

ArduCam



Datasheet

20MP AR2020 Manual Focus USB 3.0 Camera Module
B0511(C)

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Version	Compile	Auditing	Authorize	DATE
V1.0	Bin L	Kai Z	Lee J	12.4.2024

1. Overview

The Arducam USB 3.0 includes a diverse range of camera modules, each tailored to specific use cases and requirements. This datasheet will detail the specifications and features of each individual product for user reference, allowing you to make informed decisions about which camera module best suits your project.

2. Disclaimer

While we have made every effort to ensure the accuracy and completeness of the information presented in this datasheet, Arducam reserves the right to make changes to product specifications, features, and documentation without notice. All information provided in this datasheet is subject to change and should be considered for reference purposes only.

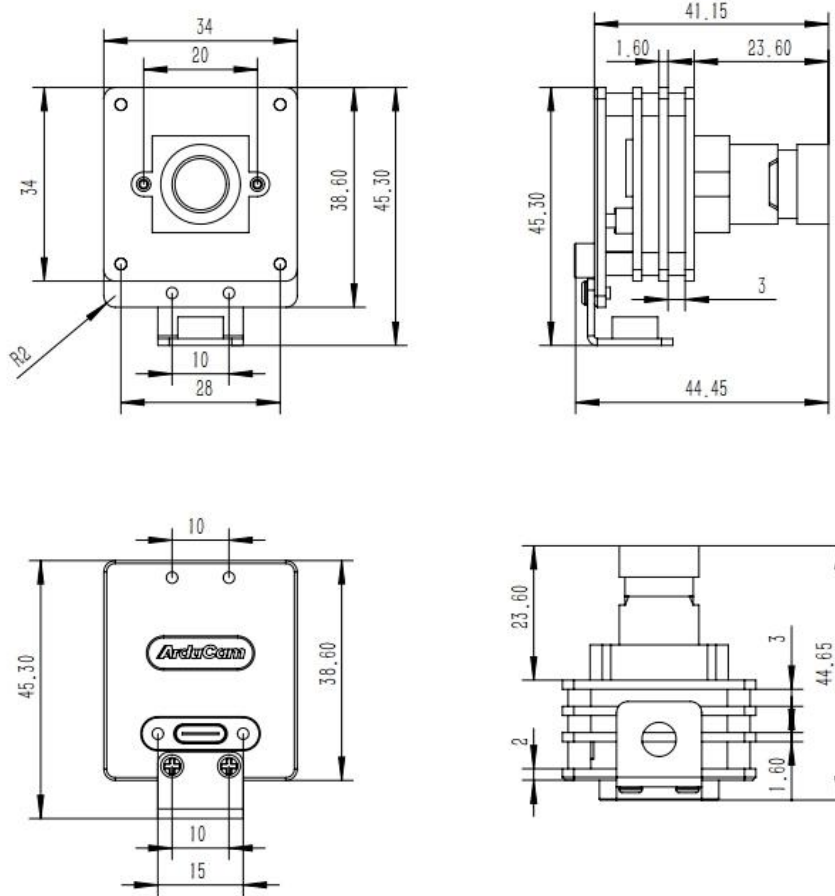
3. Technical Parameters

Image Sensor	
Sensor	AR2020
Resolution	20MP
Chroma	Mono
Shutter Type	Rolling Shutter
Optical Format	1/8"
Output Format	YUY2
Pixel Size	1.4 μ m x 1.4 μ m
Sensor Active Area	5120(H) \times 3840(V)
Frame rate (USB 3.0)	5120x3840@8fps, 3840x2160@20fps, 2560x1920@30fps, 1920x1080@60fps, 1280x960@90fps
Frame rate (USB 2.0)	1280x960@10fps
Lens	
Focus Type	Manual Focus
FOV	95 $^{\circ}$ (D) \times 82 $^{\circ}$ (H) \times 66 $^{\circ}$ (V)
Lens Mount	M12 (S-mount)
F.NO	F1.65 \pm 10%
E.F.L	4.9 \pm 5%
IR Sensitivity	No IR-cut filter, sensitive to IR
Default Focus Range	3m- ∞
USB Interface	
Interface	USB 3.2 Gen 1 device, backward compatible with USB 2.0 hosts
Connector	Type-C reversible interface connector

UVC Compliant	No additional drivers required
Electrical and Mechanical	
Operating Voltage	DC 5V +/- 5%
Operating Temp.	32°F-158°F (0°C to 70°C)
Power Requirements	Max: 1.57W , Min: 0.8W
Camera Board Size	34×34 mm
Functionality and Compatibility	
Supported OS	Windows, Linux
Recommend Sample Application	PotPlayer for Windows, qv4l2 for Linux
UVC Controls	Brightness, Contrast, Gain, Exposure (Manual/Auto)

