



# LI-AR0231-AP0200-GMSL2-xxxH



**Address:**

48820 Kato Road  
Suite 100B  
Fremont, CA 94538  
USA



**Phone:**

+1 (408)263-0988

**Fax:**

+1 (408)217-1960



**Sales:**

[sales@leopardimaging.com](mailto:sales@leopardimaging.com)

**Support:**

[support@leopardimaging.com](mailto:support@leopardimaging.com)

## INTRODUCTION

The LI-AR0231-AP0200-GMSL2-xxxH is equipped with ON Semiconductor 1/2.7" 2.3MP CMOS digital image sensor AR0231, AP0200 ISP and Maxim GMSL2 serializer MAX9295A/B. This camera outputs fine tuned YUV422 image data with WDR (Wide Dynamic Range) supported.

## KEY FEATURES

Sensor	ON SEMI 2.3MP CMOS Sensor AR0231
Optical Format	1/2.7"
Maximum Resolution	1920 (H) x 1020 (V)
Pixel Size	3.0 x 3.0 $\mu\text{m}$
Data Format	Fine tuned YUV422, 8-bit / 10-bit
Color / Mono	Color sensor
Frame Rate	28.7 fps @ 1920 x 1020
ISP	ON SEMI AP0200
WDR (Wide Dynamic Range)	Supported
Lens	FOV H 60° / 120° / 200°
Serializer	Maxim MAX9295A/B
Power Supply Range	9 ~ 19 VDC
Connector	FAKRA Z TYPE
IP Rating	FOV H 60° / 120°: IP67 FOV H 200°: TBD
Power Consumption	Approx. 116 mA @ 12 VDC
Operating Temp	-40°C ~ +85°C
Storage Temp	-40°C ~ +105°C
Weight	~ 50 g
Part#	LI-AR0231-AP0200-GMSL2-xxxH

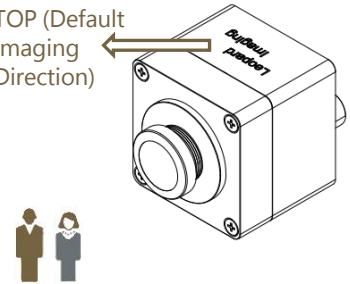
## APPLICATIONS

- Automotive ADAS
- ADAS + Viewing Fusion

## DEFAULT IMAGING DIRECTION

- The logo "Leopard Imaging" is on the TOP.

TOP (Default Imaging Direction)

