VADZO

INNOVA-234CGS

2MP Color OnVIF GigE Camera based on Onsemi AR0234 Sensor

Vadzo Innova-234CGS is a 1080p global shutter GigE Camera based on Onsemi AR0234 Sensor coupled with high-performance ISP. The camera delivers max resolution of 2.3 MP and Video streaming of 1080p@60fps, 720p@60fps, and VGA@90fps. The camera comes with a M12/S-Mount lens holder that supports a 105 DFOV lens by default. You shall be able to stream video in H.264 and H.265 format and capture images in MJPEG format.

Key Features

- Sensor Model: AR0234 Onsemi Sensor
- Max Resolution: 2.3 MP
- Pixel: 3.0 µm x 3.0 µm
- Shutter: Global Shutter
- Lens FOV: 105 DFOV
- Compliance: OnVIF, RoHS 3, REACH

Applications

- **Smart Surveillance Camera:** Facial Recognition, Day/Night Video Recording, Smart Parking, Pedestrian Safety.
- **Patient Monitoring Camera:** Patient Bedside Monitoring, Fall Detection & Prevention, Baby Monitoring, ICU Monitoring.
- **Mobile Robot Camera:** AGV cameras, AMR Camera, Drone Camera, Robotic ARM Camera.

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1. Introduction

Innova-234CGS is a OnVIF Compliant GigE Fixed-Focus Global Shutter color camera based on Onsemi AR0234 sensor.

The camera incorporates the AR0234 Bayer sensor from Onsemi integrated with an on-board Image Signal Processor (ISP) to perform functions such as debayering, demosaicing, color correction, contrast correction, gamma correction, denoising, lens corrections and so on. In addition to this, the ISP also supports Auto functions such as Auto-Focus, Auto-Exposure and Auto-White Balance.

2. Camera Specifications

General Information	
Product Family	Innova series
Camera Model	Vadzo Innova-234CGS
Sensor	
Sensor	AR0234 sensor from Onsemi
Sensor Format	1/2.6”
Pixel Size	3.0 µm x 3.0 µm
Max Resolution	2.3 MP – 1920(H) x 1200(V)
Shutter	Global Shutter
Chroma	Color
Camera Data	
Interface	100Base-T and 1000base-T modes
Pixel Depth	10bit
Output Format	H.264, H.265, and MJPEG
Exposure Control	Manual Control via software & Auto-Exposure
GPIO	Night Mode IR Illumination with cut filter support LED Board
Camera Hardware	
Lens	S Mount (M12 Standard)
Connector	Standard RJ45 Ethernet Interface

Power Supply	Power over Ethernet (Compliance with PoE 802.3af standard 36 to 57V)
Power Requirement	Max: 1.75 W at PoE (Without LED Board) Min: 1.05 W at PoE (Without LED Board)
Operating Temperature	-40^{0}C to 85^{0}C
Dimension	38mm (L) x 38mm (B) Three Board
Weight	25 Grams (Without Lens)
Camera Software	
Video Resolutions	VGA, HD, and FHD
Video formats	H.264 and H.265
Still Image Resolutions	VGA, HD, and FHD
Image Capture formats	MJPEG
Image Capture Modes	Software trigger
Camera Controls	Brightness, Exposure, Contrast, Sharpness, Saturation, Gamma, Gain, White Balance
Additional Controls	CBR (Constant Bit Rate), VBR (Variable Bit Rate), Quality Control, Flip, IR Brightness Control along with IR Cut Filter Control* (For Specific Variant)
OS Supported	Windows, Linux, and Android
Conformity	
Conformity	OnVIF Profile T (Default) Compliant, RoHS 3, REACH

3. Supported Resolutions

Single Stream Mode:

Resolution	Frame Rates (FPS) in 100Base-T and 1000base-T modes Mode	
	H.264	H.265
320 x 240 (QVGA)	30	30
640 x 480 (VGA)	30	30
1280 x 720 (HD)	30	30
1920 x 1080 (FHD)	30	30

Dual Stream Mode:

Resolution	Frame Rates (FPS) in 100Base-T and 1000base-T modes Mode	
	Stream 1	Stream 2
	H.264	H.265
320 x 240 (QVGA)	30	30
640 x 480 (VGA)	30	30
1280 x 720 (HD)	30	30
1920 x 1080 (FHD)	30	30

4. Supported Camera Functions

The List of functions supported by the Innova-234CGS camera are:

- Resolution Control
- Image Format Setting
- Video Format Setting – H.264 and H.265
- Image Capture Software Trigger
- Gain – Auto & Manual
- Exposure – Auto & Manual
- White Balance – Auto & Manual
- Anti Flicker – 50Hz/60Hz
- Contrast Control
- Gamma Control
- Hue & Saturation Control
- Sharpness Control

5. GigE Interface

The camera module features a standard RJ45 Ethernet interface, supporting 100Base-T, and 1000Base-T modes for versatile connectivity options. This interface allows for reliable and high-speed data transfer, transmitting video data, control signals, and power over a single Ethernet cable. The GigE interface adheres to GigE Vision standards, ensuring seamless integration with compatible devices. Vadzo recommends using certified Ethernet cables for optimal performance and reliability.

6. Status LED

Status LED's indicate the below:

- Green color indicates Device is powered ON and connected on 1000base T-mode.
- Orange color indicates: If the camera connected on 100base T-mode.

7. IR LED Board

The IR LED Board is equipped with advanced IR illumination LEDs and an integrated IR Cut Filter Control for enhanced night vision and image clarity.

IR LED Brightness Control: Adjust the brightness of the IR LEDs easily via the web UI, allowing for optimal illumination based on environmental conditions.

