



**LEOPARD**  
IMAGING

# LI-IMX490-GMSL2-xxxH



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## INTRODUCTION

The LI-IMX490-GMSL2-xxxH is equipped with Sony automotive sensor IMX490 and Maxim GMSL2 serializer MAX9295A/B and is designed for automotive applications. This camera outputs RAW image data with HDR (High Dynamic Range) supported.

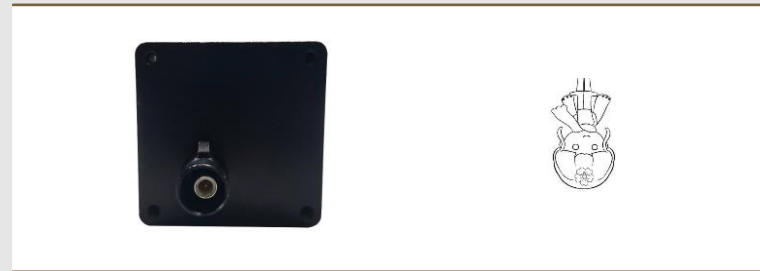
## KEY FEATURES

Sensor	Sony Diagonal 10.36 mm (Type 1/1.55) CMOS Image Sensor IMX490
Optical Format	1/1.55"
Resolution	2897 (H) x 1877 (V) (active pixels)
Pixel Size	3.0 x 3.0 $\mu\text{m}$
Data Format	20-bit / 16-bit / 14-bit / 12-bit RAW
Color / Mono	Color sensor
Maximum Frame Rate	40 fps @ 2880 x 1860
HDR (High Dynamic Range)	Supported
LFM (LED Flicker Mitigation)	Supported
Lens	FOV H 30° / 40° / 65° / 90° / 120° / 160°
Serializer	Maxim MAX9295A/B
Power Supply Range	9 ~ 19 VDC
Connector	FAKRA Z TYPE
IP Rating	FOV H 30° / 120°: IP69K FOV H 40° / 65° / 90° / 160°: IP67
Power Consumption	102 mA @ 12 VDC (2880 x 1860 @ 19 fps)
Operating Temp	-40°C ~ +85°C
Storage Temp	-40°C ~ +85°C
Weight	~ 55 g
Part#	LI-IMX490-GMSL2-xxxH