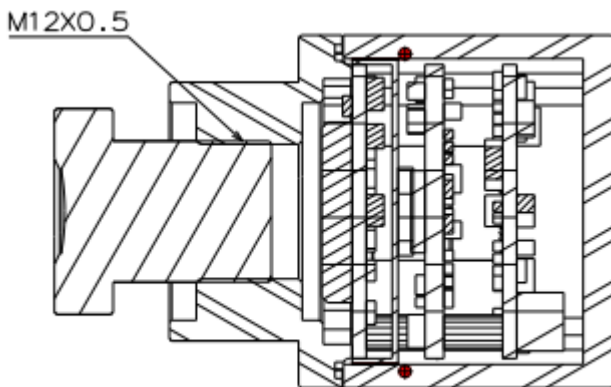
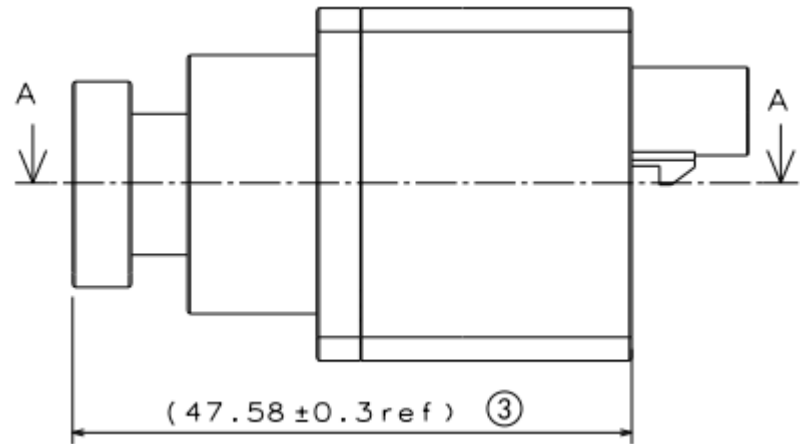
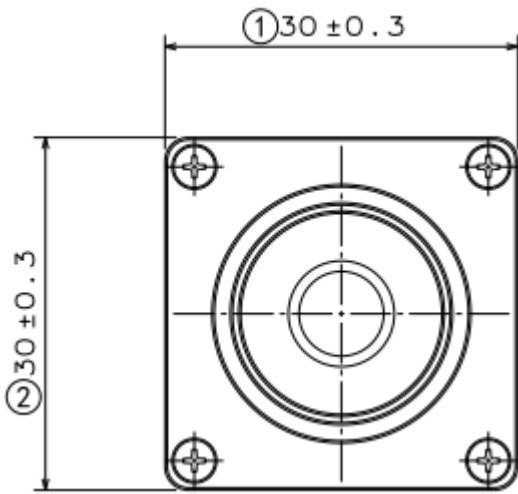
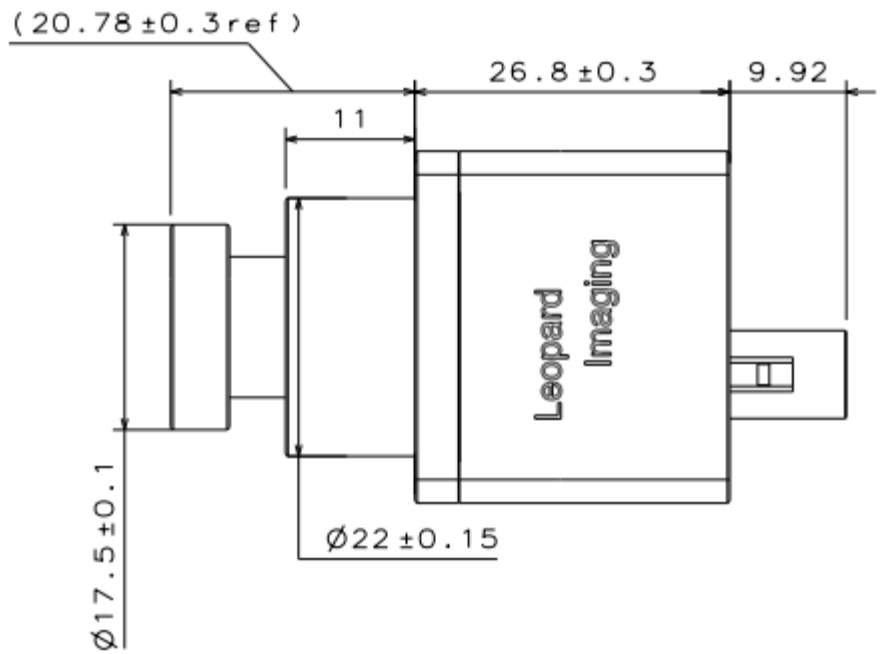
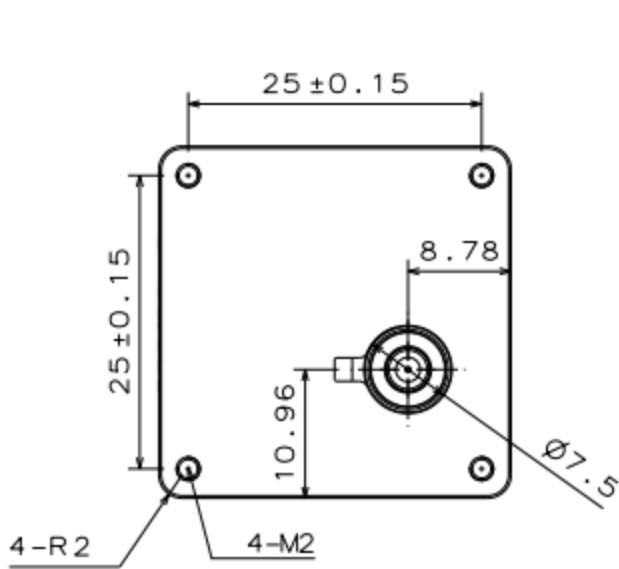


## CABLE CONNECTOR

- Housing Connector: FAKRA Z Type
- Cable Length: 3 meters
- Cable Part#: FAK-SMZSMZ-3M



