



Ultra-Compact: 5.11" x 4.36" x 2.92" (130mm x 110.7mm x 74.2mm)
Weight: ~2lb

DESCRIPTION

ADL-AI2500 is a rugged, fan-less AI edge system powered by the NVIDIA® Jetson™ Orin NX, delivering up to 157 TOPS of compute performance. Designed for deployment in space-constrained, mission-critical environments, it features industrial-grade construction, wide-temperature operation, and long-life availability. The compact form factor and robust thermal design make the ADL-AI2500 ideal for intelligent video analytics, robotics, autonomous systems, and industrial automation.

Customizable High-Performance

The ADL-AI2500 is designed for flexibility, with expansion options that include dual M.2 NVMe SSD, M.2 Key-E/B slots for Wi-Fi, and SIM support for LTE or 5G, and up to four GMSL camera inputs. Beyond standard features, it can be configured with CAN, RS-232, MIL-STD power, or other mission-specific I/O to meet the demands of specialized applications. ADL Embedded Solutions provides turnkey integration services, enabling customers to tailor connectivity, power, and mechanical design for fully customized system solutions.

Customizable I/O & Power

The ADL-AI2500 can be tailored with MIL-STD connectors (38999, micro-D), ruggedization and coatings, and MIL-STD-704/1275 power conditioning. Expansion supports CAN, RS-232/422, Wi-Fi, LTE/5G, and more. ADL provides turnkey design services to adapt the system for applications from factory automation to battlefield AI and transportation, meeting MIL-STD-810H and MIL-STD-461 requirements.

APPLICATIONS

- Industrial automation & machine vision – quality control, edge analytics
- Robotics & AMRs – perception, navigation, and control
- Smart agriculture – autonomous equipment, real-time crop monitoring
- Defense & security – ISR, battlefield AI, tactical edge compute
- Transportation & logistics – ADAS, fleet management, in-vehicle AI
- Smart cities – traffic monitoring, surveillance, infrastructure AI
- AI inspection systems – food processing, defect detection
- Energy & utilities – remote asset monitoring, predictive maintenance

TECHNICAL SPECIFICATIONS

FEATURES	FUNCTIONS
Supported Modules	NVIDIA Jetson Orin NX 8GB/16GB- 128-bit LPDDR5
AI Performance	NX 8GB 70/117 (Super) TOPS NX 16GB 100/157 (Super) TOPS
Memory	8GB 128-bit LPDDR5/ 16GB 128-bit LPDDR5 (NX)
GPU	1024 CUDA Cores 32 Tensor Cores (8GB / 16GB)
CPU	6-core Arm® Cortex®-A78AE (8GB NX) 8-core Arm® Cortex®-A78AE (16GB NX)
Fixed Front-Side I/O and Features	1x HDMI 2.0 (4k resolution) 1x 1000 Ethernet 2x USB 3.1 Type-A 1x CAN Bus 1x RS232 & 1x RS422 2x Digital Input / 2x Digital Output 1x SPI, 1x I2S, 1x I2C 5V FAN 1x microUSB 2.0 (Recovery)
Wireless Communication	WiFi/LTE/5G/Bluetooth Connectivity by extension sockets
GMSL Camera Input	Up to 4x GMSL (4x CSI 2-LANE or 2X CSI 4-LANE) - Optional
Mass Storage	2x M.2 Key-M SSD Slot (2230 & 2280)
Extension Sockets	1x M.2 Key-E, 1x M.2 Key-B, 1x SIM
Input Voltage	9-28 VDC*
Operating Temperature	Standard Temp = -20C to 60C Ext. Temp = -40C to 70C with conduction cooling
Operating System support	Ubuntu Linux 20.04 / 22.04
Mechanical	Size: 5.11"x4.36"x2.92" (130mm x 110.7mm x 74.2mm) Mounting: VESA 75mm x 75mm - M4 & Side - M3 Weight: ~2lb

* ADL-AI25xx-USB variant is 12V in only. Call us for more info if you need a wide input voltage ADL-AI-25xx variant.