## APPLICATIONS

- Automotive ADAS
- Automotive Rear View or Backup

## IMAGE ORIENTATION

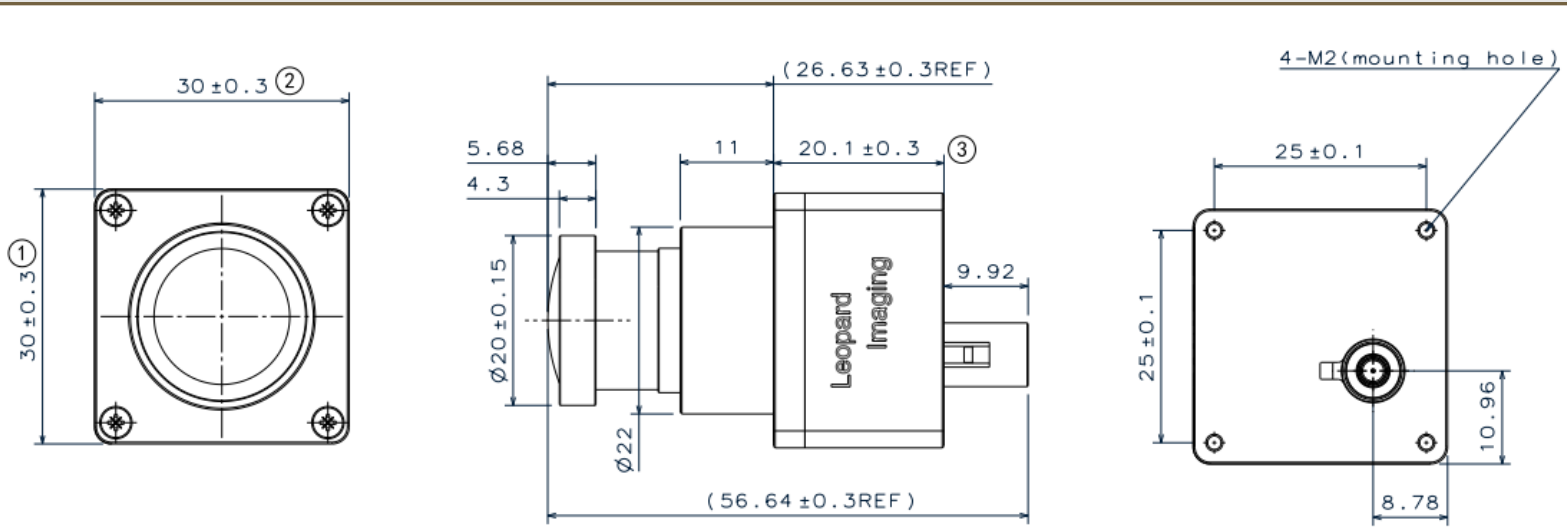


## CABLE CONNECTOR

- Housing Connector: FAKRA Z Type
- Cable Length: 3 meters



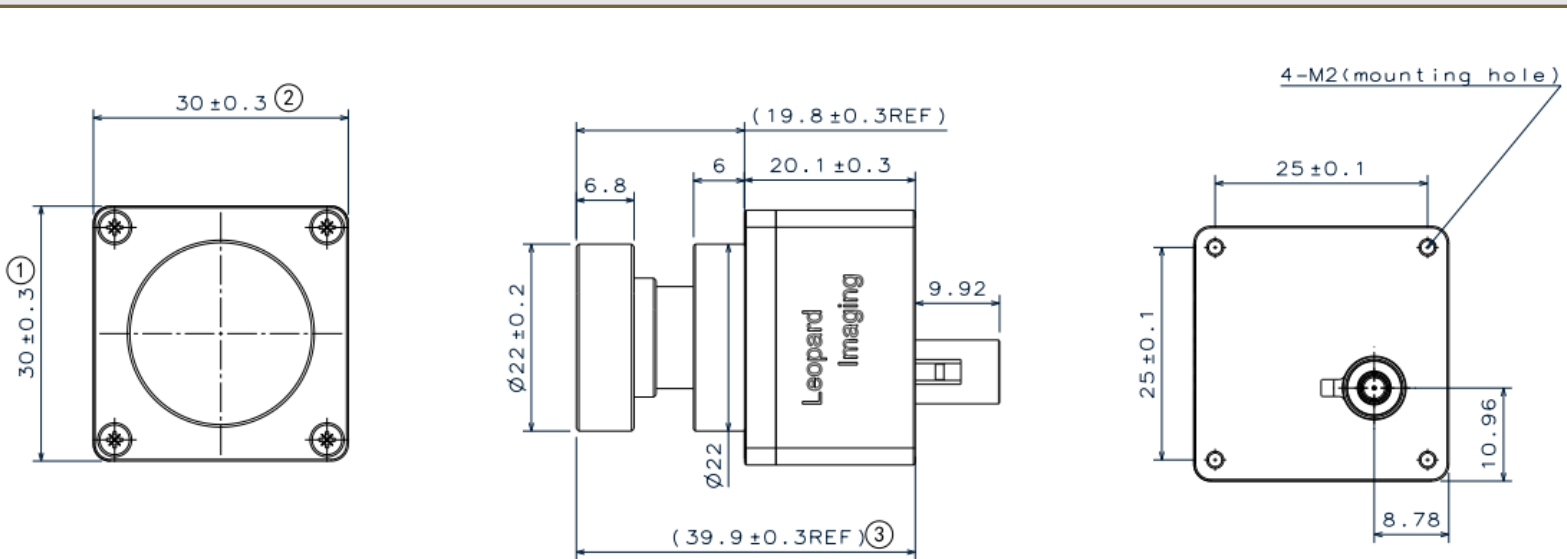
● DIMENSIONS: LI-IMX490-GMSL2-030H



**NOTE:**

- ⊗ marked are important sizes.
- Tolerances for others unmarked are  $\pm 0.3$  mm.
- All materials are compliant with RoHS and REACH requirements.
- Unit: mm

