



# LI-IMX390-FPDLINKIII-xxxH



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## INTRODUCTION

The LI-IMX390-FPDLINKIII-xxxH is equipped with Sony automotive RRGB sensor IMX390 and Maxim FPDLINKIII serializer TI953 and is designed for automotive applications. This camera outputs 12-bit / 20-bit / 24-bit RAW data.

## KEY FEATURES

|                              |                                                                     |
|------------------------------|---------------------------------------------------------------------|
| Sensor                       | Sony Diagonal 6.67 mm (Type 1/2.7)<br>CMOS RRGB Image Sensor IMX390 |
| Optical Format               | 1/2.7"                                                              |
| Resolution                   | 1937 (H) x 1217 (V) (active pixels)                                 |
| Pixel Size                   | 3.0 x 3.0 $\mu\text{m}$                                             |
| Data Format                  | 20-bit / 12-bit / 24-bit RAW data                                   |
| Color / Mono                 | Color sensor                                                        |
| Maximum Frame Rate           | 60 fps @ 1937 x 1217                                                |
| HDR (High Dynamic Range)     | Supported                                                           |
| LFM (LED Flicker Mitigation) | Supported                                                           |
| Lens                         | FOV H 60° / 120° / 200°                                             |
| Serializer                   | TI953 FPD-Link III (DS90UB953-Q1)                                   |
| Power Supply Range           | 9 ~ 19 VDC                                                          |
| Connector                    | FAKRA Z TYPE                                                        |
| IP Rating                    | 060H / 120H: IP67<br>200H: TBD                                      |
| Power Consumption            | Approx. 122 mA @ 12 VDC<br>(1936 x 1100 @ 35 fps)                   |
| Operating Temp               | -40°C ~ +85°C                                                       |
| Storage Temp                 | -40°C ~ +85°C                                                       |
| Weight                       | ~ 45 g                                                              |
| Part#                        | LI-IMX390-FPDLINKIII-xxxH                                           |

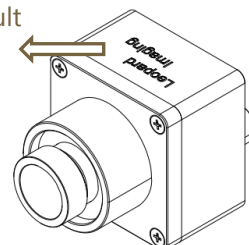
## APPLICATIONS

- Automotive ADAS
- 1080p Video Applications

## DEFAULT IMAGING DIRECTION

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

Top (Default Imaging Direction)