# DIMENSIONS: LI-AR0231-AP0200-GMSL2-060H



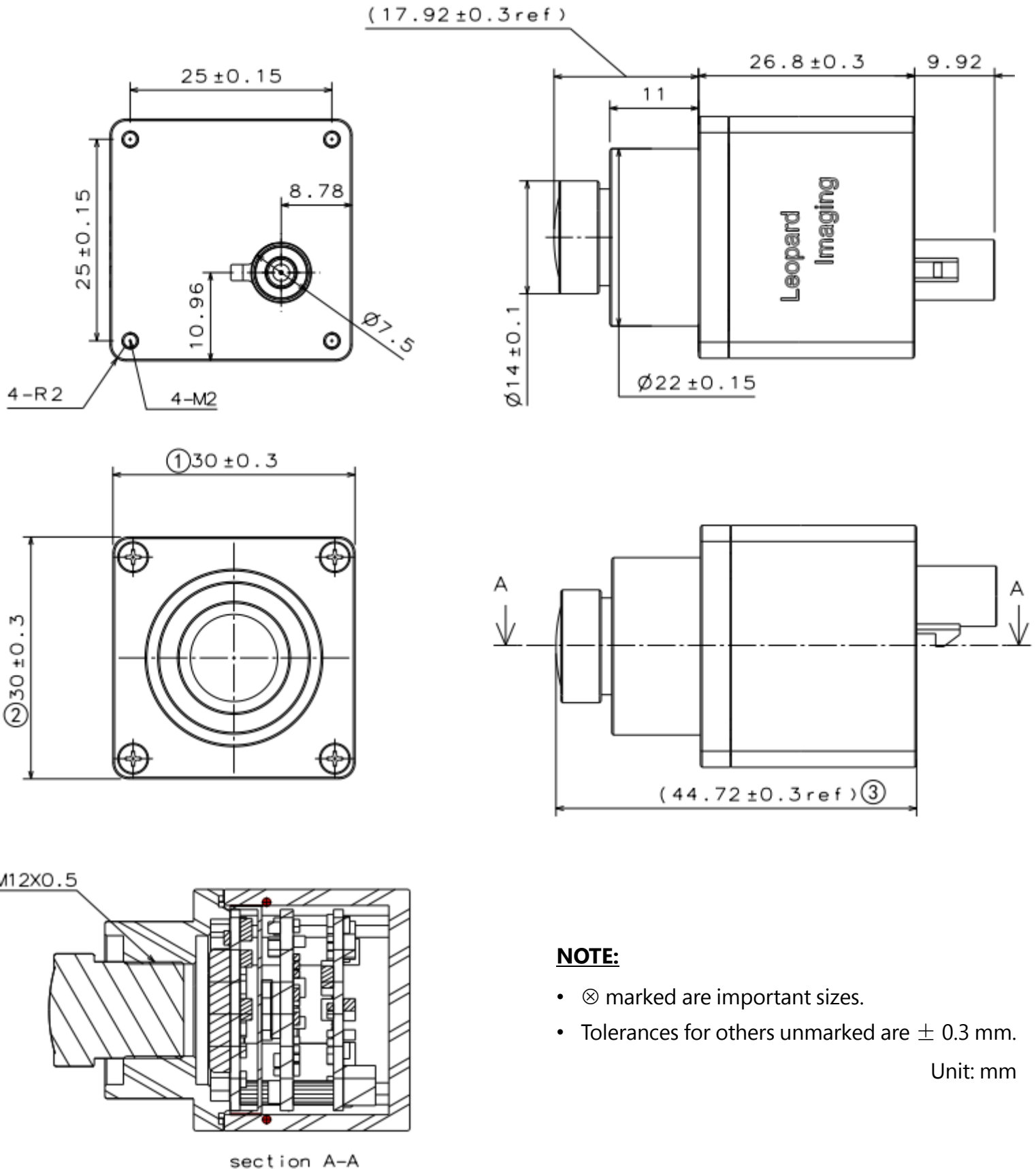
section A-A

**NOTE:**

- ⊗ marked are important sizes.
- Tolerances for others unmarked are ± 0.3 mm.