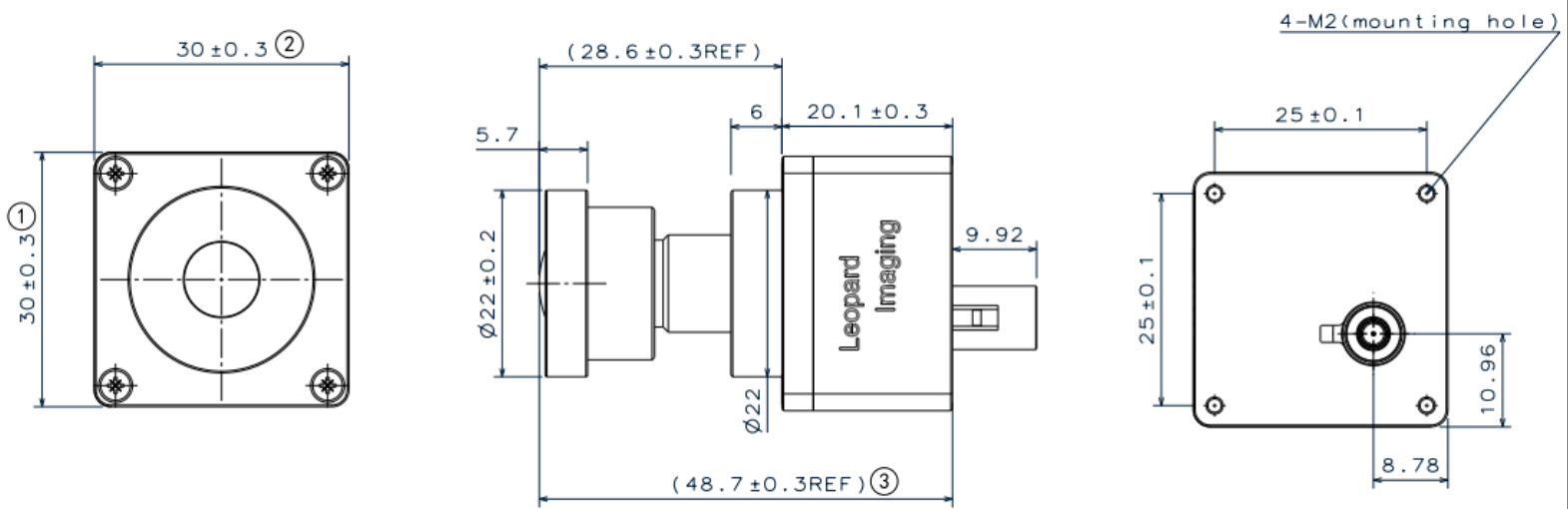
● DIMENSIONS: LI-IMX490-GMSL2-040H



**NOTE:**

- ⊗ marked are important sizes.
- Tolerances for others unmarked are  $\pm 0.3$  mm.
- All materials are compliant with RoHS and REACH requirements.
- Unit: mm

