

BOBCAT+ 320 SERIES

Area-scan SWIR Camera

- SWIR cooled camera with 320 x 256 resolution
- Improved version of Industry-proven Bobcat 320 series
- In-house developed InGaAs sensor with response in SWIR or vSWIR



SMALL, HIGH PERFORMANCE InGaAs CAMERA WITH GigE INTERFACE

The Bobcat+ 320 series is based on an in-house developed, temperature stabilised InGaAs detector with a 320 x 256 pixel resolution.

The Bobcat+ 320 cameras come with GigE Vision interface and offer high frame rates up to 400 Hz.

The new and improved Bobcat+ 320 now comes with two gain modes (high gain and high dynamic range) and two read out modes (IWR or ITR). Moreover, a vSWIR version is also available.

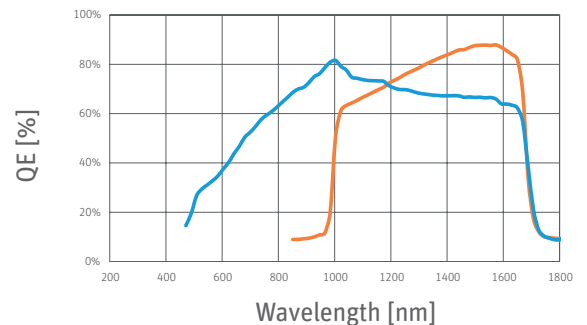
The cameras have standard on-board image correction featuring non-uniformity correction (NUC), bad pixel replacement (BPR) and automatic gain control (AGC). For more info on other image enhancement features, contact our sales department.

DESIGNED FOR USE IN

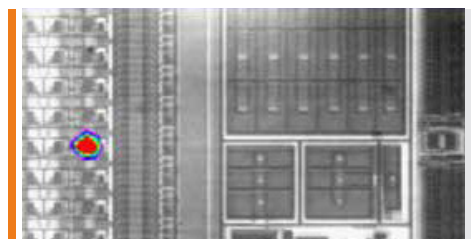
- Machine Vision
- Safety & Security
- Scientific & Advanced research
- Process Monitoring

ADVANTAGES

- Flexible and easy-to-use
- GigE Vision interface
- Low dark current
- SWIR or vSWIR
- High frame rate of 400 Hz
- IWR or ITR read out



Crack inspection



Semiconductor inspection



Art inspection

SPECIFICATIONS

Camera Specifications	Bobcat+ 320 GigE 400	Bobcat+ 320 GigE vSWIR 400
Mechanical specifications		
Approximate dimensions - excluding lens [width x height x length] [mm]	55 x 55 x 82	
Weight [gr] - excluding lens	334	
Optical interface	C-mount or M42	
Connector GigE	RJ-45	
Connector power	Hirose HR10-7R-SA[73]	
Connector trigger	SMA	
Environmental & power specifications		
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]	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	
Electro-optical specifications		
Image format [pixels]	320 x 256	
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]	6.4 x 5.12 [diagonal 8.2]	
Optical fill factor	100%	
Spectral range [nm]	900 - 1700	500 - 1700
Quantum efficiency	~80% [typical peak value]	
Gain modes	High Gain [HG] & High Dynamic Range mode [HDR]	
Full well capacities [electrons]	45k [HG] & 500k [HDR]	
Read noise [electrons]	120 [HD] & 500 [HDR]	
Dark current [electrons/second]	<1E5 [at 288K sensor temp and 150 mV reverse bias]	<2E5 [at 288K sensor temp and 150 mV reverse bias]
Read out mode	ITR & IWR	
Pixel operability	>99.5%	
Preconfigured exposure time range [ms]	0.1 to 40 [HG]; 0.1 to 20 [HDR]	
Max frame rate [Hz] [full frame]	400	
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	GigE Vision	
Digital output format	GigE Vision [16 bit]	
Trigger	In or out via SMA [Configurable]	
Product selector guide		
Part number	XEN-000732	XEN-000738

XDS.028.01 | Information furnished by Xenics is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions. Specifications are typical values and subject to change without notice. This information supersedes all previously supplied information.



