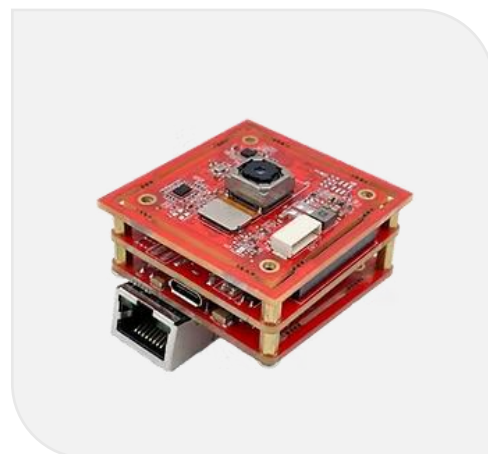


13MP Color Autofocus ONVIF GigE Camera based on Onsemi AR1335 Sensor

Vadzo Innova-1335CRA is a 4K Autofocus GigE Camera based on the Onsemi AR1335 sensor coupled with a high-performance ISP, supporting features such as ROI Based AE & AF, Digital PTZ, and iHDR. The camera is equipped with a VCM based Autofocus lens assembly supporting either a 74° DFOV or a 127° DFOV lens, and streams full resolution capture at 4208 × 3120 with video streaming in 4K, 1080p, and 720p. The GigE interface with ONVIF compliance enables standardized network integration over 100Base-T and 1000Base-T via a standard RJ45 connector, while Power over Ethernet (PoE 802.3af, 36–57V) carries both data and power over a single cable.

Key Features

- Sensor Model: AR1335 Onsemi Sensor
- Max Resolution: 13 MP
- Pixel Size: 1.1 μm x 1.1 μm
- Shutter: Rolling Shutter
- Lens FOV: 74° and 127° DFOV
- Interface: GigE (RJ45), PoE 802.3af
- Compliance: ONVIF, RoHS 3, REACH



Applications

- **Pathology Devices:** Digital Microscope Imaging, Slide Scanning, Specimen Analysis.
- **Kiosks & Signages:** Document Scanning, OCR, Barcode Reading, Facial Recognition.
- **Smart City Solutions:** Traffic Monitoring, Smart Parking, Public Safety Surveillance.
- **Retail Analytics:** Inventory Monitoring, Shelf Monitoring, Self-Checkout, Demography Analysis.

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1. Introduction

Innova-1335CRA is an ONVIF Compliant GigE Auto-Focus color camera based on the Onsemi AR1335 sensor. The camera incorporates the AR1335 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 that help achieve well-exposed imaging across varying lighting conditions.

Vadzo Innova-1335CRA incorporates a VCM based Auto-Focus lens that enables continuous AF, One Shot triggered AF, and Manual focus control. The camera also supports configurations such as with NIR Cut Filter and Without NIR Cut Filter.

2. Camera Specifications

General Information	
Product Family	Innova series
Camera Model	Vadzo Innova-1335CRA
Sensor	
Sensor	AR1335 CMOS sensor from Onsemi
Sensor Format	1/3.2"
Pixel Size	1.1µm x 1.1µm
Max Resolution	13MP - 4208(H) x 3120(V)
Shutter	Rolling Shutter
Chroma	Color
Camera Data	
Interface	100Base-T and 1000base-T modes
Pixel Depth	8bit / 10bit
Output Format	H.264, H.265 & MJPEG
Exposure Control	Manual Control via software & Auto-Exposure

Focus Control	Manual Control via software & Auto-Focus
GPIO	Night Mode IR Illumination with cut filter support LED Board
Camera Hardware	
Lens	VCM based Auto-Focus with Focus range of 100mm to Infinity
Lens FOV	Variant 1: 75° DFOV Variant 2: 127° DFOV
Lens Filter	Variant 1: With NIR Cut Filter Variant 2: Without NIR Cut Filter
Connector	Standard RJ45 Ethernet Interface
Power Supply	Power over Ethernet (Compliance with PoE 802.3af standard 36 to 57V)
Power Requirement	Max: 2.75 W at PoE (Without LED Board) Min: 1.05 W at PoE (Without LED Board)
Operating Temperature	-30°C to 70°C
Dimension	38mm (L) x 38mm (B)
Weight	25 Grams (Without Lens)
Camera Software	
Video Resolutions	VGA, HD, Full HD, 4K and 13MP
Video formats	H.264, H.265, and MJPEG
Still Image Resolutions	VGA, HD, Full HD, 4K and 13MP
Image Capture formats	JPEG, BMP
Image Capture Modes	Software trigger
Camera Controls	Brightness, Exposure, Contrast, Sharpness, Saturation, Gamma, Gain, White Balance, and Focus Control
Additional Controls	ROI based Auto-Exposure, ROI based Auto-Focus, Digital PTZ, iHDR, 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
Conformity	
Conformity	ONVIF Profile S (Streaming), Profile T (Events), Profile G (Recording) compliant; RoHS 3, REACH

3. Supported Resolutions

Resolution	Frame Rates (FPS)
	H.264/H.265/MJPEG
640 x 480 (VGA)	90
1280 x 720 (HD)	60
1920 x 1080 (FHD)	60
3840 x 2160 (4K)	15
4208 x 3120 (13MP)	5

4. Supported Camera Functions

The List of functions supported by the Innova-1335CRA camera are:

- Resolution Control
- Image Format Setting
- Video Format Setting – H.264, H.265, and MJPEG
- Image Capture Software Trigger
- Gain – Manual
- Exposure – Auto & Manual
- White Balance – Auto & Manual
- Focus – Auto & Manual
- Anti Flicker – 50Hz/60Hz
- Contrast Control
- Gamma Control
- Hue & Saturation Control
- Sharpness Control
- ROI Based Auto Functions – Focus & Exposure
- Digital Pan, Tilt and Zoom
- Unique ID

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.

