

Intel® Core™ Ultra Series 3 Processors for Edge



AP-6121



Hardware Architecture for Robotics AI

The AP-6121 is a high-performance embedded industrial AI computer powered by Intel® Core™ Ultra Series 3 processors with integrated Intel® Arc™ graphics and up to 180 TOPS NPU AI acceleration. Designed for edge AI, robotics, machine vision, and industrial automation applications, the system delivers powerful heterogeneous computing capability while maintaining low power consumption from 25W to 65W.

The platform supports up to 8 channels of GMSL2 depth cameras, multiple CAN and RS485 interfaces, EtherCAT networking, and ROS2/Ubuntu environments, making it ideal for autonomous mobile robots (AMR), intelligent manufacturing, machine vision inspection, and real-time industrial control. With wide-range 12-36V DC input, industrial-grade reliability, and rich I/O expandability, AP-6121 provides a compact and scalable solution for next-generation AI edge computing deployments.

**Powerful 180
TOPS AI edge
computing
with low power,
multi-camera
support, and
industrial-ready
connectivity.**

Intel Products and Technologies

Accelerating AI and Analytics at the Edge



[Intel® Core™
Ultra Processors](#)



[Intel® Arc™
Graphics](#)



[OpenVINO™
Toolkit](#)



[Intel® Ethernet](#)

Key Features

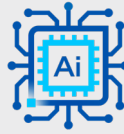
Empowered by Intel.



Powerful Edge Intelligence



Multi-Camera Vision Ready

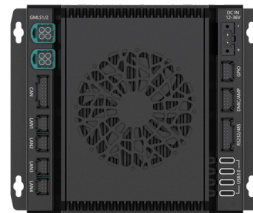


Heterogeneous AI Computing Capability



Rugged I/O for Industry

NODKA AP-6121



intel ai

Intel® AI Edge Systems

Product Specifications

CPU	Intel® Core™ Ultra X7 Processor 358H or (18MB Cache, 1.9GHz/4.8GHz) TDP 25W up to 65W
Graphics	Intel® Arc™ Graphics with up to 12 X ^e cores (2.5GHz/122TOPS) Integrated NPU accelerator with up to 50 TOPS
Memory	Up to 96GB LPDDR5X dual channel on board, max.8533MHz
Storage	1 x M.2-2242/2280 M Key Slot (NVME)
Wireless Network	1 x M.2-2230 E-key slot for WiFi module (supports PCIe/USB 2.0 signals) 1 x M.2-3052 B-Key slot with Nano-SIM socket for 4G/5G module (supports USB 3.0/USB 2.0 signals)
LAN	5 x Giga-bit Ethernet ports in total 4 x Ethernet Wafer ports (Intel® Ethernet Controller I210-AT) supporting EtherCAT 1 x GbE RJ45 port (Intel® Ethernet Controller I226-V) supporting 2.5Gbps
Operating / Storage Temp.	-20° ~ 50° (SSD, non-freezing)
Dimension (W x D x H)	135mm x 130mm x 65.3mm
Weight	1.2Kg
OS	Supports ROS2 or Ubuntu 22.04 with roboRTS
I/O Options (Input/Output)	HDMI (4K@30); 8× GMSL2; 6× CAN; 4× RS485; 2× RS232/485; 4× USB 3.0 (Type-C); 2× USB 2.0; Audio; 8× GPIO; 12–36V DC in

Learn More

[NODKA AP-6121](#)

Intel technologies may require enabled hardware, software or service activation. // No product or component can be absolutely secure. // Your costs and results may vary. // Performance varies by use, configuration and other factors. // See our complete legal [Notices and Disclaimers](#). // Intel is committed to respecting human rights and avoiding causing or contributing to adverse impacts on human rights. See Intel's [Global Human Rights Principles](#). Intel's products and software are intended only to be used in applications that do not cause or contribute to adverse impacts on human rights.

© Intel Corporation. Intel, the Intel logo and other Intel marks are trademarks of Intel Corporation or its subsidiaries. Other names and brands may be claimed as the property of others.