

# XSW 640 Series

## Areascan SWIR Module

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



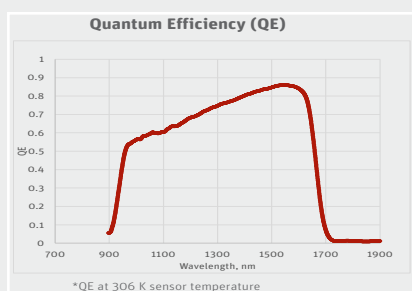
### Small, high performance InGaAs module with high image resolution

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.

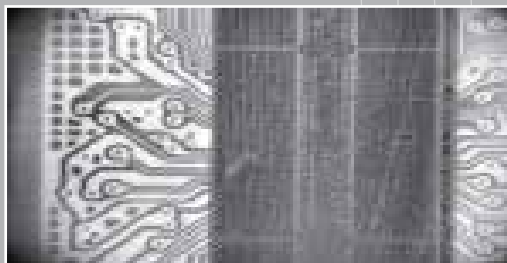


### Designed for use in

- Machine Vision
- Safety & Security

### Advantages

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



Semiconductor inspection



Night vision



Fire detection

## Camera Specifications

Camera Specifications	XSW 640 CL XSW 640 CL vSWIR	XSW 640 GigE XSW 640 GigE vSWIR	XSW 640 PAL/NTSC XSW 640 PAL/NTSC vSWIR	XSW 640 16bitDV XSW 640 16bitDV vSWIR	XSW 640 BT.656 XSW 640 BT.656 vSWIR
<b>Mechanical specifications</b>					
Approximate Dimensions - excluding lens [width x height x length] [mm]	45 x 45 x 56	45 x 45 x 65	45 x 45 x 56	45 x 45 x 52	45 x 45 x 52
Weight [gr] - excluding lens	129	165	145	122	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]	Hirose HR10-7R-SA[73]	-	-
Connector trigger	SMA	SMA	SMA	-	-
Connector analog	-	-	BNC	-	-
Connector RS232	-	-	RJ-12	-	-
Connector general I/O	-	-	-	QTE-020-03-L-D-A Samtec	QTE-020-03-L-D-A Samtec
<b>Environmental &amp; power specifications</b>					
Operating case temperature [°C]	From -40 to +70				
Storage temperature [°C]	From -45 to +85				
Power consumption [W]	2.8 [no TE cooler]	4 [no TE cooler]	3 [no TE cooler]	2.5 [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				
<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 [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	0.1 to 40 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	30 [NTSC] or 25 [PAL]	100	30 [NTSC] or 25 [PAL]
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	RS232	QTE Samtec	QTE Samtec
Digital output format	CameraLink [16 bit]	GigE Vision [16 bit]	-	Digital Video [16 bit]	BT.656
Trigger	In or out via SMA or in via CL-CC1 [Configurable]	In or out via SMA [Configurable]	In or out via SMA [Configurable]	In or out via QTE Samtec [Configurable]	In or out via QTE Samtec [Configurable]
<b>Product selector guide</b>					
Part Number	XEN-000343 [SWIR]	XEN-000341 [SWIR]	XEN-000348 [NTSC]	XEN-000295 [SWIR]	XEN-000304 [SWIR]
	XEN-000344 [vSWIR]	XEN-000342 [vSWIR]	XEN-000347 [PAL]	XEN-000098 [vSWIR]	XEN-000305 [vSWIR]
	-	-	XEN-000350 [NTSC] [vSWIR]	-	-
	-	-	XEN-000349 [PAL] [vSWIR]	-	-

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