



**LEOPARD**  
IMAGING

# LI-VENUS-OX08B40-APHY-xxxH



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## INTRODUCTION

The LI-VENUS-OX08B40-APHY-xxxH is equipped with OmniVision CMOS high-definition high dynamic range sensor OX08B40 and Valens MIPI® A-PHY compliant CSI-2 serializer VA7031. This camera outputs 12-bit / 14-bit / 16-bit / 20-bit / 24-bit RAW data.

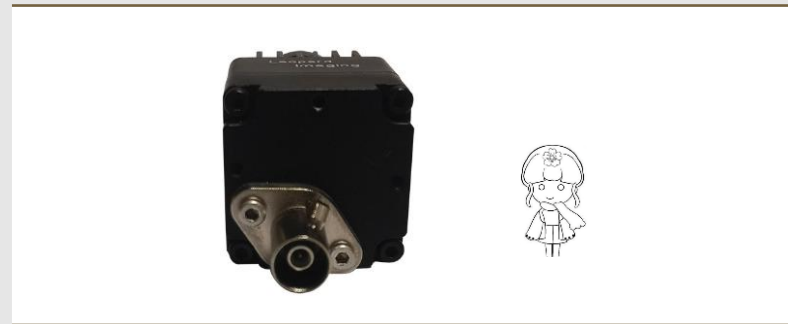
## SPECIFICATIONS

|                              |  |
|------------------------------|--|
| Sensor                       | OmniVision CMOS HDR HD sensor OX08B40          |
| Optical Format               | 1/1.73"  |
| Resolution                   | 3840 (H) x 2160 (V) (active pixels)            |
| Pixel Size                   | 2.1 x 2.1 $\mu\text{m}$                        |
| Output Format                | 12-bit / 14-bit / 16-bit / 20-bit / 24-bit RAW |
| Color / Mono                 | Color sensor                                   |
| Maximum Frame Rate           | 36 fps @ 4 K                                   |
| HDR (High Dynamic Range)     | Supported                                      |
| LFM (LED Flicker Mitigation) | Supported                                      |
| Serializer                   | Valens VA7031                                  |
| Lens                         | FOV H 30° / 60° / 120°                         |
| Power Supply Range           | 8 ~ 17 VDC                                     |
| Connector                    | FAKRA Z TYPE                                   |
| IP Rating                    | 030H: IP67<br>060H / 120H: TBD                 |
| Power Consumption            | 492 mA @ 12 VDC<br>3840 x 2160 @ 20.96 fps     |
| Operating Temp               | -40°C ~ +85°C                                  |
| Storage Temp                 | -40°C ~ +85°C                                  |
| Weight                       | ~ 56 g   |
| Part#                        | LI-VENUS-OX08B40-APHY-xxxH                     |

## APPLICATIONS

- Automotive
  - ◆ High Resolution Front Viewing
  - ◆ Machine Vision
  - ◆ Autonomous Driving
  - ◆ Assisted Driving
  - ◆ Digital Video Recording

## IMAGE ORIENTATION



## CABLE CONNECTOR

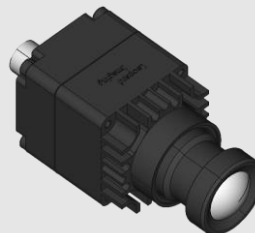
- Housing Connector  
FAKRA Z Type
- Cable Length: 3 meters
- Cable Part#: FAK-SMZSMZ-3M



