AI Camera Dev Kit

NVIDIA® Jetson Nano™ based AI Vision Developer Kit

Introduction

Designed to make Proof of Concept (PoC) easier, the ADLINK AI Camera Dev Kit integrates the NVIDIA® Jetson Nano™ SOC, an 8MP color MIPI camera module and validated software drivers to save effort on integration and solve compatibility issues. Users can immediately start development with the kit right out of the box. Built with the popular V4L2 video interface, users can easily leverage the included sample code or resources from NVIDIA's technical forum to enhance the kit, allowing them to conveniently create a PoC with little effort.

For AI beginners or in-house system integrators, the pre-installed EVA software provides two AI applications with sample code for image capture, AI inference and logical control to develop a PoC or application quickly and easily. The EVA is a GUI-based development tool that provides a low-code environment with software tools for labeling and training, and two open source selected models so users can build a PoC without AI expertise.

DI/O, COM, and LAN ports make the ADLINK Vision Dev kit ideal for building an AI vision proof of concept quickly and easily.



Features

- Integrates Jetson Nano module, 8MP image sensor with lens and vertical I/O for quick development start up.
- Two AI applications and sample code preinstalled to get you started right away.
- Complete EVA software for labeling, training and inference means no AI expertise needed to build a PoC.
- USB Type-C port for video, power, and USB simplifies connectivity
- 4x DI, 4x DO, 1x LAN and 1x COM

Optional Accessories

① USB Type-C hub/adapter/30cm USB Type-C cable (92-99090-1010)
② 1.8m USB Type-C cable with screw lock (30-01284-0030-A0)
③ I/O cable with DB-15 connector (30-21621-0000-A0)
④ 3m DB-15 to DB-37 I/O extension cable (30-01332-0010-A0)
⑤ DIN-37D-01 IO extension board (91-14025-1020)
⑥ AI camera kit tripod bracket (91-95340-000E)
⑦ AI camera kit acrylic plate (91-95341-000E)



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Software Support

- Ubuntu 18.04
- Jetpack 4.6.1
- OpenCV 4.1.1

Note: Supported software versions will be updated as released by NVIDIA.

Ordering information

- **AI Camera Dev Kit (91-14209-110E)** ※ Power supply not included
  - NVIDIA Jetson Nano, 8MP color MIPI camera module, rolling shutter, 30fps
- **AI Camera Dev Kit & USB Type-C power supply (90-20075-000E)**
  - NVIDIA Jetson Nano, 8MP color MIPI camera module, rolling shutter, 30fps
  - USB Type-C Hub/power adapter/30cm USB Type-C cable

Purchase optional accessories for your custom use case:

- To extend monitor, keyboard/mouse and power supply capabilities
- To connect to digital I/O devices

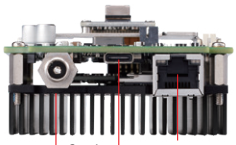


① AI Camera Dev Kit & USB Type-C power supply (90-20075-000E)

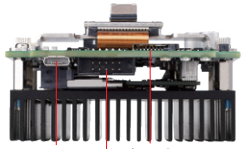


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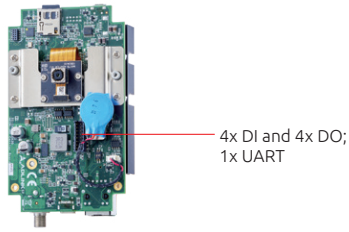
Front View



Back View



Top View



Note: The kit can be powered either by DC input or USB Type-C adaptor

Specifications

Model Name	AI Camera Dev Kit
Image Sensor	
Resolution (HxV)	3280 x 2464
Resolution	8M
Frame Rate (fps)	3280 x 2464 @ 15fps / 1920 x 1080 @ 30fps
Color/Mono	Color
Shutter	Rolling
Sensor Size	1/3.2"
Pixel Size(μm)	1.4 x 1.4
Sensor Vendor	Sony
Sensor Model	IMX179
Image Capture	V4L2 & Gstreamer
FOV	72.9°
System	
Computing Platform	NVIDIA Jetson NANO
CPU	Quad-core ARM Cortex-A57 MPCore processor
Supported OS	Ubuntu 18.04
GPU	NVIDIA Maxwell architecture with 128 NVIDIA CUDA® cores
Storage	16 GB eMMC
Memory	4 GB 64-bit LPDDR4
Connectors	
Ethernet	10/100/1000 Mb
USB Type-C	Video output (DisplayPort), 1920 x 1080 @ 30fps
	1x USB3 and 1x USB2
	Power supply for the camera (when connect to the Type-C charger or adaptor)
D-sub	4x DI and 4x DO
	1x UART (TXD, RXD, GND)
Micro USB	USB OTG (for system flash)
Wafer Connector	For system flash
Mechanical & Power	
Dimensions	130.0(L) x 72(W) x 43.8(T) mm
Power Input	DC Jack (12-24V DC) or USB Type-C (15V DC)
Power Consumption	<40W
Environmental	
Operating Temperature	0°C to 30°C
Storage Temperature	-20°C to 70°C

Note: the DC power source can be either from the DC jack or from the USB Type-C connector

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