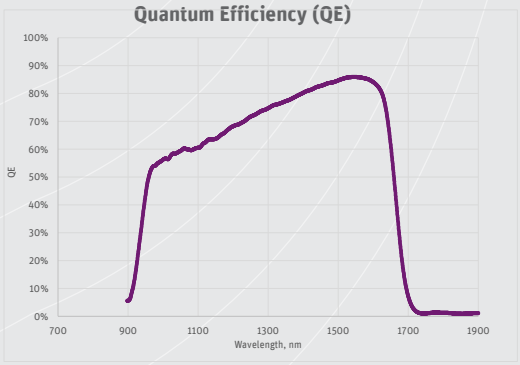
Xenics
Infrared Solutions

Imagine the invisible

Modules & Components

XSW-320 Gated

TE1 stabilized SWIR OEM module



* QE at 306 K sensor temperature

Extremely short 100 nsec integration time for SWIR gated imaging

The XSW-320 Gated SWIR module operates in the 0.9 to 1.7 µm spectral band. It provides extremely short integration times down to 100 ns.

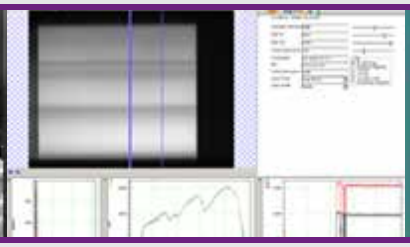
The InGaAs detector is available in a 20 µm pixel pitch. A special feature of the XSW-320 Gated is the programmable trigger-out delay between the internally generated trigger-out pulse and the start of integration.

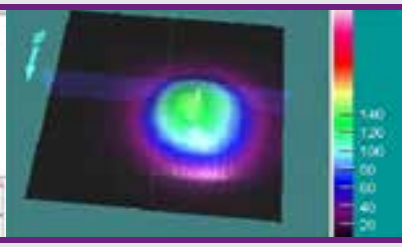
The exposure time of the sensor is configurable from 100 ns up to 1 ms in steps of 100 ns, or 1 ms to 40 ms (standard mode).

With all these features, the XSW-320 Gated is ideally suited for the inspection of light bulbs and hot or fast moving objects.

Light bulb inspection

Turbine blades inspection





Laser beam profiling

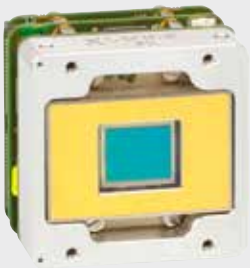
Applications

- R&D (SWIR) with short integration times
- Laser gated imaging
- Imaging of hot or moving objects such as light bulb or turbine blades inspection
- Measurement systems needing synchronisation of the module with a pulsed laser

Benefits & Features

- Extreme short 100 nsec integration time
- Programmable trigger out
- Flexible programming in an open architecture
- CameraLink or Ethernet standard interfaces
- High sensitivity and excellent image quality

Ready-to-integrate



Front of module

16bitDV

GigE Vision interface

Trigger in/out

CameraLink interface

Trigger in/out

> Discover our Lens Selector Guide
www.xenics.com/LSG

Specifications

Module Specifications	XSW-320-Samtec Gated	XSW-320-CL Gated	XSW-320-GigE Gated
Imaging performance			
Maximum frame rate	400 Hz		
Window of Interest	Minimum size 32 x 4		
Exposure time range	0.1 µs to 40 ms		
Readout mode	Integrate Then Read (ITR)		
Noise*	110 e-		
Dynamic Range*	61 dB		
A to D conversion resolution	14 bit		
On-board image processing	Auto-Gain and Offset, Auto-Exposure		Auto-Gain and Offset
Interfaces			
Optical interface	C-mount		
Digital output	16bitDV	CameraLink	GigE Vision
Module control	16bitDV	CameraLink	GigE Vision
Trigger	In or out (configurable)		
Power requirements			
Power consumption**	2.5 W	2.8 W	4 W
Power supply	12 V		
Physical characteristics			
Ambient operating temperature range	-40 °C to 70 °C		
Storage temperature range	-45 °C to 85 °C		
Dimensions (W x H x L mm[3])	45 x 45 x 51,1	45 x 45 x 55,4	45 x 45 x 65
Weight core head	120 g	129 g	165 g

* Typical value
** Without TEC

Array Specifications	
Array type	InGaAs Focal Plane Array (FPA) ROIC with CTIA** topology
Resolution	320 x 256
Pixel pitch	20 µm
Spectral band	0.9 µm to 1.7 µm
Pixel operability	> 99 %
Array dimensions	6.4 x 5.12 mm² ; 8.2 mm diagonal
Array cooling	TE cooled (single stage Peltier cooler)
ROIC noise*	60 e-
Dark current*	0.19 x 10^6 e-/s/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-000593	GigE (Gated)	400 Hz
XEN-000594	CL (Gated)	
XEN-000596	16bitDV	

Part number	Interface	Connects with	Optional
ASY-000880***	CameraLink (16bitDV)	XEN-000596	Yes

****Optional test board interface*

www.xenics.com
www.sinfrared.com

Xenics Headquarters
Ambachtenlaan 44, BE-3001 Leuven, Belgium
T +32 16 38 99 00 • sales@xenics.com

Xenics
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