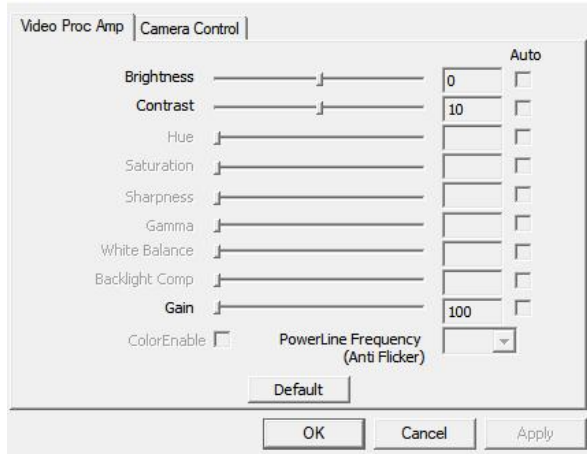
4. Camera Dimension Diagrams

Unit: mm

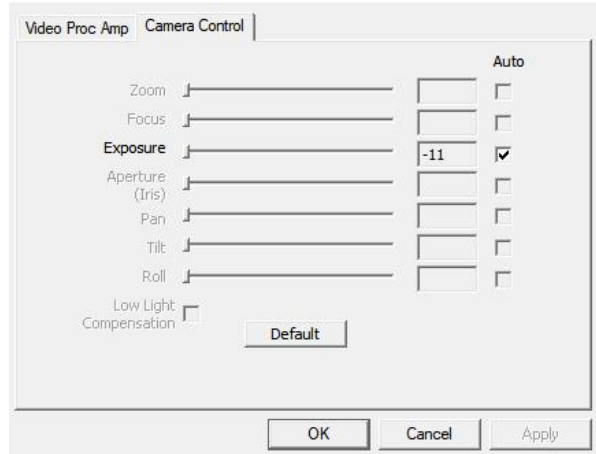


5. Camera Parameters Interface

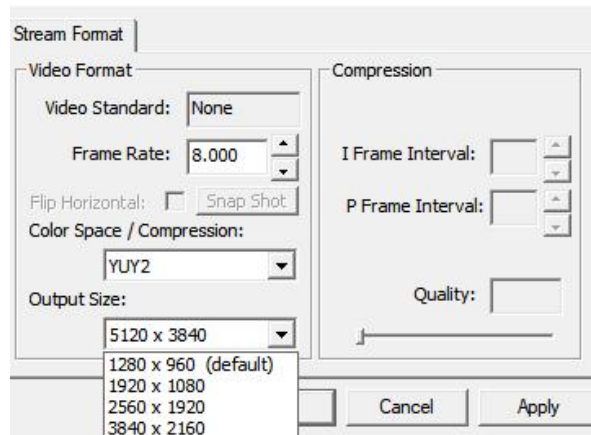
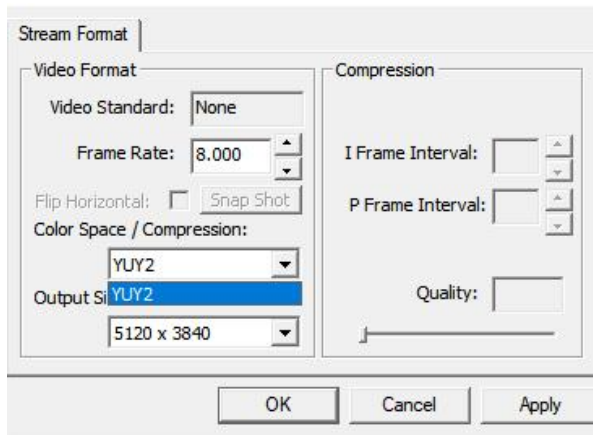
- Video Proc Amp



- Camera Control



- Video Capture Pin



6. Operating Condition

6.1 YUY2 with USB 3.0

The following table lists the power consumption of the B0511(C) YUY2 format with USB 3.0 devices.

Resolution	Max Frame Rate (fps)	Supply Voltage (V)	Typical Current (mA)	Power Consumption (W)
5120x3840	8	5	306	1.53
3840x2160	20	5	314	1.57
2560x1920	30	5	308	1.54
1920x1080	60	5	292	1.46
1280x960	90	5	278	1.39
Power at Idle Condition	/	5	94	0.47

6.2 YUY2 with USB 2.0

The following table lists the power consumption of the B0511(C) YUY2 format with USB 2.0 devices.

Resolution	Max Frame Rate (fps)	Supply Voltage (V)	Typical Current (mA)	Power Consumption (W)
1280x960	10	5	166	0.83
Power at Idle Condition	/	5	100	0.50

7. Contact Us

For any product-related questions, please feel free to contact us:

- Official website: www.arducam.com
- Contact form: <https://www.arducam.com/contact-arducam/>
- Tel: +1(319)471-7640