LI-VENUS-OX08B40-APHY-030H

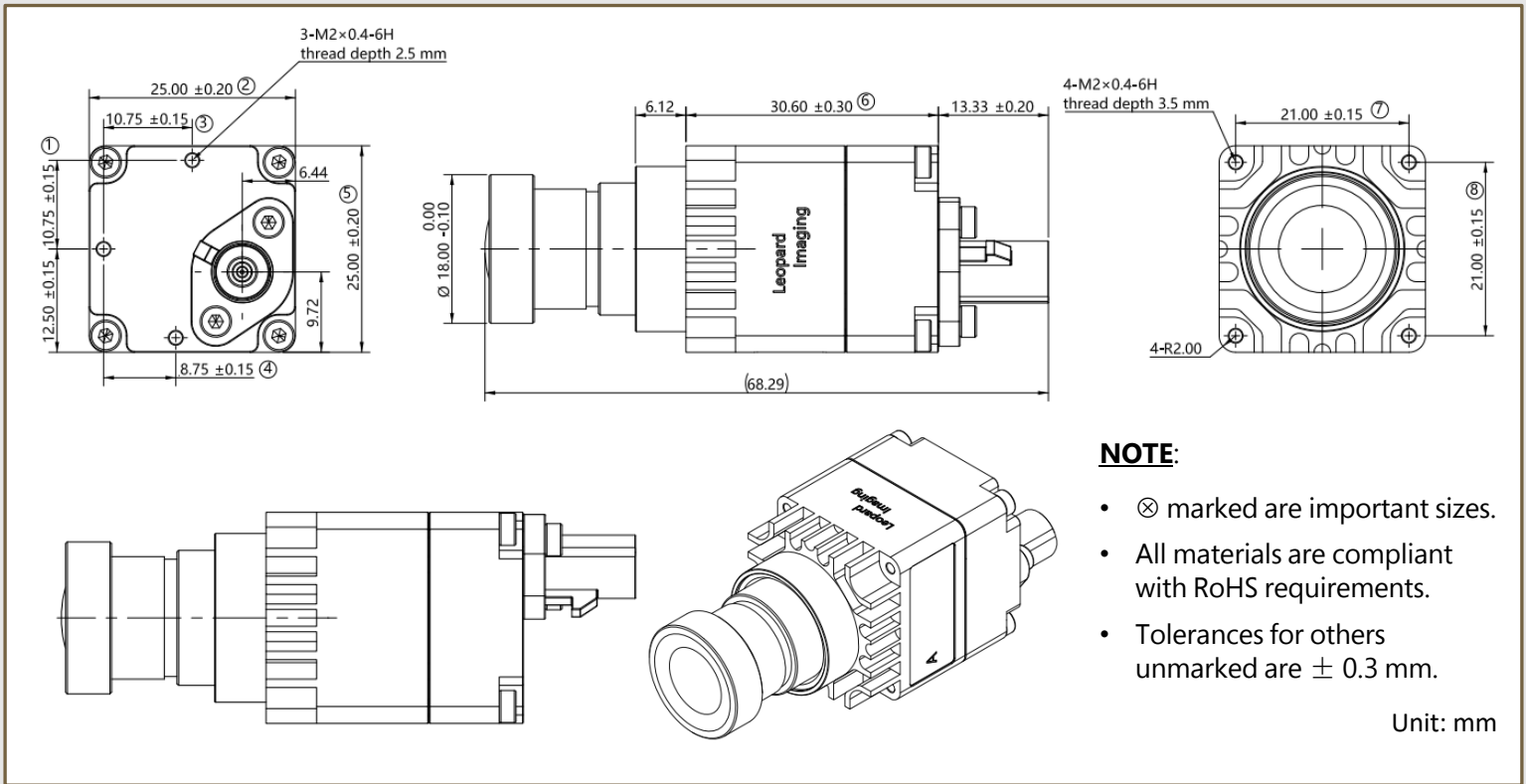


LI-VENUS-OX08B40-APHY-060H

