MADE
IN
GERMANY

InfraTec
Infrarotsensorik und Messtechnik

ImageIR® 6300 Z

Radiometric Zoom Camera for More Efficiency

640 × 512 Detector

Detector Format
Modern XBn detector;
10 µm pitch

±2 %

Measurement Accuracy
Repeatable measurements
for different field of views

Focus

Motor Focus
Precise, fast and remotely controllable;
including multiple autofocus functions

7.5× Optical

Zoom Lens
7.5× zoom lens; focal length ranges
(15 … 115) mm or (25 … 170) mm

High-speed Mode

High-speed Mode
Increase frame rates and thermal resolution at
the same time using binning technology

MTTF 30,000 h

Long-life Cooler
Enables the maintenance-free
use over long operating times

Smaller, lightweight, without tedious lens changes – efficiency has a new name: The ImageIR® 6300 Z with a powerful zoom lens and a SWaP detector (Size, Weight and Power).

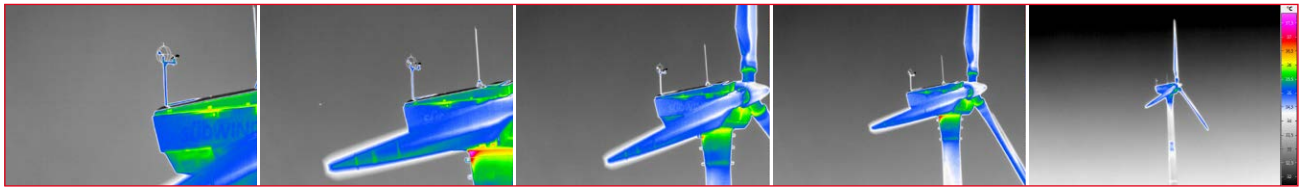
The zoom camera ImageIR® 6300 Z is a small, lightweight, compact system for universal use in thermographic temperature measurements in a wide range of applications. Its excellent price-performance ratio and the remarkable user-friendliness result from the systematic use of the latest technologies in optics, detector and electronics. It has a 7.5× zoom lens integrated as standard, which allows, in combination with the motorised focus, a fast and flexible adjustment to different object distances and sizes while maintaining stable image quality and high measurement accuracy.

Heart of the infrared camera is the SWaP detector, a cooled focal-plane array photon detector with a format of (640 × 512) IR pixels, which operates shutterless and in snap-shot mode. As no shutter is required in continuous operation, process data can be collected without interruption and with high measurement accuracy. The maximum IR frame rate is 180 Hz and can be increased up to 600 Hz with the binning function. Switching between the two speed modes is conveniently done via software and allows exact time tracking of a fast process.

Technical Specifications

Spectral range	(3.6 … 4.15) µm
Pitch	10 µm
Detector	XBn
Detector format (IR pixels)	(640 × 512)
Image acquisition	Snapshot
Readout mode	ITR/IWR
Aperture ratio	f/3.6
Detector cooling	Stirling cooler, MTTF ≤ 30,000 h
Temperature measuring range	(-10 … 600) °C
Measuring accuracy	± 2 °C or ± 2 %
Temperature resolution @ 30 °C	0.03 K
Frame rate (full / half / quarter / sub frame)*	Up to 180 / 344 / 619 / 2,760 Hz ; high-speed mode: 620 / 1,030 / 1,500 / 2,150
Focus	Motorised: manually or automatically*
Focusing time	< 2.0 s
Lens focal length	(15 … 115) mm or (25 … 170) mm; (7.5× optical zoom)
Zoom setting time	< 2.0 s
Field of view	(24.5 × 20)° … (3.2 × 2.5)° or (16.3 × 13)° … (2.15 × 1.7)°
Minimum object distance	(0.05 … 2.5) m or (0.1 … 10) m
Dynamic range	14 bit
Integration time	(1 … 60,000) µs
Interfaces	GigE
Trigger	4 IN / 3 OUT
Tripod adapter	1/4" photo thread, 18× M4
Power supply	Wide range voltage input (9 … 36) V AC, PoE++
Storage and operation temperature	(-40 … 70) °C, (-20 … 50) °C
Protection degree	IP54, IP65*
Dimensions; weight	(230 × 100 × 100) mm or (265 × 100 × 100) mm; 2.0 kg
Further functions	Integrated 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



Infrared image of a wind turbine with different zoom levels

Infrared cameras of the ImageIR® series measure temperatures precisely and contactless. The ImageIR® 6300 Z is radiometrically calibrated over the entire focal length range. For the innovative XBn detector used, a smaller stirling cooler with lower power is sufficient due to the higher working temperature, which reduces the overall power consumption, dimensions and weight of the ImageIR® 6300 Z and significantly extends the maintenance-free service life.

The zoom camera can be easily integrated into existing system environments in a space-saving way. It is suitable for universal use in research and development, but also for integration into GIMBAL systems in the field of flight thermography. With its high-performance image processing electronics, the camera can output the IR image data in real time to several video and data interfaces as well as record and evaluate it autonomously. Large amounts of data are stored on the integrated SSD. This camera can also be operated via smartphone or tablet using its web interface. With these features and the possibility to power it from an external battery, this camera is ready for mobile outdoor use.

Fields of application

- Research and development
- Aerial thermography: inspection and monitoring tasks
- Quality assurance
- Materials testing
- Integration solutions

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