ARTRAY

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CAMERA LINK InGaAs NIR CAMERA
ARTCAM-991SWIR
INSTRUCTION BOOKLET

1. Specifications

MODEL	ARTCAM-991SWIR
Sensor Type	VGA InGaAs Image Sensor
Sensor Model	SONY IMX991-AABJ-C
Actual Pixel Array	656(W) x 520(H)
Effective Pixel Array	640(W) x 512(H)
Pixel Pitch	5[μm] × 5[μm]
Image Size	3.2[mm] x 2.56[mm] (Diagonal length: 4.1[mm], 1/4")
Spectral Range	400nm~1700nm
Shutter type	Global Shutter
S/N Ratio	51dB (for reference only)
Interface	USB3.0 Bulk Transfer
A/D Resolution	12bit
Frame Rate	Max 137fps (Common to 12bit and 8bit)
Shutter Speed	20.3μsec. ~ 2sec.
Gain (Analog/Digital)	0～420 ※Default value：0 (0～42[dB] ※Default value：0[dB])
ROI Sub-sampling (1/2)	ON/OFF ※Default value：OFF ROI： Vertical only（Horizontal only available on software） Sub-sampling: 1/2
Trigger	ON/OFF ※Default value：OFF
Mirroring	ON/OFF ※Default value：OFF Vertical and Horizontal
Synchronization System	Internal Synchronization
Lens Mount	C Mount
External trigger input (option)	SMA female connector (when option selected) BNC conversion adapter included
Power	DC5V USB BUS Power
Power Consumption	Under Approx.3.2W
Ambient Conditions (expectation)	Operating Temperature/Humidity: 10~35°C/10~80%（Non-condensing） Storage Temperature/Humidity: 0~60°C/10~95%（Non-condensing）
External Dimensions	50.0(W) x 47.0(H) x 42.7(D)mm ※Lens, Tripod mount and cables not included
Weight	About 110g