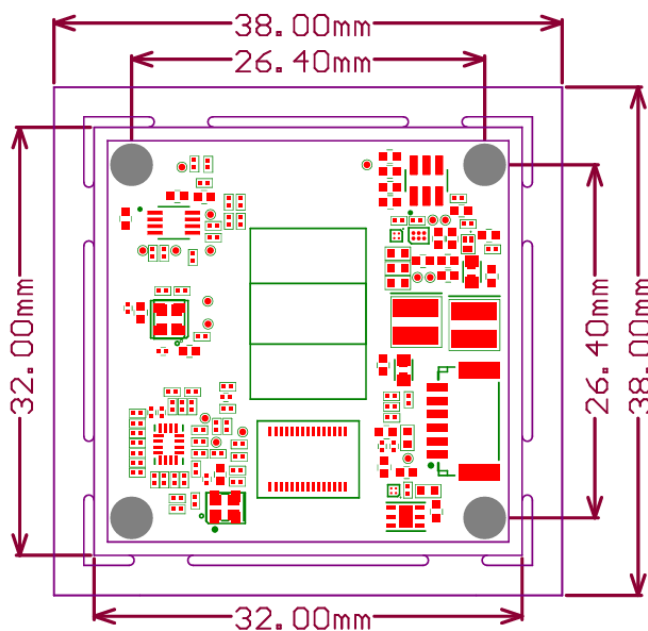
Both brightness and IR Cut Filter configurations can be seamlessly managed through the user-friendly web interface, providing flexible and precise control for various lighting environments.

8. Temperature and Humidity Specifications

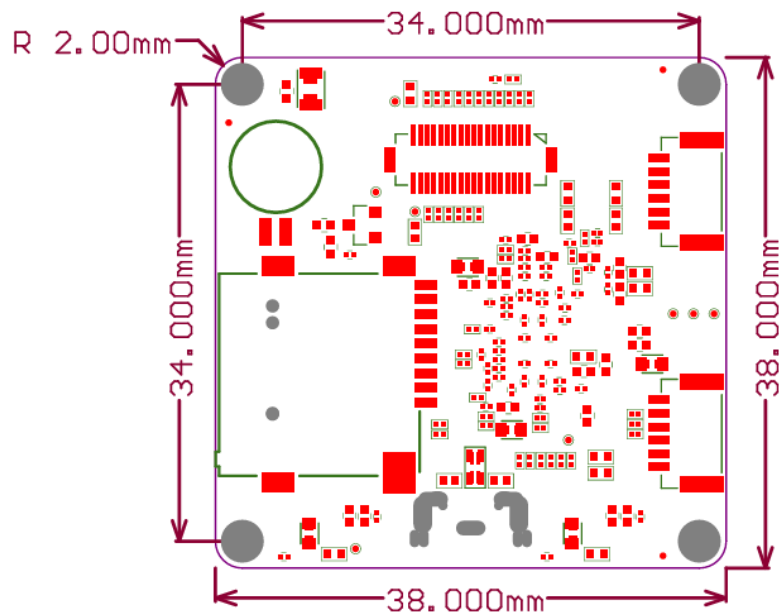
Description	Specification
Operating Temperature	-30°C to 70°C
Storage Temperature	-30°C to 70°C
Humidity	20% to 80%, Relative, non-condensing.

9. Dimensions

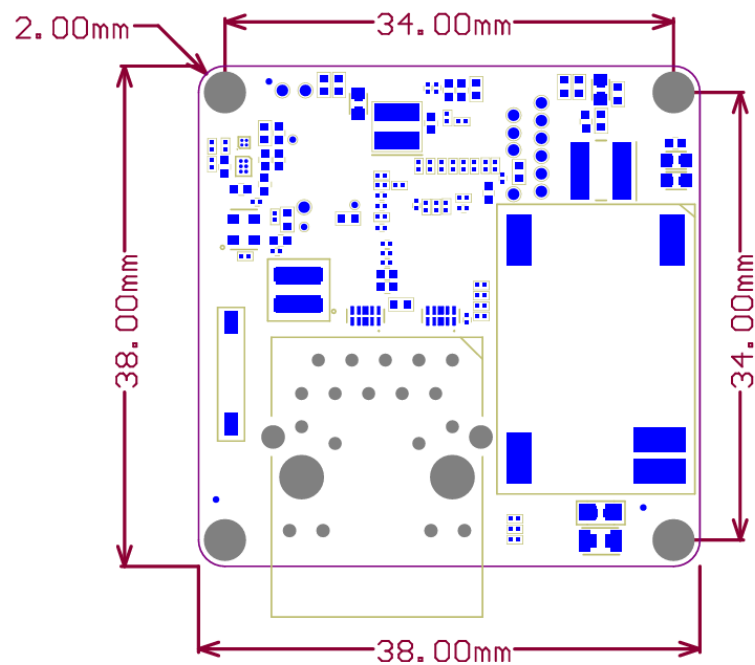
Board 1: Top Board – 2D



Board 2: Base Board - 2D



Board 3: ATR PoE Board - 2D



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