

AI Inference / DeviceEdge

Jetson System AIE-KO21/AIE-KO31 AIE-KN31/AIE-KN41



Features

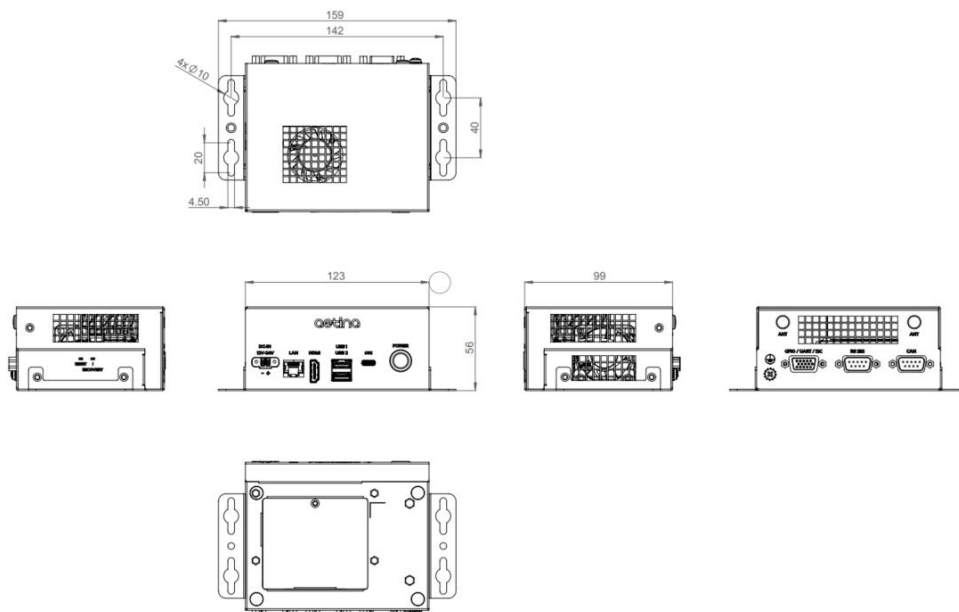
- Support NVIDIA Jetson Orin Nano/NX Series
- 1 x M.2 E-Key/M-Key (128GB built-in)
- 1 x RJ-45 GbE Port
- Wide Power Input Range 12 to 24 VDC
- Operating temperature -25° C ~ +70° C