Unit: mm

# DIMENSIONS: LI-AR0231-AP0200-GMSL2-120H

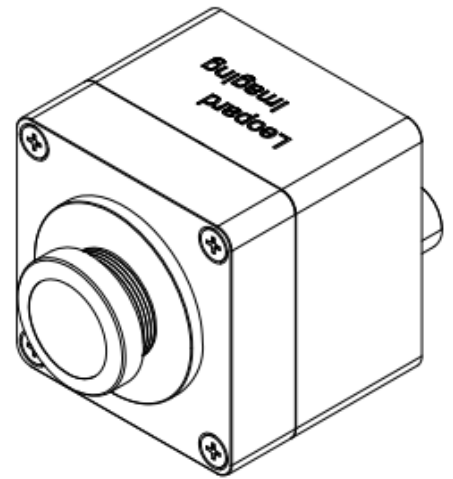
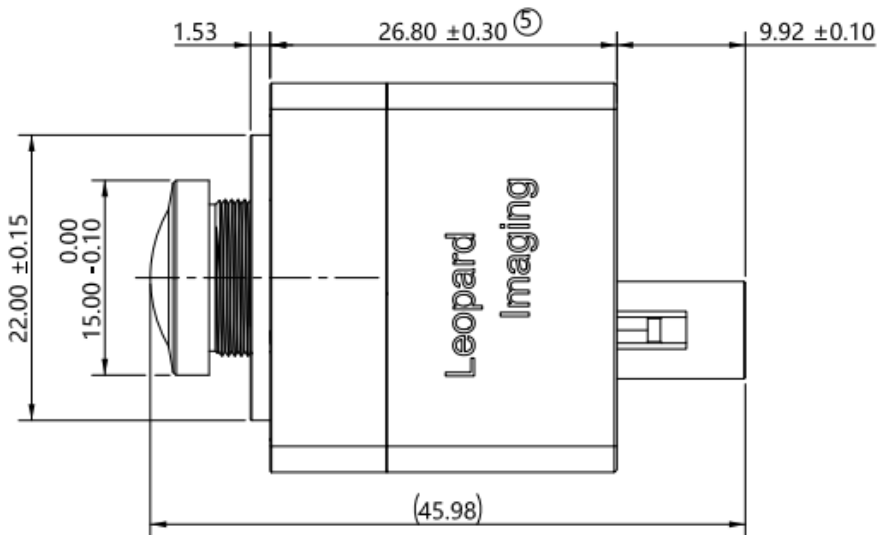
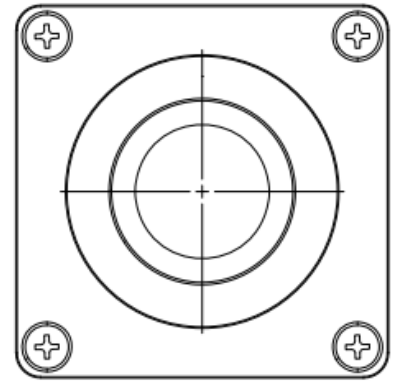
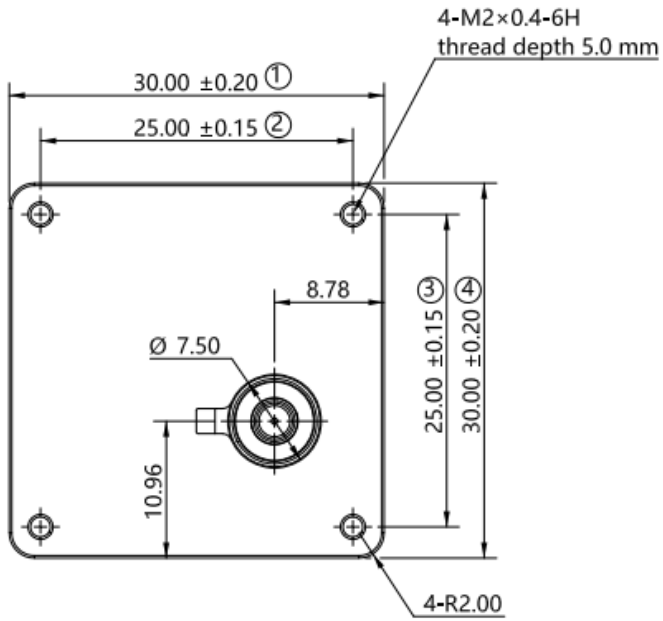


**NOTE:**

- $\otimes$  marked are important sizes.
- Tolerances for others unmarked are  $\pm 0.3$  mm.

Unit: mm

# DIMENSIONS: LI-AR0231-AP0200-GMSL2-200H



**NOTE:**

- ⊗ marked are important sizes.
- Tolerances for others unmarked are ± 0.3 mm.