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ISO 9001:2015

BOBCAT 320 SERIES

Area-scan SWIR Camera

- SWIR cooled camera with 320 x 256 resolution
- In-house developed InGaAs sensor



SMALL, HIGH PERFORMANCE InGaAs CAMERA

The Bobcat 320 series is based on an in-house developed, temperature stabilised InGaAs detector with a 320 x 256 pixel resolution.

The Bobcat 320 cameras are offered with frame rates of either 100 Hz or 400 Hz.

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

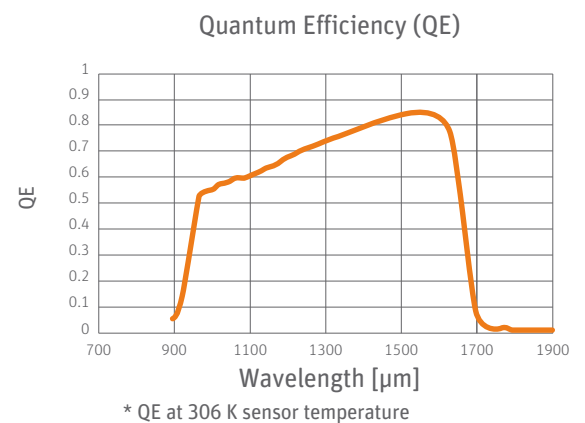
The cameras have standard on-board image correction featuring non-uniformity correction (NUC), bad pixel replacement (BPR) and automatic gain control (AGC). For more info on other image enhancement features, contact our sales department.

DESIGNED FOR USE IN

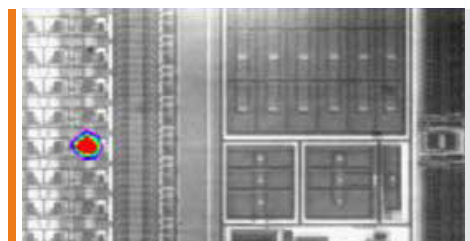
- Machine Vision
- Safety & Security
- Scientific & Advanced research
- Process Monitoring

ADVANTAGES

- Flexible and easy-to-use
- CameraLink or GigE Vision interfacing options
- Low dark current
- Small SWIR area-scan camera



Crack inspection



Semiconductor inspection



Art inspection

SPECIFICATIONS

Camera Specifications	Bobcat 320 CL 100	Bobcat 320 CL 400	Bobcat 320 GigE 100	Bobcat 320 GigE 400
Mechanical specifications				
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			
Environmental & power specifications				
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			
Electro-optical specifications				
Image format [pixels]	320 x 256			
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]	6.4 x 5.12 [diagonal 8.2]			
Optical fill factor	100%			
Spectral range [nm]	900 - 1700			
Quantum efficiency	~80% [typical peak value]			
Gain modes	Single Gain			
Full well capacities [electrons]	70k			
Read noise [electrons]	110			
Dark current [electrons/second]	<100k [at 288K sensor temp and 150 mV reverse bias]			
Read out mode	ITR			
Pixel operability	>99.5%			
Preconfigured exposure time range [ms]	0.5 to 10	0.01 to 40	0.5 to 10	0.01 to 40
Max frame rate [Hz] [full frame]	100	400	100	400
Region of interest	No	Yes	No	Yes
Min region size [pixels]	-	32 x 4 [step 4 x 1]	-	32 x 4 [step 4 x 1]
Max frame rate [Hz] [min region size]	-	>10000	-	>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]
Product selector guide				
Part number	XEN-000584	XEN-000526	XEN-000583	XEN-000524

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BOBCAT 320 TEO & WL SERIES

Low cost area-scan SWIR Camera

- SWIR uncooled camera with 320 x 256 resolution
- In-house developed InGaAs sensor
- Windowless sensor optional (WL)



SMALL, LOW COST, UNCOOLED InGaAs CAMERA

The Bobcat 320 TEO and WL series are based on an in-house developed, uncooled InGaAs detector with a 320 x 256 pixel resolution.

The Bobcat 320 TEO and WL cameras are offered with GigE Vision interface, 400 Hz maximum frame rate and feature low weight and power.