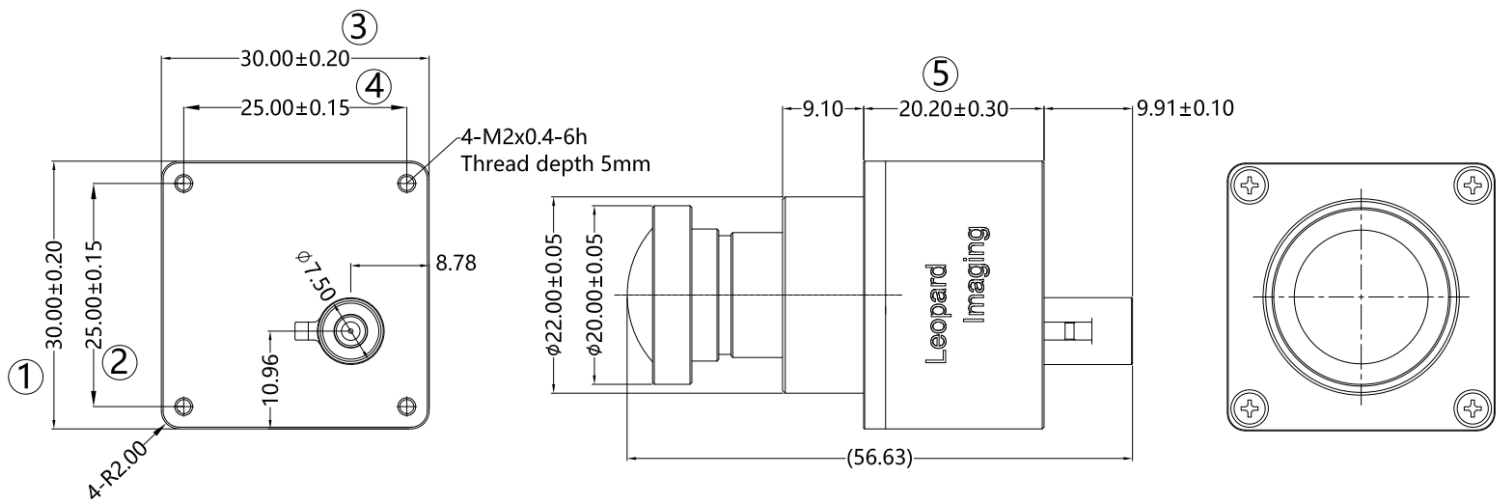
### DIMENSIONS: LI-IMX490-GMSL2-065H



#### NOTE:

- $\otimes$  marked are important sizes.
- Tolerances for others unmarked are  $\pm 0.3$  mm.
- All materials are compliant with RoHS and REACH requirements.
- Unit: mm

