

# ECX

# 4000

# 5G 2.5GigE

Intel® Core™ Ultra 200S Series Processor (Arrow Lake)  
High Performance Fanless AI Computing System

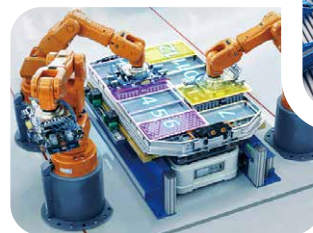


^ AI-powered Cargo



- Intel® Core™ Ultra 200S Series processor (Arrow Lake) running with Intel® W880 PCH, up to 24 cores
- Intel® Integrated NPU and X<sup>e</sup> LPG GPU, up to 36 TOPS
- 2 DDR5 6400MHz Memory up to 96GB, optional ECC
- 2 10G SFP+, 8 2.5GigE LAN with 4 PoE+, 1 GigE LAN
- 6 USB 3.2 Gen 2, 16 Isolated DIO, 4 COM
- Expansion : 2 M.2 Key B, 1 Key E; optional SUMIT A, B
- DC 9V to 50V Redundant Power Input, Software Ignition
- Intel® vPro, TSN, TCC, and TPM 2.0
- Optional VHub AIoT Solution Service supports OpenVINO™ Toolkit for Edge AI applications

∨ Machine Vision



^ Intelligent Logistics



OpenVINO™



VHub

Vecow

# Specifications

## System

Processor	Intel® Core™ Ultra 200S Series Processors, 65W/35W, max 24-core (Arrow Lake-S)
Chipset	Intel® W880 Chipset
BIOS	AMI
SIO	IT8786E
Memory	2 DDR5 6400MHz CSODIMM, up to 96GB (ECC/Non-ECC)
OS	Windows 11, Windows 10, Linux

## Integrated AI Processor

NPU	Intel® AI Boost dedicated Low Power AI Engine
GPU	Intel® X <sup>e</sup> LPG Graphics architecture, up to 4X <sup>e</sup> Graphics Engines

## I/O Interface

Serial	4 COM RS-232/422/485
USB	6 USB 3.2 Gen 2
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO (Optional)
LED	Power, HDD, PoE, Wireless
SIM Card	2 External SIM Card Socket
Display	- 2 DisplayPort : Up to 7680 x 4320 @60Hz - 1 HDMI 2.0 : Up to 3840 x 2160 @60Hz - 1 DVI-I : Up to 1920 x 1080 @60Hz

## Expansion

M.2	- 2 M.2 Key B Socket (3042/3052/2280, PCIe x2/USB 3, default/SATA) - 1 M.2 Key E Socket (2230, PCIe x2/USB2)
SUMIT	2 SUMIT Slot (Optional)

## Storage

SATA	2 SATA III (6Gbps) support software RAID 0, 1 (Storage devices please refer to Order Information)
M.2	- 1 M.2 Key M Socket (2280, PCIe x4) - 2 Front-access M.2 Socket (2280, PCIe x4, Optional)

## Audio

Audio Codec	Realtek® ALC888S-VD, 7.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out

## Ethernet

LAN 1	Intel® I219LM GigE LAN supports iAMT
LAN 2	Intel® I226IT 2.5GigE LAN supports TSN

## PoE

LAN 3 to LAN 6	Intel® I226IT 2.5GigE IEEE 802.3at (25.5W/48V) PoE*
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## 2.5G Ethernet (ECX-4025R/4025)

LAN 7 to LAN 9	Intel® I225 2.5GigE LAN
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## 10G SFP+ (ECX-4071R/4071)

LAN 7 to LAN 8	Intel® X710-BM2 supports IEEE 802.3 10GBASE-T SFP+
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## Power

Power Input 1	DC 9V to 50V, Redundant Power Input
Power Input 2	DC 9V to 50V, Redundant Power Input
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16-mode Software Ignition Control
Remote Switch	3-pin Terminal Block

## Others

TPM	Infineon SLB9672 supports TPM 2.0, SPI Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
Smart Mgmt.	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.

