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SWIR1300KMA TE-Cooling C-mount USB3.0 CMOS Short Wavelength IR Camera



Standard C-Mount camera with SONYInGaAs SWIR CMOS sensors;

Visible and SWIR imaging 400nm-1700nm

Two-stage TE-cooling with controllable electric fan;

Sensor chip cooling up to 25~30°C below ambient temperature;

Working temperature can be regulated to specified temperature in 5 minutes;

Smart structure to assure the heat radiation efficiency and avoid the moisture problem;

Up to 1 hour long time exposure;

USB3.0 5Gbit/second interface ensuring high speed data transmission;

With advanced video & image processing application ToupView;

Support both video and trigger modes;

Windows/Linux/macOS/Android multiple platform SDK;

Specification

SWIR1300KMA TE-Cooling C-mount USB3.0 CMOS Short Wavelength IR Camera(1)

SWIR1300KMA is a TE-Cooling USB3.0 InGaAs SWIR camera, which adopts Sony IMX990 1/2-Type Short-Wavelength Infrared (SWIR)Image Sensor. It is suitable to capture images in both visible range and SWIR range, covering 400nm to 1700nm. With smaller pixel size of 5um, imaging shows higher precision for quantitative researches.

With the two-stage peltier cooling sensor chip to 25~30 degree below ambient temperature. This will greatly increase the signal to noise ratio and decrease the image noise. Smart structure is designed to assure the heat radiation efficiency and avoid the moisture problem. Electric fan is used to increase the heat radiation speed.

SWIR comes with advanced video & image processing application ToupView; Providing Windows/Linux/macOS/ Android multiple platform SDK(Native C/C++, C#/VB.NET, Python, Java, DirectShow, Twain, etc);

SWIR camera can be used in electronic board inspection, solar cellinspection, semiconductor inspection,transmission observation,produce inspec-tion, identifying and sorting, water visu-alization, temperature observation, surveil-lance, anti-counterfeiting Short wave infrared high-end night vision security applications are also the best choice.

Order Code	Sensor & Size(mm)	Pixel(um)	G Sensitivity Dark Signal	FPS/Resolution	Binning	Exposure
SWIR1300KMA 20210831	1.3M/IMX990(M) 1/2"(6.40x5.12)	5.0x5.0	121mV with 1/30s 1.0mV with 1/30s	131.9@1280x1024 252.6@640x512	1x1, 1x1	50us~3600s

