

2MP GMSL CAMERA

GENERAL DESCRIPTION

The camera is equipped with On-semi CMOS image sensor AR0231 and Maxim GMSL. It has an automotive-grade sensor with a well-tuned Image Signal Processor (ISP) that produces exceptional image quality, which comes with an IP67-rated enclosure – is supplied with an M12 lens that is focused and glued in our factory.



KEY PARAMETERS

Sensor	ONSEMI 2.3MP AR0231 RGG B
ISP	AP0202
Image Size	1/2.7 inch CMOS
Output Pixels	1920H*1080V
Pixel Size	3um*3um
Frame Rate	1920*1080@22fps
HDR Support	Yes
LFM	/
Output data	YUV422@8bit
Serializer	MAXIM MAX96705
Camera Interface	GMSL
Power Supply	9~16V POC
Current	<200mA@12VDC
Connector	Amphenol (Z Type Fakra)
Operating temp. range	-40~+85°C
Dimensions	W: 30mm, L:30mm, H:22.5mm
Weight	<50g



Features

- Output format: Uncompressed YUV422 format
- S-mount IP67 compliant lens focused and glued at our factory
- Multi-Camera synchronization Support
- Support different focal length lens
- FCC , CE and RoHS



Application

- Automotive
- ADAS + Viewing Fusion
- High Dynamic Range Imaging
- Autonomous Driving
- Robots





HARDWARE SETTING

Serializer	
Model	Max96705
I2C Address	0x80(8bit address)

ISP	
Model	AP0202
I2C Address	0xBA(8bit address)
Reset	Controlled by Max96705 GPIO1/BWS
Frame Sync	Controlled by Max96705 GPO/HIM

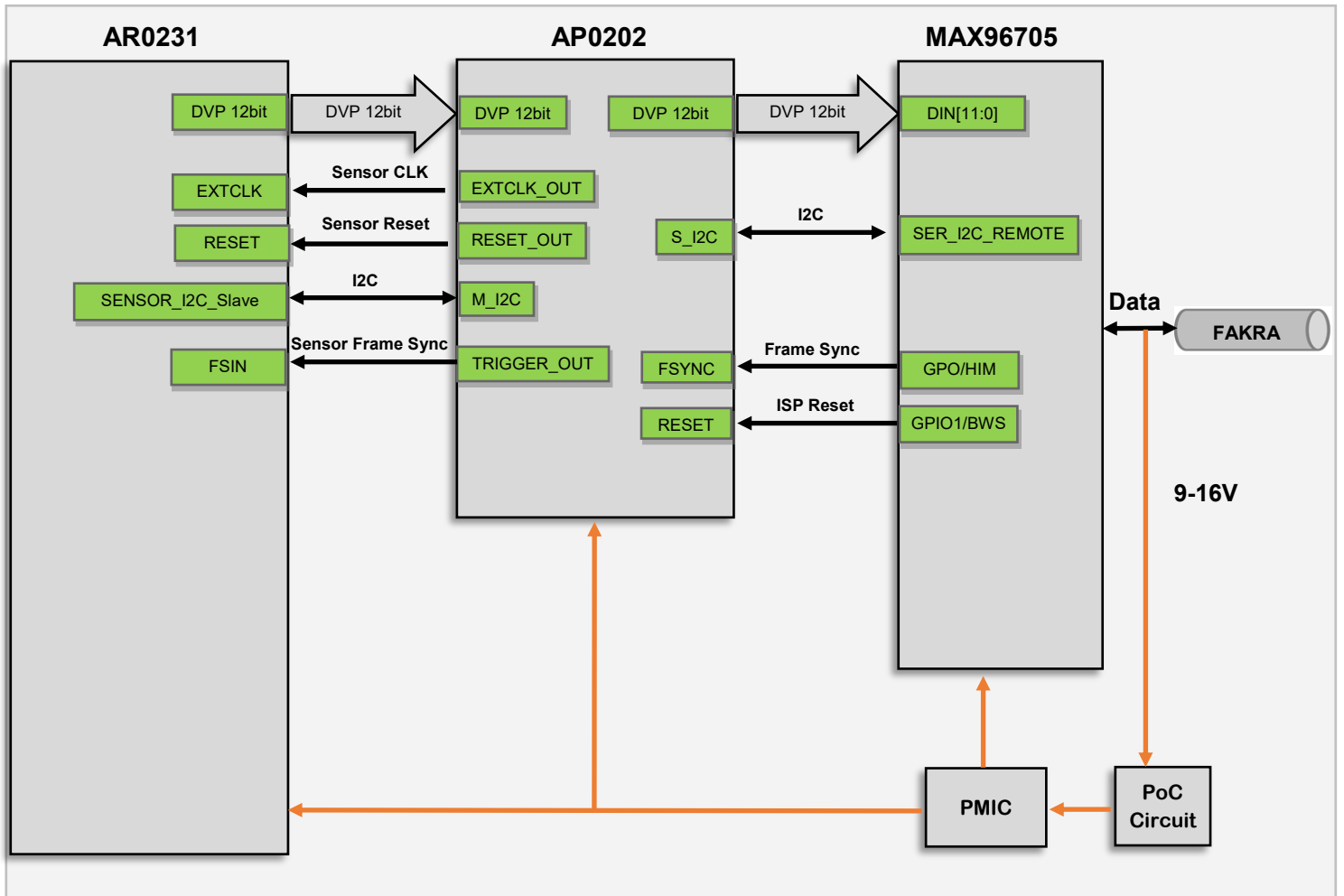
Sensor	
Model	AR0231
I2C Address	0x20 (8bit address)

