



# Start Your Journey in AI Vision Application Development!

## Targeting a Wide Range of Industries

ADLINK AI Vision Solution is ideal for visual inspection, object detection, automatic number plate recognition, and behavior monitoring, with all the intensive processing done on the device. Labor-intensive industries such as food sorting, logistics, packaging, and farming can all benefit. The various AI Vision Solution performs product sorting and classification tasks, and quality assurance.

ADLINK ready-to-deploy AI Edge Vision Solutions highly integrated hardware and software to make machine vision deployment for AI-based application easier. Comprehensive verification for safety, shock, vibration and temperature stability provides worry-free reliability as well. Based on ADLINK more than 25 years' experience in industrial automation and machine vision, ADLINK offers a complete spectrum of AI-enabled machine vision platforms with diverse heterogeneous computing cores, including AI-enabled vision platforms, smart cameras, module to inference servers, and many others, featuring highly optimized heterogeneous edge computing, built-in deep learning modules, motion control function, and real-time connectivity, dramatically reducing AI developers' efforts on time-consuming processes, including integration, validation and development. Just enjoy your journey in AI vision application development!

### Simplified System Integration



Pre-installed and optimized software environment shortens development time; Highly integrated design reduces compatibility and size limitation issues, and installation/maintenance efforts

### Worry-free for Reliability Issues



CE/FCC/Safety verified to reduce EMC/ESD issues; shock, vibration and temp. cycle validated for stability

### Optimized for Vision Application



High quality camera sensor module/ interface pre-integrated provides advanced image quality with accurate FPGA based DI/O design, ideal for various machine vision applications



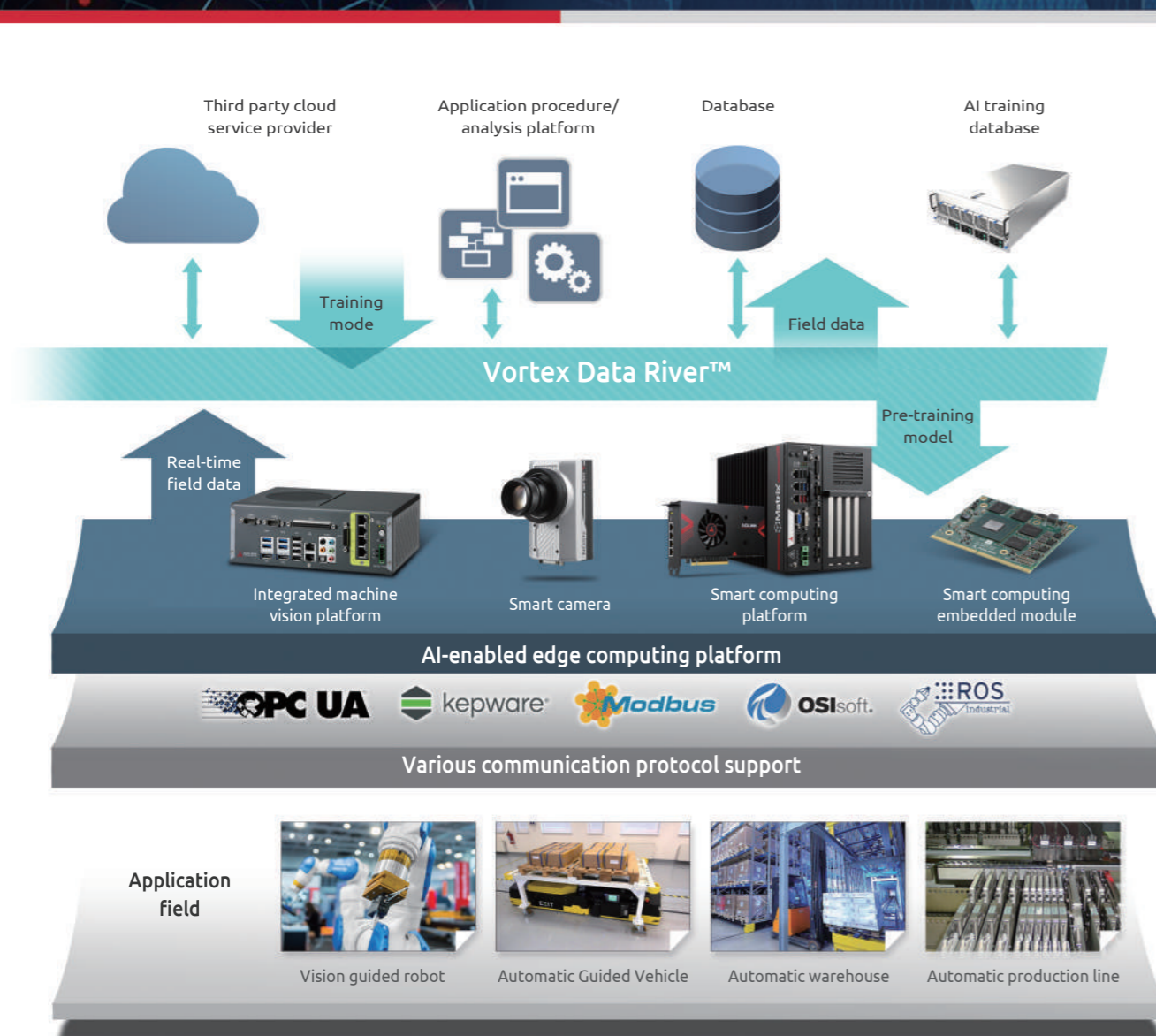
# AI-enabled Machine Vision

## Intelligent edge computing supercharges smart manufacturing

AI implementation in edge computing enables easy implementation of normally difficult production tasks such as customized quality inspection, detection of minute irregularities in textured surfaces, and labeling recognition for irregularly stacked cargo. Machine learning, cognitive services, image processing analysis, and other complex information management tasks can be performed at the edge to make adjustments in real time. Production equipment, unmanned vehicles, and complex robotics benefit from the increased stability, reduced latency, and enhanced efficiency provided in FoF operations, with accuracy increased through continuous training and significantly reduced development time.

## The Real Machine Vision Solution

ADLINK provides a variety of machine vision platforms, featuring highly integrated edge computing, built-in deep learning modules, motion control function, and real-time connectivity. Implementation of the open architecture ROS2 standard supports thorough communication with robots from various manufacturers or AGV and equipment to realize the FoF ideal. The OPC UA communication protocol enables seamless communication among automation equipment, connecting and streaming image data through Vortex Data River™ to the cloud and, after analytics, the AI training server, empowering data-to-decision results. Adjustment of reaction ultimately improves accuracy of machine vision detection and optimizes production.



<b>Open Architecture</b> Supports a wide variety of popular AI platforms 	<b>Supports a wide variety of AI-enabled machine vision utilities</b> 	<b>Supports ROS2</b> Easy connection to robotic arms, AGV, and other equipment of different brands with ease 
<b>Automation Expert</b> Superior expertise in automation, one-stop solutions, and fast line setup 	<b>Edge Computing Capability</b> 	<b>Supports OPC-UA</b> Equipment communication for PLC, I/O and movement control 

## Real-time Smart Decision Making, Realization of Smart Logistics

AI-enhanced edge computing is benefiting industry-leaders in manufacturing and e-commerce, empowering unmanned warehouse-, vehicle-, and drone-based operations. Having reshaped the profit model of the logistics industry, the technology has far surpassed the limits of conventional labor-driven environments and significantly increasing product picking accuracy. Smart shelves excel at the challenges of diverse product shipping, and edge machine vision platforms utilizing barcode, QR, and OCR, are able to ID and locate products much more accurately in real time. Upon encountering errors, notifications are issued instantly and directly to responsible personnel, product data is communicated in real time with no delays, and smart forecasting prevents continuous error and significantly increases logistics, picking accuracy, and shipping performance.