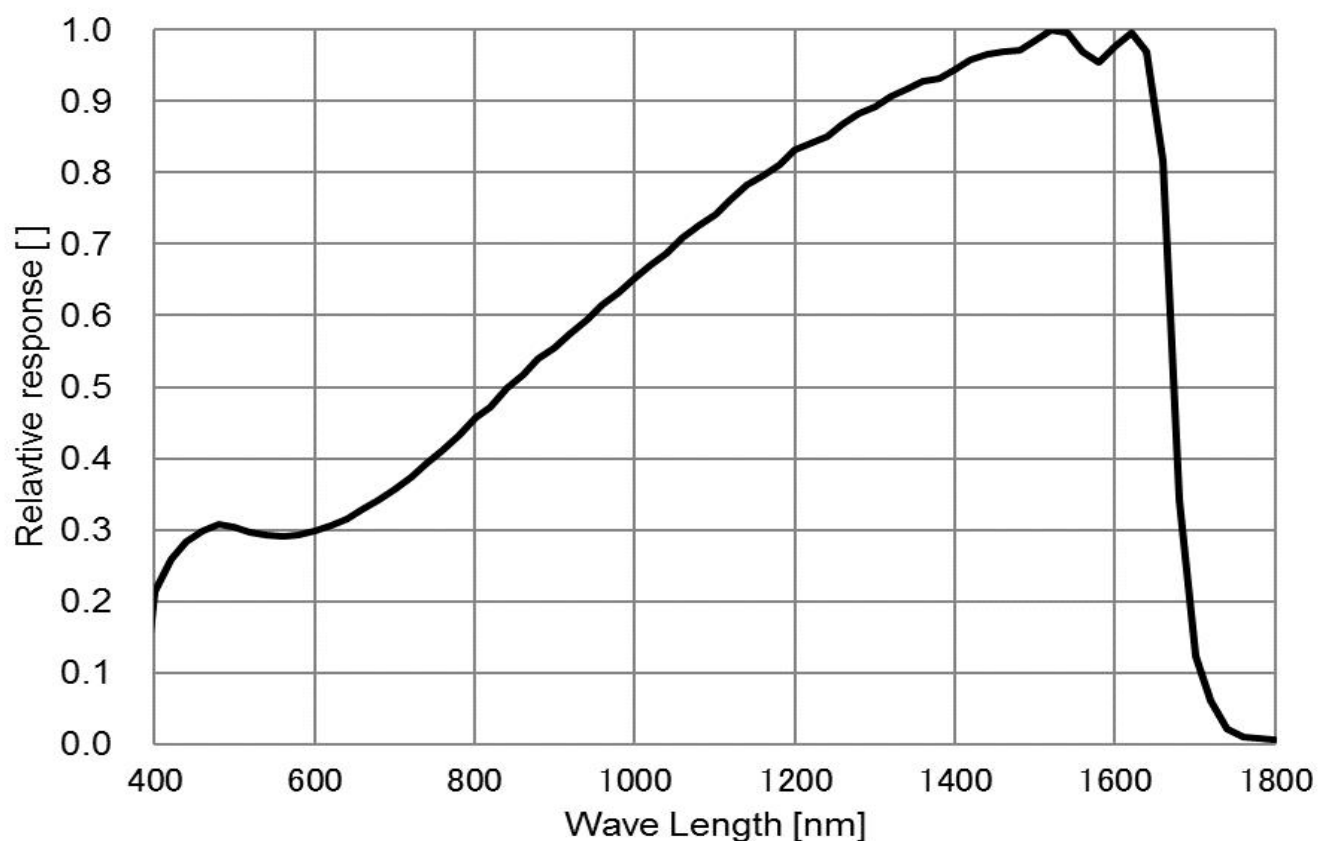
Camera Specification

Sensor model	Sony IMX990-AABA-C
Pixel size	5.0 um x 5.0 um
Sensor size	1/2"
Frame rate	134.73fps@1280 x 1024、260.68fps@640 x 512
Dynamic range	57dB
Noise	200e-
Sensitivity	121mV
Dark current	1.0mV
Gain range	1x-15x
Exposure time	50μs-3600sec
Shutter	Global shutter
Binning	Software2x2, 3x3, 4x4
Data interface	USB3.0
Digital I/O	One optical-coupling isolated input, one optical-coupling isolated output, tow non-isolated input and output
Data Format	Mono8 / Mono12
Cooling performance	25-30 °C below ambient temperature