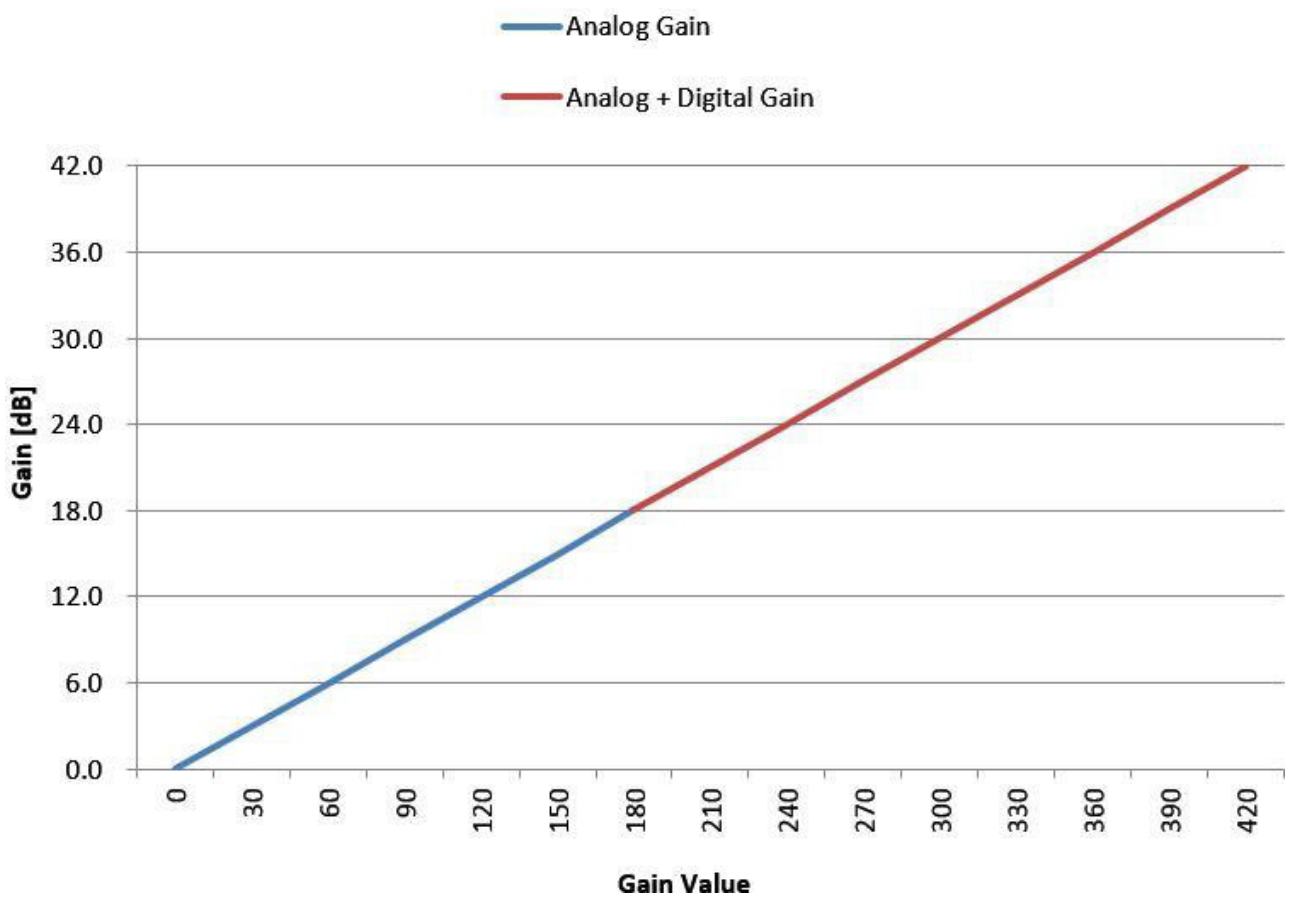
Analog / Digital Gain Settings

ARTCAM-991SWIR is compatible with analog and digital gain.
Setting value of gain on software can be set from 0 ~ 420, and the gain will change from 0.0dB ~ 42.0dB accordingly. Gain can be calculated by the following formula:

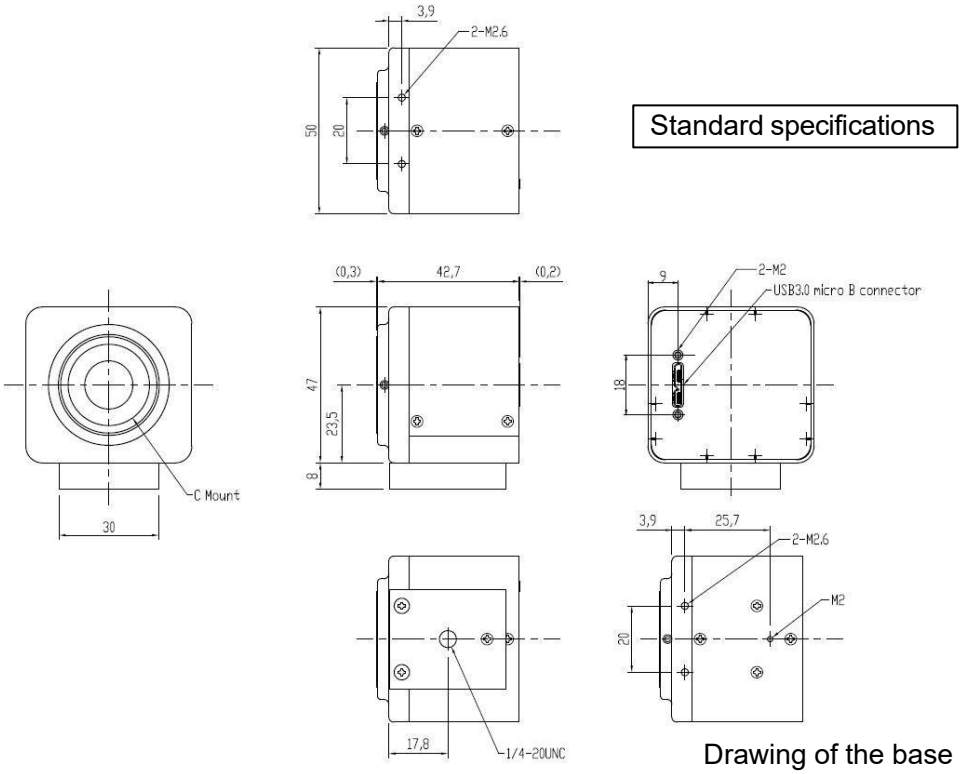
Gain[dB] = value / 10.0[dB]

Digital gain will activate when setting value of gain > 180.

