

Imagine the invisible

Modules & Components



# XSW-320

TE1 stabilized  
SWIR OEM module

## SWIR OEM module targets cost-sensitive volume markets

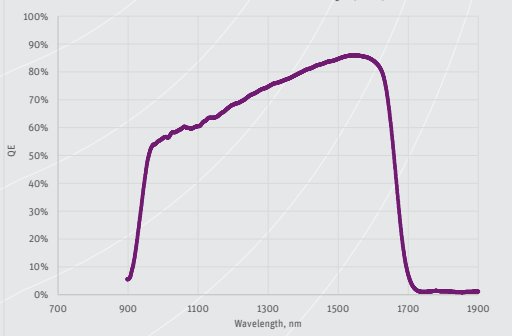
The XSW-320 is a small, high performance SWIR module on which the thermoelectric cooler ensures that the product features excellent low noise and low dark current characteristics.

In addition the XSW-320 comes with a CameraLink or GigE interface and features low size, weight and power.

With the XSW-320 SWIR module you can look through glass, so standard available C-Mount lenses and protective camera housings can be used.

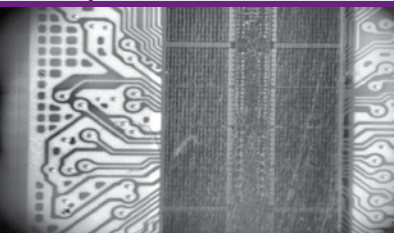
As a result, XSW is very well suited for system integration for various industrial and security applications.

Quantum Efficiency (QE)



\* QE at 306 K sensor temperature

### Designed for use in



Semiconductor inspection



Night vision



Vision enhancement: looking through haze with SWIR



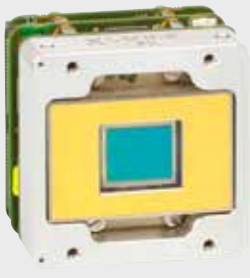
### Applications

- Food inspection
- Laser beam analysis
- Semiconductor & solar cell inspection
- Hyperspectral imaging
- Detection of lasers or other markers
- Operations under day and moonlight conditions
- Seeing through haze, smoke and dust

### Benefits & Features

- Made in Europe
- Flexible and easy to use
- High sensitivity
- A basic 100 Hz version, an advanced 400 Hz version

# Ready-to-integrate



Front of module



16bitDV  
BT.656



GigE Vision interface  
Trigger in/out



CameraLink interface  
Trigger in/out



PAL  
NTSC  
Serial control  
Trigger in/out

> Discover our Lens Selector Guide  
[www.xenics.com/LSG](http://www.xenics.com/LSG)

## Specifications

Module Specifications	XSW-320-Samtec	XSW-320-Analog	XSW-320-CL	XSW-320-GigE
<b>Imaging performance</b>				
Maximum frame rate	100 Hz or 400 Hz			
Window of Interest	Minimum size 32 x 4 ( only for 400 Hz model)			
Exposure time range	1 $\mu$ s - 40 ms (100 Hz & 400 Hz)			
Noise*	110 e-			
Dynamic Range*	61 dB			
A to D conversion resolution	14 bit			
On-board image processing	Auto-Gain and Auto-Offset, Auto-Exposure			Auto-Gain and Auto-Offset
<b>Interfaces</b>				
Optical interface	C-mount			
Digital output	16bitDV/ BT.656	-	CameraLink	GigE Vision
Analog output	-	PAL or NTSC	-	-
Module control	Samtec	RS-232	CameraLink	GigE Vision
Trigger	In or out (configurable)			
<b>Power requirements</b>				
Power consumption* (without TEC)	2.5 W	3 W	2.8 W	4 W
Power supply	12 V			
<b>Physical characteristics</b>				
Ambient operating temperature range	-40 °C to 70 °C			
Storage temperature range	-45 °C to 85 °C			
Dimensions (W x H x L mm <sup>3</sup> )	45 x 45 x 51,1	45 x 45 x 55,4		45 x 45 x 65
Weight module (without lens)	120 g	145 g	129 g	165 g
* Typical value				

Array Specifications	XSW-320
Sensor type	InGaAs Focal Plane Array (FPA) ROIC with CTIA** topology
Resolution	320 x 256
Pixel pitch	20 $\mu$ m
Spectral band	0.9 $\mu$ m to 1.7 $\mu$ m
Pixel operability	> 99 %
Readout mode	Integrate Then Read (ITR)
Array cooling	TE cooled (single stage Peltier cooler)
ROIC noise*	60 e-
Dark current*	0.19 x 10 <sup>6</sup> e-/pixel at 200 mV bias at 288 K
Full well	125 k e-

\*\* Capacitor TransImpedance Amplifier

## Product Selector Guide

Part number	Interface	Frame rate
XEN-000529	16bitDV	100 Hz
XEN-000595		400 Hz
XEN-000531	GigE	100 Hz
XEN-000592		400 Hz
XEN-000532	CL	100 Hz
XEN-000591		400 Hz
XEN-000530	BT.656	/
XEN-000533	PAL	/
XEN-000534	NTSC	/

Part number	Interface	Connects	Optional
ASY-000880***	CameraLink (16bitDV)	XEN-000529	Yes
		XEN-000595	
ASY-000879***	PAL/NTSC (BT.656)	XEN-000530	

\*\*\*Optional test board interface