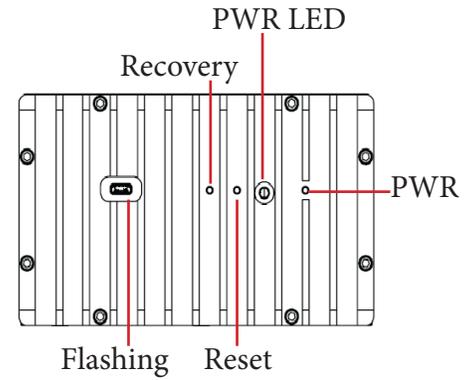
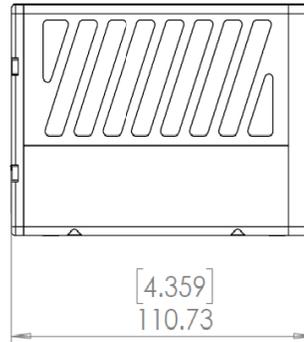
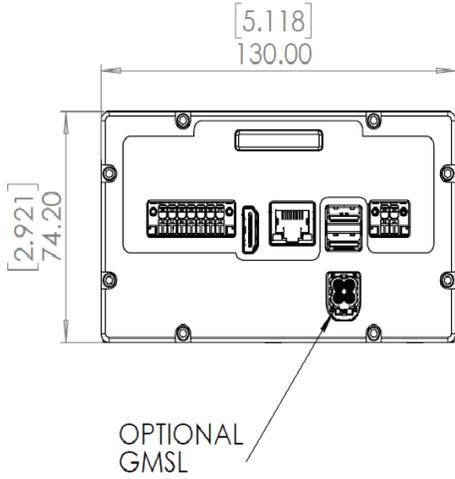
ORDERING INFORMATION**