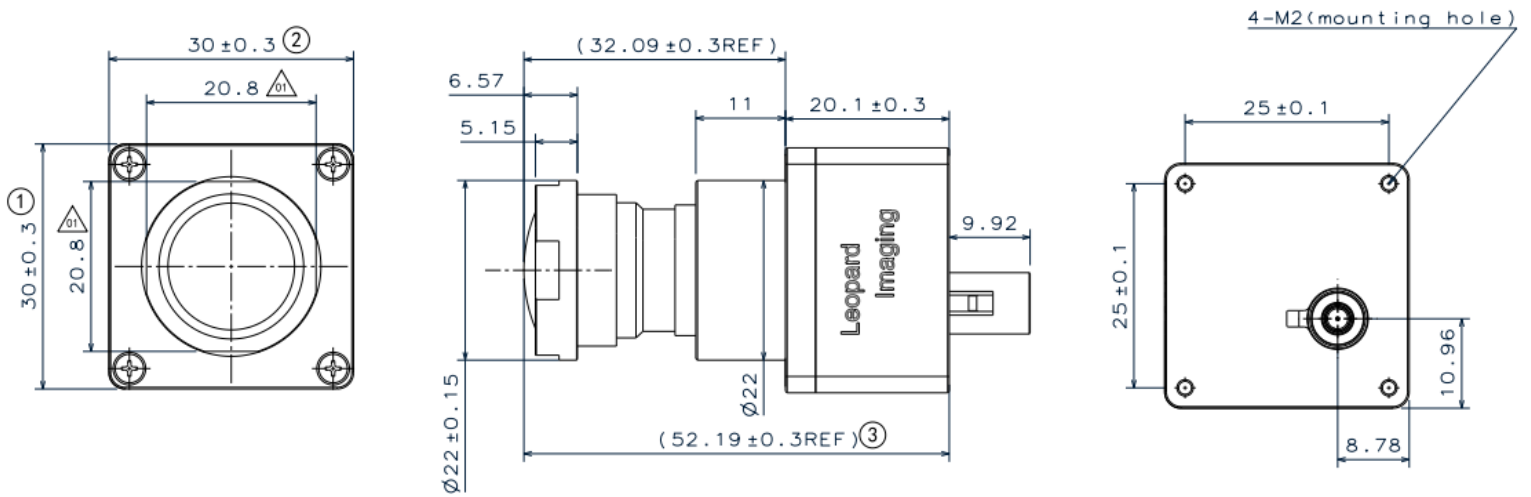
### DIMENSIONS: LI-IMX490-GMSL2-090H



#### NOTE:

- $\otimes$  marked are important sizes.
- Tolerances for others unmarked are  $\pm 0.3$  mm.
- All materials are compliant with RoHS and REACH requirements.
- Unit: mm

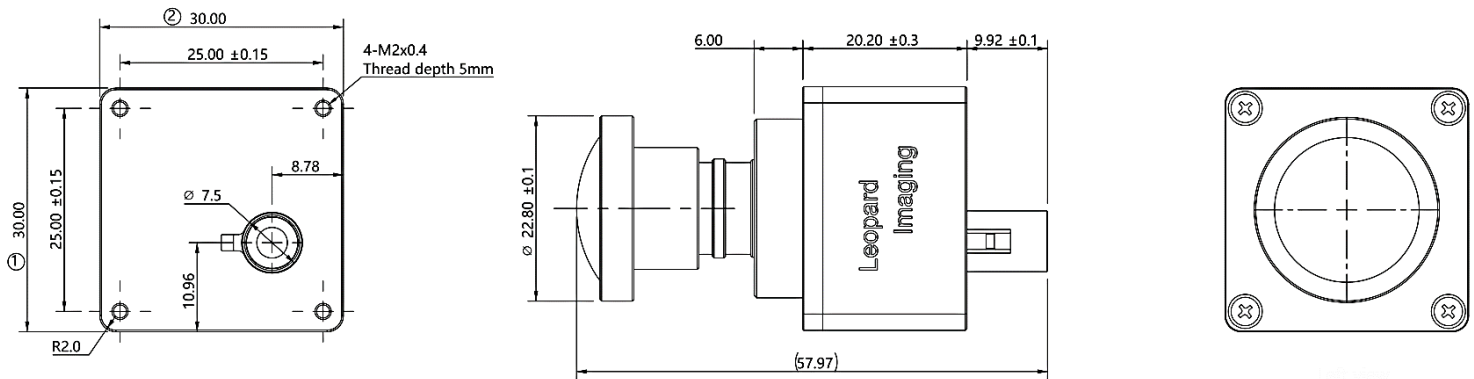
## DIMENSIONS: LI-IMX490-GMSL2-120H



### NOTE:

- ⊗ marked are important sizes.
- Tolerances for others unmarked are  $\pm 0.3$  mm.
- △ indicates revisions have been made.
- All materials are compliant with RoHS and REACH requirements.
- Unit: mm

## DIMENSIONS: LI-IMX490-GMSL2-160H



### NOTE:

- ⊗ marked are important sizes.
- Tolerances for others unmarked refer to the tolerance table.
- All materials are compliant with RoHS and REACH requirements.
- Unit: mm

TOLERANCE TABLE					
LENGTH TOLERANCE		CHAMFER TOLERANCE		ANGLE TOLERANCE	
Size X	Tolerance	Size X	Tolerance	Size X	Tolerance
$0.5 < X \leq 3$	$\pm 0.1$	$0.5 < X \leq 3$	$\pm 0.2$	$X \leq 10$	$\pm 1^\circ$
$3 < X \leq 6$	$\pm 0.1$	$3 < X \leq 6$	$\pm 0.5$	$10 < X \leq 50$	$\pm 30'$
$6 < X \leq 30$	$\pm 0.2$	$6 < X \leq 30$	$\pm 1$	$50 < X \leq 120$	$\pm 20'$
$30 < X \leq 120$	$\pm 0.3$	$X > 30$	$\pm 2$	$120 < X \leq 400$	$\pm 10'$
$120 < X \leq 400$	$\pm 0.5$			$X > 400$	$\pm 5'$
$400 < X \leq 1000$	$\pm 0.8$				
$X > 1000$	$\pm 1.2$				