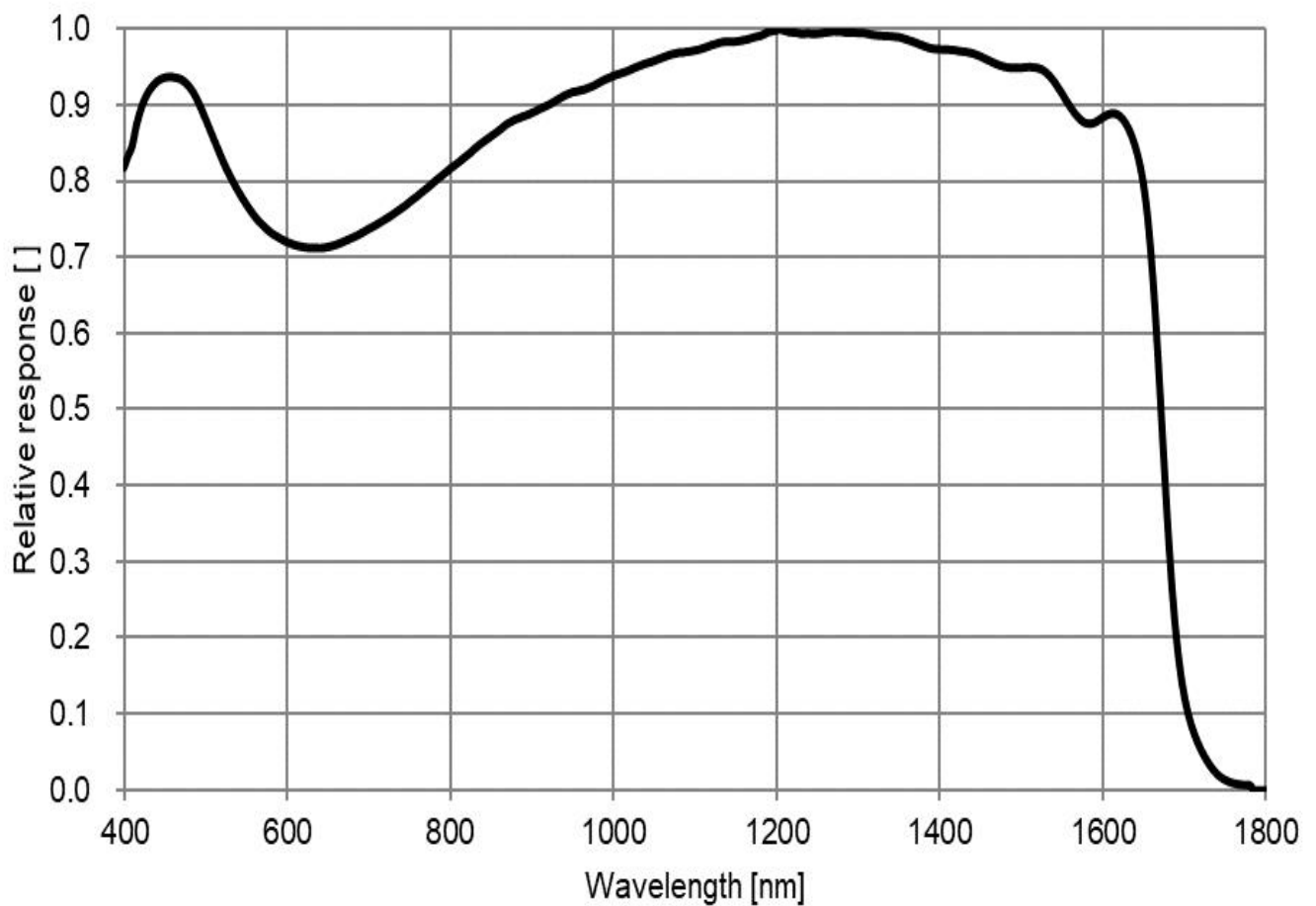
General specification

Power supply	Power with USB3.0 and 12V Power adapter
Power consumption	<2.1W(no cooling) / <25W(cooling)
Temperature	Working temperature -20~60°C, storage temperature -40~85°C
Humidity	20%-80%, no condensation
Size	75mm×75mm×68mm
Weight	648g
Lens mount	C-mount
Software	ToupView/ SDK
Operating system	Win32/WinRT/Linux/macOS/Android
Certification	CE, FCC

Spectral Sensitivity Characteristics and Quantum Efficiency



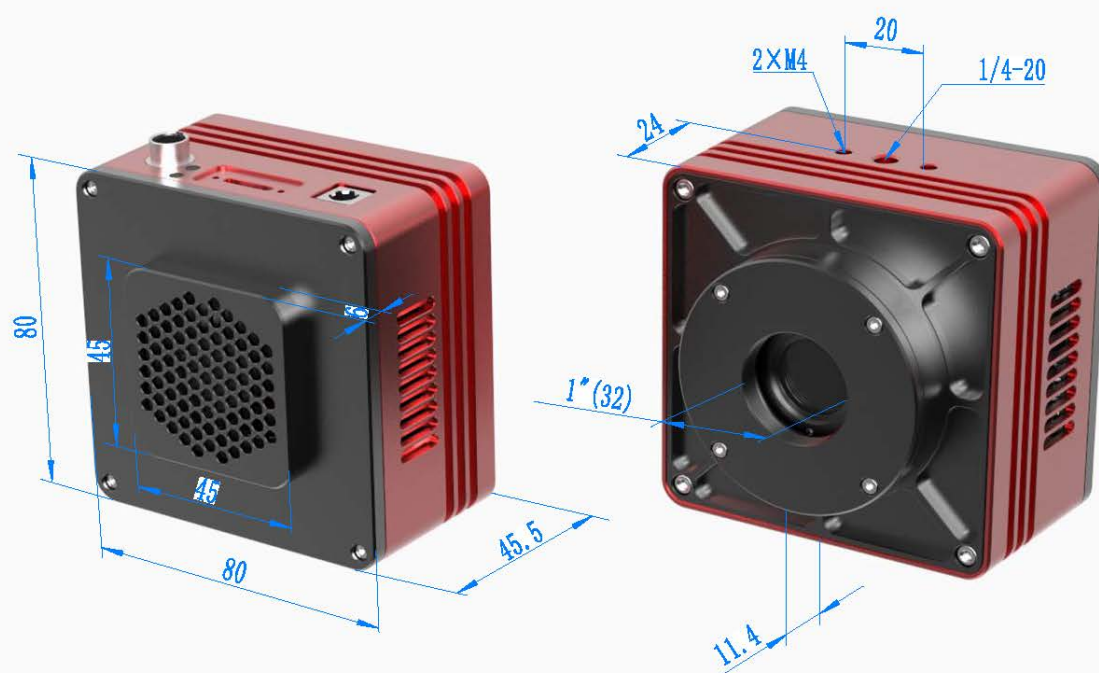
Spectral Sensitivity Characteristics Tj = 15 °C, Characteristics in the package status, Constant irradiation energy at each wavelength)

