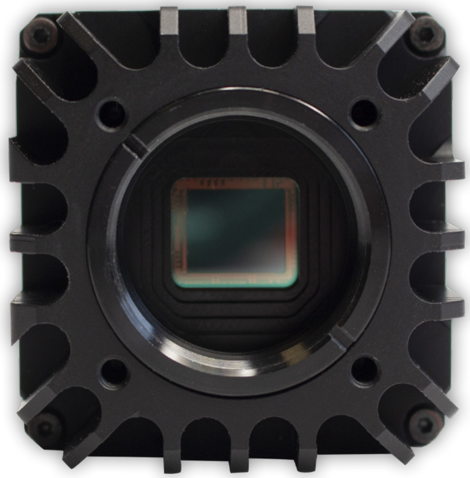
WiDySenS

DUAL RESPONSE VGA RESOLUTION SWIR

SIERRA-OLYMPIC
Technologies Inc.



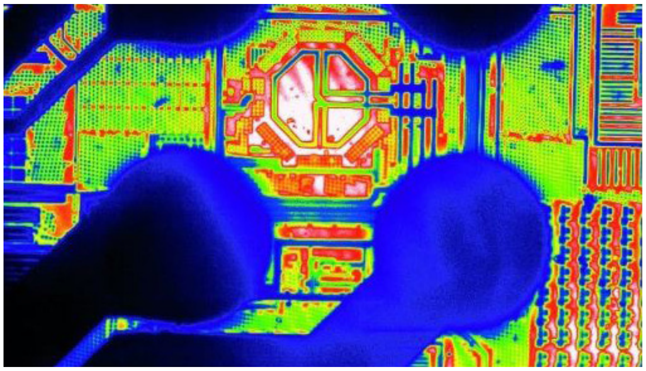
The WiDySenS is a unique short-wave infrared camera core with both linear and logarithmic response modes that deliver high-sensitivity, high dynamic range imaging capabilities

- 640 x 512 x 15 µm InGaAs sensor
- USB 3.0, CameraLink, GigE, or Analog models
- Up to 230 Hz frame rate
- Gated imaging capable
- Bad Pixels Replacement and smart Non Uniformity Correction

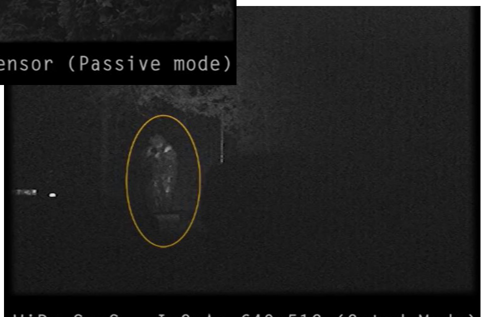
Developed by short-wave infrared specialists, New Imaging Technologies, the WiDySenS is a versatile VGA resolution InGaAs camera core with powerful capabilities for a wide variety of applications. Dual-response modes allow users to switch between LIN (linear) mode for maximum sensitivity in low light situations and LON (logarithmic) mode for maximum dynamic range in variable or inconsistent imaging conditions.

The camera also features powerful gated imaging functionality for niche applications in security, surveillance, counter UAS, 3D mapping and more.

WiDySenS is developed by the SWIR specialists at New Imaging Technologies. As an authorized reseller, Sierra-Olympic Technologies offers superior service and integration capabilities on these highly capable InGaAs specialty cameras across QVGA, VGA, and HD resolutions.



1.3 Mpixels CMOS sensor (Passive mode)



WiDy SenS - InGaAs 640x512 (Gated Mode)

Applications

- Manufacturing inspection
- Security, surveillance, defense
- Laser beam profiling
- Process control/monitoring
- Metrology
- Solar, semiconductor inspection
- Medical imaging
- Custom OEM integration

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Feature Specs

FOCAL PLANE ARRAY

Detector type	SWIR InGaAs
Array size	640 x 512
Pixel pitch	15 µm
Spectral band (approx)	0.9-1.7 µm SWIR

STANDARD FEATURES

Dual response	Linear (CTIA) low and high gain / Logarithmic
Modes	IWR/ITR, CDS, ROI
Frame rate	up to 230 FPS full frame
QE	>70%
Partial reading mode	down to 16 x 16
Integration time	110µs to 1s
Gating mode	100ns to 9µs
Operating mode	TEC on/off
Lens mount	C-Mount native
GUI	NITVision, WiDyCAM, NITLink
SDK	USB, GigE Windows and Linux
Trigger	In/Out (LVTTL)
Trigger delay	Selectable

ENVIRONMENTAL

Operating temp range	-40°C to +65°C

POWER CONSUMPTION

Standard global shutter	<2.6 W
TEC off- gated mode	<4 W
TEC off- standard global shutter	<6.6 W
TEC on- gated mode	<8 W

Specifications and descriptions subject to change without notice.

OPERATING MODES

Log Mode		
Sensor noise	340e-	
Well capacity	~500 Me-	
Dynamic range	120 dB	
CTIA High Gain	**Standard**	**Gated**
Sensor noise	50 e-	125 e-
Well capacity	>17 Ke-	>17 Ke-
Dynamic range	49 dB	44 dB
CTIA Low Gain		
Sensor noise	270e-	290e-
Well capacity	>380 Ke-	>230 Ke-
Dynamic range	63 dB	58 dB

DIMENSIONS (NO LENS)

Size	46 x 46 x 57 mm
Weight	<215 grams

Export classified as dual-use