

PJAI-100-ON

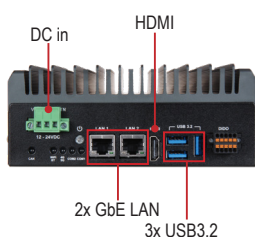
Fanless Compact System with NVIDIA® Jetson Orin Nano™ for Edge AI Applications



Designed with NVIDIA® Jetson Orin Nano™ SOM, Portwell's rugged and compact PJAI-100-ON supports a wide industrial temperature range from -20°C to 60°C, while its fan-less design ensures silent operation, reliability and low maintenance rate. In addition, it integrates M.2 Type E and M.2 Type B for wireless connectivity, and the support of dual Gigabit Ethernet LAN ports suitable for Edge AI applications and more.

FEATURES

- Fanless System with NVIDIA® Jetson Orin Nano™ SOM (up to 40 TOPS)
- 4GB/8GB 64-bit LPDDR5 (By SOM)
- 1x M.2 2280 M-Key NVMe (PCIe x4)
- Supports 1x M.2 2230 E-Key, 1x M.2 3042/3052 B-Key and 2x Nano SIM slots
- Supports 2x RJ45 GbE and 3x USB 3.2 Type A ports
- 2x DB9 COM ports and 1x DB9 CANbus



System

SOM	NVIDIA® Jetson Orin Nano™
CPU	- 4GB: 6-core NVIDIA Arm® Cortex A78AE v8.2 64-bit CPU - 8GB: 6-core NVIDIA Arm® Cortex A78AE v8.2 64-bit CPU
Memory	- 4GB: 4GB LPDDR5 - 8GB: 8GB LPDDR5
Storage	1x M.2 2280 M-Key (PCIe x4)
Expansion	- 1x M.2 2280 M-Key (PCIe x4) - 1x M.2 3042/3052 B-Key - 1x M.2 2230 E-Key - 2x Nano SIM slots

External I/O

Ethernet	2x RJ45 GbE ports
USB	- 3x USB 3.2 Gen1 Type-A - 1x USB 2.0 Micro-USB for debug - 1x USB 2.0 Type C for OS flash
DIO	4ch DIO
Serial Port	- 2x DB9 COM port for RS-232/422/485 - 1x DB9 CANbus
Display	HDMI (Max. resolution 3840x2160 @ 60Hz)

Power Supply

Power Input	DC-IN 12V ~ 24V with 3-pin terminal block
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Environmental

Operating Temp	- 20°C to 60°C (-4°F ~ 140°F)
Storage Temp	- 40°C to 85°C (-40°F ~ 176°F)
Humidity	5 ~ 95% @ 40°C, non-condensing
Vibration	5G 10~500 Hz for IPC (1G 10~500 Hz with Wall mount/ DIN-Rail)
Shock	50G/11ms for IPC (15G/11ms with Wall mount/ DIN-Rail)

Mechanical

Dimension	152 x 112 x 62 mm (5.9" x 4.4" x 2.5")
Weight	1.4kg (3.08lbs)
Mounting	Wall mount (Optional) / DIN-Rail (Optional)

Operation System

BSP	Jetpack 5.1.4 or above
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Certification

Certification	CE / FCC class A
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PJAI-100-ON

ORDERING INFORMATION

Part Number	NVIDIA Module	NVIDIA Module Memory	NVIDIA Module eMMC	NVMe
PJAI-100-ON 4G	Orin Nano	4G	N/A	120GB~1920GB for optional
PJAI-100-ON 8G	Orin Nano	8G	N/A	120GB~1920GB for optional



PACKING LIST

Part Number	Description	Quantity
PJAI-100-ON	PJAI-100 Fanless system	1
Accessory box	DIO connector, 3-pin terminal block, Foot pads	1

OPTIONAL

Item	Description
NVMe	120GB NVMe SSD
	240GB NVMe SSD
	480GB NVMe SSD
	960GB NVMe SSD
	1920GB NVMe SSD
Adaptor	65W 12V AC/DC power adaptor
Wall mount	Wall mount kit
DIN-Rail	DIN-Rail kit
Wi-Fi	Wi-Fi module (Customer should install separately)
4G/5G	4G/5G module (Customer should install separately)



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