The Bobcat 320 WL comes with a windowless uncooled detector, specifically targeting laser beam analysis and laser wavefront sensing applications.

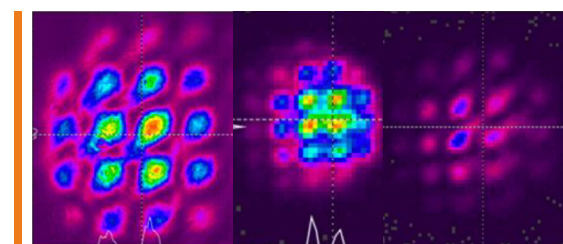
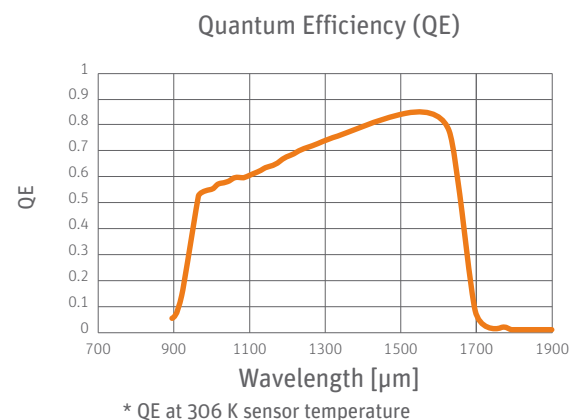
The cameras have standard on-board image correction featuring non-uniformity correction (NUC), bad pixel replacement (BPR) and automatic gain control (AGC). For more info on other image enhancement features, contact our sales department.

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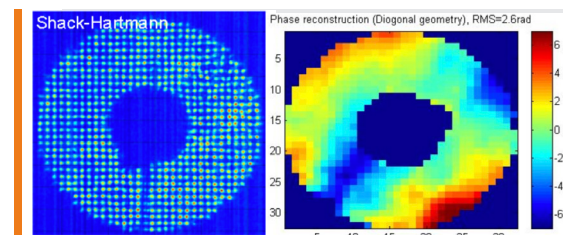
- Machine Vision
- Scientific & Advanced research
- Process Monitoring

ADVANTAGES

- Flexible and easy-to-use
- Low cost
- High speed 400 Hz
- Windowless version optional (WL)



Laser Beam Analysis



Wavefront Sensing

SPECIFICATIONS

Camera Specifications	Bobcat 320 TE0 GigE 400	Bobcat 320 WL GigE 400
Mechanical specifications		
Approximate dimensions - excluding lens [width x height x length] [mm]	55 x 55 x 74	
Weight [gr] - excluding lens	280	
Optical interface	C-mount or M42	
Connector GigE	RJ-45	
Connector power	Hirose HR10-7R-SA[73]	
Connector trigger	SMA	
Environmental & power specifications		
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]	4	
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	
Electro-optical specifications		
Image format [pixels]	320 x 256	
Pixel pitch [µm]	20	
Detector type	InGaAs photodiode array with CTIA ROIC	
Sensor temperature stabilization	Uncooled	Uncooled & Windowless detector
Integration type	Snapshot - global shutter	
Active area and diagonal [mm]	6.4 x 5.12 [diagonal 8.2]	
Optical fill factor	100%	
Spectral range [nm]	900 - 1700	
Quantum efficiency	~80% [typical peak value]	
Gain modes	Single gain	
Full well capacities [electrons]	70K	
Read noise [electrons]	110	
Dark current [electrons/second]	<2E6 [for 150 mV reverse bias] typically	
Read out mode	ITR	
Pixel operability	>99.5%	
Preconfigured exposure time range [ms]	0.5 to 4	
Max frame rate [Hz] [full frame]	400	
Region of interest	Yes	
Min region size [pixels]	32 x 4 [step 4 x 1]	
Max frame rate [Hz] [min region size]	>10000	
Analog-to-Digital [ADC] [bits]	14	
Command and control	GigE Vision	
Digital output format	GigE Vision [16 bit]	
Trigger	In or out via SMA [Configurable]	
Product selector guide		
Part number	XEN-000730	XEN-000731

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