AglaiaSense

DK500-HXXX-IMX8P

Preliminary

Website: aglaiasense.com

Phone: +1 (408) 263-0988

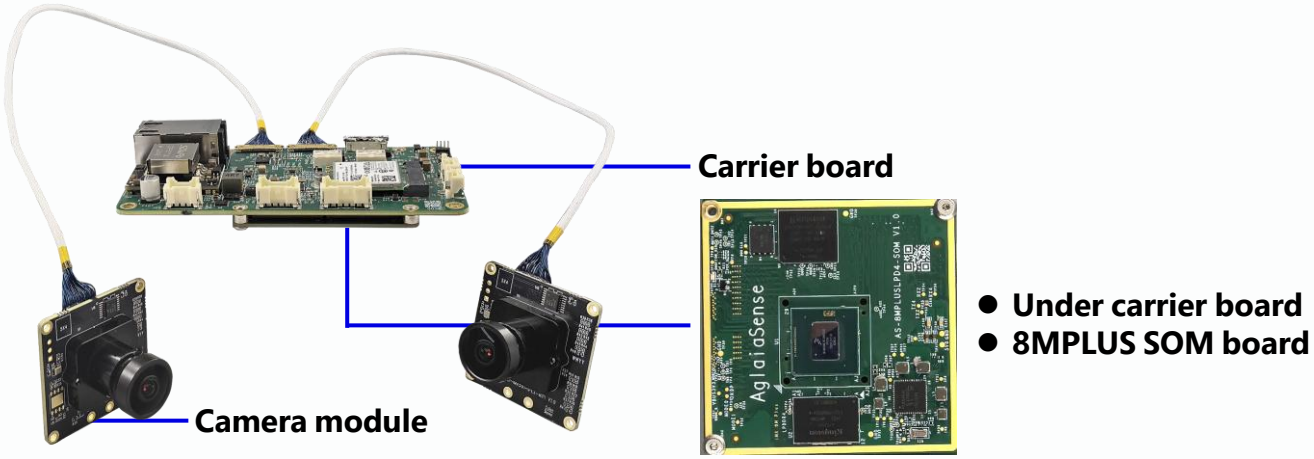
Support: support@aglaiasense.com

Sales: sales@aglaiasense.com

Address: 910 Auburn Ct, Fremont, CA 94538, USA

Overview

The **DK500-HXXX-IMX8P** integrates a Sony 4K AI sensor to enable edge-based data analysis and real-time processing. Designed for low power consumption, scalability, and rapid deployment, it facilitates the upgrade of legacy urban infrastructure for smart city transformation. Its edge AI capabilities support diverse applications, including traffic control, road management, pedestrian safety, and other smart city infrastructure.



Features

- 4K Imaging and Analytics Delivers high-definition clarity to improve accuracy in object detection, recognition, and complex visual data processing.
- Embedded Edge AI Enhances real-time processing speeds while reducing latency and bandwidth requirements. Localized processing improves data privacy, security, and connection stability.
- Low power consumption Minimizes operational costs and reduces environmental impact through optimized power efficiency.
- Deployment and Scalability Features a modular design for rapid deployment, high scalability, and broad system compatibility.

Application

- Smart city/building Traffic/parking management, dynamic lighting, etc.
- Smart logistic
- Industrial automation

Sensing Device

AglaiaSense

Specifications

Sensor	Sony Diagonal 7.857 mm 12.3MP CMOS Intelligent Vision Sensor IMX501 with AI Processing Functionality
Optical Format	1/2.3"
Pixel Size	1.55 x 1.55 µm
QTY of Camera Modules	2
Platform	i.MX 8M Plus
Camera Resolution & Frame Rate	RAW image: 2 * 2016 x 1520 @ 30fps (Binning mode)
ISP + AI Processing	Supported
WIFI	Supported
Ethernet Connection	Supported
AI Function	Traffic counting, speed calculation, regional alarm, asset protection, object detection, parking…
Lens FOV (H)	42˚ / 90˚ / 120˚
Region Of Interest (ROI)	Configurable
Color / Mono	Color sensor
Power Supply Range	12 ~ 24 + 4 VDC, or POE
Average Power Consumption	~ 6.5W
Operating Temp	-20℃ ~ +65℃
Storage Temp	-20℃ ~ +80℃
Dimension	CB board: 112 (L) x 58.5 (W) mm Sensor board: 38 (L) x 38 (W) mm
Weight	~ 125g