Unit: mm

## LENS SPECIFICATIONS

**NOTE:**

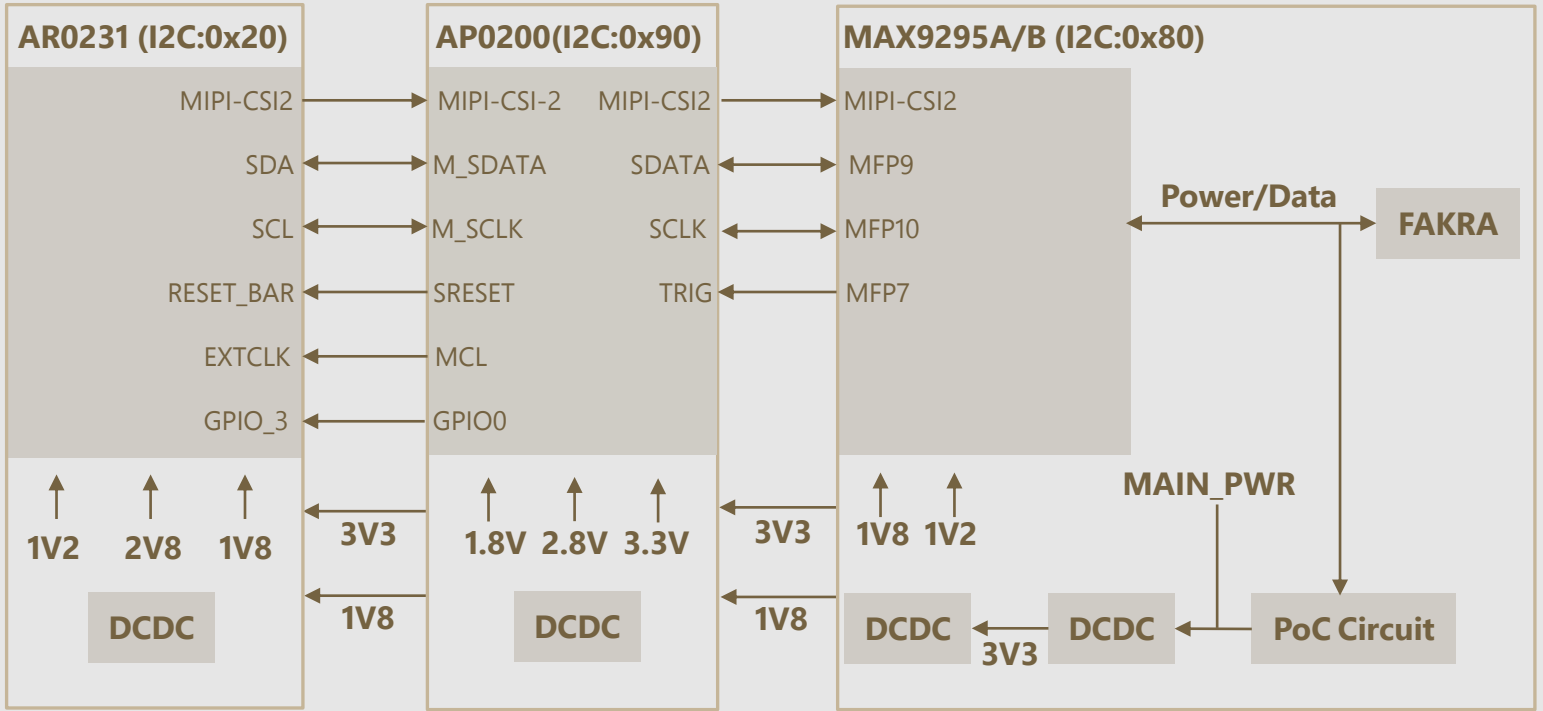
xxxH refers to 060H (FOV H 60°), 120H (FOV H 120°) or 200H (FOV H 200°)

LI-AR0231-AP0200-GMSL2-060H

Lens: M127B0618WR2
Lens EFL: 6.0 mm
Aperture, F/#: 1.8
Field of View (FOV): 74.5° (D) / 60.6° (H) / 36.1° (V)
Mount: M12
IP Rating: IP67

LI-AR0231-AP0200-GMSL2-120H	LI-AR0231-AP0200-GMSL2-200H
	
Lens: M128B02820WM12R1	Lens: E7393E-R8
Lens EFL: 2.8 mm	Lens EFL: 0.95 mm $\pm$ 5%
Aperture, F/#: 2.0	Aperture, F/#: 2.0 $\pm$ 5%
Field of View (FOV): 148° (D) / 122° (H) / 74° (V)	Field of View (FOV): 200° (H)
Mount: M12	Mount: M12
IP Rating: IP67	IP Rating: IP69K

# PINOUT CONNECTIONS



# USB3.0 CAMERA KIT

LI-GMSL2-USB-BOX



Front View



Side View

LI-AR0231-AP0200-GMSL2-xxxH can connect to LI-GMSL2-USB-BOX as a USB 3.0 camera.

