

Imagine the invisible

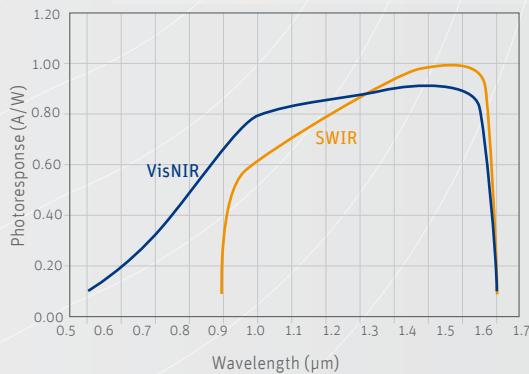
Research & Development

Bobcat-640-GigE

High resolution small form factor InGaAs camera



Low noise and dark current with fast data transfer over GigE Vision



With superior image quality the Bobcat-640-GigE is available as a complete digital infrared camera system with on-board image processing.

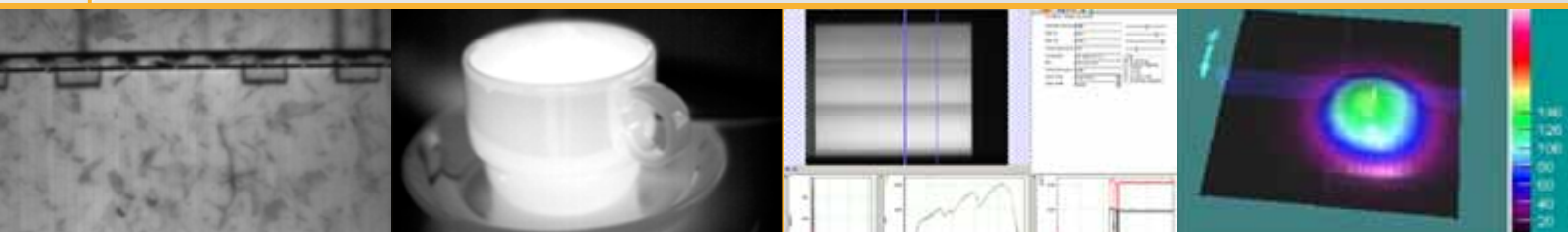
The Bobcat-640-GigE comes with an industry-standard GigE Vision interface which makes it much easier to integrate in your own set-up.

With the Bobcat-640-GigE SWIR camera you can look through glass, so standard available C-Mount lenses

and protective camera housings can be used. This makes the camera affordable for a wide variety of R&D applications.

We offer two versions of the Bobcat-640-GigE: A SWIR version that is sensitive from 0.9 to 1.7 µm, and a VisNIR version, with sensitivity from 0.4 to 1.7 µm. Furthermore, the Bobcat-640-GigE has Thermo Electric (TE) stabilization which reduces dark current and optimizes the noise performance.

Designed for use in



☛ Solar cell inspection

☛ Stress analysis

☛ R&D SWIR

☛ Laser beam profiling

Applications

- R&D (SWIR) range
- Solar cell inspection
- Laser beam profiling
- Hyperspectral imaging
- Thermal imaging of hot objects (> 300 °C)

Benefits & Features

- Small form factor
- Small GigE interface
- On-board image processing
- High Operating Temperature Range
- High sensitivity and excellent image quality
- Flexible programming in an open architecture

Broad range of accessories available to simplify your research

▶ Lens & filter options

Various focal lengths available



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



▶ Inputs

Trigger in or out



Power 12 V

Gigabit Ethernet

▶ Outputs

▶ Software



- Xeneth advanced
- Xeneth SDK
- 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 interest	Minimum size 32 x 4
Integration type	Snapshot
Exposure time range	1 μ s - 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
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)

* Standard calibration packs not valid under 100 μ s

** Typical values

*** At sensor temperature 25 °C

Array specifications	Bobcat-640-GigE
Sensor type	InGaAs Focal Plane Array (FPA) ROIC with CTIA**** topology
Spectral band	0.9 to 1.7 μ m Optional 0.4 to 1.7 μ m (VisNIR)
# pixels	640 x 512
Pixel pitch	20 μ m
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-000296	GigE Vision	100 Hz	No
XEN-000099			Yes