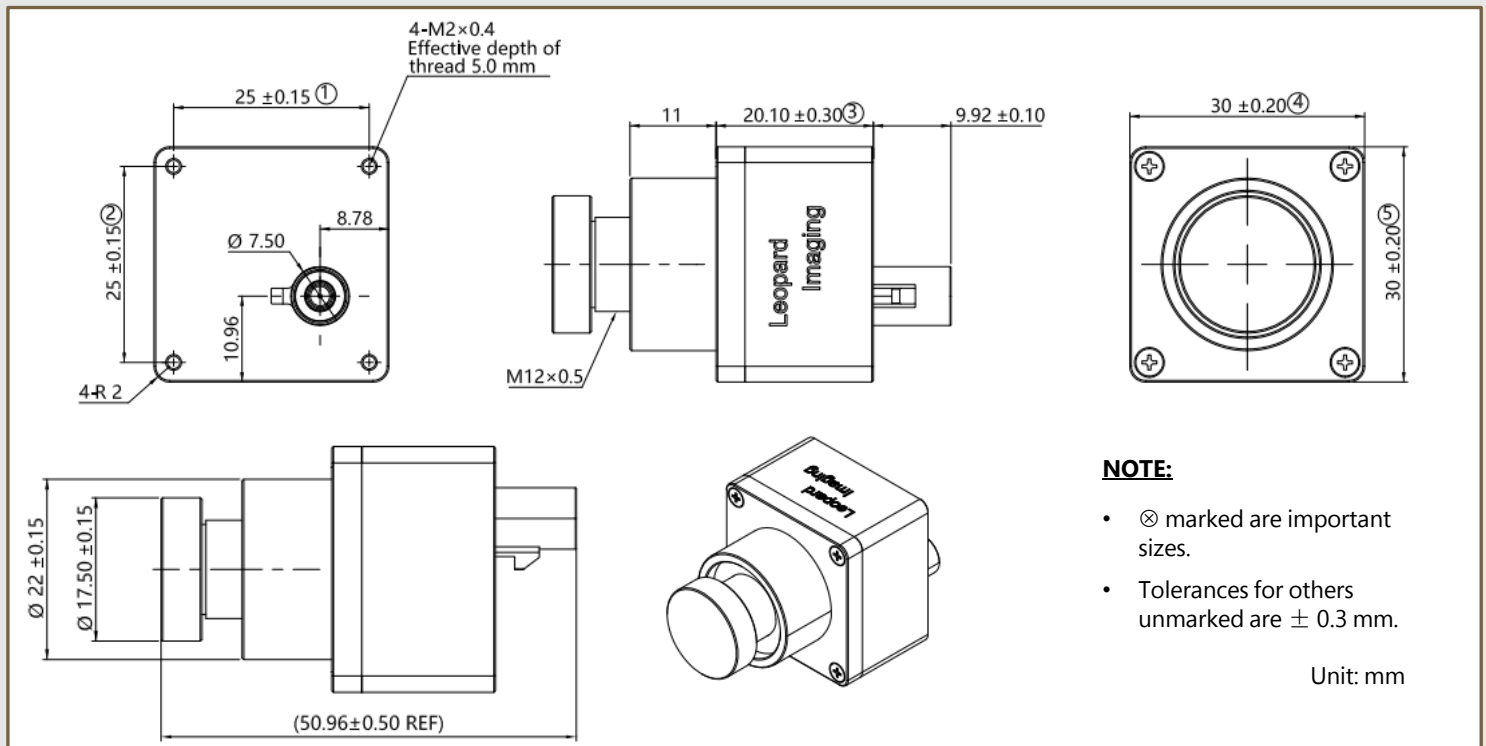


## CABLE CONNECTOR

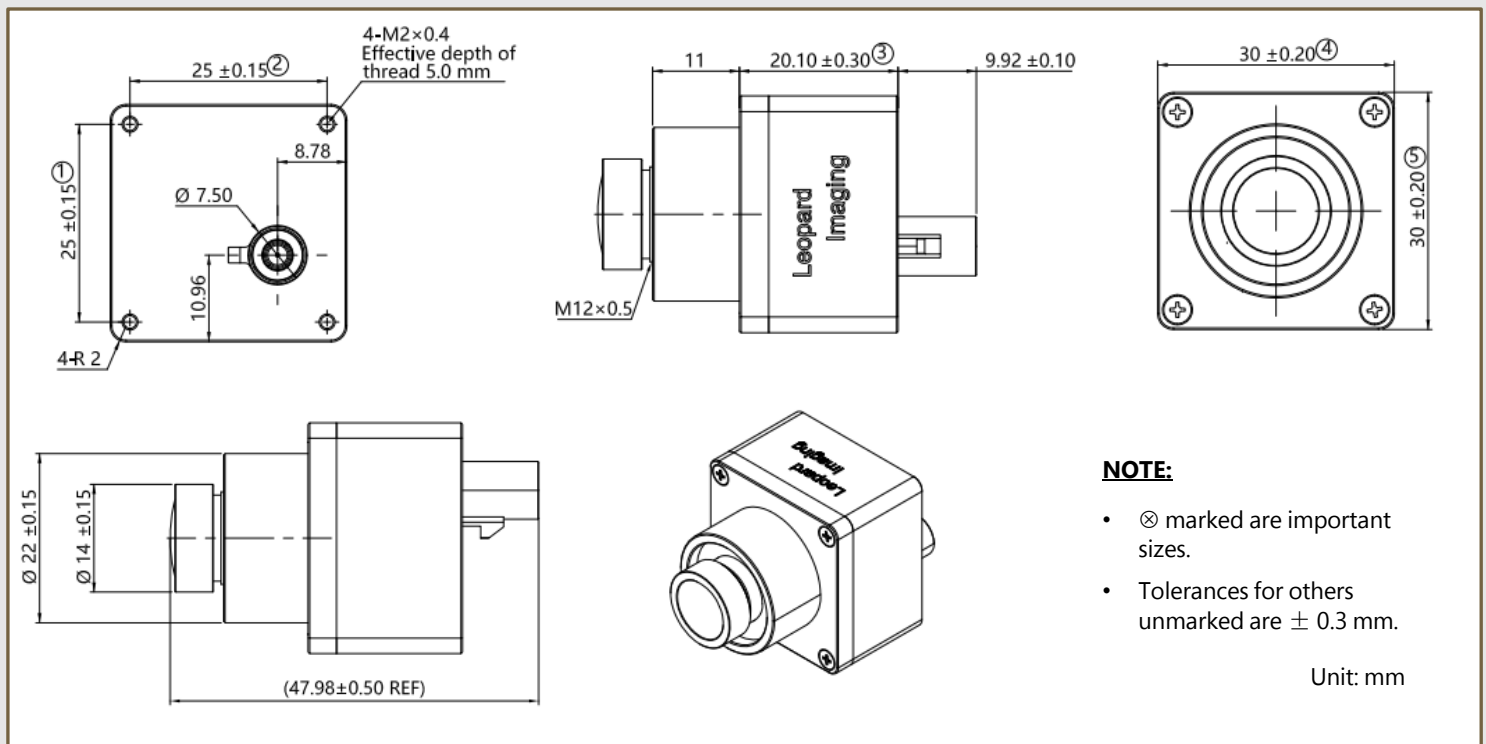
- Housing Connector: FAKRA Z Type
- Cable Length: 3 meters
- Cable Part#: FAK-SMZSMZ-3M