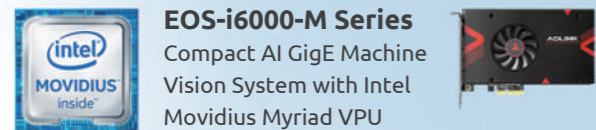
Connection of real-time data



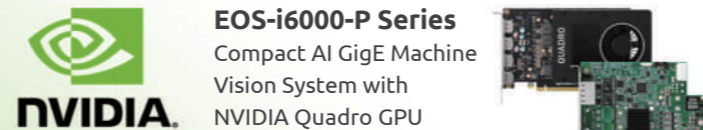
# EOS-i Series

## AI GigE Vision Systems for the Edge

The EOS-i Series AI GigE Machine Vision System allows machine vision to evolve into a new AI-ready machine vision solution that provides high reliability, optimized performance, and minimal development effort. This is accomplished through various carefully validated HW/SW integrations for optimal performance, thus minimizing the time that developers of specific AI machine vision solutions need to spend on their own validation and integration efforts, empowering them to more quickly develop AI-based machine vision applications. Whether compact or high-performance, NVIDIA- or Intel-based, the EOS-i Series has a configuration to meet the needs of any AI vision project.



**EOS-i6000-M Series**  
Compact AI GigE Machine Vision System with Intel Movidius Myriad VPU



**EOS-i6000-P Series**  
Compact AI GigE Machine Vision System with NVIDIA Quadro GPU



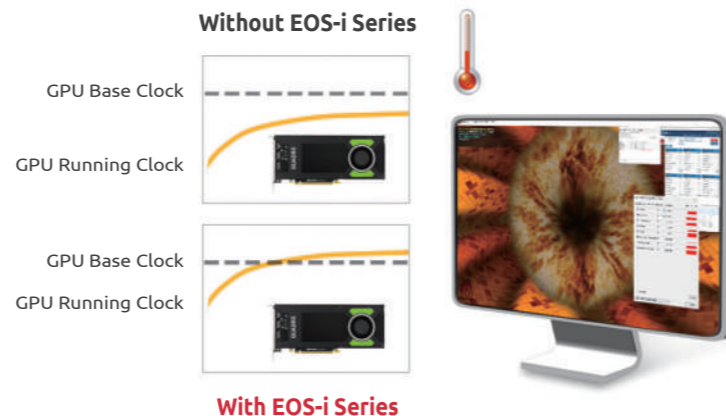
**EOS-iX000-P Series**  
High Performance AI GigE Machine Vision System with NVIDIA Quadro GPU

Note: The industrial camera is NOT included in this selling package.

### EOS-i Offers High Reliability and Superior Performance

EOS-i devices are validated as stable even at ambient temperatures as high as 50°C.

EOS-i devices maintain high GPU performance w/o throttling thanks to validated thermal design, optimized SW setup, and ample power budget.



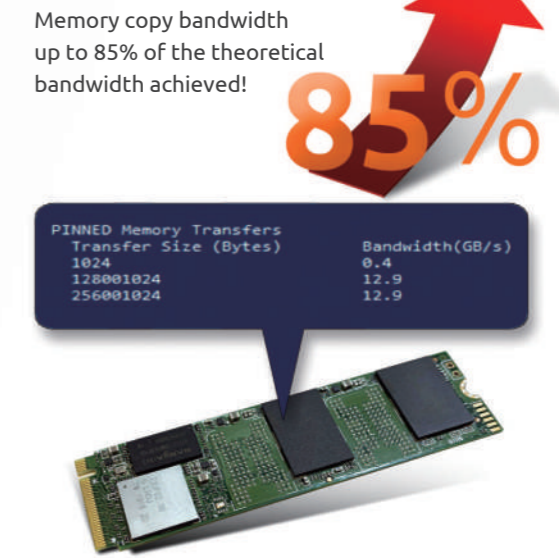
### Validated HW/SW integration to accelerate time to market (TTM)

The EOS-i Series features tightly integrated HW and SW, already verified for compatibility, providing AI developers a convenient launchpad for their projects.



### Optimized Performance from Expert Experience

EOS-i devices feature optimized HW settings to accelerate memory copy performance and keep AI apps running smoothly.



### Supports EVA SDK

ADLINK AI vision platform support EVA, ADLINK's edge vision analytics software, which serves as a unified platform for streamlining AI vision project deployment in a heterogeneous computing environment.

- Supports 10+ camera protocols and field-ready application plugins
- Supports TensorRT and OpenVINOTM AI inference engines
- Four weeks from PoC to mass deployment



**EVA**  
EDGE VISION ANALYTICS

**ADLINK**  
NEON

- 2 Days for Demo
- 2 Weeks for PoC
- 2 Months to Deploy

# EOS-i AI Vision System Selection Guide

## NVIDIA Based

Model Name	EOS-iXM43H -P100	EOS-iXM43H -P2200	EOS-iXM43H -P4000	EOS-iXM43H -P5000
Camera Interface	4-ch Gigabit PoE IEEE 802.3at compliant, total max. POE output 61W			
CPU	Intel® Core™ i7-6700, 3.4 GHz, 8M Cache, 14nm, 65W TDP, LGA1151 (4C/8T)			
Chipset	Intel® H110 Express Chipset			
System Memory	Two 288 PIN DDR4 Sockets (vertical type) 16GB DDR4 2400 MHz, dual channel up to 32 GB			
Storage	512G SSD			
GPU	NVIDIA® Quadro® P1000	NVIDIA® Quadro® P2200	NVIDIA® Quadro® P4000	NVIDIA® Quadro® P5000
GPU Memory	4GB	5GB	8GB	16GB
CUDA Cores	640	1280	1792	2560
Dimension	330 (W) x 406 (D) x 196 (H) mm			
DI/O	ADLINK series DI/O cards supported			
Display	1x VGA connector (rear) 1x HDMI connector (rear)			
Serial ATA	4x SATA 6.0 Gb/s connectors			
USB	4x USB 3.0 connectors (rear) 2x USB 2.0 connectors (rear) 2x USB 2.0 pin headers 2x USB 2.0 (vertical type A connector)			
Serial Ports	2x RS-232/422/485 with auto flow control connector (rear) 4x RS-232 pin headers			
Expansion Slots	1xPCIe x16 Gen3 1xPCIe x4 Gen2 5xPCI 2.2			
PS2 Combo Port	1x PS/2 keyboard & Mouse connector (rear)			
DIO	2x 20-pin/2.0mm GPIO pin header: 16 GPI and 16 GPO, one ground pin and one power pin (5V/12V/no power, jumper selected)			
Audio	1x Mic-in, 1x Line-out and 1x Line-in connectors (rear)			
Mini PCIe/M.2/USIM	N/A			
Operating Temperature	0 °C to 50°C			
Storage Temperature	40 °C to 85 °C			
Relative Humidity	40° C @ 95% RH Non-condensing			
Certification (EMC)	CE & FCC Class B			
OS Support	Windows® 10 / Linux Ubuntu 18.04			
Embedded OS	Windows® 10			
Software	Pre-installed AI Software Suite			