Part Number

Part Number	Description
DK500-H120-IMX8P	Dual camera, FOVH 120˚ lens
DK500-H090-IMX8P	Dual camera, FOVH 90˚ lens
DK500-H042-IMX8P	Dual camera, FOVH 42˚ lens

System Architecture

AglaiaSense

DK500 IMX8P Sensing System

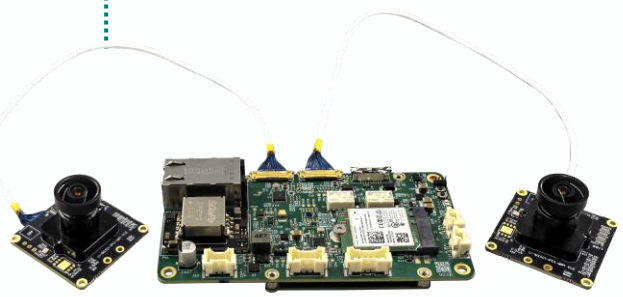
AI	Webserver
AI Model	Real Time Video Stream
AI Params Config	
Post Processing	CAM Config GUI
AI Diagnostic	
CAM Software	
CAM Config	Store/ Transfer Image Data
CAM Diagnostic	
FW/AI Update	
Host Application	

Ethernet

Mobile Devices

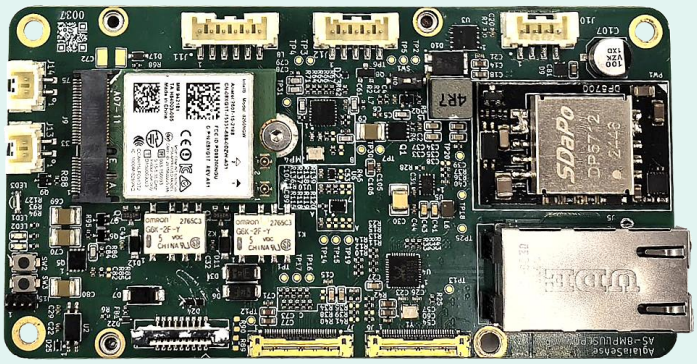
WIFI

- Alarm Area Selection
- Real-Time Video Stream
- Detection Zone Config
- ROI Selection

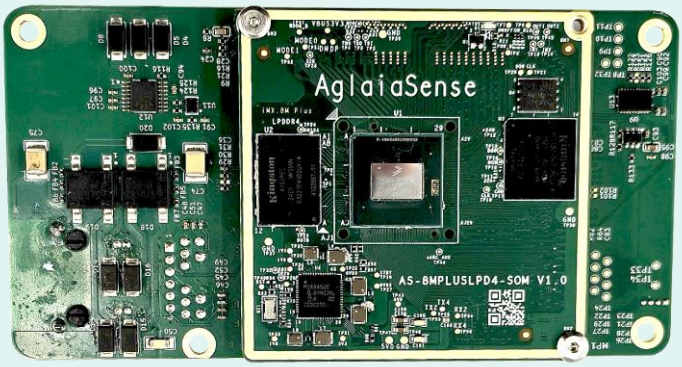


Interfaces on Carrier Board (CB)

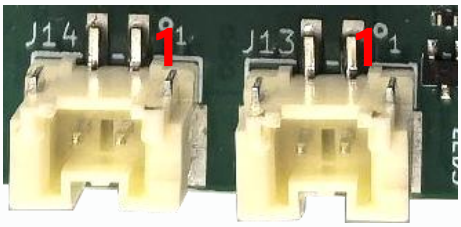
AglaiaSense



Main Interfaces on CB



CB + SOM Board

Interface	Pin Definition
Interface J13 & J14 (Lens Heater, Optional, N/A)	
Interface J5 (Gigabit Ethernet)	
Interface for SD Card Not used by default	
Interface J6 and J7 (To CAM) Part#: 20525-030E-02 Number of positions: 30 Number of rows: 1 Pitch: 0.4 mm	

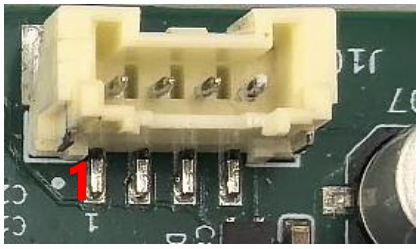
Interfaces on CB Board

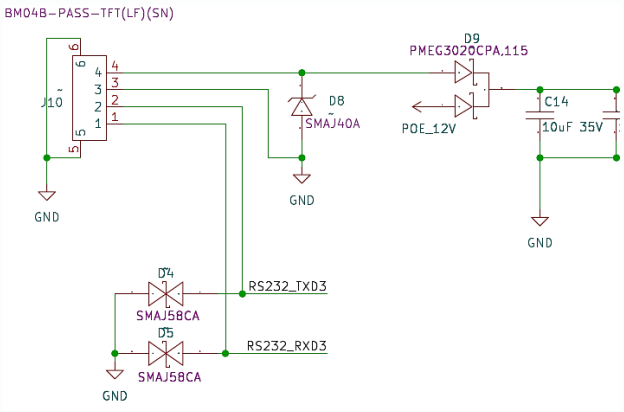
AglaiaSense

Interface	Pin Definition

Interface J10 (Power)

