Xenics
Infrared Solutions

WILDCAT+ 640 TEO & WL 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 TEO and WL series is based upon a state-of-the-art uncooled InGaAs detector with 640x512 pixels and 20 µm pixel pitch. The WL version uses a special windowless sensor package for laser beam analysis applications. 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 TEO and WL cameras output full frame images at 220 Hz via either a CameraLink or USB3 Vision interface.

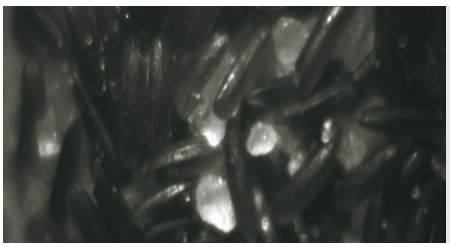
DESIGNED FOR USE IN

- 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 TEO CL 200	Wildcat+ 640 TEO U3V 200	Wildcat+ 640 WL CL 200	Wildcat+ 640 WL U3V 200
Mechanical specifications				
Camera dimensions (width x height x length) [mm] (approx.)	55 x 55 x 72	55 x 55 x 91.5	55 x 55 x 72	55 x 55 x 91.5
Optical interface	C-mount or M42			
Camera weight [gr]	316	358	316	358
Connector USB	NA	USB 3.0 type micro-B	NA	USB 3.0 type micro-B
Connector CameraLink	Standard SDR	NA	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	40 g, 11 ms, according to MIL-STD810G			
Vibration	5 g (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 (WL version comes without detector cover glass)			
Sensor temperature stabilization	NA (uncooled)			
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			
Max frame rate [Hz] (full frame)	220			
Region of interest	Yes			
Min region size [pixels]	48 x 48 (step size 8 pixels in X & 8 pixels in Y)			
Max frame rate [Hz] (min region size)	>10 kHz			
Command and control	CameraLink Base	USB3 Vision	CameraLink Base	USB3 Vision
Digital output format	CameraLink Base (16 bit)	USB3 Vision (16 bit)	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	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-000721	XEN-000719	XEN-000722	XEN-000720