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SWIR Series Camera User Manual

SWIR Series SenSWIR InGaAs Camera

VCI-A3UT+SWIR Series | USB3.0 | Cooled Industrial Area Scan Camera Using SenSWIR InGaAs

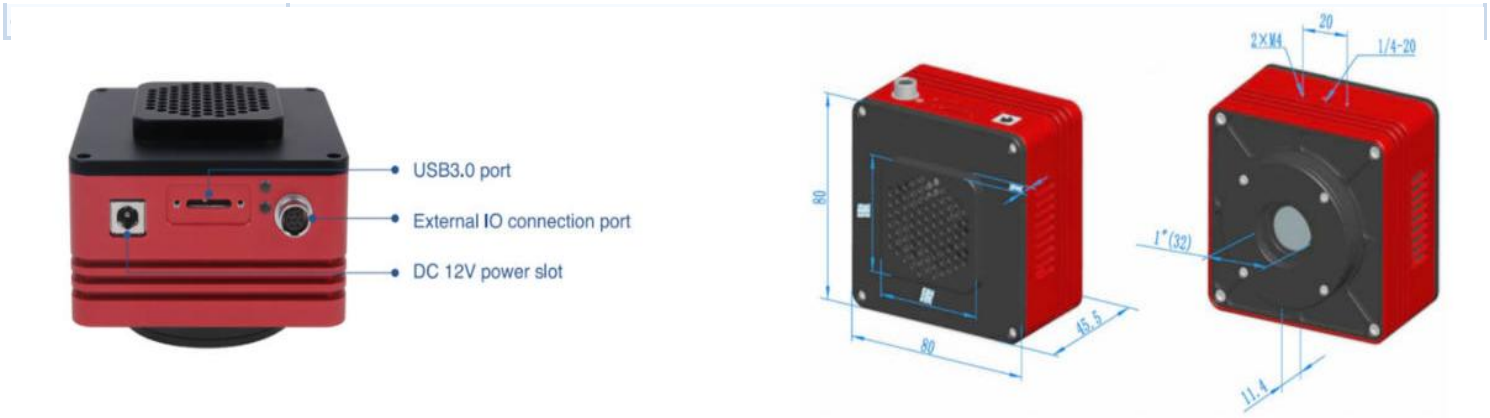
1、Sony Exmor back-illuminated CMOS sensor;
2、Two-step noise reduction technology;
3、Ultra-high sensitivity and low noise;
4、USB3.0(compatible with USB2.0 protocol) / GigE data transmission interface ;
5、Provides advanced video and image processing application software ToupView, compatible with Windows/Linux/OSX multi-platform SDK, support native C/C++, C#/VB.Net, DirectShow, Twain API;
6、Supports external triggering, digital I/O and free-running modes;
7、Supports ROI, flip, bit-depth switching and other features。