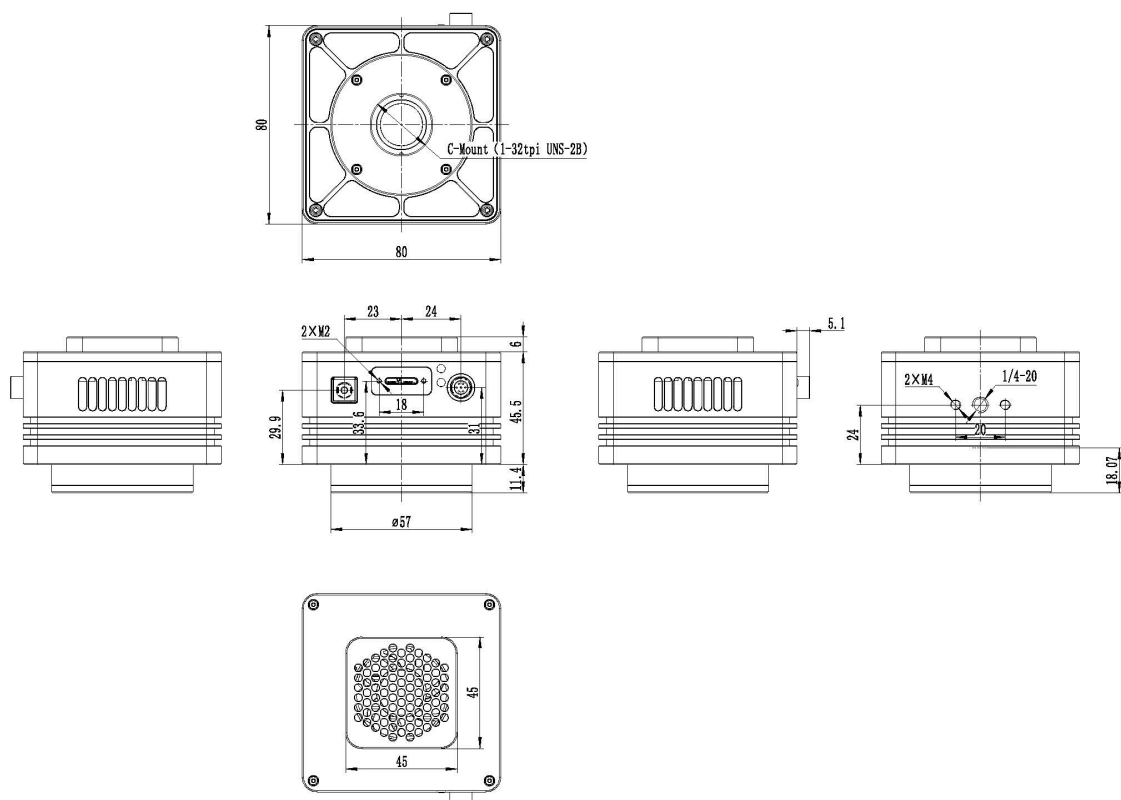


Quantum Efficiency $T_j = 15^\circ\text{C}$, Characteristics in the package status, Constant photon number at each wavelength)

Dimension of SWIR Series Camera

Installation drawings(Click to enlarge). The SWIR series camera body, made from CNC aluminium alloy, ensures a heavy duty, workhorse solution. The camera is designed with a high quality IR-CUT to protect the camera sensor. No moving parts included. This design ensures a rugged, robust solution with an increased lifespan when compared to other industrial camera solutions.





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