

## ECX-2400/2300PEG

Workstation-grade Intel® Xeon®/Core™ i9/i7/i5/i3 (Comet Lake) AI Computing System with NVIDIA® Tesla®/Quadro®/GeForce® Graphics



- Workstation-grade Platform :
  - 10-core 10th Gen Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CML-S) with Intel® W480E chipset, up to 95W TDP CPU
- Supports up to 250W NVIDIA® or AMD Graphics card
- 12V to 50V wide range DC Power Input, 80V Surge Protection
- Supports Configurable Software Ignition Control and TPM 2.0
- Optional VHub One-Stop AIoT Solution Service supports OpenVINO based AI accelerator and advanced Edge AI applications



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# Specifications

## System

Processor	10th Gen Intel® Core™ i9/i7/i5/i3 Processor (Comet Lake-S)
Chipset	Intel® W480E
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2933MHz Memory, up to 64GB (ECC/Non-ECC)
OS	Windows 10, Linux

## I/O Interface

Serial	4 COM RS-232/422/485 (ESD 8kV)
USB	- 6 USB 3.2 (External) - 1 USB 2.0 (Internal)
Isolated DIO	ECX-2400 PEG Series : 32 Isolated DIO : 16 DI, 16 DO ECX-2300 PEG Series : 16 GPIO
LED	Power, HDD, PoE, Wireless
SIM Card	3 External Nano SIM Card Socket

## Expansion

Mini PCIe	2 Mini PCIe sockets for PCIe/USB/SIM Card/Optional mSATA
PCIe	2 PCIe x16 Slot with 1 PCIe x16, 1 PCIe x4 signal
M.2	- 1 M.2 Key B Socket (3042/3052) - 1 M.2 Key E Socket (2230)

## Graphics

Graphics Processor	- Intel® UHD Graphics 630 - Independent Graphics : By request
Interface	Up to 7 independent displays : - 1 VGA, 1 DVI-D : Up to 1920 x 1080 @60Hz - 2 DisplayPort : Up to 4096 x 2304 @60Hz - By requested PEG

## Storage

SATA	4 SATA III (6Gbps) support S/W RAID 0, 1, 5, 10
mSATA	2 SATA III (Mini PCIe Type, 6Gbps)
M.2	1 M.2 Key M Socket (2280, PCIe x2)
Storage Device	- 1 Micro SD Card, Push-in/Push-out Ejector - 4 Front-access 2.5" SSD/HDD Tray

## Audio

Audio Codec	Realtek ALC892, 5.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out

## Ethernet

LAN 1	Intel® I219LM GigE LAN supports iAMT 14.0
LAN 2	Intel® I210 GigE LAN

## PoE (ECX-2400)

LAN 3 to LAN 6	GigE IEEE 802.3at (25.5W/48W) PoE* by Intel® I350
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## Power

Power Input	12V to 50V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16-mode Software Ignition Control
Remote Switch	3-pin Terminal Block
Surge Protection	Up to 80V/1ms Transient Power

## Others

TPM	Infineon SLB9665 supports TPM 2.0, LPC 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 240mm x 104mm (10.2" x 9.4" x 4.1")
Weight	5.5 kg (12.13 lb)
Mounting	- Wallmount by mounting bracket - DIN Rail Mount (Optional)

## Environment

Operating Temp.	35W & 65W TDP CPU : -20°C to 45°C (-4°F to 113°F), Fanless 80W & 95W TDP CPU : -20°C to 45°C (-4°F to 113°F), with Fan Sink
Storage Temp.	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @45°C
Shock/Vibration	- IEC 61373 : 2010 - Railway Applications : Rolling Stock Equipment, Shock and Vibration Tests
EMC	CE, FCC, EN50155, EN50121-3-2

# Order Information

Model	GigE LAN	PoE*	SSD Tray	PCIe x16	PCIe x4	USB 3.2	COM	Nano SIM	Isolated DIO	GPIO	Sys. Fan	**Fan Sink
ECX-2400-PEG	6	4							32	-		-
ECX-2400F-PEG	6	4	4	1	1	6	4	3	32	-	Y	Y
ECX-2300-PEG	2	-							-	16		-
ECX-2300F-PEG	2	-							-	16		Y

\*\* Fan Sinks are required for high TDP CPU systems (80W, 95W)

## CPU List

Series	CPU	GHz	TDP (W)	CPU	GHz	TDP (W)	ECC RAM
Intel® Xeon®	W-1290E	4.8	95	W-1290TE	4.5	35	Y
	W-1270E	4.8	80	W-1270TE	4.4	35	Y
	W-1250E	4.7	80	W-1250TE	3.8	35	Y
Intel® Core™	i9-10900E	4.7	65	i9-10900TE	4.5	35	N/A
	i7-10700E	4.5	65	i7-10700TE	4.4	35	N/A
	i5-10500E	4.2	65	i5-10500TE	3.7	35	N/A
	i3-10100E	3.8	65	i3-10100TE	3.6	35	Y

## Optional Software

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

## Accessories

DDR4 32G	Certified DDR4 32GB 3200MHz RAM
DDR4 16G	Certified DDR4 16GB 3200MHz RAM
DDR4 8G	Certified DDR4 8GB 3200MHz RAM
DDR4 4G	Certified DDR4 4GB 3200MHz RAM
PWA-160WB-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block (7.62mm pitch), Wide Temperature -30°C to +70°C
PWA-280WB-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block (7.62mm pitch), Wide Temperature -30°C to +70°C
PWS-480W-WT	480W, 24V, 90V AC to 305V AC Power Supply, Wide-Temp, IP65
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail and VESA Mounting 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/Key B PCIe 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)

