Xenics
Infrared Solutions

Imagine the invisible

Industrial

Bobcat-640-GigE

High resolution small form factor InGaAs camera

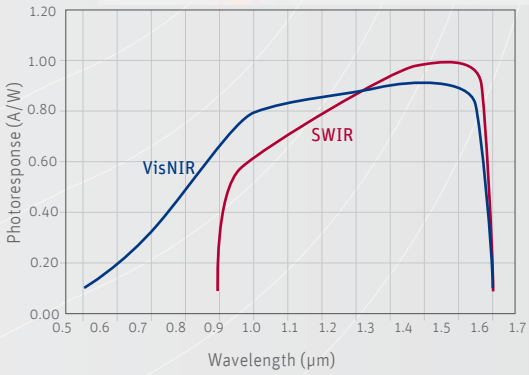
Smallest SWIR GigE Vision camera with low noise and dark current

The ultra-compact Bobcat-640-GigE meets machine vision system designers who need high sensitivity in the SWIR range for specialized quality inspection and high temperature process control.

The industry-standard GigE Vision interface and small form factor reduce the cost and increase the ease of integration. Furthermore the pixel pitch of 20 µm makes the Bobcat-640-GigE compatible with a broader range of C-mount lenses and other lower-cost lenses.

The Bobcat-640-GigE comes as a complete camera with on-board image processing and Thermo Electric stabilization for low dark current and optimized noise performance, all resulting in superior image quality. A VisNIR option extends the wavelength into the visible realm for best sensitivity in low-light applications.

The Bobcat-640-GigE reaches high frame rates up to 100 HZ in full resolution of 640 x 512 and can be further increased in windowing mode.



Designed for use in

Quality inspection of food: visible vs. SWIR

Thermal imaging of hot objects

Fluid level monitoring

Applications

- Waste sorting
- Food inspection
- Failure analysis
- Semiconductor inspection
- Thermal imaging of hot objects (> 300 °C)

Benefits & Features

- Made in Europe
- Frame rates up to 100 Hz
- On-board image processing
- High Operating Temperature Range
- Smallest complete SWIR GigE camera
- Standard GigE Vision for ease of integration
- Low noise and low dark current for excellent image quality

Broad range of accessories available to simplify your inspection

Lens & filter options

Various focal lengths available

> Discover our Lens Selector Guide
www.xenics.com/LSG

Inputs

Outputs

Software

- Xeneth advanced
- Xeneth SDK (optional)
- Xeneth LabVIEW SDK (optional)

Specifications

Camera specifications	Bobcat-640-GigE
Lens	
Focal length	Broad selection of lenses available
Optical interface	C-mount
Imaging performance	
Frame rate	100 Hz
Window of intrest	Minimum size 32 x 4
Integration type	Snapshot
Exposure time range	1 µs - 40 ms in high gain mode*
Noise**	High gain: 120 e- Low gain: 400 e-
Gain	High gain: 1.28 e-/ADU Low gain: 16.2 e-/ADU
Readout mode	Integrate Then Read (ITR) Integrate While Read (IWR)
Onboard image processing	Up to 4 Non Uniformity Calibrations (NUC) for fixed exposure time can be uploaded, auto gain, trigger possibilities
A to D conversion resolution	14-bit
Operating mode	
Self-starting	Yes
Interfaces	
Camera control	GigE Vision
Image acquisition	GigE Vision or Xeneth API/SDK
Trigger	Trigger In or Out (configurable)
Power requirements	
Power consumption**	+/- 4 W (without TEC)
Power supply	12 V
Physical characteristics	
Shock	40 G, 11 ms halfsine profile, according to MIL-STD810G
Vibration	5 G, (20 Hz to 2000 Hz), according to MIL-STD883J
Operating case temperature	-40 °C to 70 °C (industrial components)
Storage temperature	-45 °C to 85 °C (industrial components)
Dimensions	55 W x 55 H x 82 L mm (without lens)
Weight camera head	+/- 334 g (lens not included)

** At sensor temperature 25 °C*
** * Typical values*

Array specifications	Bobcat-640-GigE
Sensor type	InGaAs Focal Plane Array (FPA) ROIC with CTIA*** topology
Spectral band	0.9 to 1.7 µm Optional 0.4 to 1.7 µm (VisNIR)
# pixels	640 x 512
Pixel pitch	20 µm
Quantum efficiency	Peak value +/- 80 %
ROIC noise**	High gain: 60 e-; low gain: 400 e-
Dark current	0.19 x 10^6 e-/s or 30 fA at 200 mV bias at 288 K
Integration capacitor	High gain: 6.7 fF; low gain: 85 fF
Array cooling	TE1-stabilized
Pixel operability	> 99 %

**** Capacitor TransImpedance Amplifier*

Product selector guide

Part number	Interface	Frame rate	VisNIR
XEN-000139	GigE Vision	100 Hz	Yes
XEN-000298			No

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Xenics
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