The graph below shows the relationship between setting value of gain and its magnification[dB].

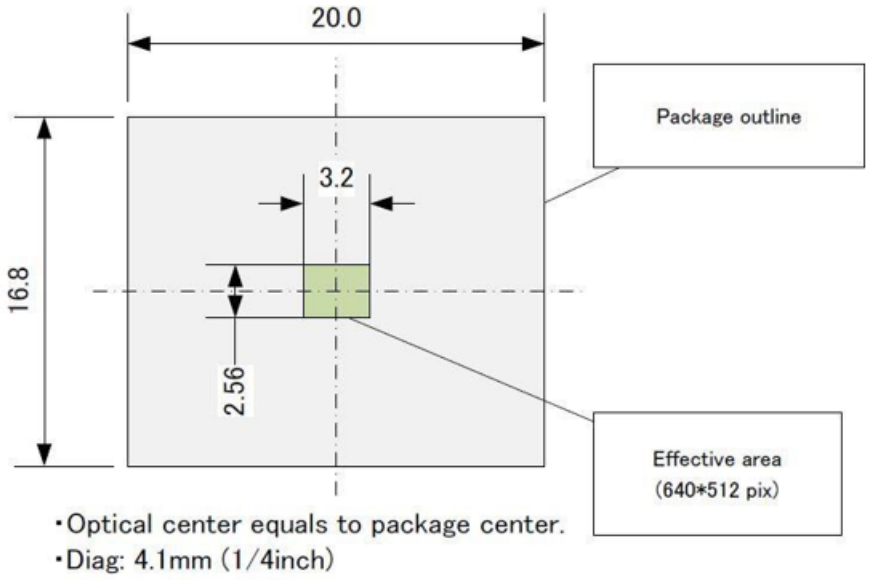


1.1.1. Dimensional Outline



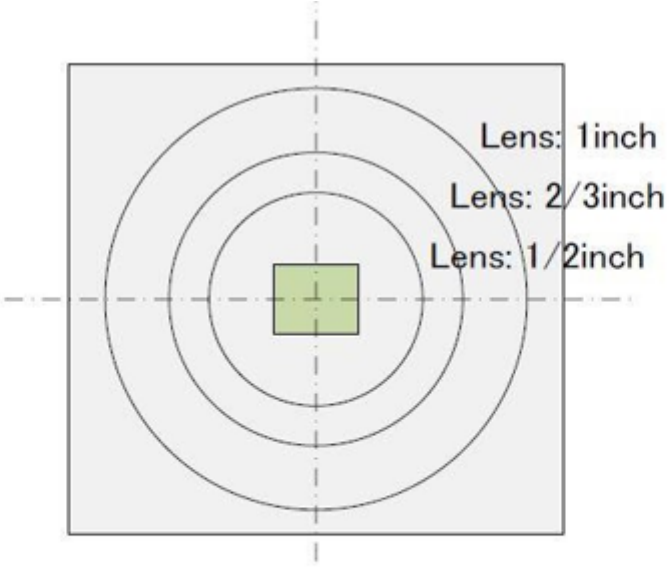
Drawing of the base
without a tripod mount

Sensor Position and the Light Receiving Surface



H = 5[um] * 640 = 3200 [um]
V = 5[um] * 512 = 2560 [um]

