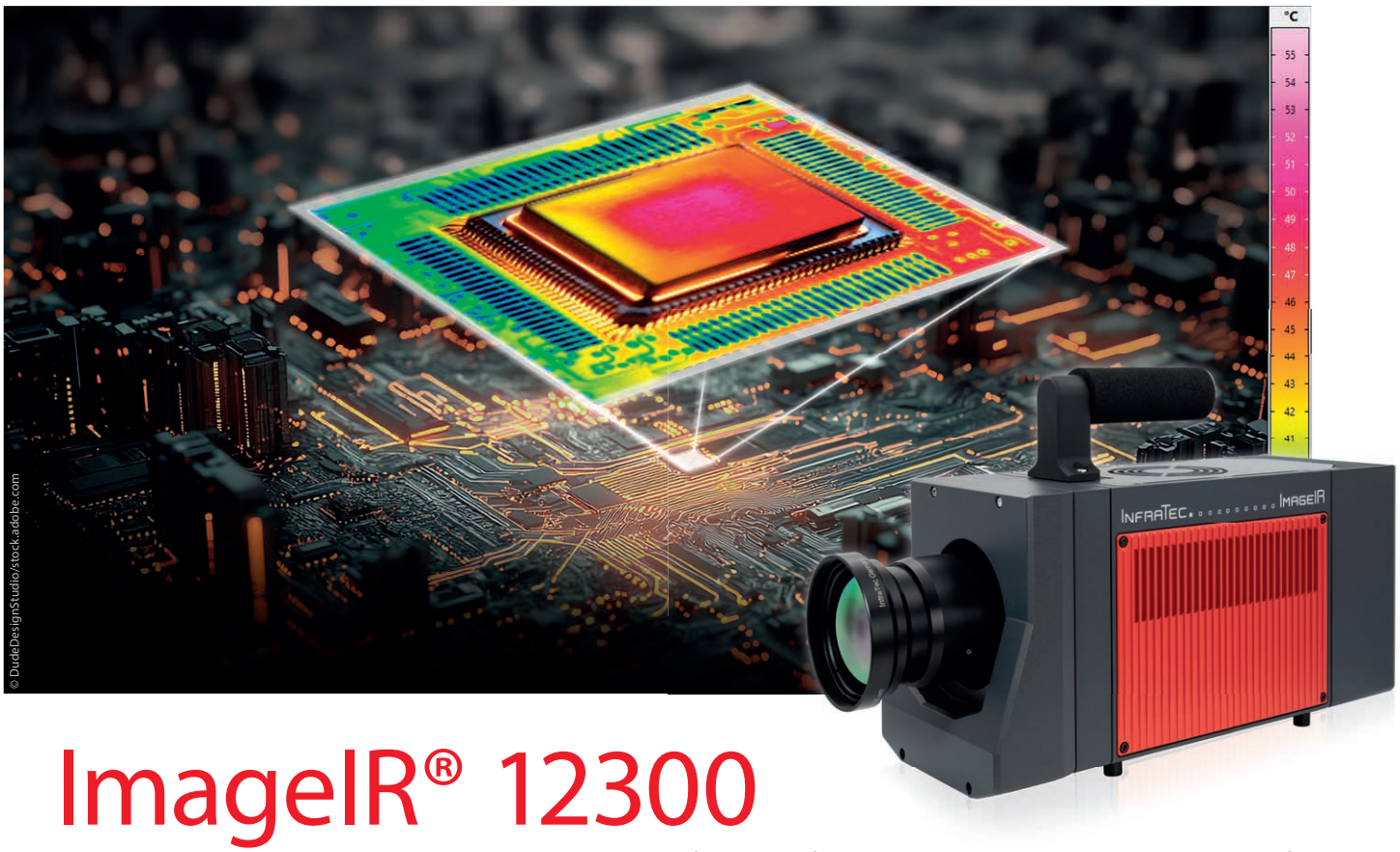
MADE
IN
GERMANY

InfraTec.
Infrarotsensorik und Messtechnik



ImageIR® 12300

Next Level Details – (2,560 × 2,048) IR Pixels

5.2 MegaPixel
Detector Format
High resolution thermal images for monitoring large areas

2,560 × 2,048 140 Hz
IR-Frame Rate
Analysis of extreme temperature changes and gradients in full frame