## Mechanical

Dimensions	260mm x 175mm x 79mm (10.24" x 6.89" x 3.11")
Weight	3.8 kg (8.38 lb)
Mounting	- Wallmount by mounting bracket - DIN Rail Mount (Optional) - 2U Rackmount (Optional)

## Environment

Operating Temperature (with airflow)	<b>35W TDP CPU</b> : -40°C to 75°C (-40°F to 167°F), Fanless <b>65W TDP CPU</b> : -40°C to 55°C (-40°F to 131°F), Fanless <b>ECX-4025 Series</b> : -40°C to 70°C (-40°F to 158°F), Fanless <b>ECX-4071 Series</b> : -40°C to 55°C (-40°F to 131°F), Fanless
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @75°C
Shock	- IEC 60068-2-27 - SSD : 50G @ wallmount, Half-sine, 11ms
Vibration	- IEC 60068-2-64 - SSD : 5Grms, 5Hz to 500Hz, 3 Axis
EMC	CE, FCC, ICES, EN50155, EN50121-3-2

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# Order Information

Model	Ethernet			SSD Tray	USB 3.2 Gen 2	Isolate DIO (GPIO)
	10G SFP+	2.5GigE LAN	2.5GigE PoE*			
ECX-4025R	-	8	4	2	-	16
ECX-4025	-	8	4	-	-	16
ECX-4000-PoER	-	5	4	2	-	16
ECX-4000-PoE	-	5	4	-	-	16
ECX-4000-6R	-	5	-	2	6	16
ECX-4000-6G	-	5	-	-	-	16
ECX-4000-2R	-	1	-	2	-	(16)
ECX-4000-2G	-	1	-	-	-	(16)
ECX-4071R	2	5	4	2	-	16
ECX-4071	2	5	4	-	-	16

\* Fan sink modules for ECX-4000 Series are optional. Please contact our sales team if needed.

## CPU List

Processor Brand	CPU P/N	Cores	GHz*	TDP (W)
Intel® Core™ Ultra	9 285	24	2.5	65
	7 265	20	2.4	65
	5 245	14	3.5	65
	9 285T	24	1.4	35
	7 265T	20	1.5	35
	5 245T	14	2.2	35

## Optional Software

VHub AI Developer	AI Developer Kit
VHub ROS	AMR Developer Kit
VHub EtherCAT	I/O Control Platform

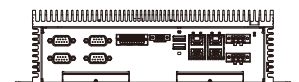
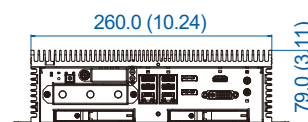
## Accessories

DDR5 48G	Certified DDR5 48GB RAM
DDR5 32G	Certified DDR5 32GB RAM
DDR5 16G	Certified DDR5 16GB RAM
DDR5 8G	Certified DDR5 8GB RAM
PWA-120W1	120W, 24V, AC 90V-264V Power Adapter
PWA-160W-WT	160W, 24V, AC 85V-264V Power Adaptor, Wide Temperature -30°C to +70°C
PWA-180W	180W, 24V, AC 90V-132V/180V-264V Power Adapter
PWA-280W-WT	280W, 24V, AC 85V-264V Power Adaptor, Wide Temperature -30°C to +70°C *Recommended when enable turbo mode (35W CPU)
PWA-330W	330W, 24V, AC 90V-264V Power Adapter *Recommended when enable turbo mode (65W CPU)
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail and VESA Mounting Kit
Rack Mount	2U Rackmount Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
M.2 Storage Module	M.2 Key M Storage Module
5G Module	5G Module with Antenna
4G Module	4G/GPS Module with Antenna
WiFi & Bluetooth	WiFi & Bluetooth Module with Antenna

# Dimensions & Drawing

Unit : mm (inch)

ECX-4000-PoER



ECX-4000-PoE