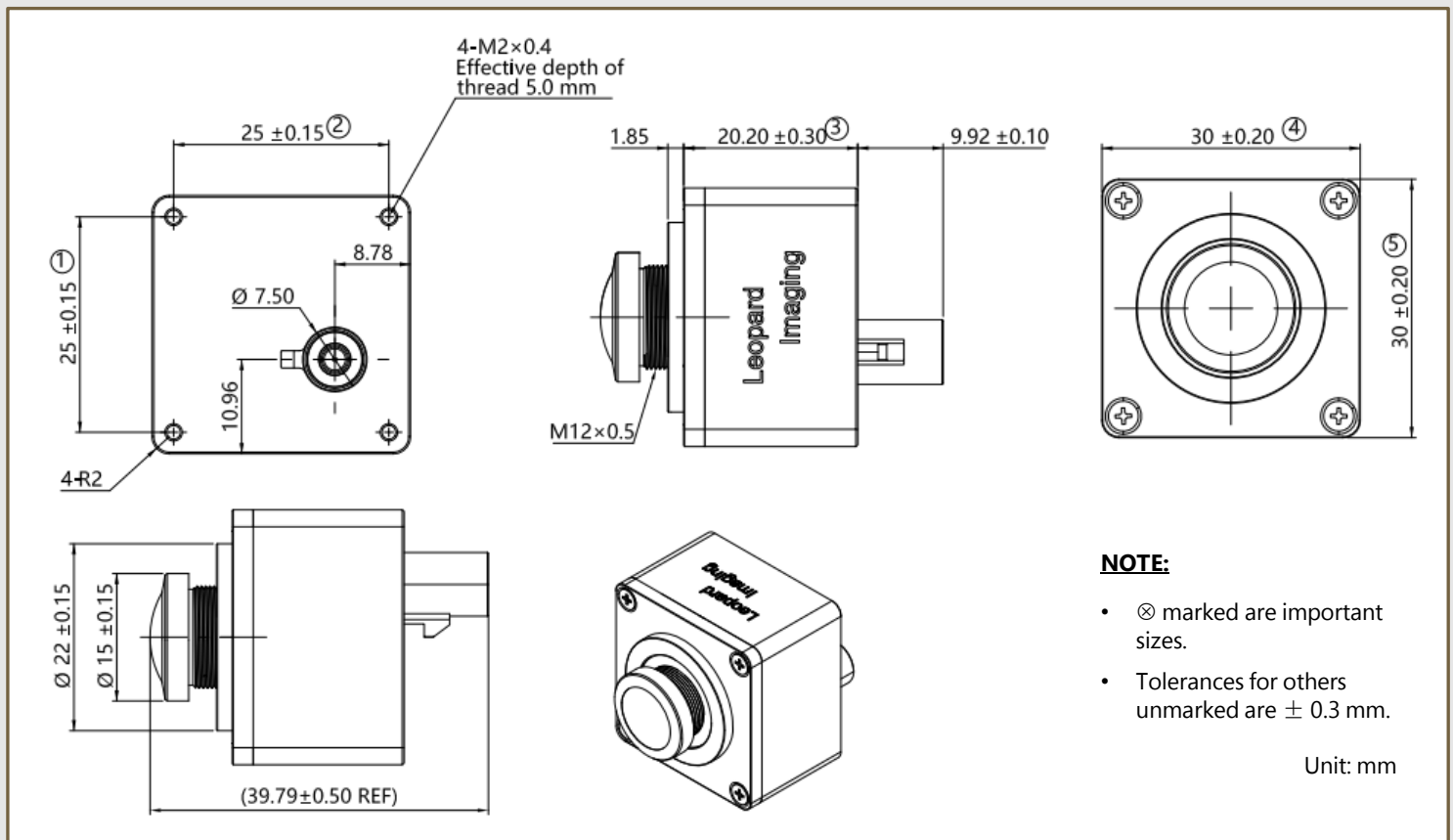
## DIMENSIONS: LI-IMX390-FPDLINKIII-060H



