NEON-1000-MDX Series

Intel Atom® E3930 and Movidius™ Myriad™ X-based Industrial AI Smart Camera for AI Vision at the Edge

Features

- Integration of Intel Atom® E3930, Movidius™ Myriad™ X, and image sensor, easy to deploy
- All-in-one design minimizes cabling, footprint, and maintenance
- FPGA-based digital I/O for accurate real-time triggering
- USB Type-C port for video, power, and USB simplifies connectivity
- 1x microSD slot for additional storage
- Supports four types of image sensors
- Digital I/O, 1x LAN, and 1x COM
- Supports C-mount lenses
- Supports ADLINK EVA (Edge Video Analytics), reducing the development time of deep learning applications

Introduction

ADLINK's NEON-1000-MDX Series of industrial AI smart cameras equips the Intel Atom® E3930 CPU and Movidius™ Myriad™ X VPU and a range of image sensors, providing users the flexibility to handle a wide variety of applications.

With the VPU and embedded graphics on the Intel Atom® SoC, users can deploy their AI vision system with different neural networks created using Intel® OpenVINO™. By leveraging ADLINK EVA (Edge Video Analytics), the Intel® OpenVINO™ model can be deployed on the NEON-1000-MDX quickly and easily, saving precious time and effort.

The NEON-1000-MDX series integrates an extensive I/O, which includes 4x digital inputs, 4x digital outputs, 1x communication port, 1x LAN port, and 1x USB Type-C port for multiple applications in a compact chassis that reduces cabling effort for easy installation and deployment.

ADLINK EVA (Edge Video Analytics) is a software tool based on Gstreamer, which provides the plugins necessary for easy integration of the models optimized by Intel® OpenVINO™. With a strong open-source framework and structured data, users can build applications quickly and with minimal effort.

Software Support

- Ubuntu 18.04
- Intel® OpenVINO™
- Basler pylon_6.1

Accessories

- 1.8m USB Type-C cable with screw lock
- USB Type-C adapter/hub
- 3m DB-15 to DB-37 I/O extension cable
- I/O extension board (DIN-37D-01)
- 12V AC/DC adapter
- C-mount lens, focal length 8mm, aperture f1.4

Note: Use only recommended ADLINK power adapters and cables.

Ordering Information

- **NEON-101B-MDX**
  Intel Atom® x5-E3930 Processor, Intel® Movidius™ Myriad™ X VPU, color sensor, 1.2M 54fps, global shutter
- **NEON-102B-MDX**
  Intel Atom® x5-E3930 Processor, Intel® Movidius™ Myriad™ X VPU, color sensor, 1.9M 60fps, global shutter
- **NEON-103B-MDX**
  Intel Atom® x5-E3930 Processor, Intel® Movidius™ Myriad™ X VPU, color sensor, 2M 30fps, rolling shutter
- **NEON-104B-MDX**
  Intel Atom® x5-E3930 Processor, Intel® Movidius™ Myriad™ X VPU, color sensor, 5M 14fps, rolling shutter

Specifications

Model Name	NEON-101B-MDX	NEON-102B-MDX	NEON-103B-MDX	NEON-104B-MDX
Image Sensor				
Resolution (HxV)	1280x960	1600x1200	1920x1080	2592x1944
Resolution	1.2M	1.9M	2M	5M
Frame Rate (fps)	54	60	30	14
Color/Mono	Color	Color	Color	Color
Shutter	Global	Global	Rolling	Rolling
Sensor Size	1/3"	1/1.8"	1/3.7"	1/2.5"
Pixel Size (μm)	3.75 x 3.75	4.5 x 4.5	2.2 x 2.2	2.2 x 2.2
Sensor Vendor	ON Semiconductor	e2v	ON Semiconductor	ON Semiconductor
Sensor Model	AR0134	EV76C570	MT9P031	MT9P031
Lens Mount	C Mount			
Image Sensor Trigger Mode	External HW trigger, SW trigger, free run			
System				
Processor	Intel Atom® x5-E3930			
Supported OS	Ubuntu 18.04			
VPU	Intel® Movidius™ Myriad™ X MA2485			
Memory/Storage	4GB/32GB eMMC			
Connectors & Functions				
Ethernet	10/100/1000 Mbps			
USB Type-C Port	Video output (DisplayPort), 1920x1080 @ 30fps			
	1x USB 3.0 and 1x USB 2.0			
	Supplies power to the camera (when connected to the USB Type-C charger or adapter)			
	Power supply (5W) for the external USB Type-C hub (when connected to a USB Type-C hub)			
D-Sub Connector	4x DI and 4x DO			
	1x UART (TXD, RXD, GND)			
microSD Slot	For additional storage			
Micro-USB	1x Micro-USB port			
Mechanical & Power				
Dimensions	123.3 x 77.5 x 66.81 mm			
Weight	700g			
Power Input	DC jack (DC12V) or USB Type-C (DC15V)			
Power Consumption	<30W (camera only)			
Environmental & Certification				
Operating Temperature	0°C to 45°C (airflow 0.6 m/s)			
Storage Temperature	-20°C to 70°C			
Humidity	40% to 75% (non-condensing)			
Vibration	Operating, 5-500 Hz, 5 Grms, 3 axes			
Shock	Operating, 11ms duration, 30G, half sine, 3 axes			
ESD	Contact ± 4kV, Air ± 8kV			
EMC	CE and FCC Class A (EN61000-6-4/-2)			

Note: The device can be powered from either the USB Type-C adapter or the DC jack.