Note: Specific supported Linux version information available upon request



## Intel Based

Model Name	EOS-i614A-P1000	EOS-i614A-P2200
<b>System Core</b>		
Camera Interface	4-ch Gigabit PoE IEEE 802.3at compliant, total max. POE output 30W	
Processor	9th Gen Intel® Core™ i7-9700E, 65W, 8 cores, base freq. 2.6G/ max. freq. 4.2G Hz	
Chipset	C246	
Memory	16GB DDR4 2400MHz, dual SODIMMs	
Storage	512GB SSD	
GPU	NVIDIA® Quadro® P1000	NVIDIA® Quadro® P2200
GPU Memory	4GB	5GB
CUDA Cores	640	1280
<b>I/O Interface</b>		
Display	2x DP++, DVI-D, VGA	
Expansion Slots	PCIe x16 + 2 PCIe x4 + PCI	
Ethernet	3x Intel GbE: 2x i211AT + i219 iAMT support	
Serial Ports	COM1/2: RS-232/422/485, COM3/4: RS-232 Optional: COM5/6 RS-232 (shared w/ DI/O)	
USB	3x USB3.1 Gen2 + 3x USB2.0, 1x internal USB2.0 dongle	
Audio	Line-out, Mic-in (Optional: speaker-out)	
Mini PCIe	PCIe 1x Full size (USB 2.0 + PCIe)	
M.2	1x 2280/3042: USB3.1, SATA III and PCIe x2	
USIM	2	
DI/O	8-ch DI and 8-ch DO	
I2C	2 (3.3V/5V)	
TPM2.0	Yes	
<b>Storage Device</b>		
2.5" SATA	4x internal	
CFast	1 Type II	
<b>Mechanical</b>		
Dimensions	206 (W) x 240 (D) x 210 (H) mm (8.11" x 9.45" x 8.27")	
<b>Power Supply</b>		
DC Input	12-24V (± 10% tolerance)	
AC Input	280W AC/DC adapter	
<b>Environmental</b>		
Operating Temperature	Standard: 0°C to 50°C, w/ air flow Extended Temperature (w/ Ind. storage), w/ air flow -10°C to 50°C	
Storage Temperature	-40°C to 85°C (-40°F to 185°F) (excl. storage)	
Humidity	~95% @ 40°C (non-condensing)	
Vibration	Operating: 5 Grms, 5-500 Hz, 3 axes (w/2.5" SSD/CFast) Operating: 0.5 Grms, 5-500 Hz, 3 axes (w/ HDD)	
Shock	Operating: 50 Grms, half sine 11ms duration (w/ 2.5" SSD/CFast)	
ESD	Contact +/-4KV, Air +/-8KV	
EMC	EN61000-6-4/-2, CE & FCC Class A	
Safety	UL/cUL, CB, CCC	
OS Support	Windows® 10 / Linux Ubuntu 18.04	
Embedded OS	Windows® 10	
Software	Pre-installed AI Software Suite	

Model Name	EOS-i614A-MYDX
<b>System Core</b>	
Camera Interface	4-ch Gigabit PoE IEEE 802.3at compliant, total max. POE output 30W
Processor	9th Gen Intel® Core™ i7-9700E, 65W, 8 cores, base freq. 2.6G/ max. freq. 4.2G Hz
Chipset	C246
Memory	16GB DDR4 2400MHz, dual SODIMMs
Storage	512GB SSD
VPU	4x Intel® Movidius™ Myriad™ X
<b>I/O Interface</b>	
Display	2x DP++, DVI-D, VGA
Expansion Slots	PCIe x16 + 2 PCIe x4 + PCI
Ethernet	3x Intel GbE: 2x i211AT + i219 iAMT support
Serial Ports	COM1/2: RS-232/422/485, COM3/4: RS-232 Optional: COM5/6 RS-232 (shared w/ DI/O)
USB	3x USB3.1 Gen2 + 3x USB2.0, 1x internal USB2.0 dongle
Audio	Line-out, Mic-in (Optional: speaker-out)
Mini PCIe	1x Full size (USB 2.0 + PCIe)
M.2	1x 2280/3042: USB3.1, SATA III and PCIe x2
USIM	2
DI/O	8-ch DI and 8-ch DO
I <sup>2</sup> C	2 (3.3V/5V)
TPM2.0	Yes
<b>Storage Device</b>	
2.5" SATA	4x internal
CFast	1 Type II
<b>Mechanical</b>	
Dimensions	206 (W) x 240 (D) x 210 (H) mm (8.11" x 9.45" x 8.27")
<b>Power Supply</b>	
DC Input	12-24V (± 10% tolerance)
AC Input	280W AC/DC adapter
<b>Environmental</b>	
Operating Temperature	Standard: 0°C to 50°C, w/ air flow Extended Temperature (w/ Ind. storage), w/ air flow -10°C to 50°C
Storage Temperature	-40°C to 85°C (-40°F to 185°F) (excl. storage)
Humidity	~95% @ 40°C (non-condensing)
Vibration	Operating: 5 Grms, 5-500 Hz, 3 axes (w/2.5" SSD/CFast) Operating: 0.5 Grms, 5-500 Hz, 3 axes (w/ HDD)
Shock	Operating: 50 Grms, half sine 11ms duration (w/ 2.5" SSD/CFast)
ESD	Contact +/-4KV, Air +/-8KV
EMC	EN61000-6-4/-2, CE & FCC Class A
Safety	UL/cUL, CB, CCC
OS Support	Windows® 10 / Linux Ubuntu 18.04
Embedded OS	Windows® 10
Software	Pre-installed AI Software Suite

# All-in-One AI Industrial Smart Camera for the Edge

NEON Series

## Simplified System Integration

A MIPI sensor and TX2 box is a complex solution. The camera lens requires a large enclosure, and cables create compatibility and reliability issues. The NEON combines all the necessary parts into an all-in-one package with pre-installed and optimized software environment, eliminating compatibility issues, speeding up installation, and reducing maintenance.



**IN camera**



- 8GB LPDDR4/32GB eMMC
- 4 Basler image sensor options
- 700g
- 123.3 X 77.5 X 66.81 mm

**Compact and Powerful**  
Similar size to a smartphone, designed for edge vision applications



## Worry-free for Reliability Issues

By solving the issues of EMC/EDS/vibration/thermal, compatibility of various interfaces, image drops caused by fault camera settings, and the space limit, NEON Series AI smart camera can provide the high reliability and optimized performance compare to other AI solution on the market. By using the compact and ready-to-use NEON smart cameras, AI developers can avoid those hassles and speed up the time to market.