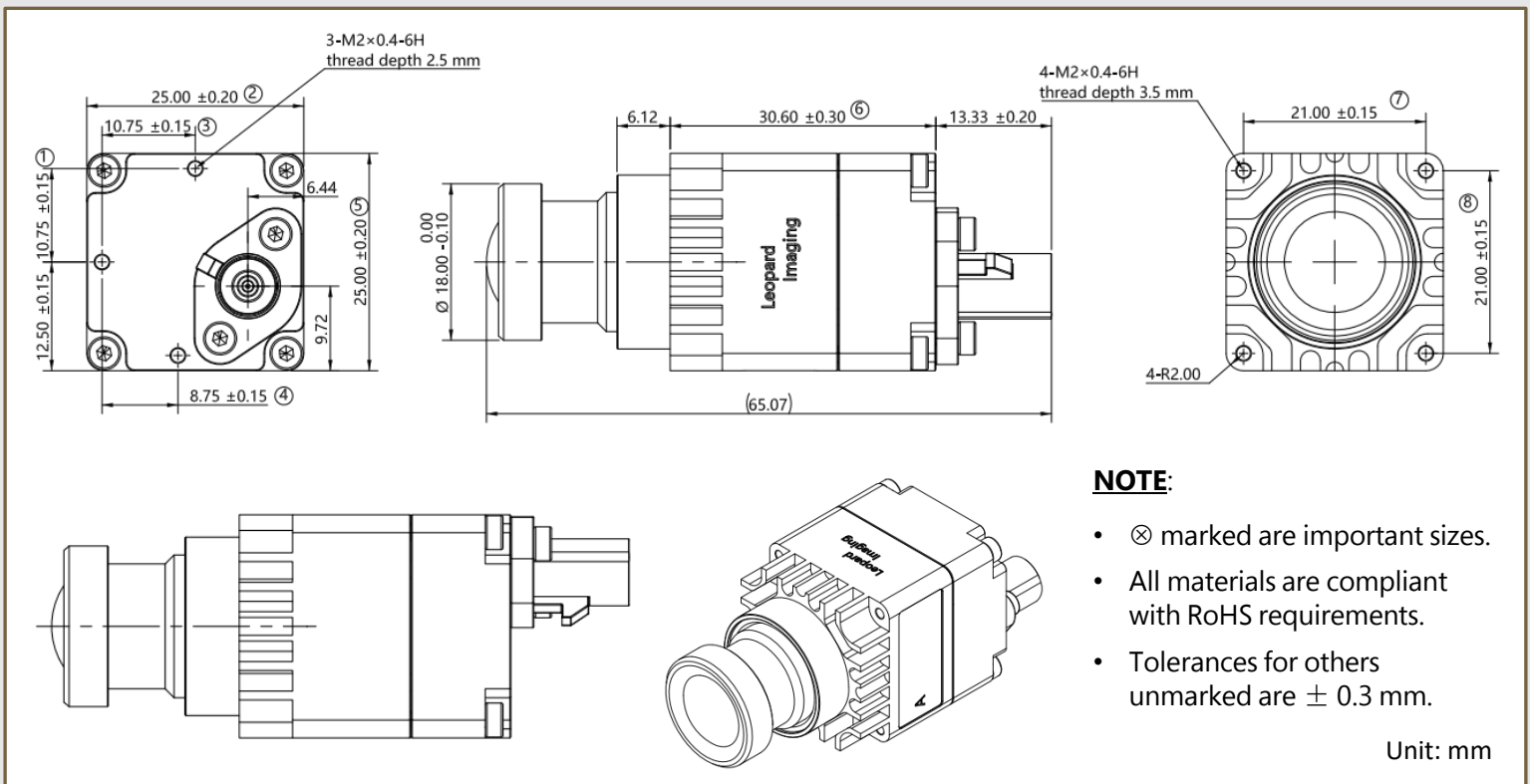


LI-VENUS-OX08B40-APHY-120H

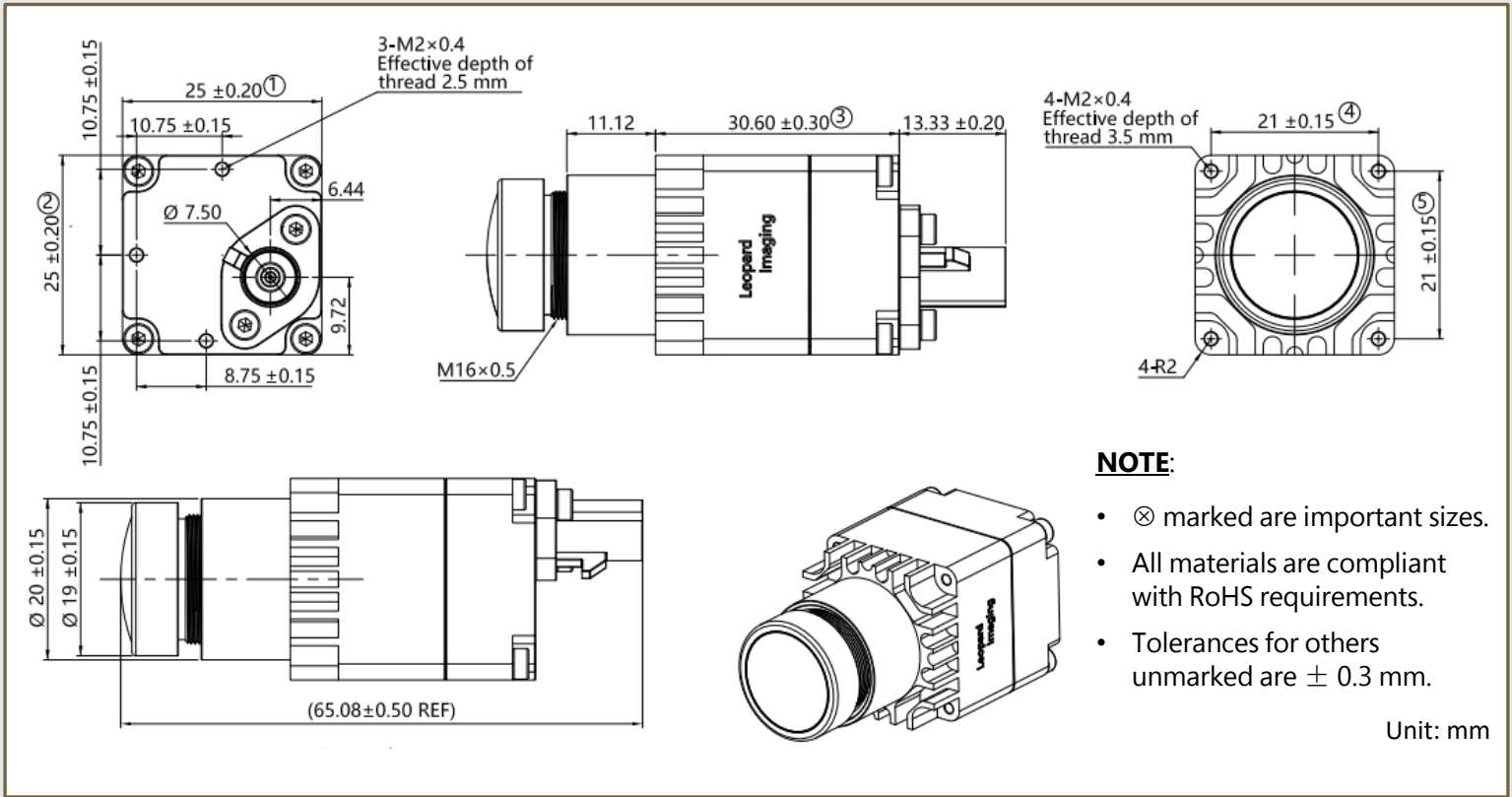
