

# JAGUAR-HD

AJ2C10C01

High Resolution, High Performance InGaAs camera, a revolution in SWIR Imaging.



## Salient Features

- 1280 x 1024 Array Format
- InGaAs sensor
- 140 fps max @ 13 bit resolution full frame
- 0.6 to 1.7  $\mu\text{m}$  spectral band
- 12V Single Power Supply
- 13-bit digital data, Full Camera Link, (HD-SDI, 30 FPS)
- Automatic Laser Detection



## Applications

- Passive/Active Night Vision
- Security and Surveillance
- Image Lasers / 3D ranging
- Semiconductor
- Glass Production
- Pharmaceutical Monitoring
- Scientific and Medical

*Specifications mentioned in the document may change without prior notice, please contact sales for latest specifications*

# SPECIFICATION

<b>Camera</b>	
Detector	InGaAs
Spectral Band	0.6 $\mu\text{m}$ - 1.7 $\mu\text{m}$
Sensor Format	1280x1024 or higher
Pixel Operability	>99.5%
Pixel Pitch	$\leq 10\mu\text{m}$
Quantum Efficiency	$\geq 70\%$ @ 1550 nm
Non-Uniformity Without Correction	<10%
Image Capture	Programmable Frame Rate, Window Mode, Integration Time & Gain Modes
Frame Rate	30 Hz@ 1280x1024 (with HD-SDI) / 140* fps with Camera-link / 470 fps with 640 x 512 with binning with Full Camera-link
<b>Image Processing</b>	2- Point NUC correction tables (> 20 Nos)
	AGC image correction
	Bad Pixels Detection and Replacement
	Smoothering, Sharpening, Auto-Exposure, DRC
	Invert/Revert
	On Screen Display (Tint, NUC table number, Date, Time, Sys temp, FPA temp)
Video Interface	High Speed Camera-Link Interface (Full/Medium) / HD-SDI
Camera Control	Camera-link/RS232
Optical Interface	C-Mount
External Trigger	Camera should accept External Trigger / Laser Source Trigger pulse with 15nm step size and programmable delay up-to 100 ms (for ranging applications)
Camera Noise	$\leq 150 e^-$ at 1 ms exposure time
Dynamic range	$\geq 50 \text{ dB}$
Ambient operating temperature	-20 $^{\circ}\text{C}$ to +60 $^{\circ}\text{C}$
Storage Temperature	-30 $^{\circ}\text{C}$ to +80 $^{\circ}\text{C}$
Input Power	9 to 24V DC
Power Consumption	< 12 W (TEC ON Mode); < 5W (TEC Mode off)
TEC Controller	a) Mode TEC cooling ON/OFF b) Temp controls up-to 50mK; c) Customer programmable temperature settings
Maintenance	a) System upgrade of the firmware through RS-232/Camera-link b) Diagnostics of Imager Life, Self-Test, System Temperature; c) Non-volatile Factory firmware for recovery procedure
PC GUI Software	a) Complete Controls of Imager Operation
	b) Alpha-Numeric OSD Display
	c) Capture Snapshots/ Photos and store as JPEG/BMP Images
	d) Image acquisition of grayscale and Pseudo color Palettes
	e) Video Capture and Display in Standard MPEG/AVI formats
	f) Sensor related controls
	g) OSD Logo Upload
	h) Image Zoom/Pan on Live screen
	i) ROI Based Image Analysis
Dimensions	a) $\leq 70 \text{ W} \times 70 \text{ L} \times 75 \text{ H}$ mm without lens
	b) Provide Mechanical interface drawings with mounting details
	c) Compatible with IP66
	d) Tripod mount capability
Weight of Camera Head	<275 grams
SDK / API	LabVIEW, MATLAB & C/C++

\*Integration time @ 10  $\mu\text{s}$

\*Recommended to take care of Heat Management at Customer end when operating with TEC-On and also with high FPS

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