±1 %
Measurement Accuracy
Highly accurate and repeatable measurements

≤ 22 mK
Thermal Resolution
Precise detection of small temperature differences in high-speed mode

5 µm Pitch
Pitch Dimension
Smaller pixel sizes avoids geometrical measurement errors

High-speed Mode
High-speed Mode with 1,600 Hz
Increase frame rates and thermal resolution at the same time using binning technology

Spectral Filter
Application specific spectral adaptation of the camera

The ImageIR® 12300 from InfraTec with a detector format of (2,560 × 2,048) IR pixels, is the radiometrically calibrated infrared camera with the world's highest commercially available native resolution of 5.2 Megapixel.

Despite its high resolution, the detector is comparatively small. This camera can be used with a variety of high-precision interchangeable optics, from wide-angle up to microscopic. This is possible thanks to a unique pixel pitch of just 5 µm. The powerful top model of the ImageIR® series allows very fine structures on large area measurement objects to be resolved with unrivalled detail and significantly increased efficiency.

Due to a frame rate of up to 140 Hz, both, dynamic processes and rapid temperature changes in a range of (-10 … 1,700) °C (optionally up to 3,000 °C) can be examined. In the high-speed mode (Binning), thermographic images can be captured in full frame mode at up to 1,600 Hz.

The ImageIR® 12300 is equipped with high performance electronics with impressive processing bandwidth and designed for standalone operations completely without a PC. Alternatively, data can be output in real-time via various interfaces to high resolution displays as well as for external processing or storage. The integrated web interface allows for operation and remote control of the ImageIR® 12300 by smartphone or tablet.

Technical Specifications

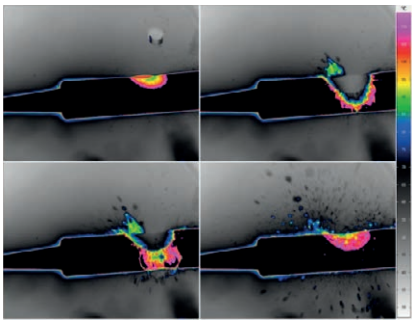
Spectral range	(3.4 … 4.9) µm
Pitch	5 µm
Detector	InSb
Detector format (IR pixels)	(2.560 × 2.048)
Image acquisition	Snapshot
Readout mode	ITR / IWR
Aperture ratio	f/1.7
Detector cooling	Stirling cooler
Temperature measuring range	(-10 … 1,700) °C, up to 3,000 °C*
Measurement accuracy	± 1 °C or ± 1 %
Temperature resolution @ 30 °C	Better than 0.045 K / 0.022 K in high-speed mode
Frame rate*	Up to 140 Hz; High-speed mode: up to 1,600 Hz
Window mode	Yes
Focus	Manual, motorised or automatic*
Dynamic range	14 bit
Integration time	(1 … 60,000) µs
Rotating aperture wheel and filter wheel*	Up to 7 positions
Interfaces	10 GigE, DisplayPort Video*
Trigger	4 IN / 3 OUT
Analogue signals*, IRIG-B*	2 IN / 3 OUT, (-10 … 10) V, 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	(272 × 160 × 123) mm; 5,4 kg (without lens)
Further functions	Intregarted image processing and acquisition, control via web interface, high-speed mode*
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

High-performance Infrared Lenses

High quality precision lenses allow the adaptation of the image geometry to almost every measuring situation. Its performance parameters are calibrated with respect to functionality, quality and flexible application. Due to proper IR-transparent lens materials and high-precision antireflexion coating, the lenses are optimized for different special ranges. Additional macro accessory lenses reduce the working distance, increase the geometrical resolution and guarantee highest imaging quality.

High-speed Mode



Due to the binning technology, infrared cameras have two speed modes – the standard mode and the high-speed mode, in wich the frame rate increases more than three times. The field of view remains constant in both modes, so the scene captured by the camera does not change. In high-speed mode, the thermal resolution also increases by a factor of two. So temperature changes can be recorded and analyzed very fast.

Multispectral Feature

The multispectral feature makes it possible to record sequences with constantly changing spectral filters. Images are recorded synchronously with a rapidly rotating filter wheel equipped with the filters. It may be possible to switch between up to seven filters, depending on the version. Due to this multispectral measurement can be optimized to suit the measuring task if the preset ranges are unsuitable.

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