Interface Circuit Diagram





BLOCK DIAGRAM

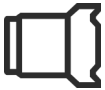


Block Diagram

※ The camera module has a built-in ISP that outputs YUV data. The backend does not need to configure an image sensor, but only needs to configure SerDes;

※ For SerDes setting code, please contact Sales@sensing-wolrd.com ;



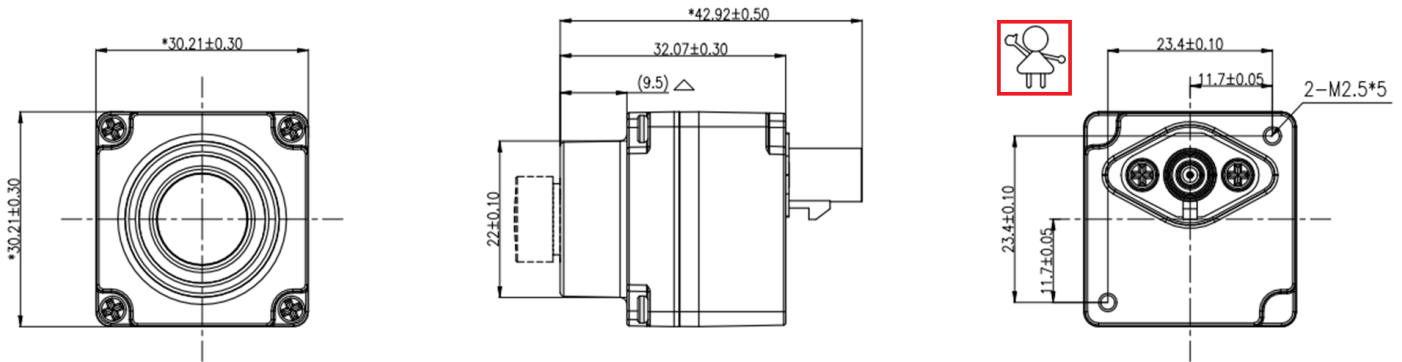


MODEL AND LENS

Model	HFOV	VFOV	F.No	EFL	Max Optical Distortion	Water-proof	Lens Mount
SG2-AR0231C-0202-GMSL-H30X	30°	17°	1.6	10.96mm	-2%	IP67	M12
SG2-AR0231C-0202-GMSL-H60F1	60°	32°	1.6	5.8mm	-21.5%	IP67	M12
SG2-AR0231C-0202-GMSL-100F1	100°	53°	1.6	3.55mm	-45%	IP67	M12
SG2-AR0231C-0202-GMSL-H120H	118°	62°	2.0	3mm	-62%	IP67	M12
SG2-AR0231C-0202-GMSL-H190X	196°	112°	2.0	1.51mm	-155%	IP67	M12



