\times$	40	(15 $\times$ 9)	12
Microscopic lens M=8.0 $\times$	14	(1.9 $\times$ 1.1)	1.5

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