Xenics
Infrared Solutions

WILDCAT+ 640 SERIES

- High resolution SWIR imaging camera with CL or USB3 Vision interface
- 640x512 pixels
- 20 µm pixel pitch
- USB3 Vision, CameraLink

HIGH-RESOLUTION, SWIR CAMERA

The Wildcat+ 640 series is based upon a state-of-the-art InGaAs detector with 640x512 pixels and 20 µm pixel pitch. The camera offers superior, high resolution SWIR imaging capabilities, comes in a versatile and industry-proven Wildcat camera package (GenICam compliant) and offers advanced on-board image processing.

The Wildcat+ 640 camera outputs full frame images up to 300 Hz via either a CameraLink or USB3 Vision interface.

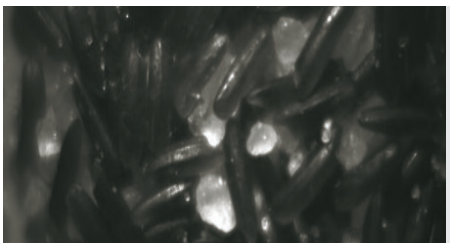
DESIGNED FOR USE IN

- Semiconductor chip and solar wafer inspection
- Scientific & Advanced Research
- Display inspection - mobile phone & TV
- Microscopy
- Laser beam analysis

ADVANTAGES

- Compact and industry-proven camera design
- High-resolution SWIR imaging
- Advanced on-board image processing performance
- GenICam compliant
- Flexible optical mount and lens options

Art inspection



Food inspection

Semiconductor inspection

SPECIFICATIONS

Camera Specifications	Wildcat+ 640 CL 300	Wildcat+ 640 U3V 300
Mechanical specifications		
Camera dimensions (width x height x length) [mm] (approx.)	55 x 55 x 72	55 x 55 x 91.5
Optical interface	C-mount or M42	
Camera weight [gr]	316	358
Connector USB	NA	USB 3.0 type micro-B
Connector CameraLink	Standard SDR	NA
Connector power	Lemo 1B.308 (unified connector)	
Connector trigger	Lemo 1B.308 (unified connector)	
Connector general I/O	Lemo 1B.308 (unified connector)	
Environmental & power specifications		
Operating temperature range (housing temperature) [°C]	From -40 to +70	
Storage temperature [°C]	From -40 to +85	
Power consumption [W]	<7	
Power supply voltage	DC 12 V	
Shock	40g, 11ms, according to MIL-STD810G	
Vibration	5g (20 to 2000 Hz), according to MIL-STD810G	
IP rating	IP40	
Regulatory compliance	CE	
Electro-optical specifications		
Image format [pixels]	640x512	
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	
Quantum efficiency	~80% (typical peak value)	
Gain modes	High Gain (HG) & High Dynamic Range mode (HDR)	
Full well capacities [electrons]	65k (HG) & 550k (HDR)	
Read noise [electrons]	45 (HG) & 200 (HDR)	
Dark current [electrons/second]	< 100k	
Read out modes	ITR/IWR	
Pixel operability	>99.5%	
Preconfigured exposure time range [ms]	HDR ITR: 0.5 ms; HG ITR: 0.5 ms & 5 ms; HG IWR 0.5 ms & 3 ms	
Max frame rate [Hz] (full frame)	300	300
Region of interest	Yes	
Min region size [pixels]	8 x 8 (step size 4 pixels in X & 1 pixel in Y)	
Max frame rate [Hz] (min region size)	>7 kHz	
Command and control	CameraLink Base	USB3 Vision
Digital output format	CameraLink Base (16 bit)	USB3 Vision (16 bit)
Trigger	Connector: 2 trigger in & 2 trigger out - LVCMOS 3.3 V; CameraLink trigger in	Connector: 2 trigger in & 2 trigger out - LVCMOS 3.3 V; CameraLink trigger in
Product selector guide		
Part number	XEN-000874	XEN-000873