Part#: BM04B-PASS-TFT(LF)(SN)
Number of positions: 4
Number of rows: 1
Pitch: 2 mm

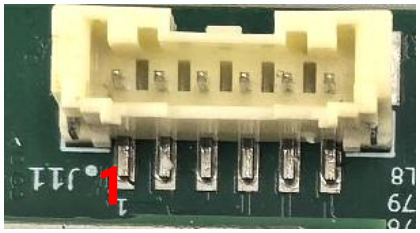


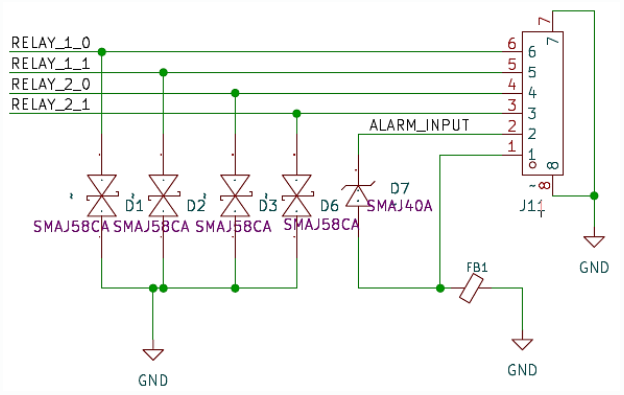


No.	Definition
1	RS232_RXD3
2	RS232_TXD3
3	GND
4	12 ~ 24V DC

Interface J11 (Alarm)

Part#: BM06B-PASS-TFT(LF)(SN)
Number of positions: 6
Number of rows: 1
Pitch: 2 mm

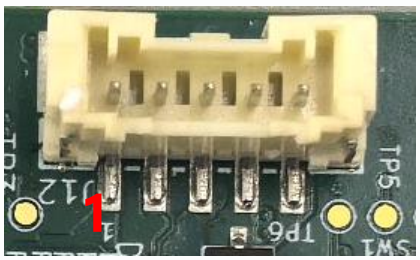


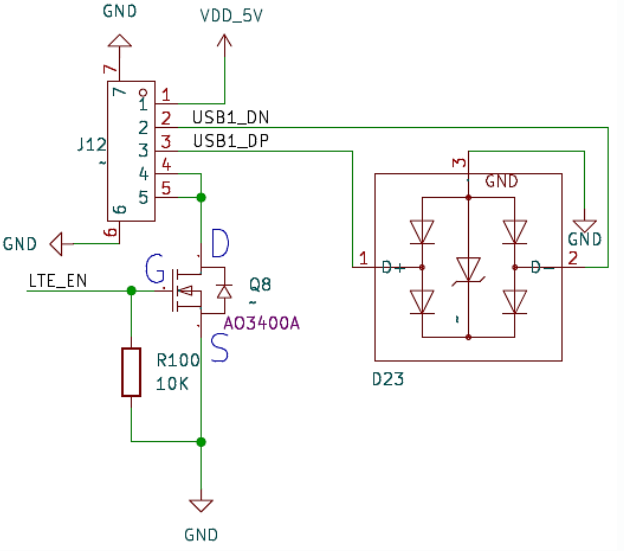


No.	Definition
1	GND
2	ALARM_INPUT
3	RELAY_2_1
4	RELAY_2_0
5	RELAY_1_1
6	RELAY_1_0

Interface J12 (To USB LTE or Other USB Devices)

Part#: BM05B-PASS-TFT(LF)(SN)
Number of positions: 5
Number of rows: 1
Pitch: 2 mm





No.	Definition
1	VDD_5V
2	USB1_DN
3	USB1_DP
4/5	GND, controlled by MOS

Reach out to us if you have questions

Website: aglaiasense.com

Sales: sales@aglaiasense.com

Support: support@aglaiasense.com

Phone: +1 (408) 263-0988

AglaiaSense