## DIMENSIONS: LI-VENUS-OX08B40-APHY-030H



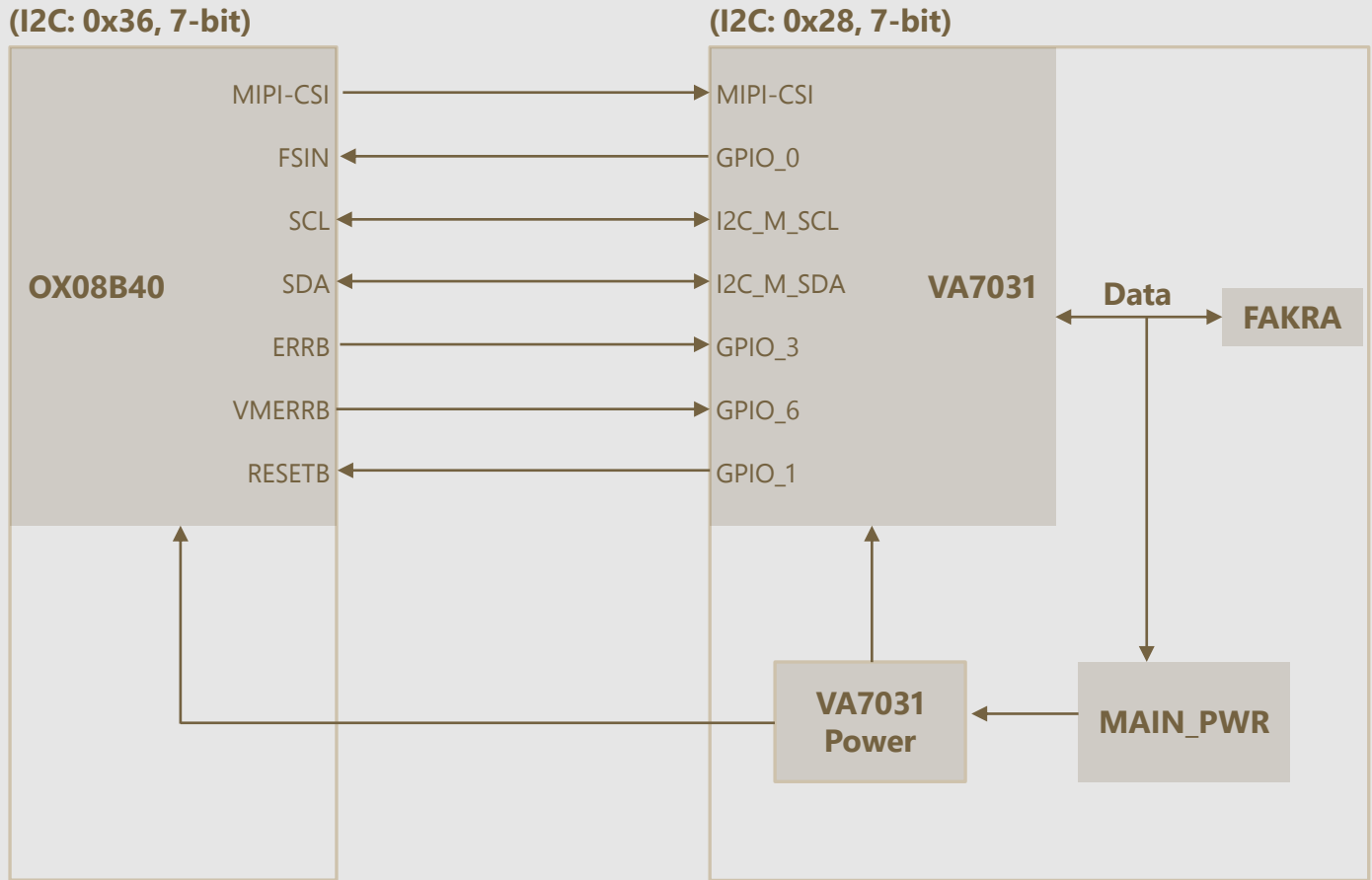
## DIMENSIONS: LI-VENUS-OX08B40-APHY-060H



