



# TAU SWIR 15XRH

## Low-Noise, Shortwave Infrared Camera

### Features

**15  $\mu\text{m}$  Pixels**

**Extended Spectral Range of 0.6 - 1.7  $\mu\text{m}$**

**<1% Image Lag Frame-to-Frame**

**Low Power**

**Compact Size and Lightweight**

**Affordable SWIR Solution**

### Benefits

Better compatibility with optics

Improved night-time performance and compatible with variety of laser pointers, markers and illuminators

Eliminates smear (no persistence)

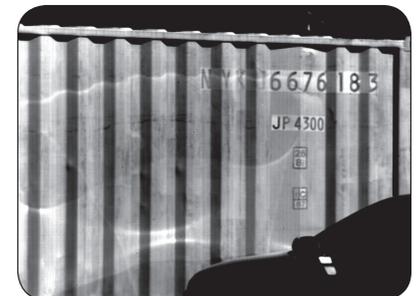
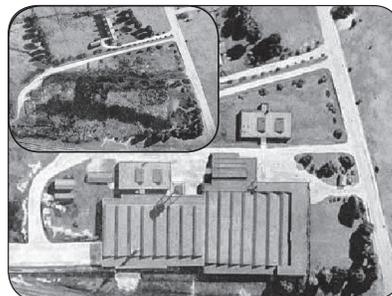
Low power budget requirements

Fits into small space-claim applications

Meet your cost targets

The Tau SWIR 15XRH joins FLIR's Tau family of best-in-class small, light weight, low-power camera cores that deliver shortwave infrared imaging with very high sensitivity. Designed for a variety of OEM applications, the Tau SWIR 15XRH provides outstanding image quality and performance for machine vision, a variety of medical, agricultural, semiconductor/ solar panel inspection applications, as well as high temperature endpoint and defect monitoring.

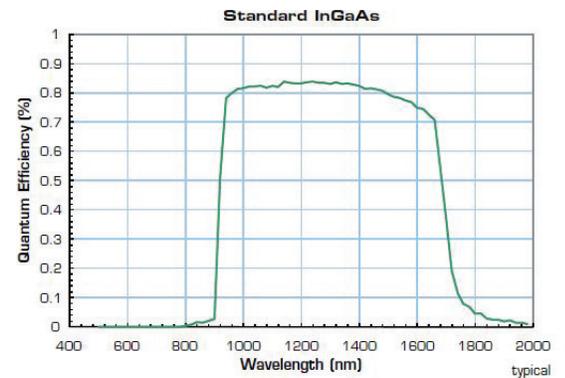
Tau SWIR 15XRH cameras incorporate a high-resolution (640 x 512) Indium Gallium Arsenide (InGaAs) 15-micron pixel pitch focal plane array that features variable exposure control, nearly zero image lag, and high quantum efficiency.



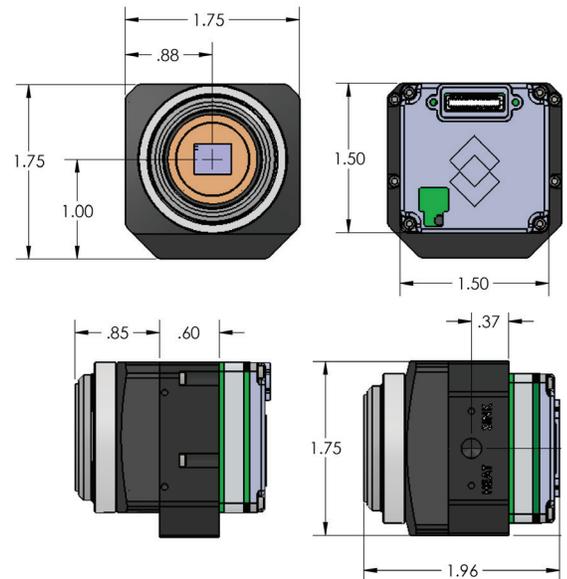
# Specifications

PARAMETER	VALUE	COMMENTS
<b>Sensor Type</b>	InGaAs	
<b>Format</b>	640 x 480 (analog), 640 x 512 (digital)	Analog VGA limits to 640 x 480
<b>Pixel Size</b>	15 $\mu$ m	
<b>Active Area (H x V)</b>	Analog: 0.38" x 0.28" / 9.6 x 7.2 mm	Digital: 0.38" x 0.3" / 9.6 x 7.7 mm
<b>Active Area (Diagonal)</b>	Analog: 0.5" / 12.0 mm	Digital: 0.5" / 12.3 mm
<b>Active Area (Area)</b>	Analog: 0.11" <sup>2</sup> / 69 mm <sup>2</sup>	Digital: 0.11" <sup>2</sup> / 74 mm <sup>2</sup>
<b>Fill Factor</b>	100%	
<b>Spectral Response</b>	0.6 to 1.7 $\mu$ m	See QE plot to the right
<b>Noise @ Sensor Temp = +10°C</b>	High Gain (LNIM-CDS) < 75e- Medium Gain < 210e- Low Gain < 900e-	Typical
<b>Full Well</b>	Low Gain = 2 Me-, High Gain (LNIM-CDS) = 7 ke-	Typical
<b>Dynamic Range</b>	Medium/Low Gain = 68 dB High Gain = 39 dB	Typical
<b>Operability</b>	>99%	
<b>Max Frame Rate</b>	30 FPS	
<b>Image Correction</b>	2-point (Offset / Gain) - user configurable	
<b>Image Lag</b>	<1% frame-to-frame	Assumes no over-exposure
<b>Digital Data</b>	16-bit LVTTL or Camera Link®	
<b>Analog Output</b>	NTSC compliant	

## Spectral Graph



## Camera Dimensions



## MECHANICAL / ENVIRONMENTAL

<b>Weight</b>	101 g (M42 lens mount) 131 g (C-type lens mount)	See Note 1 below
<b>Dimensions</b>	38 x 38 x 48.25 mm	See Note 2 below
<b>Lens Mount</b>	C-Mount or M42 mount	
<b>Operating Temperature (full performance)</b>	-20°C to 55°C	Full performance
<b>Operating Temperature (degraded performance)</b>	Between -40°C to -20°C and 55°C to 71°C	See Note 3 below
<b>Storage Temperature</b>	-50°C to 85°C	
<b>Humidity</b>	<95%	Non-condensing

## POWER REQUIREMENTS

<b>DC Input Voltage</b>	12 VDC	
<b>Power Dissipation</b>	4 Watts typical	At 30°C case temp

Note 1: Much of the camera weight is associated with the housing and lens mounting hardware. Custom core designs can be used to reduce this weight.

Note 2: Dimensions are typical and depend upon exact lens mount configuration chosen.

Note 3: Degraded performance results in higher random noise in high-gain mode.



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