OAK-D PoE

1 Features

- Movidius Myriad X VPU
- 256/512/1024MBit QSPI NOR Flash
- 16GB eMMC 5.1
- 32Kb I2C EEPROM
- Gigabit Ethernet + PoE power
- 2x 2-lane MIPI connects OV9282 1MP global shutter cameras
- 1x center 4-lane MIPI connects IMX378 12 MP color rolling shutter camera
- ¼ -20 tripod mount on the bottom of the unit
- 2x horizontal 4.5cm / vertical 2x 3.75cm, M4, two sets of mounting holes on the back of the unit
- IP67 rated enclosure

2 Applications

- Industrial automation
- Robotics
- Surveillance IP camera
- Security systems
- Remote intelligence

3 Description

The Luxonis OAK-D PoE is an AI Edge vision system driven by Movidius Myriad X VPU. The system is powered with Power over Ethernet (PoE). OAK-D PoE has three on-board cameras which implement stereo and RGB vision, piped directly into the DepthAI Myriad X VPU for depth and AI processing. The data is then output to a host via Gigabit Ethernet connection.

Connecting device with Cat5e or higher end Ethernet cable is recommended to meet maximum speed and PoE requirements. On the device end standard RJ45 cable connector should be used.

Device Information

PART NUMBER	SIZE (WxHxD)
OAK-D PoE	130 mm x 65 mm x 29.9 mm

Figure 1 – OAK-D PoE

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4 Electrical Characteristics

4.1 Absolute Maximum Ratings[1]

SYMBOL	RATINGS	MIN	MAX	UNIT
V_{POE}	802.3af, Class3 input supply voltage range.(2)	37	57	V
I_{POE}	Maximum input current requirement		0.35	A
T_{stq}	Ambient temperature	0	60	C

4.2 Recommended Operating Conditions

SYMBOL	RATINGS	MIN	TYP	MAX	UNIT
V_{POE}	PoE input voltage range(2)	37		57	V
P	Power consumption requirement	4	6	7.5	W
P_{IDLE}	VBUS idle power draw (Myriad X booted)		2.5		W
T_A	Ambient operating temperature			50	°C

1) Stresses beyond those listed under *Absolute Maximum Ratings* may cause permanent damage to the device. These are stress ratings only, which do not imply functional operation of the device at these or any other conditions beyond those indicated under *Recommended Operating Conditions*. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.
2) Power supply designed according to 802.3af (802.3at Type 1) standard.

5 Camera sensors characteristics

5.1 Center Color Camera

The color sensor on the stereo depth module in addition to color image provides texture information. Usages for the texture information include overlay on a depth image to create a color point cloud and overlay on a 3D model for reconstruction.

Parameter	Value
Image sensor	Sony IMX378
Active pixels	4056x3040@60fps
Output video format	RAW12/10/8
Focus type	Auto Focus 8cm - ∞ / Fixed Focus 50cm- ∞
FOV	DFOV: 81° / HFOV: 69° / VFOV: 55°
Shutter Type	Rolling shutter
IR sensitive	No

5.2 Stereo vision gray scale camera

Stereo cameras compare the features and based on the disparity determines the distance/depth of the object tracked on by the product. It also provides the depth map in color and raw depth map in gray scale.

Parameter	Value
Image sensor	OmniVision OV9282
Active pixels	1280x800@120FPS
Output video format	8/10-bit RAW
Focus type	Fixed Focus 19.6cm - ∞
FOV	DFOV: 82° / HFOV: 72° / VFOV: 50°
Shutter Type	Global shutter
IR sensitive	Yes

6 Mechanical Information

The following information is the most current data available for the designated device. This data is subject to change without notice and without revision of this document.

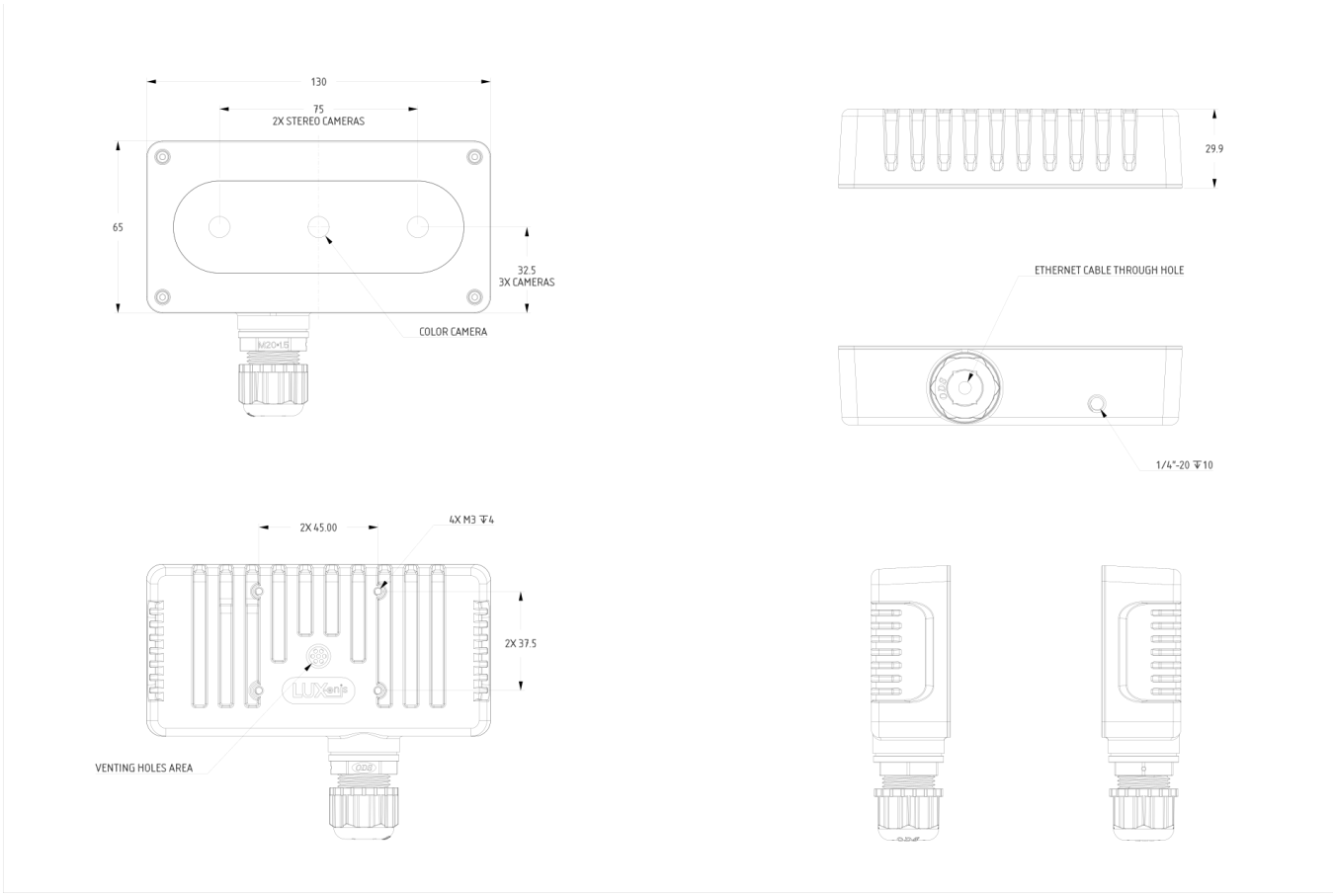

Figure 2 – OAK-D PoE Mechanical measurements