DIMENSIONS



Note:

△ There are two different heights of this size to match different lenses. Please refer to 3D digital analog size for details.




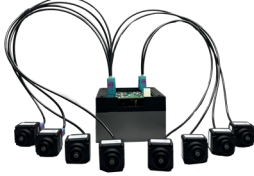

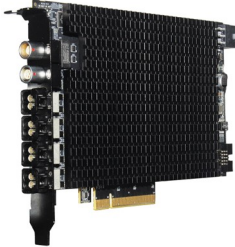
This icon indicates the imaging direction is positive.

Dimension





PLATFORMS SUPPORT

Platforms	Product Link
<p>NVIDIA Jetson platforms</p> 	<p>Provide development driver package</p> <p>https://www.sensing-world.com/jetson_camera_ecosystem</p> 
<p>SerDes Camera to USB Converter</p>	<p>Compatible with UVC protocol</p> <p>https://www.sensing-world.com/USB_Converter</p> 
<p>CoaxCapture II GMSL Capture Card</p>	<p>Provide development driver package</p> <p>https://www.sensing-world.com/Coaxcapture_Card</p> 

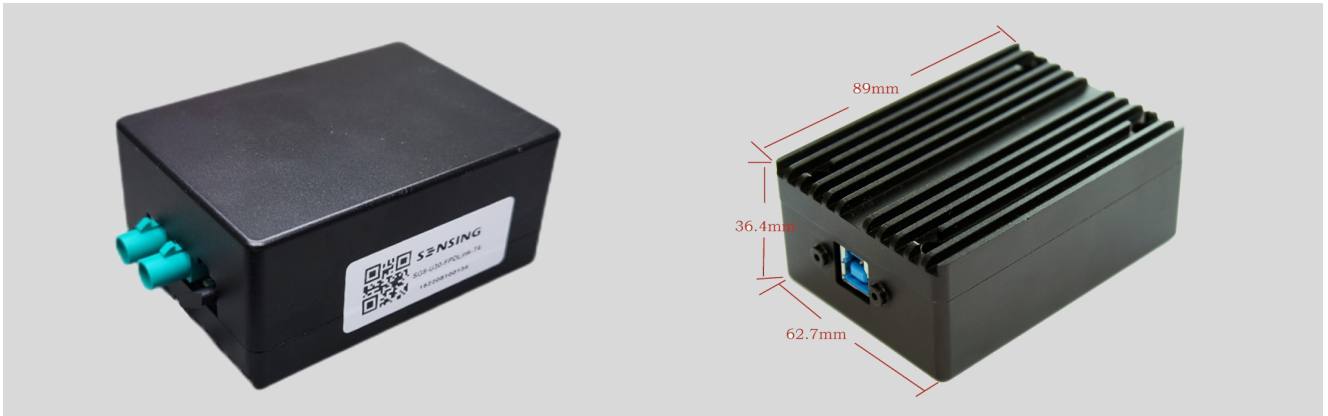
※ For development support, please contact Sales@sensing-world.com ;





