

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 | | | |
| D-3db Collifector | 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 & Certifica | ation | | | |
| 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.