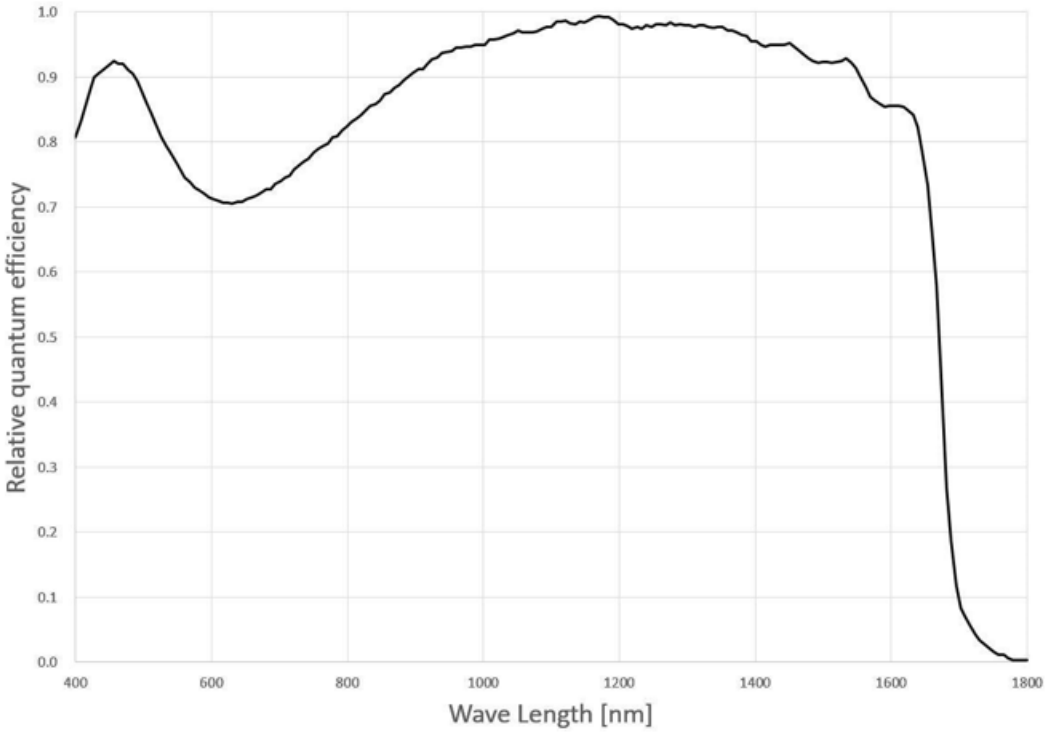
Field of Vision: Lens versus Sensor（For Reference Only）



※The ratios of sensor size (diagonal) to lens size in the above illustrations are as follows: 1/2 inch = ϕ8mm, 2/3 inch = ϕ11mm, 1 inch = 15.8mm.

Please note that the actual field of view varies depending on different lens.