DEVELOPMENT KIT

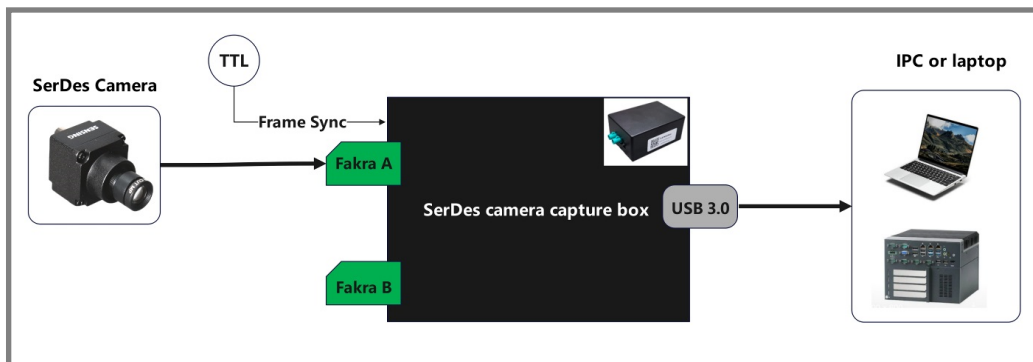
◇ SerDes Camera to USB Converter



- SG1-AR0231C-0202-GMSL can connected to SG2-U30-GMSL as a USB 3.0 camera
- USB Camera Part Number: SG2-AR0231C-GMSL-U30-Hxxx (include 1xSG2-U30-GMSL, and 1xSG2-AR0231C-0202-GMSL)

◇ KEY FEATURES

- USB 3.0 Super Speed support
- UVC compliance
- Provide customization services
- Power Supply by USB interface
- Weight: <300g
- Single Coax Cable transmit up to 20 meters PoC (Power over Cable)
- Support Windows only



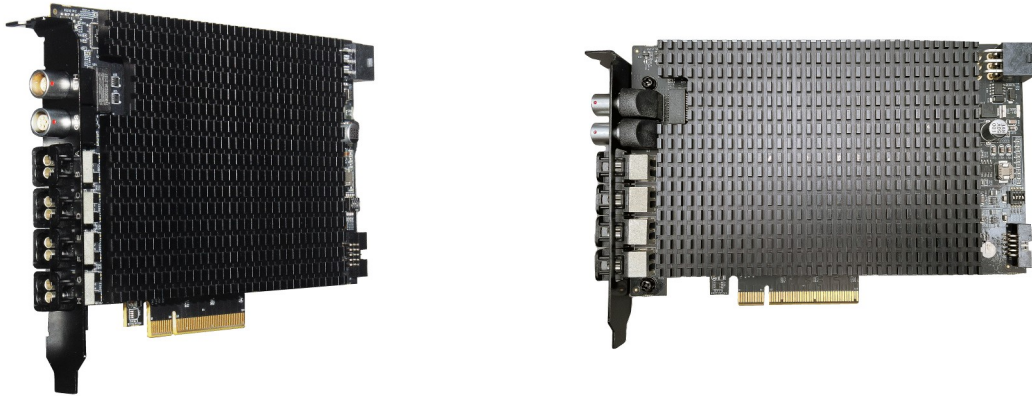
※ Support connected one camera only





DEVELOPMENT KIT

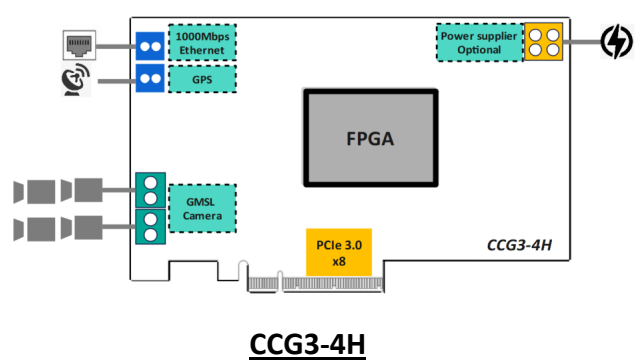
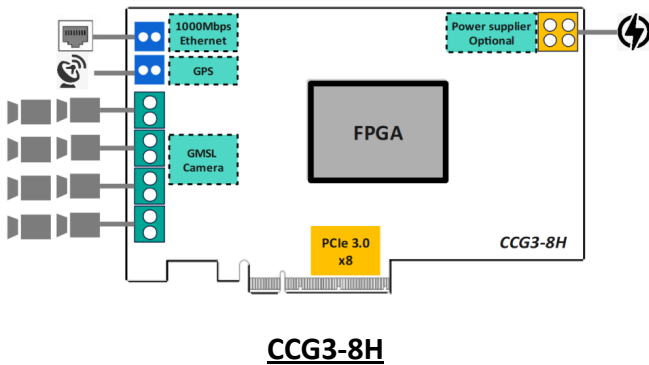
◇ **CoaxCapture II GMSL Capture Card**



