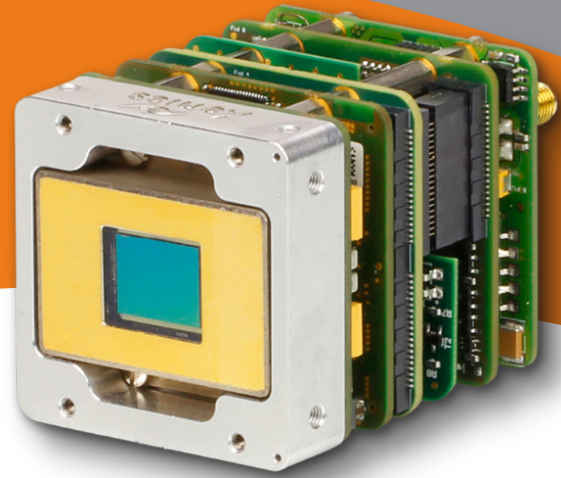


XSW 640 SERIES

Area-scan SWIR Module

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



SMALL, HIGH PERFORMANCE InGaAs MODULE WITH HIGH IMAGE RESOLUTION

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

The XSW 640 modules are offered with frame rate of up to 100 Hz.

The module comes with either a CameraLink, GigE Vision or QTE Samtec interface and features low weight and power.

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

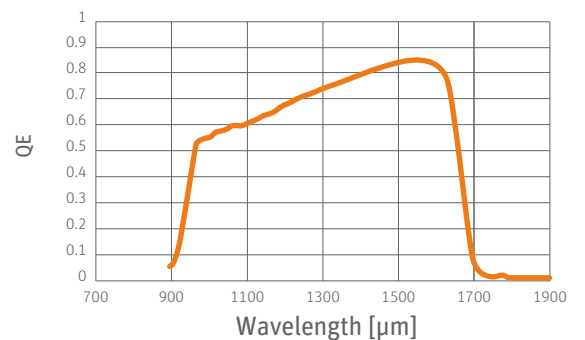
DESIGNED FOR USE IN

- Machine Vision
- Safety & Security

ADVANTAGES

- vSWIR optional
- Low noise, low dark current
- CameraLink, GigE Vision or QTE Samtec interfacing options
- Versatility with gain modes

Quantum Efficiency (QE)



* QE at 306 K sensor temperature



Semiconductor inspection



Night vision



Fire detection

SPECIFICATIONS

Camera Specifications	XSW 640 CL XSW 640 CL vSWIR	XSW 640 GigE XSW 640 GigE vSWIR	XSW 640 16bitDV XSW 640 16bitDV vSWIR
Mechanical specifications			
Approximate dimensions - excluding lens [width x height x length] [mm]	45 x 45 x 56	45 x 45 x 65	45 x 45 x 52
Weight [gr] - excluding lens	129	165	122
Optical interface [optional]	C-mount or M42		
Connector GigE	-	RJ-45	-
Connector CameraLink	Standard SDR	-	-
Connector power	Hirose HR10-7R-SA[73]	Hirose HR10-7R-SA[73]	-
Connector trigger	SMA	SMA	-
Connector analog	-	-	-
Connector RS232	-	-	-
Connector general I/O	-	-	QTE-020-03-L-D-A Samtec
Environmental & power specifications			
Operating case temperature [°C]: also available in temperature range 0 - 50	From -40 to +70		
Storage temperature [°C]	From -45 to +85		
Power consumption [W]	2.8 [no TE cooler]	4 [no TE cooler]	2.5 [no TE cooler]
Power supply voltage	DC 12 V		
Shock	IE60068-2-27 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]		
Regulatory compliance	RoHS		
Electro-optical specifications			
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 [SWIR], 500 - 1700 [vSWIR]		
Quantum efficiency	~80% [typical peak value]		
Gain modes	High Gain [HG] & High Dynamic Range [HDR]		
Full well capacities [electrons]	45k [HG] & 800k [HDR]		
Read noise [electrons]	120 [HG] & 500 [HDR]		
Dark current [electrons/second]	<100k [at 288K sensor temp and 150 mV reverse bias]; For vSWIR: <200k		
Read out mode	ITR & IWR		
Pixel operability	>99%		
Preconfigured exposure time range [ms]	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 40 in HG; 0.1 to 20 in HDR
Max frame rate [Hz] [full frame]	100	100	100
Region of interest	Yes	Yes	Yes
Min region size [pixels]	32 x 4 [step 16 x 4]	32 x 4 [step 16 x 4]	32 x 4 [step 16 x 4]
Max frame rate [Hz] [min region size]	>10000	>10000	>10000
Analog-to-Digital [ADC] [bits]	14		
Command and control	CameraLink	GigE Vision	QTE Samtec
Digital output format	CameraLink [16 bit]	CameraLink [16 bit]	Digital Video [16 bit]
Trigger	In or out via SMA or in via CL-CC1 [Configurable]	In or out via SMA [Configurable]	In or out via QTE Samtec [Configurable]
Product selector guide			
Part number	XEN-000343 [SWIR]	XEN-000341 [SWIR]	XEN-000295 [SWIR]
	XEN-000344 [vSWIR]	XEN-000342 [vSWIR]	XEN-000098 [vSWIR]

XDS.013.04 | 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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