### Hardware verified

- Storage Temperature**: -20°C to 70°C
- Operating Temperature**: 0°C to 45°C
- ESD**: Contact ± 4kV, Air ± 8kV
- EMC**: CE and FCC Class A (EN61000-4/-2)
- Vibration**: Operating, 5-500 Hz, 5 Grms, 3 axes
- Shock**: Operating, 11ms duration, 30G, half sine, 3 axes
- Safety**: UL and cB

Mode Name	Op. Temp (°C) w/o air flow	Op. Temp (°C) w 0.6m/s air flow
Max-N	35	45
Max-Q	45	50
Max-PÂ Core-All	40	50
Max-P ARM	40	50
Max-P Denver	45	50

## Optimized for Vision Application

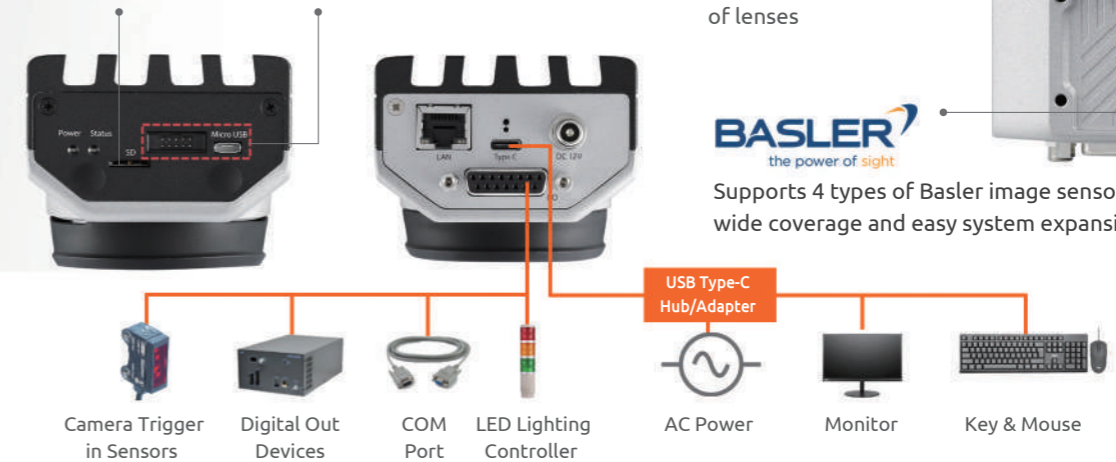
By supporting leading camera manufacturer Basler's 4 type image sensors, NEON series AI Smart Camera can widely cover various AI vision application with high image quality. With FPGA based DI/O design, NEON series AI Smart Camera provides accurate H/W triggering and USB Type-C hub reduces cable connections, ideally suited for machine vision applications in automated manufacturing.

**microSD slot** for external storage  
**Friendly design** for flashing the system

**C-mount**  
flexible support of lenses



Supports 4 types of Basler image sensors, wide coverage and easy system expansion



## Optimized Heterogeneous Computing Solutions

With AI's extremely diverse nature, system architects are applying AI to a wide variety of tasks such as image processing, character recognition, and object classification. As particular combinations of neural networks and frameworks, running on specialized computing cores, are ideal for specific tasks, heterogeneous computing is the ideal strategy for deploying AI. To accommodate application-specific needs, ADLINK provide various edge AI Smart Camera based on GPU/VPU modules catered to individual project requirements.



## Supports EVA SDK

NEON AI smart cameras support EVA, ADLINK's edge vision analytics software, which serves as a unified platform for streamlining AI vision project deployment in a heterogeneous computing environment.



## Start Your AI Vision with the NEON Starter Kit



NEON series kits are available in two configurations with the required accessories for users to either test in the lab or quickly deploy in the field.

- Contents:
- (1) NEON AI Smart Camera
  - (2) USB Type-C Adapter/Hub
  - (3) 1.8m USB Type-C cable w/ screw lock
  - (4) Power Cord
  - (5) Lens
  - (6) DI/O Cable
  - (7) DIN37 I/O extension board
  - (8) 30cm USB Type-C Cable







# Smart Camera Selection Guide

## NVIDIA Based : NEON-2000-JT2 Series

Model Name	NEON-201B-JT2	NEON-202B-JT2	NEON-203B-JT2	NEON-204B-JT2
				
<b>Image Sensor</b>				
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 H/W trigger, S/W trigger, free run			
<b>System</b>				
Computing Platform	NVIDIA® Jetson™ TX2			
Processor	ARM Cortex-A57 and NVIDIA® Denver 2			
Supported OS	Ubuntu 18.04			
GPU	256-core NVIDIA® Pascal GPU			
Memory/Storage	8GB LPDDR4/32G B eMMC (integrated on TX2 module)			
<b>Connectors and Functions</b>				
Ethernet	Supports 10/100/1000 Mbps			
USB Type-C Port	Video output (Display-Port), 1920x1080 @ 30fps			
	1x USB 3 and 1x USB 2			
	Power supply for camera (when connected to USB charger or adapter)			
D-Sub	Power supply (5 W) for external USB Type-C Hub (when connected to a Type-C hub)			
	4x DI and 4x DO			
Micro-USB	1x UART (TXD, RXD, GND)			
microSD Slot	USB OTG (for system flash)			
Wafer Connector	For extended storage			
	For system flash			
<b>Mechanical &amp; Power</b>				
Dimensions	123.3 x 77.5 x 66.81 mm			
Weight	700g			
Power Input	DC jack (12VDC) or USB Type-C (15VDC)			
Power Consumption	<30W (camera only)			
<b>Environmental &amp; Certification</b>				
Operating Temperature	0°C to 45°C			
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 (EN61000-4/-2)			
Safety	UL and cB			

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







## NVIDIA Based : NEON-2000-JT2-X Series

Model Name	NEON-201B-JT2-X	NEON-202B-JT2-X	NEON-203B-JT2-X	NEON-204B-JT2-X
				
<b>Image Sensor</b>				
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 H/W trigger, S/W trigger, free run			
<b>Protection</b>				
Ingress Protection	IP67			
<b>System</b>				
Computing Platform	NVIDIA® Jetson™ TX2			
Processor	ARM Cortex-A57 and NVIDIA Denver 2			
Supported OS	Ubuntu 18.04			
GPU	256-core NVIDIA Pascal GPU			
Memory/Storage	8GB LPDDR4/32G eMMC (integrated on TX2 module)/64G from internal microSD card			
<b>Connectors and Functions</b>				
M12 8-pin FML for Ethernet	Support 10/100/1000 Mb			
M12 USB Type-C FML for Video, USB and Power	Video output (Display Port), 1920x1080 @ 30fps			
	1x USB 3 and 1x USB 2			
	Power supply for the camera (when connect to the Type C charger or adaptor, DC 15V/2A)			
	Power supply (5 W) for external Type C Hub (when connect to Type C hub)			
	2x DI and 2x DO			
Micro-USB	1x UART (TXD, RXD, GND)			
microSD Slot	USB port & I/O for flashing the TX2			
Wafer Connector	DC 24V power input			
<b>Mechanical &amp; Power</b>				
Dimensions	137.3 x 79.55 x 74.85 mm			
Weight	900g			
Power Consumption	<30W (camera only)			
<b>Environmental &amp; Certification</b>				
Operating Temperature	0°C to 45°C			
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 (EN61000-4/-2)			
Safety	UL and cB			

Note: The DC power source can be either from the M12 17-pin or M12 USB Type-C connector