IR Cut Filter Control: The IR Cut Filter operates in two modes

- **Auto Mode:** Automatically switches between day and night modes based on lighting conditions.
- **Manual Mode:** Gives users full control to toggle between day and night modes via the web UI.

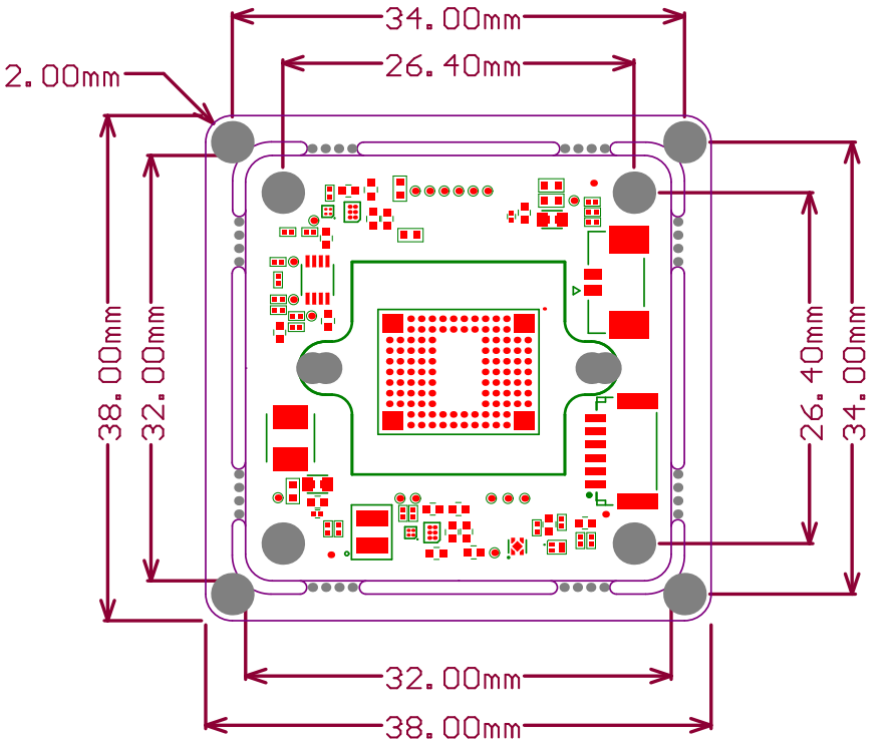
Both brightness and IR Cut Filter configurations can be seamlessly managed through the user-friendly web interface, providing flexible and precise control for various lighting environments.

8. Temperature and Humidity Specifications

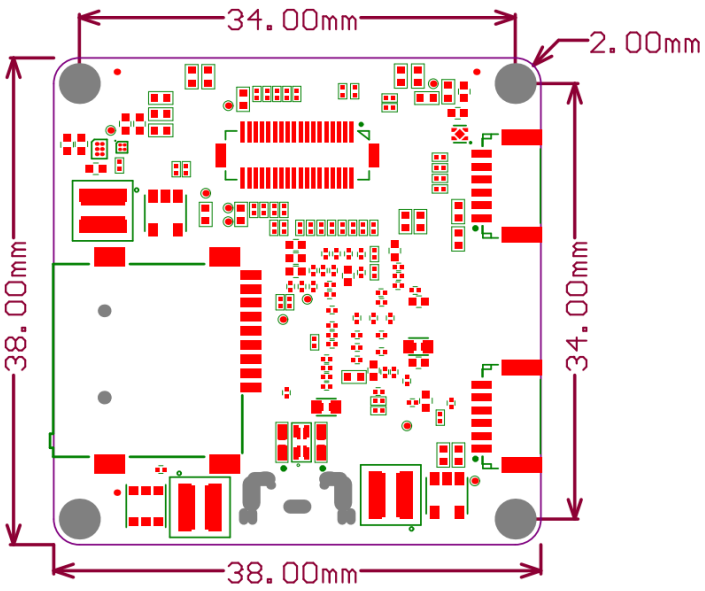
Description	Specification
Operating Temperature	-40°C to 85°C
Storage Temperature	-40°C to 85°C
Humidity	20% to 80%, Relative, non-condensing.

9. Dimensions

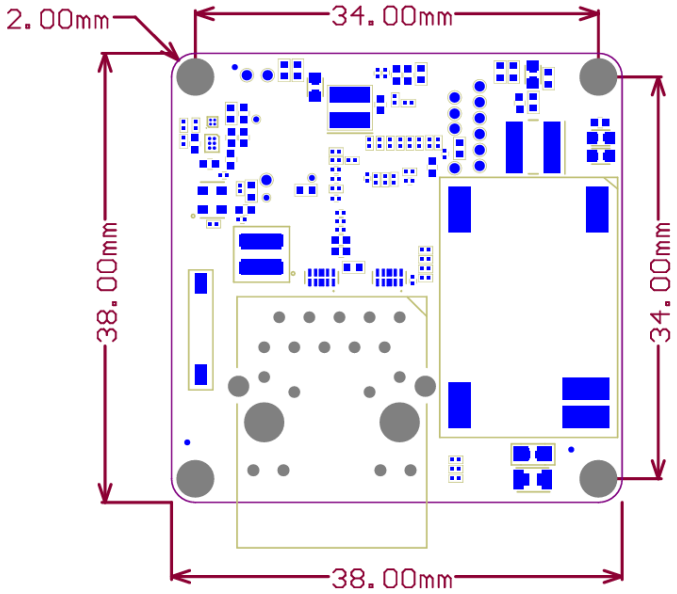
Board 1: Top Board – 2D



Board 2: Base Board - 2D



Board 3: ATR PoE Board - 2D



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