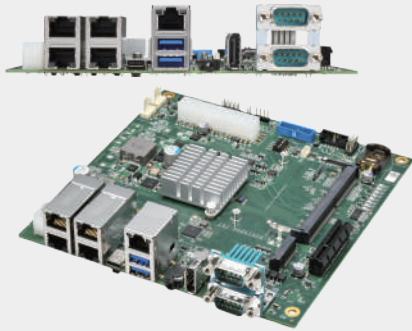


# Jemii-150 Series

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.

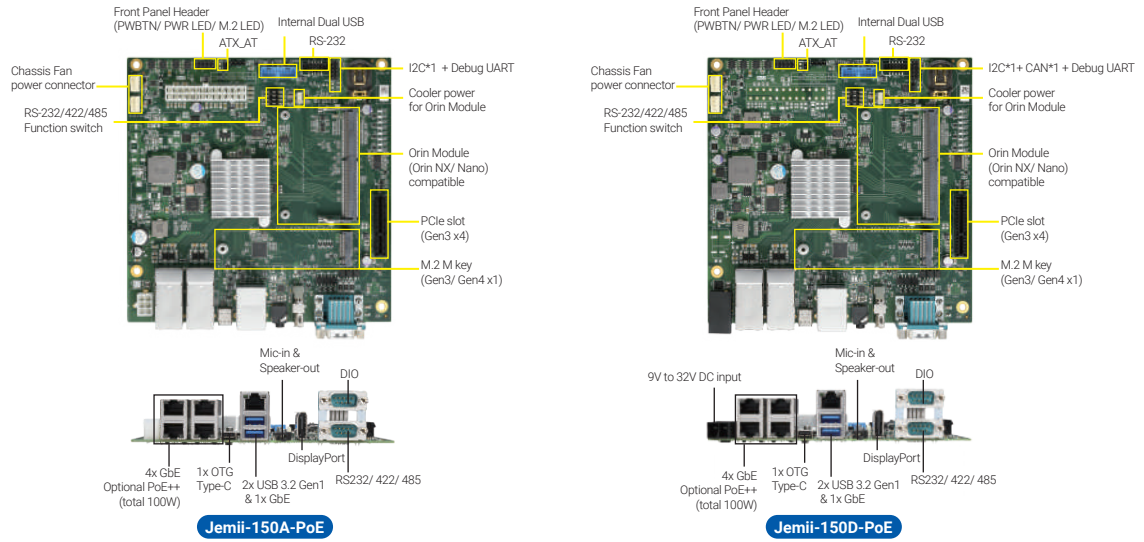
The product line comprises of three variants: Jemii-150A and Jemii-150A-PoE, which integrate Allxon out-of-band (OOB) remote management for retail and intelligent transport system (ITS) applications, while Jemii-150D-PoE adds CAN 2.0 support for indoor AMR and autonomous logistics.

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

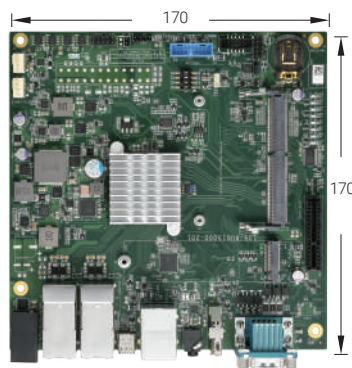
| System Core                   |   | Internal I/O Interface   |   |
|-------------------------------|---|--|---|
| <b>Processor</b>              | NVIDIA Jetson Orin™ NX system-on module (SOM), comprising NVIDIA Ampere GPU and ARM Cortex CPU  | NVIDIA Jetson Orin™ Nano system-on module (SOM), comprising NVIDIA Ampere GPU and ARM Cortex CPU   | <b>CAN Bus</b><br>(Only for Jemii-150D-PoE)   |
| <b>Memory</b>                 | 16GB/ 8GB LPDDR5 @ 3200 MHz on SOM  | 8GB/ 4GB LPDDR5 @ 2133 MHz on SOM  | <b>Serial Port</b><br>(Only for Jemii-150D-PoE and Jemii-150A-PoE)                                    |
| <b>Panel I/O Interface</b>    |   | <b>Fan</b>   |   |
| <b>Ethernet</b>               | 4x Gb Ethernet ports by Intel® I350-AM4<br>1x Gb Ethernet port by NVIDIA Jetson Orin™ NX/Nano   | 2x Fan connector (2.54mm Wafer)<br>1x Orin Nano/NX Fan connector (1.25mm Wafer)  |   |
| <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 | <b>Others</b>  |   |
| <b>USB</b>                    | 2 x USB 3.2 Gen1 port<br>1 x OTG Type-C   | 1x Front Panel Connector<br>1x ATX/AT Mode Select (2 Pin jumper)<br>1x Debug UART (2.54mm Pin Header)<br>1x 5V, 3x GND (2.54mm Pin Header) |   |
| <b>Serial Port</b>            | 1x hardware configurable RS232/ 422/ 485 port   | <b>Power Supply</b>  |   |
| <b>Video Port</b>             | 1x DP 1.2 port  | <b>DC Input</b>  | Jemii-150D-PoE: 9V to 32V DC input<br>Jemii-150A-PoE: ATX power + PCIe 6-pin<br>Jemii-150A: ATX power |
| <b>DIO</b>                    | 3x isolated DI+3x isolated DO   | <b>Mechanical</b>  |   |
| <b>Audio</b>                  | 1x 3.5 mm jack for mic-in and speaker-out   | <b>Dimension</b>   | Mini-ITX: 6.7" x 6.7" (170mm x 170mm)   |
| <b>Internal I/O Interface</b> |   | <b>Weight</b>  | 200g  |
| <b>Storage</b>                | 1x M.2 M 2280 key (PCIe Gen4 x1)  | <b>Environmental</b>   |   |
| <b>PCIe slot</b>              | 1x PCIe Gen3 x4 slot  | <b>Operating Temperature</b>   | -25°C to 70°C   |
| <b>USB</b>                    | 2x USB 3.2 Gen 1 (2.0mm 2x10 Pin Header)  | <b>Storage Temperature</b>   | -40°C to 85°C   |
| <b>I2C</b>                    | 1x I2C (2.54mm Pin Header)  | <b>EMC</b>   | CE/FCC Class A, according to EN 55032 & EN 55035  |

## Appearance



|                         | 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                           |
| Jemii-150A-PoE-Box | Jemii-150A-PoE with selected Mini-ITX chassis and Flex ATX power   |
| Jemii-150A-Box     | Jemii-150A with selected Mini-ITX chassis and Flex ATX power   |

## 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                                       |