ITEM CODE	PART #	DESCRIPTION
ADL-AI2500	ADL-AI2500	NVIDIA Jetson Orin NX 8GB, 8GB 128-bit LPDDR5, 6-core Arm® Cortex®-A78AE, 1x HDMI, 1x 1000 Ethernet, 2x USB 3.1, 1x CAN Bus, 1x RS232 & 1x RS422, 2x DI, 2x DO, 1x SPI, 1x I2S, 1x I2C, 2x M.2 Key-M SSD Slot (2230 & 2280), 1x M.2 Key-E, 1x M.2 Key-B, 1x SIM
ADL-AI2500-LAN	ADL-AI2500-LAN	NVIDIA Jetson Orin NX 8GB, 8GB 128-bit LPDDR5, 6-core Arm® Cortex®-A78AE, 1x HDMI, 3x 1000 Ethernet, 2x USB 3.1, 1x CAN Bus, 1x RS232 & 1x RS422, 2x DI, 2x DO, 1x SPI, 1x I2S, 1x I2C, 1x M.2 Key-M SSD Slot (2230), 1x M.2 Key-E, 1x M.2 Key-B, 1x SIM
ADL-AI2500-USB	ADL-AI2500-USB	NVIDIA Jetson Orin NX 8GB, 8GB 128-bit LPDDR5, 6-core Arm® Cortex®-A78AE, 1x HDMI, 1x 1000 Ethernet, 2x USB 3.1, 4x USB 3.0 , 1x CAN Bus, 1x RS232 & 1x RS422, 2x DI, 2x DO, 1x SPI, 1x I2S, 1x I2C, 1x M.2 Key-M SSD Slot (2230), 1x M.2 Key-E, 1x M.2 Key-B, 1x SIM
ADL-AI2500-GMSL4	ADL-AI2500-GMSL4	NVIDIA Jetson Orin NX 8GB, 8GB 128-bit LPDDR5, 6-core Arm® Cortex®-A78AE, 1x HDMI, 1x 1000 Ethernet, 2x USB 3.1, 1x CAN Bus, 1x RS232 & 1x RS422, 2x DI, 2x DO, 1x SPI, 1x I2S, 1x I2C, 2x M.2 Key-M SSD Slot (2230 & 2280), 1x M.2 Key-E, 1x M.2 Key-B, 1x SIM, 1x Quad Mini Fakra GMSL w/ 4x Input
ADL-AI2500-GMSL	ADL-AI2500-GMSL	NVIDIA Jetson Orin NX 8GB, 8GB 128-bit LPDDR5, 6-core Arm® Cortex®-A78AE, 1x HDMI, 1x 1000 Ethernet, 2x USB 3.1, 1x CAN Bus, 1x RS232 & 1x RS422, 2x DI, 2x DO, 1x SPI, 1x I2S, 1x I2C, 2x M.2 Key-M SSD Slot (2230 & 2280), 1x M.2 Key-E, 1x M.2 Key-B, 1x SIM, 4x Fakra Plug GMSL Inputs
ADL-AI2550	ADL-AI2550	NVIDIA Jetson Orin NX 16GB, 16GB 128-bit LPDDR5, 8-core Arm® Cortex®-A78AE, 1x HDMI, 1x 1000 Ethernet, 2x USB 3.1, 1x CAN Bus, 1x RS232 & 1x RS422, 2x DI, 2x DO, 1x SPI, 1x I2S, 1x I2C, 2x M.2 Key-M SSD Slot (2230 & 2280), 1x M.2 Key-E, 1x M.2 Key-B, 1x SIM
ADL-AI2550-LAN	ADL-AI2550-LAN	NVIDIA Jetson Orin NX 16GB, 16GB 128-bit LPDDR5, 8-core Arm® Cortex®-A78AE, 1x HDMI, 3x 1000 Ethernet, 2x USB 3.1, 1x CAN Bus, 1x RS232 & 1x RS422, 2x DI, 2x DO, 1x SPI, 1x I2S, 1x I2C, 1x M.2 Key-M SSD Slot (2230), 1x M.2 Key-E, 1x M.2 Key-B, 1x SIM
ADL-AI2550-USB	ADL-AI2550-USB	NVIDIA Jetson Orin NX 16GB, 16GB 128-bit LPDDR5, 8-core Arm® Cortex®-A78AE, 1x HDMI, 1x 1000 Ethernet, 2x USB 3.1, 4x USB 3.0 , 1x CAN Bus, 1x RS232 & 1x RS422, 2x DI, 2x DO, 1x SPI, 1x I2S, 1x I2C, 1x M.2 Key-M SSD Slot (2230), 1x M.2 Key-E, 1x M.2 Key-B, 1x SIM
ADL-AI2550-GMSL4	ADL-AI2550-GMSL4	NVIDIA Jetson Orin NX 16GB, 16GB 128-bit LPDDR5, 8-core Arm® Cortex®-A78AE, 1x HDMI, 1x 1000 Ethernet, 2x USB 3.1, 1x CAN Bus, 1x RS232 & 1x RS422, 2x DI, 2x DO, 1x SPI, 1x I2S, 1x I2C, 2x M.2 Key-M SSD Slot (2230 & 2280), 1x M.2 Key-E, 1x M.2 Key-B, 1x SIM, 1x Quad Mini Fakra GMSL w/ 4x Input
ADL-AI2550-GMSL	ADL-AI2550-GMSL	NVIDIA Jetson Orin NX 16GB, 16GB 128-bit LPDDR5, 8-core Arm® Cortex®-A78AE, 1x HDMI, 1x 1000 Ethernet, 2x USB 3.1, 1x CAN Bus, 1x RS232 & 1x RS422, 2x DI, 2x DO, 1x SPI, 1x I2S, 1x I2C, 2x M.2 Key-M SSD Slot (2230 & 2280), 1x M.2 Key-E, 1x M.2 Key-B, 1x SIM, 4x Fakra Plug GMSL Inputs
Options	Part#	Description
2TB NVMe	CALL	2TB, NVMe M.2 Key-M sizes 2280 or 2230 depending on configuration and variant
1TB NVMe	CALL	2TB, NVMe M.2 Key-M sizes 2280 or 2230 depending on configuration and variant
M.2 WiFi 6	CALL	M.2 2230 Key-E WIFI-6 802.11ax/ac/a/b/g/n Industrial + Antennas
M.2 LTE/5G	CALL	M.2 3042 Key-B LTE/5G module + Antennas
AI2500 PWR	CALL	AC/DC Wall adapter 12VDC Power Supply
GMSL 4x Cable	CALL	Quad Mini GMSL 4 input Cable
GMSL 1x Cable	CALL	GMSL Universal Fakra Female to Female
AI2500-BAT	CALL	AI2500 RTC Battery

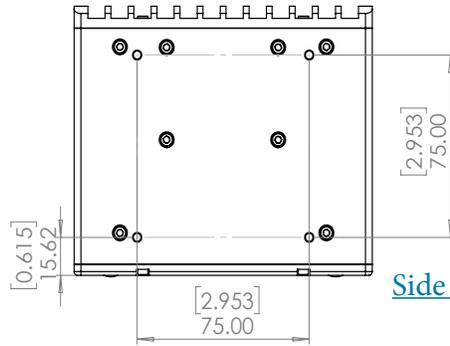
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ADL-AI2500 Dimensions



Mounting: VESA 75mm x 75mm M4



Side Mounting: 64mm x 90mm M3