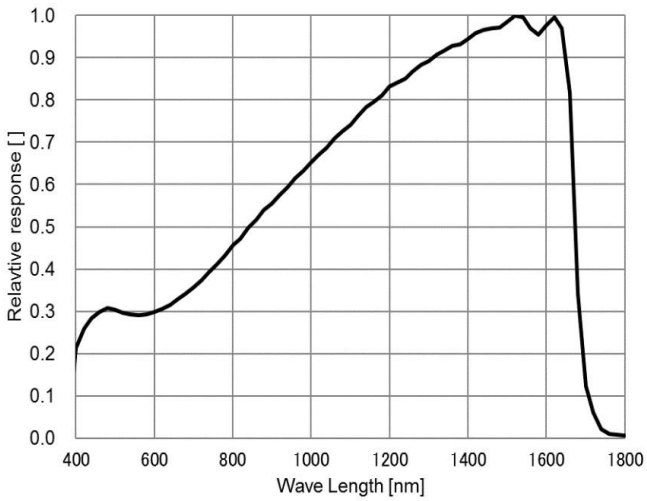
Specification

Model / Parameter	VCI-A3UT500GM-SWIR-B	VCI-A3UT130GM-SWIR-B	VCI-A3UT033GM-SWIR-B
Sensor model	Sony IMX992-AABJ-C	Sony IMX990-AABJ-C	Sony IMX991- AABJ-C
Sensor type	InGaAs	InGaAs	InGaAs
Spectral range	400nm-1800nm	400nm-1800nm	400nm-1800nm
pixel size	3.45 μm x 3.45 μm	5.0 μm x 5.0 μm	5.0 μm x 5.0 μm
Target size	1/1.4″	1/2"	1/4″
ADC	12 Bit / 8 Bit	12 Bit / 8 Bit	12 Bit / 8 Bit
Frame Rate & Resolution	8 Bit:71fps@2560x2048 252fps@1280x1024 12 Bit:35.5fps@2560x2048 135.7fps@1280x1024	12Bit:108fps@1280 x 1024 209fps@640 x 512 8Bit:200fps@1280 x 1024 392fps@640 x 512	12Bit:212fps@640 x 512 400fps@320 x 256 8Bit:400fps@640 x 512 753fps@320 x 256
Image Buffer	512MByte	512MByte	512MByte
Conversion gain	10.3e/ADU(HCG)17.29e/ADU(LCG)	42.8e/ADU	43.0e/ADU
Conversion gain	51.36dB(HCG)51.47dB(LCG)	58.7dB	59.6dB
Read noise	111.88e(HCG)186.61e(LCG)	197.6e	178.8e
Full well charge	41.39ke(HCG)69.92ke(LCG)	175.4ke	176.2ke
Maximum SNR	46.17dB(HCG)48.45dB(LCG)	52.4dB	52.5dB
Sensitivity	121mV	121mV	121mV
Dark current	638e/s(20°C)	638e/s(20°C)	638e/s(20°C)
Gain range	1x-15x	1x-15x	1x-15x
Exposure time range	15μs-60sec	15μs-60sec	15μs-60sec
Shutter mode	Global shutter	Global shutter	Global shutter
Binning	Software2x2, 3x3, 4x4	Software2x2, 3x3, 4x4	Software2x2, 3x3, 4x4
Data interface	USB3.0	USB3.0	USB3.0
Digital I/O	1 optocoupler isolated input, 1 optocoupler isolated output, two non-isolated input and output		
Data Format	8bit / 12bit	8bit / 12bit	8bit / 12bit
Cooling temperature	10°C below ambient temperature	10°C below ambient temperature	10°C below ambient temperature
Optical filter	400-1800nm(default); 1030-1800nm(optional)	400-1800nm(default); 1030-1800nm(optional)	400-1800nm(default); 1030-1800nm(optional)
CRA	2.35 Deg	2.35 Deg	2.35 Deg
Generalparameters			
Power supply	Power with USB3.0 or 12V Power adapter		
Power consumption	<2.1W(without cooling) / <25W(cooling)		

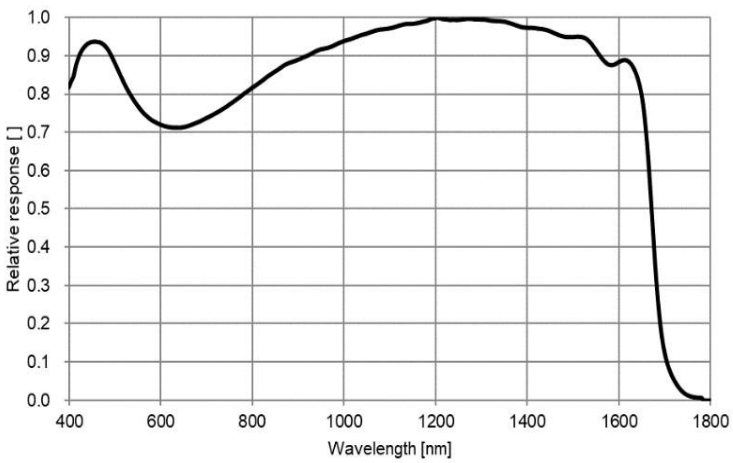
Temperature	Working temperature -20~60℃, storage temperature -40~85℃
Humidity	20%-80% , non-condensing
Size	80mmx80mmx45.5mm
Weight	<390g
Lens mount	C-mount interface
Software	SDK
Operating system	Win32/WinRT/Linux/macOS/Android

Camera Dimensions

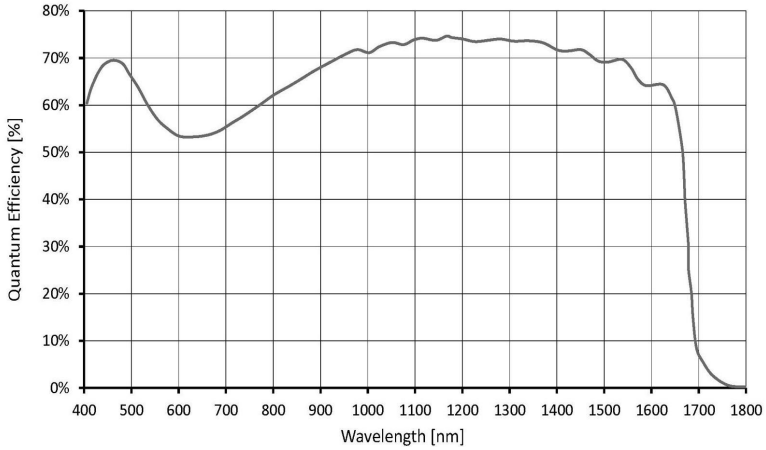




SWIR spectral response curve



SWIR relative quantum efficiency



SWIR absolute quantum efficiency