Part#: **LI-USB30-AR0231-AP0200-GMSL2-xxxH**

## KEY FEATURES

- USB 3.0 Super Speed support
- YUV output without compression
- Supports WDR
- UVC compliant
- Allows customization
- 12 VDC power supply
- Weight: ~ 178 g
- Single Coax Cable transmits up to 12 meters PoC (Power over Cable)
- Resolution: 1920 x 1020 @ 28.7 fps
- Compatible with Windows, Linux OS and other OS which have UVC drivers

## BOM

#	Items	QTY
1	LI-AR0231-AP0200-GMSL2-xxxH	1
2	LI-GMSL2-USB-BOX	1
3	3-Meter Fakra Cable	1
4	12 VDC Power Supply	1
5	USB3.0 Cable	1



## SDK SUPPORTED

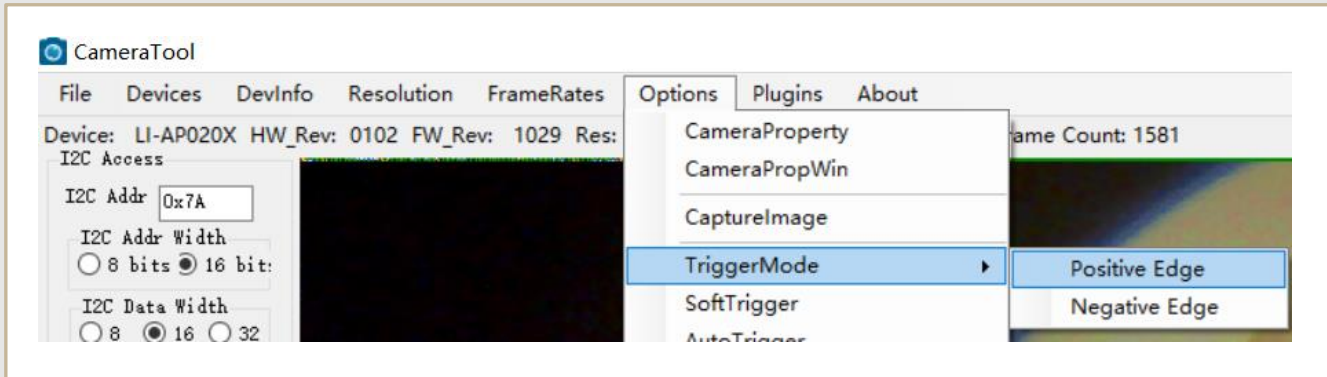
- Camera Tool Source Code in C#
- Capture & Display
- ISP Binary Update
- Register Access Function
- Hardware Trigger Mode



# How to Use Hardware Trigger

## INSTRUCTIONS

1. Click **Options > TriggerMode > Positive Edge / Negative Edge** on the camera tool to enable Trigger mode. The video will stop.



2. Connect the external trigger device to **Pin1 (OPT\_IN)** and **Pin5 (GND)** of **J3**. The voltage of trigger signal can be 3.3V ~ 12V.

Once receiving trigger pulses, the camera will output frames.





## ● REVISION HISTORY

Revision	Description	Release Date
1.0	First release.	18 Nov 2021
1.1	Added pinout connections diagram and changed LI-GMSL2-USB-BOX to LI-GMSL2-FP-USB-BOX2 on USB30 page.	24 Feb 2022
1.2	<ol style="list-style-type: none"><li>1. Changed 200H lens to E7393E-R8 and updated related product images and 2D dimensions.</li><li>2. Changed LI-GMSL2-FP-USB-BOX2 back to LI-GMSL2-USB-BOX.</li></ol>	13 Jan 2023

48820 Kato Rd, Suite 100B, Fremont, CA 94538, USA

Phone: +1-408-263-0988

Fax: +1-408-217-1960

Email: [sales@leopardimaging.com](mailto:sales@leopardimaging.com)

Website: [www.leopardimaging.com](http://www.leopardimaging.com)



Leopard Imaging Inc.