# Smart Camera Selection Guide





## NVIDIA Based : NEON-2000-JNX Series<sup>1</sup>

Model Name	NEON-201B-JNX	NEON-202B-JNX	NEON-203B-JNX	NEON-204B-JNX	NEON-201A-JNX	NEON-202A-JNX
						
<b>Image Sensor</b>						
Resolution (HxV)	1280 x 960	1600 x 1200	1920 x 1080	2592 x 1944	1920 x 1200	3840 x 2160
Resolution	1.2M	1.9M	2M	5M	2M	8M
Frame Rate (fps)	54	60	30	14	60	30
Color/Mono	Color	Color	Color	Color	Color	Color
Shutter	Global	Global	Rolling	Rolling	Global	Rolling
Sensor Size	1/3"	1/1.8"	1/3.7"	1/2.5"	1/2.6"	1/1.8"
Pixel Size (µm)	3.75 x 3.75	4.5 x 4.5	2.2 x 2.2	2.2 x 2.2	3 x 3	2.0 x 2.0
Sensor Vendor	ON Semiconductor	e2v	ON Semiconductor	ON Semiconductor	AR0234	SONY
Sensor Model	AR0134	EV76C570	MT9P031	MT9P031	MT9P031	IMX334
Image sensor SDK	Basler pylon			V4L2 & Gstreamer		
Image Sensor Trigger Mode	External H/W trigger, S/W trigger, free run					S/W trigger, free run
Lens Mount	C Mount					
<b>System</b>						
Computing Platform	NVIDIA Jetson Xavier NX					
CPU	6-core NVIDIA Carmel ARM® v8.2 64-bit CPU 6 MB L2 + 4 MB L3					
Supported OS	Ubuntu 18.04					
GPU	NVIDIA Volta architecture with 384 NVIDIA CUDA® cores and 48 Tensor cores					
Storage	16 GB eMMC (built-in NX module) and pre-installed 32 GB microSD card (camera boots from the microSD card)					
Memory	Memory 8 GB 128-bit LPDDR4 / 16 GB eMMC (built-in NX module)					
<b>Connectors and Functions</b>						
Ethernet	Support 10/100/1000 Mb					
Type C	Video output (DisplayPort), 1920 x 1080 @ 30fps					
	1xUSB3 and 1xUSB2					
	Power supply for the camera (when connect to the Type C charger or adaptor) Power supply (5 W) for external Type C Hub (when connect to Type C hub)					
D-Sub	4xDI and 4xDO					
	1xUART (TXD, RXD, GND)					
Micro-USB	USB OTG (for system flash)					
Wafer Connector	For the system flash					
<b>Mechanical &amp; Power</b>						
Dimensions	123.3 x 77.5 x 66.81 mm					
Weight	700 g					
Power Input <sup>2</sup>	DC Jack (DC12~24V) or Type C(DC15V)					
Power Consumption	<40W (camera only)					
<b>Environmental &amp; Certification</b>						
Operating Temperature	0°C to 45°C			0°C to 55°C		
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 (EN61000-4/-2)					
Safety	UL and cB					

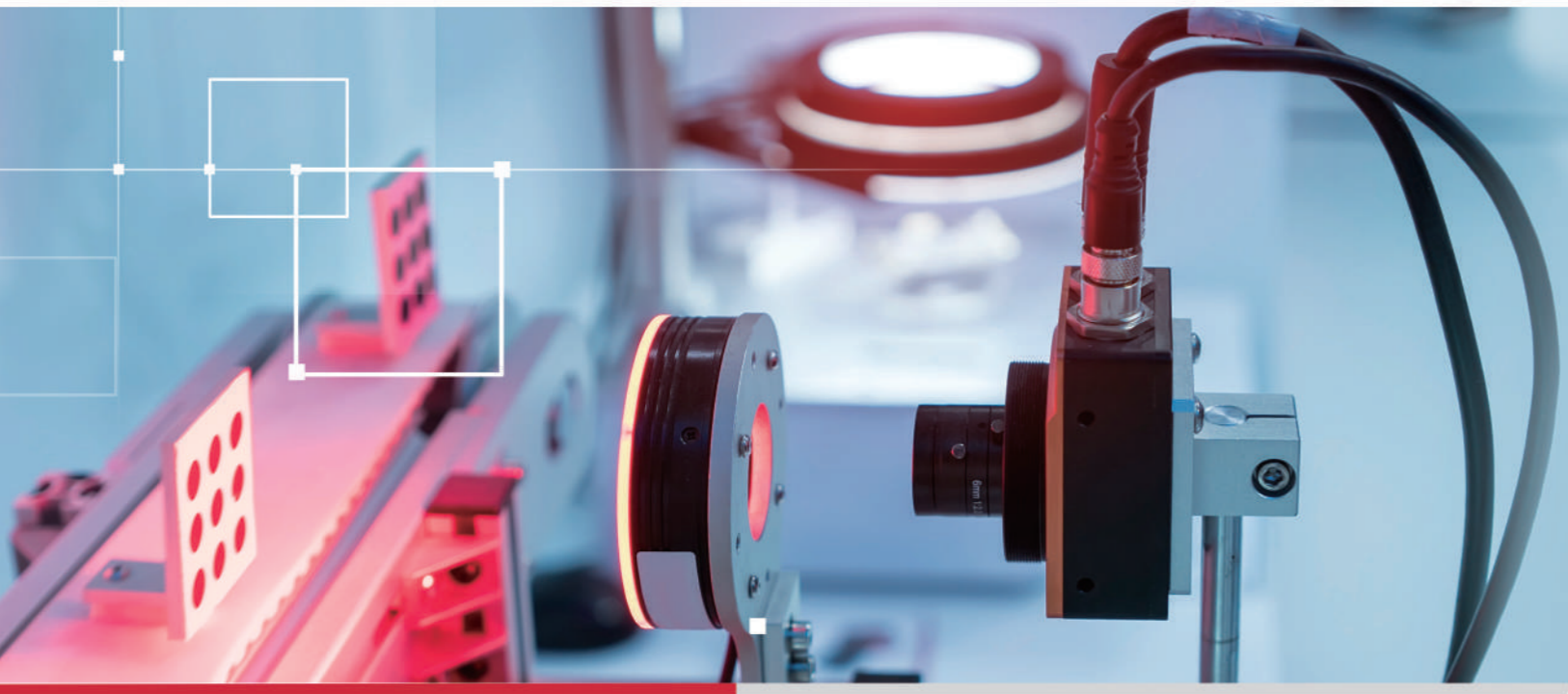
Note 1: The NEON-2000-JNX Series will be available in Q2 2021.

Note 2: The DC power source can be either from the DC jack or from the USB Type-C port.

## Intel Based : NEON-1000-MDX Series

Model Name	NEON-101B-MDX	NEON-102B-MDX	NEON-103B-MDX	NEON-104B-MDX
				
<b>Image Sensor</b>				
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			
<b>System</b>				
Processor	Intel Atom® x5-E3930			
Supported	OS Ubuntu 18.04			
VPU	Intel® Movidius™ Myriad™ X MA2485			
Memory/Storage	4GB/32GB eMMC			
<b>Connectors &amp; Functions</b>				
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	microSD Slot For additional storage			
Micro-USB	Micro-USB 1x Micro-USB port			
<b>Mechanical &amp; Power</b>				
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)			
<b>Environmental &amp; Certification</b>				
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.



### 3D Laser profile

The ZX-5000 series of 3D profile sensor uses laser triangulation technology to deliver high-resolution, high-speed, on-the-fly scanning for dimensional measurements, and is ideal for in-line production quality inspections in automotive, rubber & tire, electronics, semiconductor, PCBA, assembly, packaging, food and beverage, and other applications.

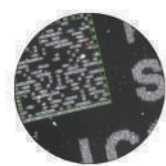
With its built-in, intuitive and easy-to-use GUI ZX-Creator software, the ZX-5000 series enables development and deployment of 3D inspections in 3 easy steps and allows easy integration into existing systems.