# DIMENSIONS: LI-VENUS-OX08B40-APHY-120H



# SYSTEM BLOCK DIAGRAM


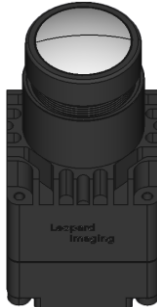


## ORDERING INFORMATION

**NOTE:**

xxxH refers to 030H (FOV H 30°), 060H (FOV H 60°) or 120H (FOV H 120°)

| LI-VENUS-OX08B40-APHY-030H  |
|---|
|  |
| Lens EFL: 15.393 mm $\pm$ 3%  |
| Aperture, F/#: 1.6 $\pm$ 5%   |
| Field of View (FOV): 30° $\pm$ 2° horizontal                                      |
| TV Distortion: -2.87% $\pm$ 5% (f * tan $\theta$ )                                |
| Relative Illumination: 70.15% $\pm$ 10%   |
| IR Filter: 700 nm IR cut filter   |
| Mount: M16  |

| LI-VENUS-OX08B40-APHY-060H  | LI-VENUS-OX08B40-APHY-120H  |
|---|---|
|  |  |
| Lens EFL: 7.75 mm $\pm$ 5%  | Lens EFL: 3.69 mm $\pm$ 5%  |
| Aperture, F/#: 1.6 $\pm$ 10%  | Aperture, F/#: 1.6 $\pm$ 5%   |
| Field of View (FOV): 60.0° $\pm$ 3° horizontal                                      | Field of View (FOV): 123.2° $\pm$ 3° horizontal ( $\varnothing$ 8.064 mm)             |
| Optical Distortion: -12.66% $\pm$ 5% (F-tan $\theta$ )                              | Distortion: -54.57% $\pm$ 5% (f- $\theta$ ) (DFOV)                                    |
| Relative Illumination: $\geq$ 60%   | Relative Illumination: 58% (DFOV)   |
| IR Filter: 700 nm IR cut filter   | IR Filter: 700 nm IR cut filter   |
| Mount: M12  | Mount: M16  |

## ● REVISION HISTORY

| Revision | Description   | Release Date |
|----------|---|--------------|
| 0.1      | Initial draft.  | 01 Sep 2022  |
| 0.2      | Added 030H lens and 060H lens.  | 09 Oct 2022  |
| 0.3      | 1. Updated System Block Diagram.<br>2. Replaced 030H 3D with actual pics.<br>3. Deleted IP in "Ordering Information" section. | 30 Nov 2023  |
| 0.4      | Updated 030H IP Rating, Power Consumption, Operating Temp, Storage Temp.  | 26 Jan 2024  |

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