

Preliminary



KEY FEATURES

- AI-Ready Edge Computing**
Powered by Intel® Core™ Ultra Series 3 processors for local AI computing and robotics development running on ASRock Industrial NUC BOX-358H.
- RGB-D Perception**
Integrated RGB-D camera provides color and depth information for robotic perception and object interaction.
- Robotic Manipulation**
Robotic arm enables developers to explore AI-based manipulation tasks such as pick-and-place, object handling, and learned robot skills.
- Physical AI Development**
Supports development workflows from data collection and AI model training to robot skill execution.
- Agentic AI Integration (Optional)**
Connects voice, vision, AI reasoning, and trained robotic skills through AiRoboStarter Advanced.

COMPONENT

Specification	
Computing Platform	ASRock Industrial NUC BOX-358H
Processor	Intel® Core™ Ultra X7 Processor 358H
Memory	32GB DDR5-5600MHz(Standard) 64GB DDR5-5600Mhz(Advanced)
Storage	512GB M.2 2280 PCIe Gen4 SSD
Robot Arm	6-DOF Robotic Arm Set (Leader and Follower)
Depth Camera	RGB Depth Camera
USB Hub	4-Port USB Hub with auxiliary 5V power input
Mounting	Robot / Camera mounting accessories
Manipulation Objects	6 × soft play cubes
Software	AiRoboStarter(Pre-installed) AiRoboStarter Advanced(64GB configuration)
Software Environment	Debian13

* Final configuration may vary depending on product version.

PHYSICAL AI WORKFLOW

AiRoboStarter	A streamlined environment for developing, training, and executing robotic skills. (Standard:32GB) Demonstration Recording → Dataset Review → Model Training → Robot Skill Execution Model workflows: ACT SmolVLA(coming soon) Pi0.5* *For pi0.5 training, it is recommended to close all applications or select the bf-16mixed training parameter.
AiRoboStarter Advanced	An agentic AI environment that connects multimodal AI capabilities with trained robotic skills. (Optional:64GB) Voice Interaction → AI Reasoning → Visual Perception → Robot Skill Execution → Voice Response Capabilities: STT/TTS LLM Vision Object Detection Web Search Custom APIs Robot Skill Integration *Supported models, features and performance depend on the software release and validated configuration.

TARGET APPLICATIONS

	AI Robotic Manipulation	Develop and evaluate AI-based pick-and-place, object handling, and manipulation tasks.
	Research & Education	Support Physical AI research, robotics education, and Multi-model experimentation.
	Physical AI Development	Develop and evaluate Physical AI workflows that integrate perception, AI reasoning, robotic skills, and real-world actions.