Factory pre-calibrated sensors and low-noise blue light laser ensure the profile measurement accuracy, and the versatile application-ready ZX-Toolkit allows highly accurate 2D/3D inspections in a very short deployment time.

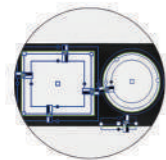


## Machine Vision Solution

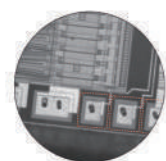
ADLINK is dedicated to providing reliable, top quality products for industrial I/O control, motion control, digital imaging, data acquisition, and modular instrument applications. Our comprehensive portfolio of measurement and automation products, application ready platforms, and easy-to-use software packages, with integrated value-added service, continually meet and exceed customer requirements for industrial automation systems, machine vision systems, and automated test and measurement equipment.



Inspection



Measurement



Alignment



Recognition



### Frame Grabber/Video Capture Cards

ADLINK provides full product line support, including USB3, GigE Vision, IEEE 1394b, Camera Link, HDMI, 3G-SDI and CoaXPress, compatible with most popular cameras and software. ADLINK's carefully selected embedded components ensure long term availability, and frame grabber/video capture cards highly integrate with ADLINK I/O cards and embedded computing platforms to deliver high reliability and fast development.



### Embedded Vision Systems

The ADLINK EOS Series compact GigE vision system is equipped with 6th Generation Intel® Core™ i7/i5/i3 processors and four independent PoE (power over Ethernet) ports. FPGA-based function allows the EOS Series to provide programmable de-bounce filtering, on-the-fly triggering, and advanced encoder functions for real-time precision control with no CPU loading or requirement for additional devices. Advanced I/O deployment, wide operating temperature support and onboard license protection all enable the EOS Series to increase reliability while reducing TCO and TTM, making it the ideal solution for Food & Beverage, Pharmaceutical, & Medical Device applications requiring high computing power and time deterministic operation in a durable package with minimal footprint.



### New Generation x86 Quad-Core Smart Camera

ADLINK's new generation x86 NEON Series features 4MP 60fps global shutter sensor and the Intel® Atom™ quad core 1.91 GHz processor, featuring minimal footprint and rugged IP67-rated construction. The quad core CPU increases computing power and FPGA coprocessors and GPU deliver advanced image processing, both beyond the capabilities of conventional smart cameras. Rich software support and API compatibility enable easy migration from original x86 platforms, eliminating software and development language burdens across the platform, reducing time to market.





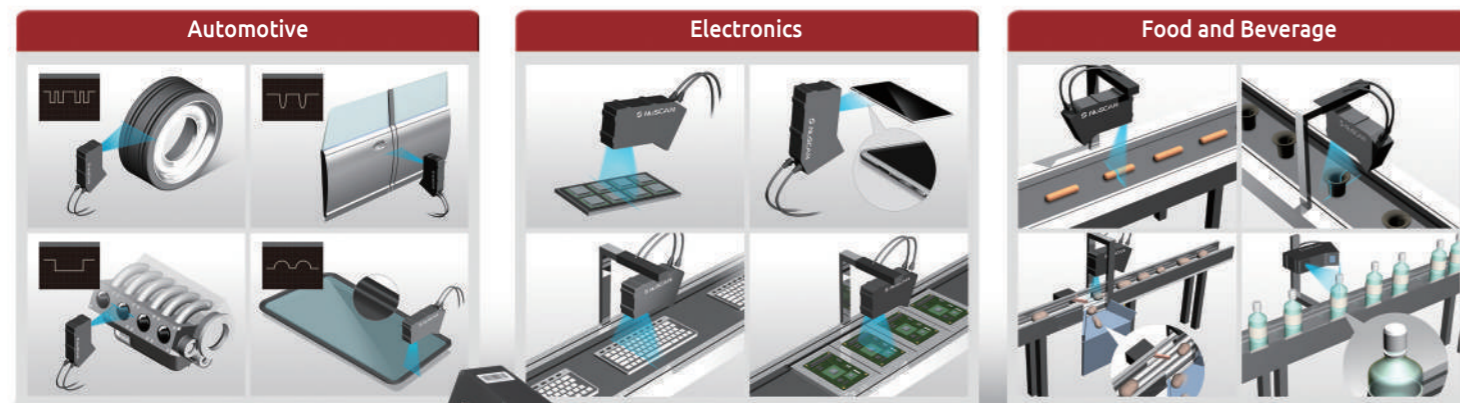
# Ultra-High-Resolution Smart 3D Profile Sensors ZX-5000 Series

The 3D profile sensor solution, ZX-5000 Series, featuring ultra-high resolution, factory pre-calibrated sensors, low-noise blue light laser, with bundled easy-to-use application-ready software and tools. The ZX-5000 Series easily performs highly accurate 2D/3D inline inspections and measurements for versatile applications with a very short deployment time and economical price. The ZX-5000 Series performs high accuracy dimensional verification and is ready-to-deploy, making it possible for system integrators to meet high-speed, complex vision quality control requirements and accelerate market development in automotive, electronics, food and beverage and other demanding applications.



## Features

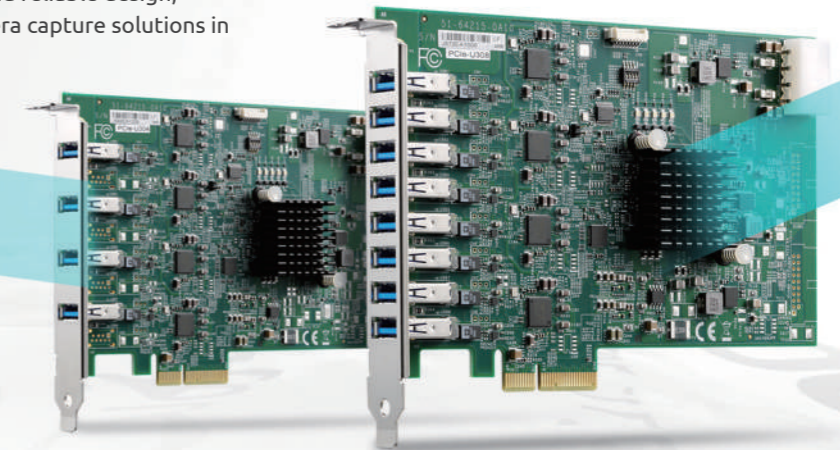
- Ultra-high resolution for micron-level inspection
- Factory pre-calibrated, real-world coordinates, right out-of-the-box
- Low-noise blue light laser, reliable, precise and stable
- Medium-size measurement range from 42 to 186 mm
- X-axis resolution to 0.022 mm and excellent Z-axis repeatability within 0.8  $\mu$ m
- Up to 10  $\mu$ m accuracy with 1  $\mu$ m z-axis resolution to meet stringent demands
- Built-in ZX-Creator GUI software, set-up in 3 easy steps
- 3 external trigger modes for camera capturing
- Versatile application-ready ZX-Toolkit, no programming required
- 9x 2D and 6x 3D measurement tools, support 168 different measurement types
- Up to 32 simultaneous measurements
- Flexible PC-based architecture, easy to integrate into existing systems