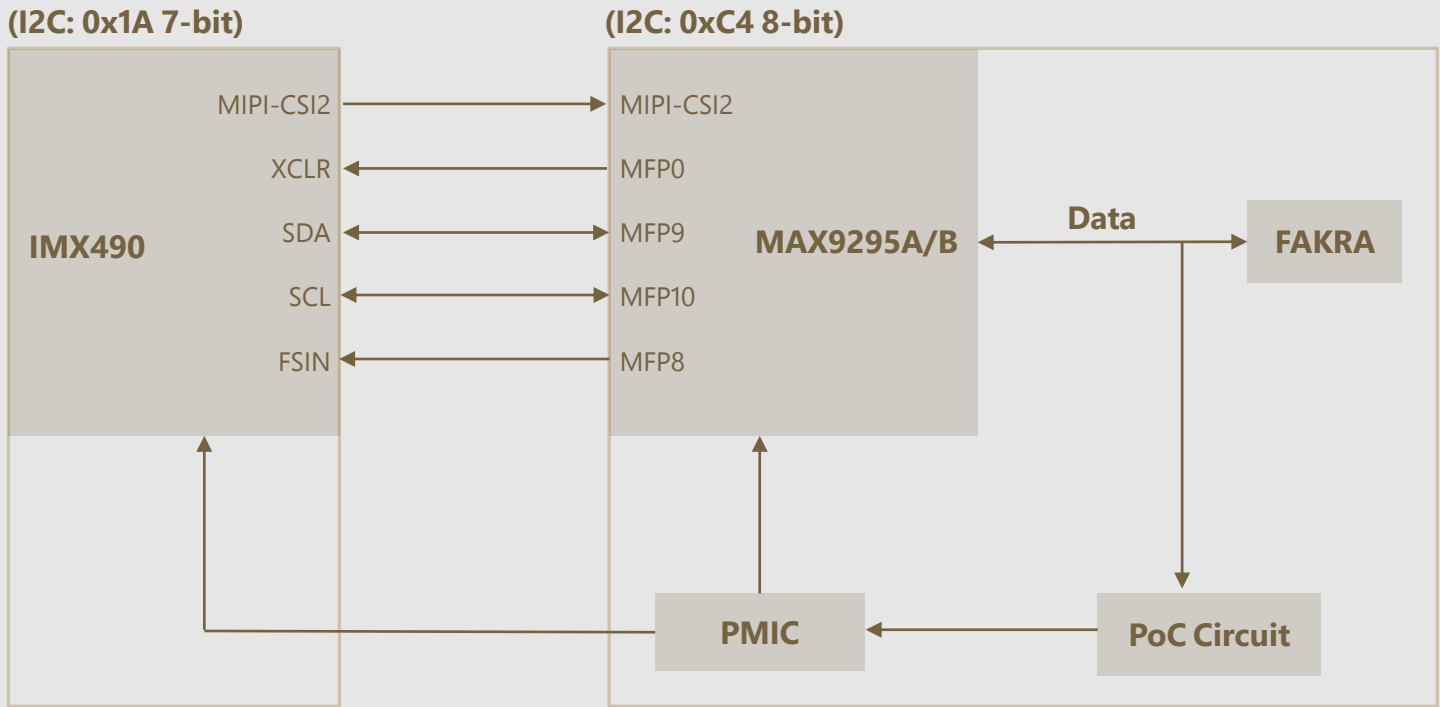
## LENS SPECIFICATIONS

xxxH refers to 030H (FOV H 30°), 040H (FOV H 40°), 065H (FOV H 65°), 090H (FOV H 90°), 120H (FOV H 120°) and 160H (FOV H 160°)

