

# BOBCAT 640 SERIES

## Area-scan SWIR Camera

- SWIR cooled camera with 640 x 512 resolution
- In-house developed InGaAs sensor



## SMALL, HIGH PERFORMANCE InGaAs CAMERA WITH HIGH IMAGE RESOLUTION

The Bobcat 640 series is based on an in-house developed, temperature stabilized InGaAs detector with a 640 x 512 pixel resolution.

The Bobcat 640 cameras are offered with high frame rate of 100 Hz.

The camera comes with a CameraLink or GigE Vision interface and features low weight and power.

We offer a visible enhanced short-wave infrared (vSWIR) option for extended wavelength response into the visible band.

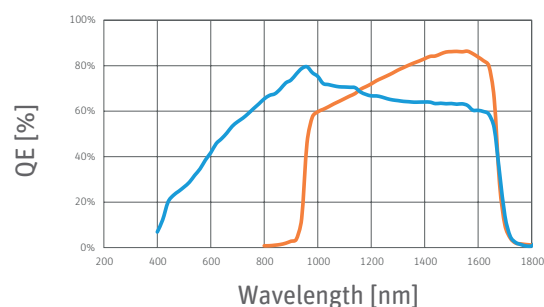
The cameras have standard on-board image correction featuring non-uniformity correction (NUC), bad pixel replacement (BPR) and automatic gain control (AGC). For more info on other image enhancement features, contact our sales department.

### DESIGNED FOR USE IN

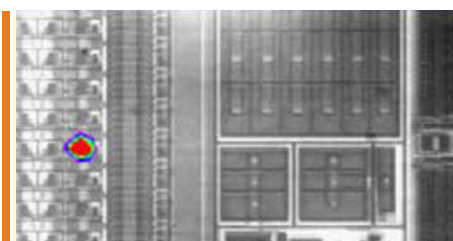
- Machine Vision
- Safety & Security
- Scientific & Advanced research
- Process Monitoring

### ADVANTAGES

- vSWIR optional
- Low noise, low dark current
- CameraLink or GigE Vision interfacing options
- Small SWIR area-scan camera



Crack inspection (solar wafer)



Semiconductor inspection



Art inspection

## SPECIFICATIONS

Camera Specifications	Bobcat 640 CL	Bobcat 640 CL vSWIR	Bobcat 640 GigE	Bobcat 640 GigE vSWIR
<b>Mechanical specifications</b>				
Approximate dimensions - excluding lens [width x height x length] [mm]	55 x 55 x 72	55 x 55 x 72	55 x 55 x 82	55 x 55 x 82
Weight [gr] - excluding lens	285	285	334	334
Optical interface	C-mount or M42			
Connector GigE	-	-	RJ-45	RJ-45
Connector CameraLink	Standard SDR	Standard SDR	-	-
Connector power	Hirose HR10-7R-SA[73]			
Connector trigger	SMA			
<b>Environmental &amp; power specifications</b>				
Operating case temperature [°C]	From -40 to +70 Also available in temperature range 0 - 50			
Storage temperature [°C]	From -45 to +85			
Power consumption [W]	2.8 [no TE cooler]	2.8 [no TE cooler]	4 [no TE cooler]	4 [no TE cooler]
Power supply voltage	DC 12 V			
Shock	IEC60068-2-27 Ed4.0; half-sine; terminal saw tooth; 50 g [11 ms]			
Vibration	Random: IEC60068-2-64 Ed2.0; 4.3 g [20 - 1000 Hz]. Sine: IEC60068-2-6 Ed7.0; 1 g [10 - 2000 Hz]			
IP rating	IP40			
Regulatory compliance	CE, RoHS			
<b>Electro-optical specifications</b>				
Image format [pixels]	640 x 512			
Pixel pitch [µm]	20			
Detector type	InGaAs photodiode array with CTIA ROIC			
Sensor temperature stabilization	TE cooler			
Integration type	Snapshot - global shutter			
Active area and diagonal [mm]	12.8 x 10.24 [diagonal 16.4]			
Optical fill factor	100%			
Spectral range [nm]	900 - 1700	500 - 1700	900 - 1700	500 - 1700
Quantum efficiency	~80% [typical peak value]			
Gain modes	High Gain [HG] & High Dynamic Range [HDR]			
Full well capacities [electrons]	45k [HG] & 500k [HDR]			
Read noise [electrons]	120 [HG] & 500 [HDR]			
Dark current [electrons/second]	<100k [at 288K sensor temp and 150 mV reverse bias]	<200k [at 288K sensor temp and 150 mV reverse bias]	<100k [at 288K sensor temp and 150 mV reverse bias]	<200k [at 288K sensor temp and 150 mV reverse bias]
Read out mode	IWR & ITR			
Pixel operability	>99%			
Preconfigured exposure time range [ms]	0.1 to 40 in HG; 0.1 to 20 in HDR	0.1 to 40 in HG; 0.1 to 20 in HDR	0.1 to 10 in HG; 0.1 to 20 in HDR	0.1 to 10 in HG; 0.1 to 20 in HDR
Max frame rate [Hz] [full frame]	100			
Region of interest	Yes			
Min region size [pixels]	32 x 4 [step 16 x 4]			
Max frame rate [Hz] [min region size]	>10000			
Analog-to-Digital [ADC] [bits]	14			
Command and control	CameraLink	CameraLink	GigE Vision	GigE Vision
Digital output format	CameraLink [16 bit]	CameraLink [16 bit]	GigE Vision [16 bit]	GigE Vision [16 bit]
Trigger	In or out via SMA or in via CL-CC1 [Configurable]	In or out via SMA or in via CL-CC1 [Configurable]	In or out via SMA [Configurable]	In or out via SMA [Configurable]
<b>Product selector guide</b>				
Part number	XEN-000297	XEN-000140	XEN-000298	XEN-000139

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**Envisionate LLC**

Your Local Distributor for Xenics Products

Phone (609) 680-4394

Email [mark.christenson@envisionate.net](mailto:mark.christenson@envisionate.net)

[www.envisionate.net](http://www.envisionate.net) [www.xenics.com](http://www.xenics.com)

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