## DIMENSIONS: LI-IMX390-FPDLINKIII-120H



## DIMENSIONS: LI-IMX390-FPDLINKIII-200H



## ORDERING INFORMATION

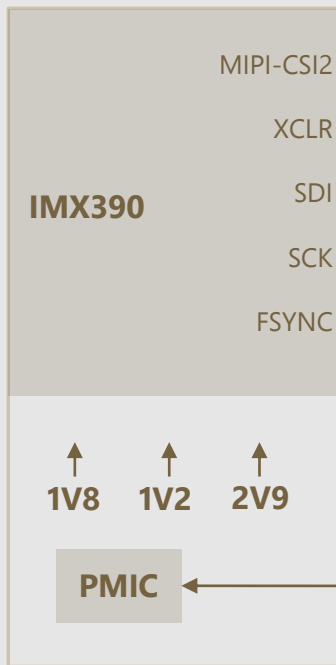
xxxH refers to 060H (FOV H 60°), 120H (FOV H 120°), 200H (FOV H 200°)

| LI-IMX390-FPDLINKIII-060H                                                          |  |
|------------------------------------------------------------------------------------|--|
|  |  |
| Lens EFL: 6.0 mm                                                                   |  |
| Field of View (FOV): 74.5° (D) / 60.6° (H) / 36.1° (V)                             |  |
| Mount: M12                                                                         |  |
| IP Rating: IP67                                                                    |  |

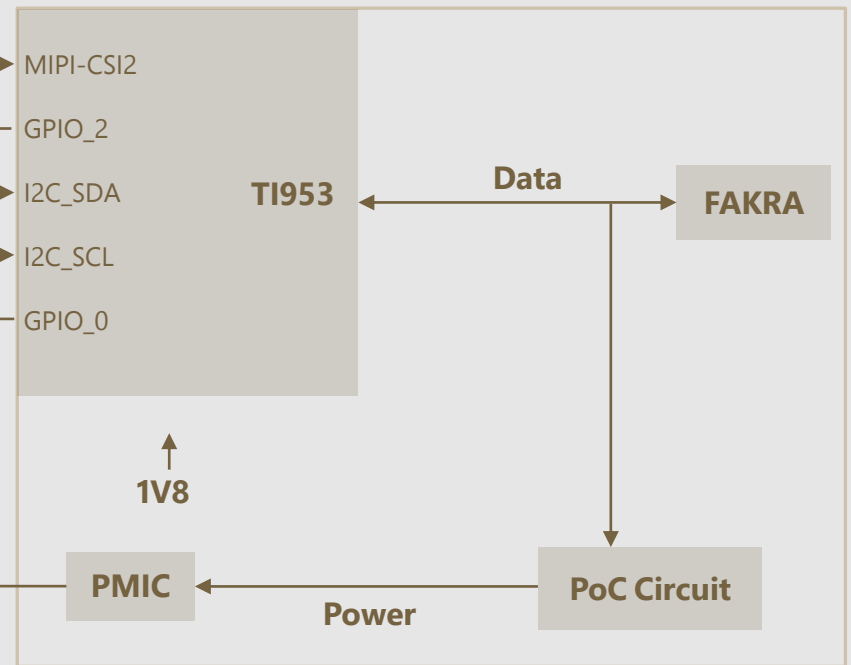
| LI-IMX390-FPDLINKIII-120H                                                          | LI-IMX390-FPDLINKIII-200H                                                            |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |
| Lens EFL: 2.8 mm                                                                   | Lens EFL: 0.95 mm $\pm$ 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

(I2C: 0x42 8-bit)



(I2C: 0x30 8-bit)



# USB3.0 CAMERA KIT

LI-FPDLINKIII-USB



Top View



Bottom View

LI-IMX390-FPDLINKIII-xxxH can connect to LI-FPDLINKIII-USB as a USB 3.0 camera.

Part#: **LI-USB30-IMX390-FPDLINKIII-xxxH**

## SPECIFICATIONS

- USB 3.0 Super Speed support
- RAW data output without compression
- UVC compliant
- Allows customization
- 12 VDC power supply for camera
- DeSerializer: TI954 FPD-Link III (DS90UB954-Q1)
- Weight: ~ 200 g
- Single Coax Cable transmits up to 12 meters PoC (Power over Cable)
- Resolution: 1936 x 1100 @ 35 fps
- Power consumption: Approx. 122 mA @ 12 VDC
- Compatible with Windows, Linux OS and other OS which have UVC drivers

## BOM

| # | Items                     | QTY |
|---|---------------------------|-----|
| 1 | LI-IMX390-FPDLINKIII-xxxH | 1   |
| 2 | LI-FPDLINKIII-USB         | 1   |
| 3 | 3-Meter Fakra Cable       | 1   |
| 4 | 12 VDC Power Supply       | 1   |
| 5 | USB3.0 Cable              | 1   |



12 VDC power supply for camera

## 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.                                                                                                                                       | 11 Jan 2018  |
| 1.1      | Updated spec information.                                                                                                                            | 17 Jun 2018  |
| 1.2      | 1. Replaced 200H lens F13B0108WM12R1 with E7393E-R8 and updated related 2D dimension and lens info.<br>2. Updated storage temp from +105°C to +85°C. | 05 Dec 2022  |
| 1.3      | Replaced 3D images of 200H lens with actual product pictures.                                                                                        | 21 Mar 2023  |

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Leopard Imaging Inc.