Smart 3D Profile Sensors  
ZX-5000 Series

# 4/8/12-ch PCI Express® x4 USB3 Vision Top Performing Frame Grabbers PCIe-U300 Series

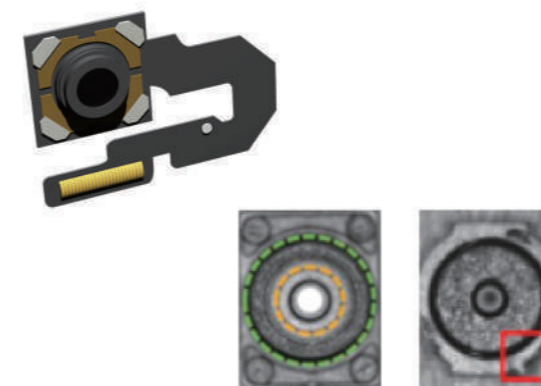
The USB3 Vision interface frame grabber, PCIe-U300 Series, featuring 4/8/12-ch USB 3.0 Type-A and supporting PCI Express x4. The top performance PCIe-U300 Series frame grabber provides up to 12 channels of USB3 Vision high-quality image capture ability with superior bandwidth and reliable design, making it an excellent TCO choice for multi-camera capture solutions in Machine Vision, Factory Automation, Quality Assurance and Logistics applications.



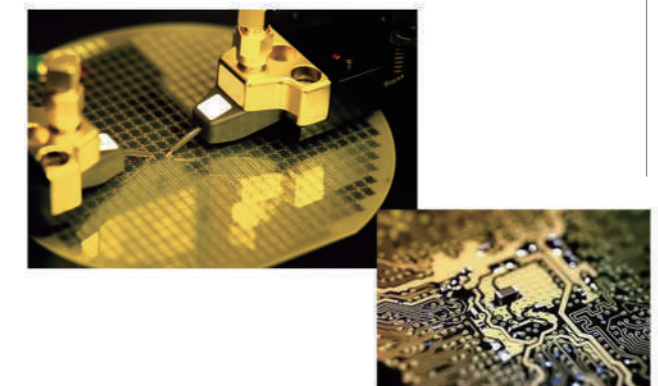
## Features

- PCI Express x4
- Host Controller, Fresco FL1100
- Compliant with USB 3.1 Gen 1 (identical to USB 3.0)
- 4/8 USB Type-A external ports (PCIe-U304/U308)
- 4 additional internal USB 3.0 ports by pin headers (PCIe-U312 only)
- Up to 18W USB power from PCIe bus (default)
- Up to 60W USB power supported by 4-pin Molex power connector
- 1500mA max. current per port
- Multiple cards, multiple cameras in a single system
- Easy-to-use API provided for software-programmable per-port power on/off

Smartphone Camera Module Inspection



Electric Components Inspection



# ADLINK Solutions for Machine Vision

## Why ADLINK?

- Full product line support, including USB3, GigE Vision, IEEE 1394b, Camera Link, HDMI, 3G-SDI and CoaXPress
- Compatible with most popular cameras and software
- Carefully selected embedded components ensure long term availability
- Highly integrated with ADLINK I/O cards and embedded computing platforms



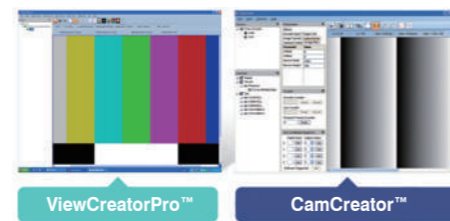
Note: Driver installation is required for frame grabbers or cameras.

	CoaXPress	3G-SDI	HDMI	GigE Vision	IEEE 1394b	Camera Link	USB3
Max. Cable length (Meter)	Up to 100	100	5	100	4.5	Up to 15M (Depending on the Bandwidth)	8
Bandwidth (Mbps per Channel)	6500-25000	3000	216-2880	1000	800	2400-4800	400
Host CPU Loading	-	-	-	>5%	<5%	-	>5%
Realtime Signaling	v	v	-	-	-	v	-
Power over cable	13 (PoCXP)	-	-	13 (PoE only)	45	45 (PoCL)	60
Plug & Play *	v	v	v	v	v	-	v
Real time trigger	v	-	-	-	-	v	-
Standards	CoaXPress standard	SMPTE	DVI 1.0	AIA GigE Vision	Common IEEE 1394 Trade Association DCAM Standard	AIA Camera Link	AIA USB3 Vision

\*Euresys frame grabber only available from ADLINK in China, Taiwan and SEA

## ADLINK Machine Vision Software

ADLINK's powerful application tools, ViewCreatorPro™ and CamCreator™, provide simple and effective setup, configuration, testing, and debugging for vision systems. These utilities assist developers in evaluating initial test functions with ADLINK frame grabbers. Both ViewCreatorPro™ and CamCreator™ support 32/64-bit Windows® 7/10 operating systems. In addition, CamCreator™ provides continuous grab, pixel values, zoom in/out and console functionality to expedite a Camera Link installation.



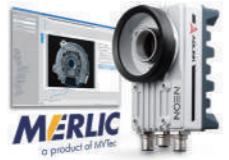


	OS Information		Software Recommendations	
	Windows® Note(1)	Linux® Note(2)	ViewCreatorPro™	CamCreator™
GIE74/74 PRO	v	v		
GIE72/72 PRO	v	v		v
PCIe-FIW64	v			
PCIe-FIW62	v			
PCIe-CPL64	v			v
PCIe-HDV62	v		v	
PCIe-HDV62A	v		v	
PCIe-2602	v		v	
PCIe-HDV72	v		v	
PCIe-U304/U308/U312	v	v		

Note: (1) Windows Support for Windows® 7/10 x64/x86 (2) Linux Support for Ubuntu

Model Name	PCIe-GIE74/PCIe-GIE72 PRO	PCIe-GIE74/PCIe-GIE72	PCIe-HDV72
Standard	Power over Ethernet	Power over Ethernet	HDMI
Configuration	Gigabit Ethernet	Gigabit Ethernet	4K, UHD
Connector	RJ45 x 4 / RJ45 x 2	RJ45 x 4 / RJ45 x 2	HDMI
Resolution	depends on camera specification	depends on camera specification	4096 x 2160P, 3840 x 2160P
Interface	PCIe x4	PCIe x4	PCIe x4 (3.0)
Max. Video Input	4 / 2	4 / 2	1
Max. Frame Rate	depends on camera specification	depends on camera specification	up to 60
Audio Input	-	-	√
TTL I/O	-	-	√
Area Scan Camera	v	v	√
Line Scan Camera	v	v	-
Interlaced Scan	v	v	√
Progressive Scan	v	v	√
Camera Tap	-	-	-
Pixel Depth	depends on camera specification	depends on camera specification	8, 10, 12-bit
Max. Clock Frequency	-	-	-
On-board memory	-	-	2 GB
ToE and Software License Protection	v	-	-