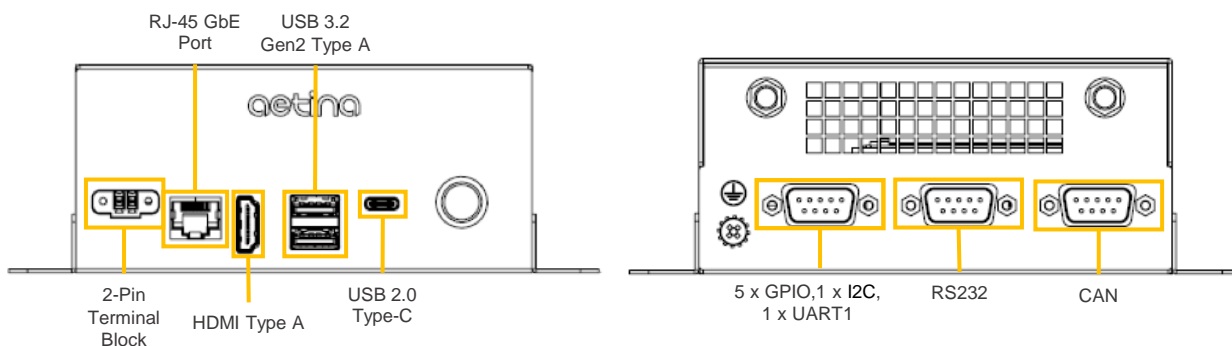
Specifications

Model Number	AIE-KO21 / AIE-KO31	AIE-KN31 / AIE-KN41
Module Compatibility	NVIDIA Jetson Orin Nano 4/8G	NVIDIA Jetson Orin NX 8/16G
AI Performance	20/40 TOPS	70/100 TOPS
GPU	512 Core NVIDIA Ampere, with 16 Tensor Cores 1024 Core NVIDIA Ampere, with 32 Tensor Cores	1024 Core NVIDIA Ampere, with 32 Tensor Cores
CPU	6-core Arm® Cortex®-A78AE v8.2 64-bit 1.5MB L2 + 4MB L3	6-core Arm® Cortex®-A78AE v8.2 64-bit 1.5MB L2 + 4MB L3 8-core Arm® Cortex®-A78AE v8.2 64-bit 2MB L2 + 4MB L3
Memory	4GB 64-bit LPDDR5 34 GB/s 8GB 128-bit LPDDR5 68 GB/s	8GB 128-bit LPDDR5 102.4 GB/s 16GB 128-bit LPDDR5 102.4 GB/s
Storage	1 x M.2 M-Key 2242 (128GB built-in)	
Display	1 x HDMI 2.0 Type A	
Audio	LINE IN/OUT, Microphone (optional with daughter board)	
LAN	1 x RJ-45 GbE Port	
USB	2 x USB 3.2 Gen2 Type A 1 x OTG Type-C	
I/O Interfaces	5 x GPIO, 1 x I2C, 1 x RS-232, 1 x UART, 1 x CAN (Isolation)	
Expansion	1 x M.2 E-Key 2230 (support PCIe x1 Gen3, USB 2.0) 1 x M.2 M-Key 2242 (128GB built-in)	1 x M.2 E-Key 2230 (support PCIe x1 Gen4, USB 2.0) 1 x M.2 M-Key 2242 (128GB built-in)
MISC. Function	1 x Power Button, 1 x Recovery Button, 1 x Reset Button	
Power Input /Connector	DC-in 12-24VDC / 2-Pin Terminal Block	
Power consumption	Idle: 8.5 W Full Loading: 30.25* W	Idle: 7.6 W Full Loading: 40.25* W
	*For more test condition information, please refer to user manual	
Dimension (W x D x H)	123 x 99 x 56 mm (48.4 x 38.9 x 22 in)	
Mounting	Wall Mount / Din Rail (optional)	
Net Weight	0.54 kg (1.2 lb)	
Vibration	1 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis	
Shock	10 G, IEC 60068-2-27, half sine, 11 ms duration	
Temperature	Operating Temp.: -25° C ~ +70° C (-13° F ~ +58° F) Storage Temp.: -25° C ~ +85° C (-40° F ~ +185° F)	
Humidity	5 to 90% @ 40°C Related Humidity, Non-condensing	
OS Support	Ubuntu 20.04	
Certification	CE/FCC Class A, IEC 62368	

System & Mounting Dimensions



I/O Mechanical Layout



Ordering Information

Model name	Description
AIE-KO21-1-A1	Orin Nano 4G, 1 x HDMI, 2 x USB-A, 1 x USB-C (OTG only), 1 x RJ-45 GbE, 1 x FAN, 12 to 24 VDC input, -25°C ~ +70°C
AIE-KO31-1-A1	Orin Nano 8G, 1 x HDMI, 2 x USB-A, 1 x USB-C (OTG only), 1 x RJ-45 GbE, 1 x FAN, 12 to 24 VDC input, -25°C ~ +70°C
AIE-KN31-1-A1	Orin NX 8G, 1 x HDMI, 2 x USB-A, 1 x USB-C (OTG only), 1 x RJ-45 GbE, 1 x FAN, 12 to 24 VDC input, -25°C ~ +70°C
AIE-KN41-1-A1	Orin NX 16G, 1 x HDMI, 2 x USB-A, 1 x USB-C (OTG only), 1 x RJ-45 GbE, 1 x FAN, 12 to 24 VDC input, -25°C ~ +70°C

Packing List

Item/Part Number	Description
AIE-KO21	AIE-SO21 system w/ Orin Nano 4GB
AIE-KO31	AIE-SO31 system w/ Orin Nano 8GB
AIE-KN31	AIE-SN31 system w/ Orin NX 8GB
AIE-KN41	AIE-SN41 system w/ Orin NX 16GB
53-0FG160-1200	85~264V 138W 12V 11.5A power adaptor

Accessories (Optional)

Part Number	Description
32-010000-0005	US power cord
32-010000-0006	EU power cord
32-010000-0008	JP power cord

Peripheral (Optional)

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