

# Jemii-150 Series

Mini-ITX Jetson carrier, compatible with NVIDIA® Jetpack releases, 4x PoE++ GbE, 1x GbE and PCIe



## Key Features

- Mini-ITX form factor
- Powered by all Jetson Orin™ NX and Orin™ Nano modules (Super Mode-enabled)
- Flash-ready and BSP-aligned with Orin Nano Dev Kit
- Support 4x GbE powered by Intel® I350-AM4 with PoE++ and 1x GbE
- 1x PCIe Gen3 x4 expansion slot



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## Introduction

The Neosys Jemii-150 series is designed to significantly reduce the integration barrier for industrial NVIDIA® Jetson deployments. By combining a Mini-ITX form factor with NVIDIA Jetson Orin™ Nano Devkit compatibility, the platform enables a streamline transition from development to field deployment on a unified hardware and software baseline, eliminating the need for custom BSP development, hardware redesign, or rugged embedded systems expertise.

Jemii-150 is 100% BSP-compatible with the NVIDIA Jetson Orin™ Nano DevKit, supporting direct flashing via NVIDIA SDK Manager across all JetPack releases. This ensures software portability, minimize migration effort, and reduces time-to-market risk associated with platform transitions. The Mini-ITX form factor further leverages a mature ecosystem of standard chassis, thermal solutions, and power supplies, simplifying mechanical integration and system redesign.

Engineered for industrial edge AI applications, Jemii-150 operates over a wide temperature range of -25°C to 70°C and accepts either 9–32 V DC or standard ATX power input. Its I/O includes 5x GbE LAN featuring optional PoE++ support with a shared 100W total budget, 3x isolated DI and 3x isolated DO, and hardware-configurable RS-232/422/485 serial interfaces. The platform also provides a PCIe expansion slot for system function extension such as Ethernet, USB 3.0, PoE, or DIO.

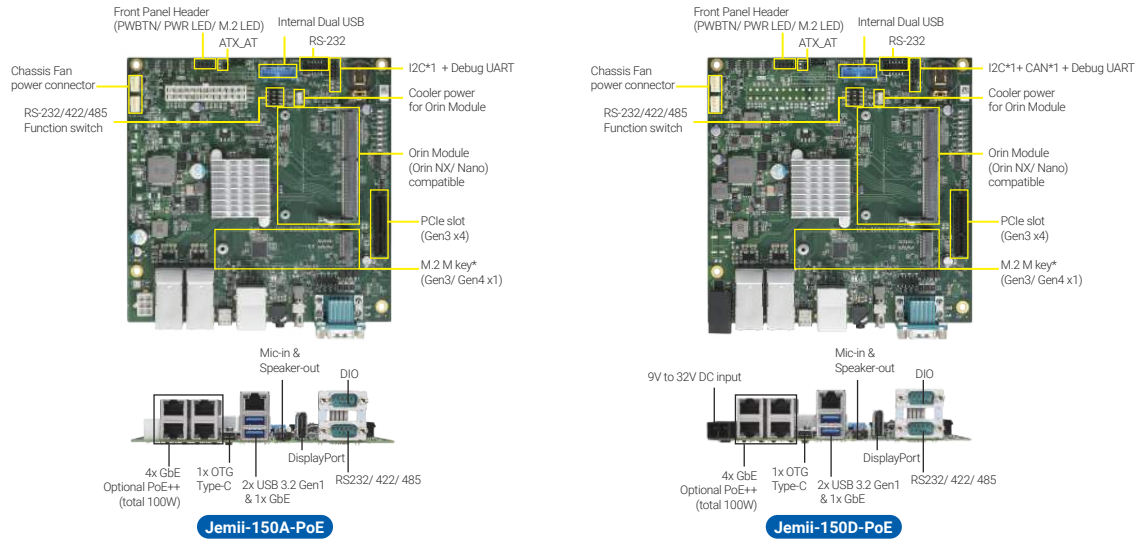
The product line comprises of three variants: Jemii-150A and Jemii-150A-PoE, which integrate Allxon out-of-band (OOB) remote management for retail and intelligent transport system (ITS) applications, while Jemii-150D-PoE adds CAN 2.0 support for indoor AMR and autonomous logistics.

Purpose-built for indoor IVA and AMR applications, Neosys Jemii-150 series is a deployment-ready edge AI platform backed by Neosys' commitment to industrial product longevity and lifecycle stability.