Model Name	PCIe-2602	PCIe-CPL64	PCIe-FIW64/PCIe-FIW62	PCIe-RTV24/PCI-RTV24	PCIe-U304/PCIe-U308/U312
Standard	SDI	PoCL (Power over Camera Link)	IEEE 1394b	Color: PAL/NTSC Monochrome: CCIR/EIA (RS-170)	USB3 Vision
Configuration	SDI	base, medium	-	-	-
Connector Interface	BNC x 2	MDR26	IEEE 1394b	BNC x 4	USB3 x 4/USB3 x 8/USB3 x 12
Resolution	1920 x 1080p	depends on camera specification	depends on camera specification	640 x 480 (NTSC/RS170), 768 x 576 (PAL/CCIR)	depends on camera specification
Interface Bus	PCIe x4	PCIe x4	PCIe x4 / PCIe x1	PCIe-RTV24: PCIe x1 PCI-RTV24: PCI	PCIe x4
Max. Video Input	2	2	4 / 2	4 to 16*	4 to 12*
Max. Frame Rate	60	depends on camera specification	depends on camera specification	30 fps / channel	depends on camera specification
Audio Input	SDI embedded	-	-	-	-
TTL I/O	√	√	√ (FIW64)	√	-
Area Scan Camera	√	√	√	√	√
Line Scan Camera	-	√	-	-	-
Interlaced Scan	√	√	√	√	√
Progressive Scan	√	√	√	-	√
Camera Tap	-	1-tap, 2-tap, 3-tap, 4-tap	-	1-tap (PCIe-RTV24)	-
Pixel Depth	8, 10, 12-bit	8-bit, 10-bit	depends on camera specification	8-bit	depends on camera specification
Max. Clock Frequency	-	85 MHz	-	-	-
On-board memory	-	128 MB	-	-	-
ToE and Software License Protection	-	-	-	-	-


## Smart Camera Selection Guide

	NEON-1021/NEON-1021-M	NEON-1020	NEON-1040
<b>Smart Camera</b>			
<b>Processing &amp; Memory</b>	Intel® Atom™ E3845 Processor, Quad Core @ 1.91 GHz		
Processor	Intel® Atom™ E3845 Processor, Quad Core @ 1.91 GHz		
Display	VGA output, max. 2048 x 1152 at 60 Hz		
RAM	4 GB DDR3L		
Storage	16 to 32 GB solid state drive		
Advanced Processing	LUT, shading correction, ROI, Multi-ROI, binning	ROI, LUT, shading correction	
<b>Sensor</b>			
Image Sensor	e2v EV76C570	CMOSIS CMV2000	CMOSIS CMV4000
Resolution	1600 x 1200	2048 x 1088	2048 x 2048
Sensor Size	1/1.8"	2/3"	1"
Format	Monochrome	Monochrome	Monochrome
Pixel Size	4.5	5.5	
Frame Rate (fps)	60	120	60
Shutter	Global		
Trigger Mode	External trigger, software trigger, free run		
<b>I/O Interface</b>			
Trigger Input	1x Opto-isolated trigger input		
Digital Output	4x sink type output, max sink 100mA sink voltage max 30V <sub>DC</sub>		
Digital Input	4x TTL level input		
PWM Drive Method	Constant current 500mA		
Lighting Applicable Light Units	24 V <sub>DC</sub> illuminators		
Control Dimming Resolution	1000:1		
Ethernet	1 x GbE		
Serial Communication	1 x RS-232 (TX and RX only)		
USB	1 x USB 2.0		
<b>Mechanical</b>			
Dimensions	68.5mm W x 110mm D x 52.7 mm H / 2.70" W x 4.33" D x 2.08" H		
Lens mount C mount	C mount		
Connectors	1 x M12 8-pin (Female), 1xM12 17-pin (Male), 1x M12 12-pin (Male)		
<b>Software Support</b>			
Operating System	Windows 7, Windows Embedded Standard 7		
Software Compatibility	MVTec Merlic, HALCON, Stemmer CVB, Cognex Vision Pro, Euresys Open eVision, Matrox MIL, Teledyne Dalsa Sherlock		
<b>Environmental &amp; Electricalions</b>			
Power Consumption	24 V <sub>DC</sub> +/-10%, 13W (Typical)		
Operating Temperature	0°C to 50°C (32°F to 122°F)		
Vibration	Operating, 5 Grms, 5-500 Hz, 3 axes		
Certification	IP67, CE, FCC Class A		

\*NEON-1021-M Series includes built-in MVTec MERLIC machine vision software

\*Specific supported Linux version information available upon request

## Embedded Vision Systems Selection Guide

	EOS-1300	Embedded Vision Systems
CPU	Intel® Core™i7-6700 / Intel® Core™ i5-6500 / Intel® Core™ i3-6100 / Intel® Celeron® G3900	
Chipset	Intel® H110	
Operating System	Windows 7/10 64 bit	
System Memory	Up to 32 GB DDR4 at 2133MHz	
Video	2 display ports with resolution up to 4096 x 2160	
Audio	7.1 channel audio via 5 jacks and S/PDIF output	
Ethernet	2x GbE port	
USB	4x USB 2.0 and 4x USB 3.0 ports (internal 1x USB 2.0)	
COM Ports	1x RS-232/422/485 and 1x RS-232	
Keyboard/Mouse	USB type	
Camera Interface	4CH Gigabit PoE IEEE 802.3af compliant, total max. power output 32W	
Digital I/O	12x isolated DI; 2x Encoder input; 16x isolated DO	
Trigger I/O	4x Trigger I/O (Configurable)	
Weight	3 kg(6.6 lbs)	
Mounting	Wall and DIN rail mounting (optional)	
Power Supply	DC 24V, ATX mode	
Operating Temp.	0°C to +55°C (32°F to 131°F)	
Humidity	0% to 90%	
Dimensions	232W x 180.8D x 82.8H mm (9.1 x 7.1 x 3.2 in)	
Power Consumption	Up to 165W	
Storage	1x 2.5" SATA interface	
Random Vibration	Operating 0.5 Grms, 5-500 Hz, 3 axes w/ HDD	
Safety Compliance	CE/FCC, UL, RoHS	

## Ultra-High-Resolution Smart 3D Profile Sensors

	ZX-5004-A	ZX-5010-A	ZX-5020-A	
Measurement Range	42 mm	95 mm	186 mm	
Reference Distance	115 mm	115 mm	230 mm	
Depth of Field	± 7.5 mm	± 15 mm	± 30 mm	
Data Points	2048 Points	2048 Points	2048 Points	
Data Interval	X-axis	0.022 mm	0.05 mm	0.1 mm
Resolution <sup>1</sup>	Z-axis	1 µm	1 µm	2 µm
Linearity (Z) <sup>2</sup>		± 0.07%	± 0.07%	± 0.07%
Repeatability	Z-axis <sup>3</sup>	0.8 µm	1.1 µm	1.5 µm
	X-axis <sup>4</sup>	1.6 µm	1.8 µm	3.3 µm
Laser Source	Class	Class 2	Class 2	Class 2
	Power	< 66.7 mW	< 66.7 mW	< 66.7 mW
	Wave Length	450 nm	450 nm	450 nm
Sampling Frequency <sup>5</sup>		430 Hz	430 Hz	430 Hz



Notes:

- The measurement is performed at the reference distance using a diffuse-surface calibration plate. Software measurement tools and scanning settings are set to default.
- The measurement is performed in full measurement range using a diffuse-surface calibration plate. The result is in  $\pm 2\sigma$  confidence level.
- The measurement is performed 4096 times at the reference distance using a diffuse-surface calibration plate. The result is in  $\pm 2\sigma$  confidence level.
- The measurement is performed 4096 times at the reference distance using a pin gauge. The result is in  $\pm 2\sigma$  confidence level.
- The measurement is performed using 4 measurement tools with default settings. The CPU used in this measurement is Intel® Core™ i7-8700.