Spectral Sensitivity Characteristics

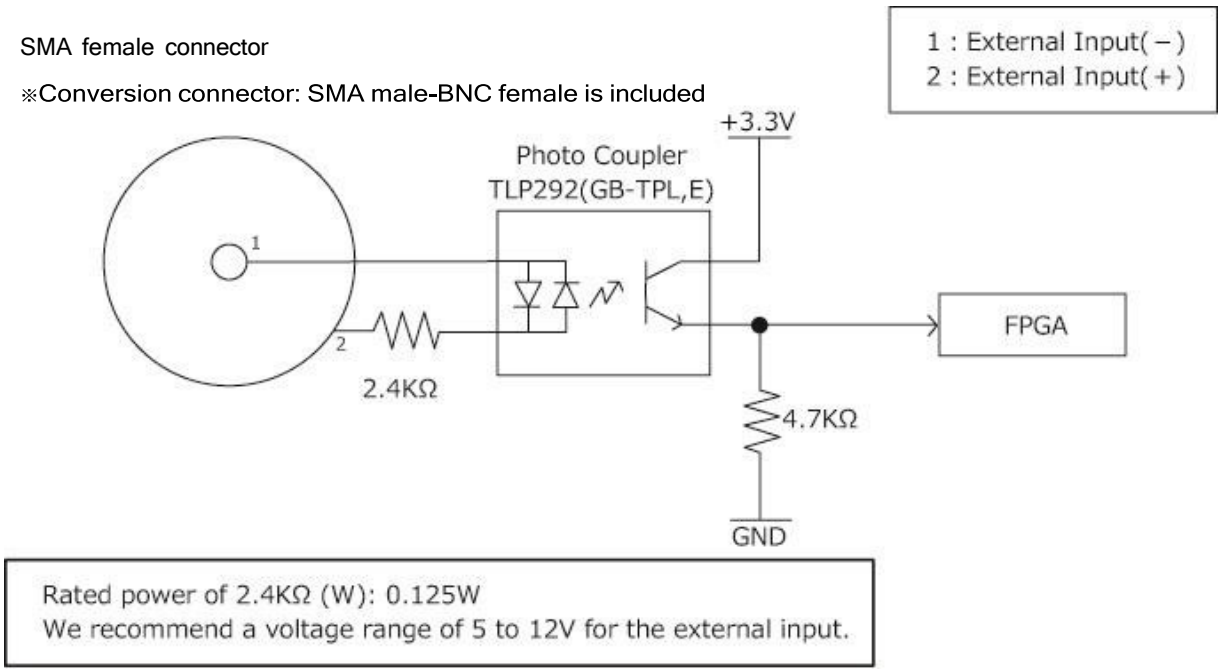


1.2. External Trigger Function (Option)

This camera has an external trigger electronic circuit, which is insulated by a photocoupler, and thus enables synchronized shooting by the input signal received from the external circuit.

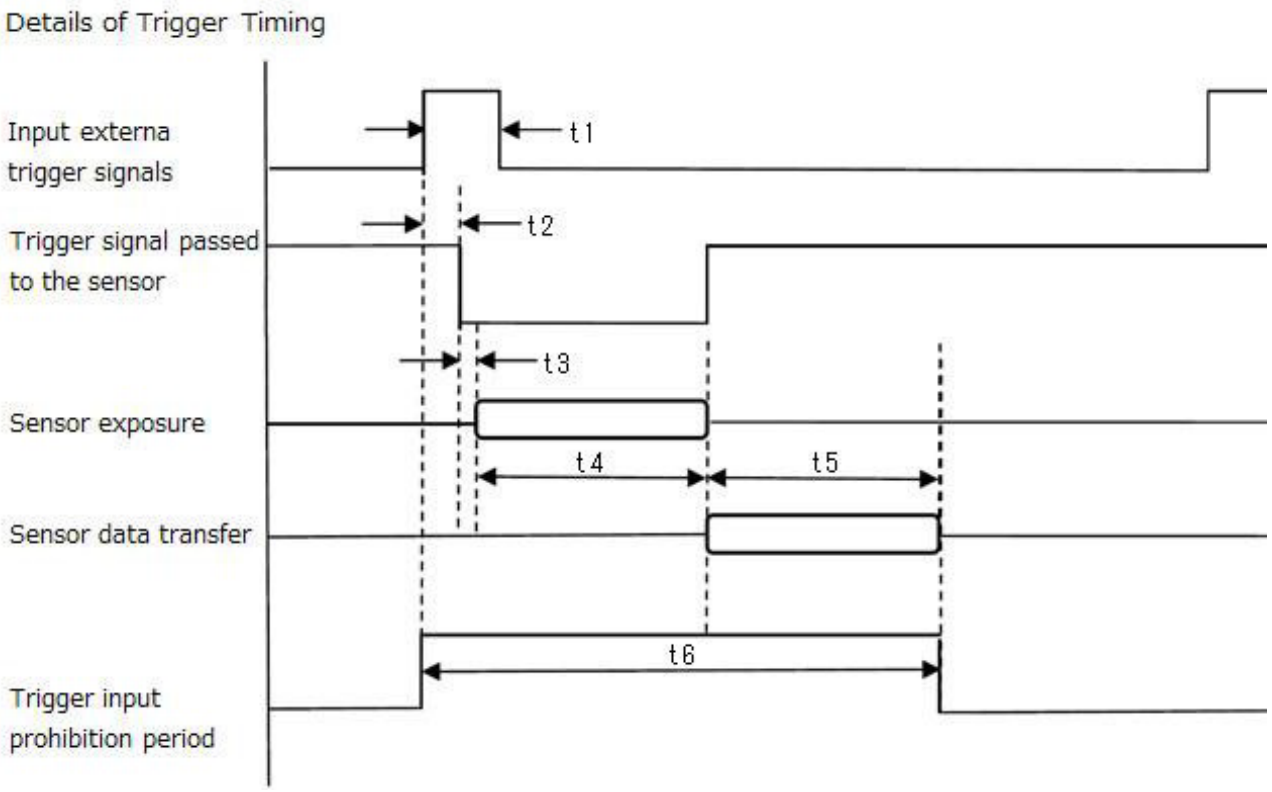
SMA female connector

※Conversion connector: SMA male-BNC female is included



Rated power of 2.4KΩ (W): 0.125W
We recommend a voltage range of 5 to 12V for the external input.

1.3. Trigger Timing



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