SG2-AR0231C-0202-FPDLink-Hxxx

2MP GMSL CAMERA

SENSING
森云智能

✏️ GENERAL DESCRIPTION

The camera is equipped with On-semi CMOS image sensor AR0231 and TI FPDLink III. 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 RGGB
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	Yes
Output data	YUV422@8bit
Serializer	TI FPDLink DS90UB933
Camera Interface	FPDLink III
Power Supply	9~16V POC
Current	<200mA@12VDC
Connector	Amphenol（Z Type Fakra）
Operating temp. range	-40~+85℃
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	DS90UB933
I2C Address	0xB0(8bit address)

ISP	
Model	AP0202
I2C Address	0xBA(8bit address)
Reset	Controlled by DS90UB933 GPO1
Frame Sync	Controlled by DS90UB933 GPO0

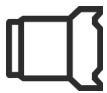| Sensor	
Model	AR0231
I2C Address	0x20 (8bit address)

BLOCK DIAGRAM
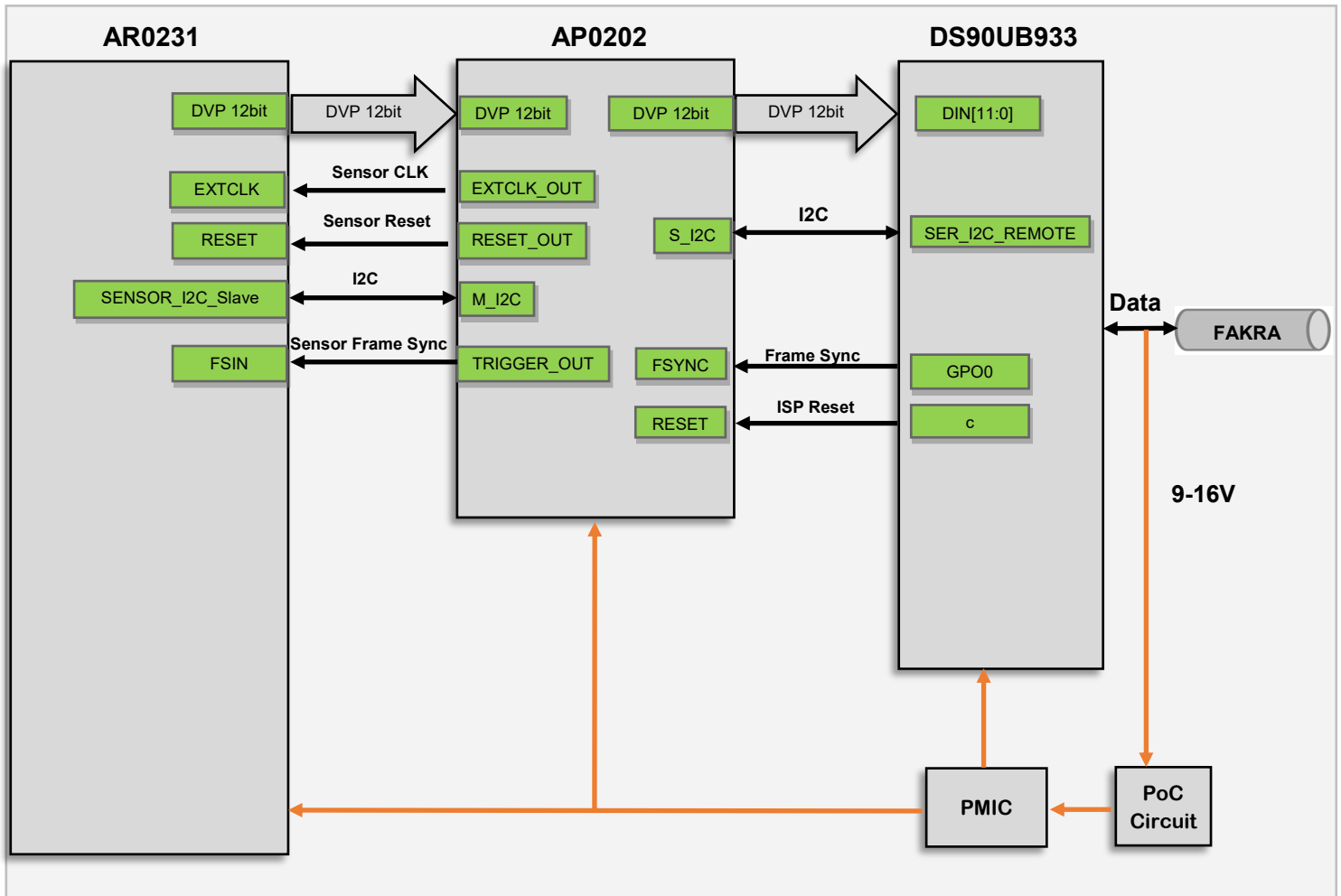
Block Diagram

※ 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-FPDLink-H30X	30°	17°	1.6	10.96mm	-2%	IP67	M12
SG2-AR0231C-0202-FPDLink-H60F1	60°	32°	1.6	5.8mm	-21.5%	IP67	M12
SG2-AR0231C-0202-FPDLink-100F1	100°	53°	1.6	3.55mm	-45%	IP67	M12
SG2-AR0231C-0202-FPDLink-H120H	118°	62°	2.0	3mm	-62%	IP67	M12
SG2-AR0231C-0202-FPDLink-H190X	196°	112°	2.0	1.51mm	-155%	IP67	M12

DIMENSIONS
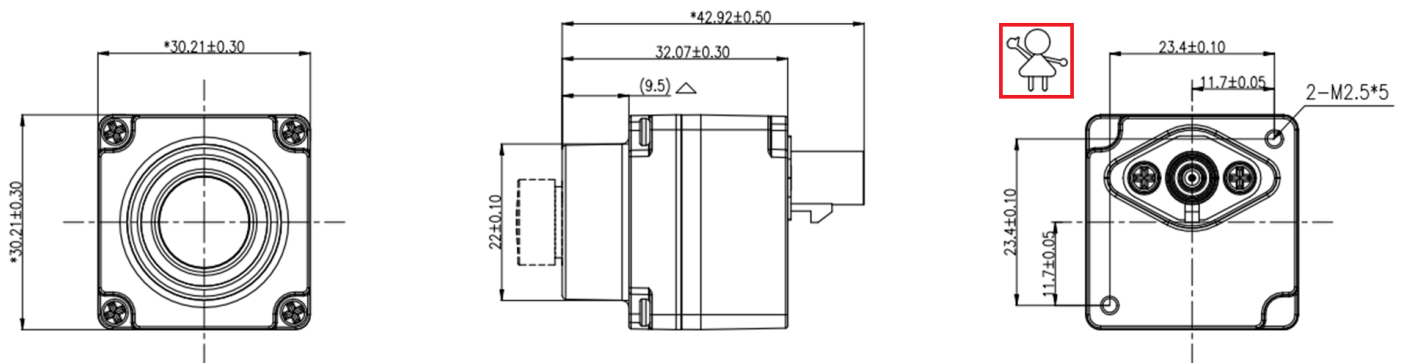
Note:

△ There are two different heights of this size to match different lenses. Please refer to 3D digital analog size for details.
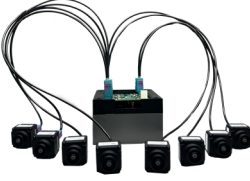
This icon indicates the imaging direction is positive.

