



MORE LIGHT

Industrial Solutions

Blackbird precision thermal cameras: Accurate temperature measurement and visualization.

Compact and precise thermal cameras for stationary use and system integration.

Accurate visualization, measurement, and analysis of temperature distribution is crucial for many industrial applications. Thermal infrared cameras enable effective production process control in automation, deliver vital data for predictive and preventive maintenance, or monitor critical infrastructures 24 hours a day. Their capability to precisely visualize heat and detect temperature anomalies make Blackbird precision thermal infrared cameras the ideal tool also for traffic, logistics, and safety & security related applications: for fire prevention in tunnels, surveillance of large areas such

as harbors, warehouses, or storage areas, for example. Also in medical diagnostics and disease control, the non-contact measuring technology of thermal infrared cameras reveals essential data. Industrial standard interfaces, compact and rugged housing, and a broad choice of perfectly matching infrared optics simplify integration in customized automated monitoring or surveillance systems.

Your benefits

- Precisely reveal subtle temperature differences: High thermal sensitivity
- Easy to integrate: Compact and lightweight design with GigE Vision interface

Blackbird precision infrared cameras.

Thermal imaging and thermography solutions for system integration.

	Blackbird precision XGA	Blackbird precision VGA
Detector type	Uncooled microbolometer (Focal Plane Array), 17 µm pitch	Uncooled microbolometer (Focal Plane Array), 17 µm pitch
Image resolution [pixel]	1024 × 768	640 × 480
Resolution enhancement (RE)	electromechanic micro scanning, 4-times (optional)	Not available
Image rate (@ max. image resolution)	30 Hz	30 Hz
Subframe modes & frame rates (optional)	640 × 480 (60 fps) 384 × 288 (120 fps) 1024 × 96 (240 fps)	384 × 288 (60 fps)
Spectral range	8 µm ... 4 µm	8 µm ... 14 µm
Temperature measurement range	-40 °C ... +1200 °C high temperature calibration up to 2000°C (optional)	-40 °C ... +600 °C high temperature calibration up to 1200°C (optional)
Temperature sensitivity [NETD]	≤ 35 mk	≤ 40 mk
Measurement accuracy (standard lens 1.3/30)	± 1.0 K @ 0 ... 100 °C ± 1.5 K or ± 1.5 % @ > 100 °C ± 2.0 K @ < 0 °C	± 2 K or ± 2.0 %
Focus	internal electrical	internal electrical
Aperture	f/1.0 f/1.8 f/3.0 (internal electrical)	f/1.0
Shutter	internal electrical	internal electrical
Interface options for image transfer	GigE Vision, 16 bit grayscale, 24 bit RGB	GigE Vision, 16 bit grayscale, 24 bit RGB
Interface options for camera control	GigE Vision, RS232	GigE Vision, RS232
Power supply	12 VDC ... 24 VDC	12 VDC ... 24 VDC
Dimensions (L × W × H) (without lens and connectors)	125 mm × 90 mm × 95 mm	125 mm × 90 mm × 95 mm
Weight (housing, without lens)	1.1 kg	1.0 kg (with standard lens)
Protection class	IP40	IP40
Operating temperature range	-25 °C ... +50 °C	-25 °C ... +50 °C
Storing temperature	-40 °C ... +70 °C	-40 °C ... +70 °C
Humidity	Relative humidity 10% ... 95%, non-condensing	Relative humidity 10% ... 95%, non-condensing
Shock	Operational: 25G, IEC 68-2-29	Operational: 25G, IEC 68-2-29
Vibration	Operational: 2G, IEC 68-2-6	Operational: 2G, IEC 68-2-6

Available lenses and converters with bayonet mount

Type	f / Focal length	HFOV × VFOV	Min. focus distance	f / Focal length	HFOV × VFOV	Min. focus distance
Super wide angle	1.0 / 7.5 mm	136° × 101°	200 mm	1.0 / 7.5 mm	72,0° × 57,0°	200 mm
Wide angle	1.0 / 15 mm	68° × 51°	500 mm	1.0 / 10 mm	57,1° × 44,4°	200 mm
Standard	1.0 / 30 mm	32° × 25°	750 mm	1.0 / 20 mm	32,7° × 24,0°	300 mm
Telephoto	1.0 / 60 mm	16° × 12°	2,000 mm	1.0 / 40 mm	15,5° × 11,6°	600 mm
Super telephoto	1.0 / 120 mm	8.1° × 6.2°	6,000 mm	1.0 / 120 mm	5,0° × 4,0°	6,000 mm
M 0.2× Close-up lens for Standard lens		IFOV: 81 µm	WD*: 137 mm		IFOV: 120 µm	WD*: 137 mm
M 0.5× Close-up lens for Standard lens		IFOV: 32 µm	WD*: 47 mm		IFOV: 48 µm	WD*: 7 mm
M 0.5× Close-up lens for Telephoto lens		IFOV: 35 µm	WD*: 100 mm			

* WD = Working distance