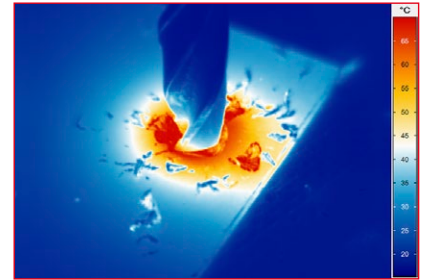


Software IRBIS® 3



Drilling process

# ImageIR® 4300

High-end Thermography with an Entry-level Model

**320  
x  
256**  
Detector

**Detector Format**  
Large detector enables  
highest sensitivity

**320  
x  
256**  
75 Hz

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

**±2  
%**

**Measurement Accuracy**  
Highly accurate and  
repeatable measurements

**≤ 20  
mK**

**Thermal Resolution**  
Precise detection of smallest  
temperature differences

**T<sub>int</sub>**

**Shortest Integration Time**  
Accurate temperature measurements  
of fast processes

**30 µm  
Pitch**

**Pitch Dimension**  
Precise measurement of low temperatures  
and very fast integration times

**GigE**

**GigE Vision Compatible**  
Standard interface for easy integration  
into existing process environment

The entry-level model ImageIR® 4300 already shows, which qualities are characteristic for the high-end camera series ImageIR® are. Equipped with a cooled focal-plane array photon detector with (320×256) IR pixels this camera enables users to choose between detectors made of different material for thermal analyses in the short-wave and mid-infrared spectral range. MCT detectors support snapshot mode.

Recording and storing images with frequencies up to 706 Hz enables you to analyse even fast processes. In addition, the ImageIR® 4300 comes with an impressive thermal resolution up to 0.02 K (20 mK) due to its pixel pitch of 30 µm. In sum, this camera series provides a potential that qualifies for usage for a broad range of applications in the fields of industry and science.

The robust light-metal housing of the instruments matches this claim. With the combination of the modular designed camera concept, the internal trigger interface, most diverse thermographic software and high-quality lenses users benefit from a high level of flexibility. That allows to adapt the cameras to almost every measurement and testing task.

## Technical Specifications

Spectral range	(3.7 ... 4.8) $\mu\text{m}$
Pitch	30 $\mu\text{m}$
Detector	MCT
Detector format (IR pixels)	(320 $\times$ 256)
Image acquisition	Snapshot
Readout mode	ITR
Aperture ratio	f/2.0
Detector cooling	Stirling cooler
Temperature measuring range	(-40 ... 300) $^{\circ}\text{C}$ *, up to 3,000 $^{\circ}\text{C}$ *
Measurement accuracy	$\pm 2^{\circ}\text{C}$ or $\pm 2\%$
Temperature resolution @ 30 $^{\circ}\text{C}$	Better than 0.02 K
Frame rate (full / half / sub frame)*	Up to 75 / 265 / 706 Hz
Window mode	Yes* (full frame / sub frame)
Focus	Manual, motorised or automatically*
Dynamic range	14 bit
Integration time	(1 ... 20,000) $\mu\text{s}$
Rotating filter wheel*	Up to 5 positions
Rotating aperture wheel*	Up to 5 positions
Interfaces	GigE, HDMI*
Trigger	1 IN / 1 OUT, TTL
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 $\times$ 120 $\times$ 160) mm*; 3.3 kg (without lens)
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	12	(43.6 $\times$ 35.5)	2.5
Standard lens	25	(21.7 $\times$ 17.5)	1.2
Telephoto lens	50	(11.0 $\times$ 8.8)	0.6
Telephoto lens	100	(5.5 $\times$ 4.4)	0.3
Telephoto lens	200	(2.7 $\times$ 2.2)	0.15

Macro and microscopic lenses	Minimum object distance (mm)	Object size (mm)	Pixel size ( $\mu\text{m}$ )
Close-up for telephoto lens 50 mm	300	(58 $\times$ 46)	180
Close-up for telephoto lens 100 mm	500	(48 $\times$ 38)	150
Microscopic lens M= 1.0 $\times$ (2 versions)	195 / 300	(9.6 $\times$ 7.7)	30
Microscopic lens M= 3.0 $\times$	22	(3.2 $\times$ 2.6)	10

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