Dimension

PLATFORMS SUPPORT

| Platforms	Product Link
NVIDIA Jetson platforms	Provide development driver package https://www.sensing-world.com/jetson_camera_ecosystem
SerDes Camera to USB Converter	Compatible with UVC protocol https://www.sensing-world.com/USB_Converter
CoaxCapture II GMSL Capture Card	Not supported

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

DEVELOPMENT KIT

◇ **SerDes Camera to USB Converter**
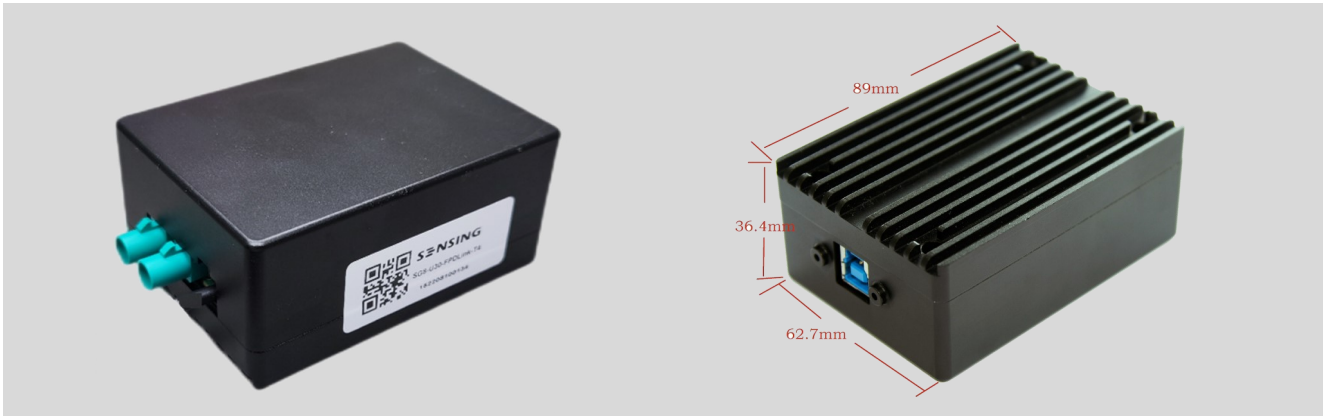
- SG1-AR0231C-0202-FPDLink can connected to **SG2-U30-FPDLink** as a USB 3.0 camera

- USB Camera Part Number: **SG2-AR0231C-FPDLink-U30-Hxxx** (include 1xSG2-U30-FPDLink, and 1xSG2-AR0231C-0202-FPDLink)

◇ **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
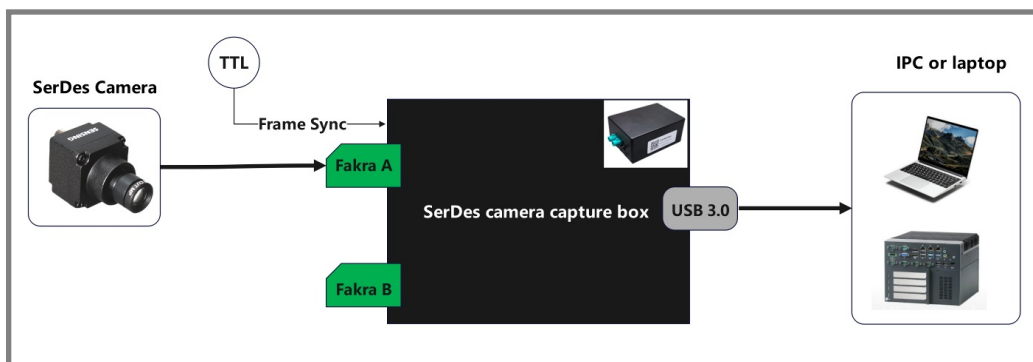
※ Support connected one camera only;

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	→ Update connector description → Update cable information → Add block diagram → Add supported platforms	Mar.2023

📞 Contact Us

ShenZhen SENSING Technology Co.,Ltd.

HQ Address: 8/F,block B, building 1,wisdom home,No.76,Baohe Avenue,Baolong street, Longgang District, Shenzhen

Phone: +86-755-28990915

Email: Sales@sensing-world.com

Company Website: www.sensing-world.com

Online Message: https://www.sensing-world.com/lxwm

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