- SG2-AR0231C-0202-GMSL can connect to **CCG3-4H/8H** .

◇ **KEY FEATURES**

- CCG3-8H at most can support connect 8* SG2-AR0231C-0202-GMSL at the same time ;
- CCG3-4H at most can support connect 4* SG2-AR0231C-0202-GMSL at the same time ;
- PCI-e Gen3*8lane;
- Support external trigger synchronization;
- Support GPS Timing synchronization;
- Support network PTP timing ;

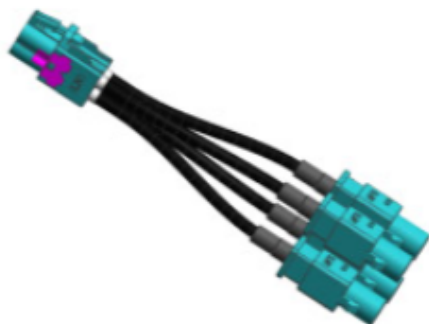




ACCESSORIES

◇ Coaxial Cable

Product Name	Order PN#	Specification
Mini-fakra Coaxial Cable 4-in-1 (TE)	T4JC-JS-ZZZZ-0500A	Mini-fakra, 4 in 1, 0.5m, Male to Female
Mini-fakra Coaxial Cable 4-in-1(Rosenberg)	R4PC-JS-ZZZZ-0500L	Mini-fakra, 4 in 1, 0.5m, Male to Female
Mini-fakra Coaxial Cable 4-in-1(Rosenberg)	R4JC-JS-ZZZZ-0500L	Mini-fakra, 4 in 1, 0.5m, Female to Female
Camera coaxial Cable	SG-JSZPSZ2000L	2M, Male to Female, IP67
Camera coaxial Cable	SG-JSZJSZ2000L	2M, Female to Female, IP67
Camera coaxial Cable	SG-JSZPSZ3000L	3M, Male to Female, IP67
Camera coaxial Cable	SG-JSZJSZ3000L	3M, Female to Female, IP67
Camera coaxial Cable	SG-JSZPSZ5000L	5M, Male to Female, IP67
Camera coaxial Cable	SG-JSZJSZ5000L	5M, Female to Female, IP67
Camera coaxial Cable	SG-JSZJSZ7000L	7M, Female to Female, IP67
Camera coaxial Cable	SG-JSZJSZ8000L	8M, Female to Female, IP67
Camera coaxial Cable	SG-JSZPSZL100L	10M, Male to Female, IP67
Camera coaxial Cable	SG-JSZJSZL100L	10M, Female to Female, IP67
Camera coaxial Cable	SG-JSZJSZL120L	12M, Female to Female, IP67
Camera coaxial Cable	SG-JSZJSZL160L	16M, Female to Female, IP67
Camera coaxial Cable	SG-JSZJSZL200L	20M, Female to Female, IP67





Revision History

Version	Description	Release date
Rev1	First Release	Oct.2020
Rev2	<ul style="list-style-type: none">→ Update connector description→ Update cable information→ Add block diagram→ Add supported platforms	Mar.2023





Contact Us

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WECHAT



SKYPE



WhatsApp