## Specifications

System Core		Internal I/O Interface	
<b>Processor</b>	NVIDIA Jetson Orin™ NX system-on module (SOM), comprising NVIDIA Ampere GPU and ARM Cortex CPU	NVIDIA Jetson Orin™ Nano system-on module (SOM), comprising NVIDIA Ampere GPU and ARM Cortex CPU	<b>CAN Bus</b> <i>(Only for Jemii-150D-PoE)</i>
<b>Memory</b>	16GB/ 8GB LPDDR5 @ 3200 MHz on SOM	8GB/ 4GB LPDDR5 @ 2133 MHz on SOM	<b>Serial Port</b> <i>(Only for Jemii-150D-PoE and Jemii-150A-PoE)</i>
<b>Panel I/O Interface</b>			1x RS-232 (2.54mm Box Header)
<b>Ethernet</b>	4x Gb Ethernet ports by Intel® I350-AM4 1x Gb Ethernet port by NVIDIA Jetson Orin™ NX/Nano		<b>Fan</b>
<b>PoE Capability</b>	In compliance with IEEE 802.3bt PoE++ Type 3 and Type 4 PSE, maximum 90W output on single PoE++ port (total 100W max.), compatible with 802.3at (PoE+) and 802.3af (PoE) PD		2x Fan connector (2.54mm Wafer) 1x Orin Nano/NX Fan connector (1.25mm Wafer)
<b>USB</b>	2 x USB 3.2 Gen1 port 1 x OTG Type-C		<b>Others</b>
<b>Serial Port</b>	1x hardware configurable RS232/ 422/ 485 port		1x Front Panel Connector 1x ATX/AT Mode Select (2 Pin jumper) 1x Debug UART (2.54mm Pin Header) 1x 5V, 3x GND (2.54mm Pin Header)
<b>Video Port</b>	1x DisplayPort, supporting 3840x2160 at 60Hz		<b>Power Supply</b>
<b>DIO</b>	3x isolated DI+3x isolated DO		<b>DC Input</b>
<b>Audio</b>	1x 3.5 mm jack for mic-in and speaker-out		Jemii-150D-PoE: 9V to 32V DC input Jemii-150A-PoE: ATX power + PCIe 6-pin Jemii-150A: ATX power
<b>Internal I/O Interface</b>			<b>Mechanical</b>
<b>Storage</b>	1x M.2 M 2280 key (PCIe Gen4 x1)		<b>Dimension</b>
<b>PCIe slot</b>	1x PCIe Gen3 x4 slot		Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
<b>USB</b>	2x USB 3.2 Gen 1 (2.0mm 2x10 Pin Header)		<b>Weight</b>
<b>I2C</b>	1x I2C (2.54mm Pin Header)		200g
			<b>Environmental</b>
			<b>Operating Temperature</b>
			-25°C to 70°C
			<b>Storage Temperature</b>
			-40°C to 85°C
			<b>EMC</b>
			CE/FCC Class A, according to EN 55032 & EN 55035

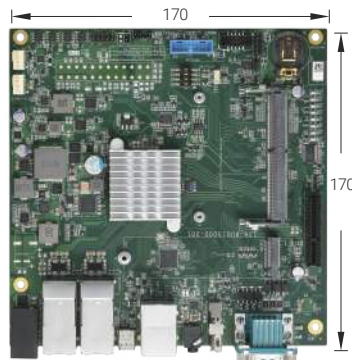
## Appearance



*\*Because the Jetson Orin Nano's tighter power budget restricts its PCIe interface to Gen 3, customers needing Gen 4 performance should pair Jemii-150 with a Jetson Orin NX module*

	Jemii-150A	Jemii-150A-PoE	Jemii-150D-PoE
Power Supply	ATX Power	ATX Power + PCIe conn	DC Terminal Block (9-32VDC Input)
PoE Support	N/A	4x PoE++ port for total 100W	4x PoE++ port for total 100W
CAN Support	N/A	N/A	1x CAN2.0 (2.54mm pin header)
Internal RS-232 Support	N/A	1x RS-232 (2.54mm box header)	1x RS-232 (2.54mm box header)
Allxon OOB Support	YES	YES	NO

## Dimensions



Unit : mm

## Ordering Information

Model No.	Product Description
Jemii-150D-PoE	Mini-ITX Jetson carrier, compatible with NVIDIA Jetpack releases, 4x PoE++ GbE, 1x GbE and PCIe, 9V to 32V DC input
Jemii-150A-PoE	Mini-ITX Jetson carrier, compatible with NVIDIA Jetpack releases, 4x PoE++ GbE, 1x GbE and PCIe, ATX support + ATX 6-pin
Jemii-150A	Mini-ITX Jetson carrier, compatible with NVIDIA Jetpack releases, 5x GbE and PCIe, ATX support

## Optional Accessories

AccsyBx-Orin NX/Nano Cooler	Cooler kit for Orin NX/Nano Module
PS-250W-ATX	250W Flex ATX power adapter for Jemii-150A/Jemii-150A-PoE
PA-160W-OW	160W AC-DC power adapter 20V 8A, 90~264VAC 127~370VDC, -30~+70°C for Jemii-150D-PoE
Cbl-IDC210F-DB9M-20CM1	10Pin Female to DB9 Male Cable, Length: 20 CM