LI-IMX490-GMSL2-030H	LI-IMX490-GMSL2-040H	LI-IMX490-GMSL2-065H
		
Lens EFL: 16.37 mm	Lens EFL: 11.9 mm	Lens EFL: 7.9 mm
Aperture, F/#: 1.6	Aperture, F/#: 2.0	Aperture, F/#: 2.0
Field of View (FOV): 35.5° (D) / 30.0° (H) / 19.5° (V)	Field of View (FOV): 44.4° (D) / 38.0° (H) / 20.8° (V)	Field of View (FOV): 74.0° (D) / 65.0° (H) / 37.0° (V)
Mount: M17	Mount: M12	Mount: M12

LI-IMX490-GMSL2-090H	LI-IMX490-GMSL2-120H	LI-IMX490-GMSL2-160H
		
Lens EFL: 5.39 mm	Lens EFL: 4.49 mm	Lens EFL: 3.0 mm
Aperture, F/#: 2.6	Aperture, F/#: 1.6	Aperture, F/#: 2.8
Field of View (FOV): 90° (H)	Field of View (FOV): 154.9° (D) / 120.0° (H) / 73.2° (V)	Field of View (FOV): 160.0° (H)
Mount: M14	Mount: M16	Mount: M12

● SYSTEM BLOCK DIAGRAM

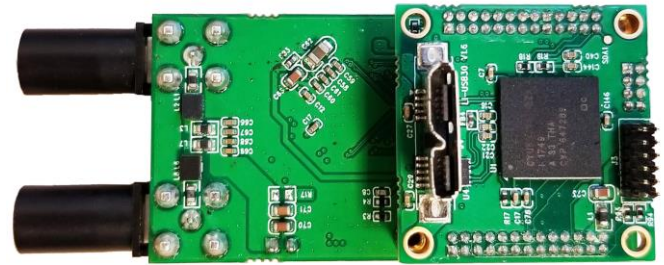


## USB3.0 CAMERA KIT

LI-GMSL2-USB



Top View



Bottom View

LI-IMX490-GMSL2-xxxH can connect to LI-GMSL2-USB as a USB 3.0 camera.

Part#: **LI-USB30-IMX490-GMSL2-xxxH**

### SPECIFICATIONS

- USB 3.0 Super Speed support
- RAW data output without compression
- UVC compliant
- Allows customization
- 12 VDC power supply for camera
- Weight: ~ 86 g
- Single Coax Cable transmits up to 12 meters PoC (Power over Cable)
- Resolution: 2880 x 1860 @ 19 fps
- Power consumption: 102 mA @ 12 VDC
- Compatible with Windows, Linux OS and other OS which have UVC drivers

### BOM

#	Items	QTY
1	LI-IMX490-GMSL2-xxxH	1
2	LI-GMSL2-USB	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
- Register Access Function
- Save file as BMP & RAW format

## REVISION HISTORY

Revision	Description	Release Date
1.0	First release.	20 Aug 2019
1.1	Added DSL492 lens and updated the resolution to full size.	26 Aug 2019
1.2	Added 030H lens.	02 Aug 2019
1.3	Changed CAR-53 lens to CAR-55.	02 Jun 2021
1.4	Replaced CAR-36 with CAR-56 and updated 2D dimensions, power consumption, frame rate, resolution, and storage temp.	26 Nov 2021
1.5	Updated 090H lens.	04 Jan 2023
1.6	Deleted HDR function on the USB30 page.	07 Apr 2023
1.7	Updated IP rating of 090H lens.	19 Jun 2023
1.8	Updated image direction.	27 Dec 2023
1.9	Added 160H lens	29 Apr 2024
2.0	Deleted 3-Meter fakra cable P/N.	25 Nov 2024
2.1	Corrected 160H info.	28 Jul 2025

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