



Rotating rotor blade of a wind turbine

# ImageIR® 8800

Long Wave Thermography Camera with Shortest Integration Times

- 640  
x  
512**  
Detector

**Detector Format**  
 Large detector enables highest sensitivity
- 1.3**  
MegaPixel

**MicroScan**  
 (1,280 × 1,024) IR pixels by genuine camera hardware
- 640  
x  
512**  
233 Hz

**IR-Frame Rate**  
 Analysis of extreme temperature changes and gradients in full frame
- ±1  
%**

**Measurement Accuracy**  
 Highly accurate and repeatable measurements
- T<sub>int</sub>**

**Shortest Integration Time**  
 Accurate temperature measurements of fast processes
- 10  
GigE**

**10 GigE Interface**  
 High-speed, long-distance interference proof data transmission
- LWIR

**Spectral Range**  
 Measurement in the range of (7.7 ... 10.2) μm

With its ImageIR® 8800 InfraTec offers another top-level thermographic camera model from the ImageIR® high-end camera series. It is equipped with a cooled focal-plane array photon detector that provides a format of (640 × 512) IR pixels and operates in snapshot mode. This camera combines an outstanding thermal resolution – better than 0.025 K – with very high sub-frame rates of up to 14,593 Hz and extremely short integration times of only a few microseconds. Thereby it qualifies for airborne biological and geological surveys, non-destructive testing and the analysis of fast thermal processes, which are related to large temperature measuring ranges. 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 a generator of control signals for external devices. The optical channel consists of exchangeable infrared lens systems as well as of application-specific apertures, filters and optical elements.

## Technical Specifications

Spectral range	(7.7 ... 10.2) $\mu\text{m}$
Pitch	15 $\mu\text{m}$
Detector	MCT
Detector format (IR pixels)	(640 $\times$ 512)
Image format with opto-mechanical MicroScan (IR pixels)*	(1,280 $\times$ 1,024)
Image acquisition	Snapshot
Readout mode	ITR
Aperture ratio	f/2.0
Detector cooling	Stirling cooler
Temperature measuring range	(-40 ... 1,200) $^{\circ}\text{C}$ , up to 3,000 $^{\circ}\text{C}$ *
Measurement accuracy	$\pm 1$ $^{\circ}\text{C}$ or $\pm 1$ %
Temperature resolution @ 30 $^{\circ}\text{C}$	Better than 0.025K
Frame rate (full / half / quarter / sub frame)*	Up to 233 / 874 / 2,892 / 14,593 Hz
Window mode	Yes
Focus	Manually, motorised or automatically*
Dynamic range	Up to 16 bit*
Integration time	(10 ... 20,000) $\mu\text{s}$
Rotating aperture wheel and filter wheel*	Up to 5 positions
Interfaces	GigE, 10 GigE*, 2 $\times$ CAMLink*, HDMI*
Trigger	4 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	(244 $\times$ 120 $\times$ 160) mm*; 4.0 kg (without lens)
Further functions	Multi Integration Time*
Analysis and evaluation software	IRBIS <sup>®</sup> 3, IRBIS <sup>®</sup> 3 view, IRBIS <sup>®</sup> 3 plus*, IRBIS <sup>®</sup> 3 professional*, IRBIS <sup>®</sup> 3 control*, IRBIS <sup>®</sup> 3 online*, IRBIS <sup>®</sup> 3 process*, IRBIS <sup>®</sup> 3 active*, IRBIS <sup>®</sup> 3 mosaic*, IRBIS <sup>®</sup> 3 vision*

\* Depending on model

Lenses	Focal length (mm)	FOV ( $^{\circ}$ )	IFOV (mrad)
Wide-angle lens	13	(40.5 $\times$ 32.9)	1.2
Standard lens	25	(21.7 $\times$ 17.5)	0.6
Telephoto lens	50	(11.0 $\times$ 8.8)	0.3
Telephoto lens	100	(5.5 $\times$ 4.4)	0.15
Telephoto lens	200	(2.7 $\times$ 2.2)	0.08



Observation of a person entering an area without authorisation



Thermal image of a drinking bat over a reflecting water surface

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