

# ECX-1400/1300 PEG

Workstation-grade Intel® Xeon®/Core™ i7/i5/i3 (CFL-R)  
AI Computing System with NVIDIA® GeForce RTX™ Graphics



- 8 Cores 9th Generation Intel® Xeon®/Core™ i7/i5/i3 (Coffee Lake Refresh) with workstation-grade Intel® C246 Chipset
- 2 DDR4 2666MHz Memory, up to 64GB (ECC/Non-ECC)
- NVIDIA® RTX platform, powered by advanced NVIDIA Turing™ GPU architecture, supports up to 6X the performance of previous generation graphics cards for AI computing
- Multiple VGA, DVI, HDMI and DisplayPort display interfaces support max 7 independent displays, up to 8K Resolution
- Multiple external USB 3.1 Gen 2 supports up to 10Gbps data transfer
- 6 Independent GigE LAN with 4 IEEE 802.3at PoE+
- 32 Isolated DIO, 6 USB 3.1, 4 COM RS-232/422/485
- Storage : 4 2.5" SSD Tray, 1 CFAST, 1 M.2, 4 SATA III
- Expansion : 2 Mini PCIe/mSATA, 1 M.2
- 3 External SIM Socket for WiFi/4G/3G/LTE/GPRS/UMTS
- 24V to 36V DC Power Input with 80V Surge Protection
- Configurable Ignition Power Control

Automatic LPR



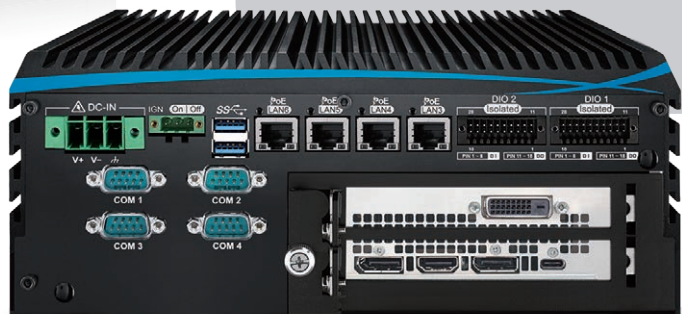
Autonomous Vehicles



Robotic Control



Public Surveillance



# Specifications

## System

Processor	8 Cores Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R 5)
Chipset	Intel® C246
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 2666MHz SO-DIMM, 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 3.1 (External) - 1 USB 2.0 (Internal)
Isolated DIO	<b>ECX-1400 Series</b> : 32 Isolated DIO : 16 DI, 16 DO <b>ECX-1300 Series</b> : 16 GPIO
LED	Power, HDD, PoE, Wireless
SIM Card	3 External SIM Card Socket

## Expansion

Mini PCIe	2 Full-size for PCIe/USB/External SIM Card/mSATA
M.2	1 M.2 Key E Socket

## Graphics

Graphics Processor	Intel® UHD Graphics 630 <b>Independent Graphics</b> : By request
Interface	Up to 7 independent displays : - 1 VGA : Up to 1920 x 1200 @60Hz - 1 DVI : Up to 1920 x 1200 @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 B Socket
Storage Device	- 1 CFast Socket, 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 12.0
LAN 2	Intel® I210 GigE LAN

## PoE (ECX-1400)

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

Power Input	24V to 36V, DC-in
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16 Mode (Internal)
Remote Switch	3-pin Terminal Block
Surge Protection	Up to 80V/1ms Transient Power

## Others

TPM	Optional 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 215mm x 104.1mm (10.24" x 8.46" x 4.10")
Weight (w/o Graphics Card)	5.5 kg (12.13 lb)
Mounting	- Wallmount by mounting bracket - DIN Rail Mount (Optional)

## Environment

Operating Temp.	-20°C to 45°C (-4°F to 113°F)
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

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# Order Information

Model Name	GigE LAN	PoE+	SSD Tray	USB 3.1	COM	SIM	Isolated DIO	GPIO
ECX-1400 PEG	6	4	4	6	4	3	32	-
ECX-1300 PEG	2	-	-	-	-	-	-	16

## CPU List

Series	CPU	Cores	GHz	TDP (W)	CPU	Cores	GHz	TDP (W)	ECC RAM
Intel® Xeon®	E-2176G	6	4.6	80	E-2278GE	8	4.7	80	Yes
	E-2124G	4	4.5	71	E-2278GEL	8	3.9	35	
					E-2226GE	6	4.6	80	
Intel® Core™	i7-8700	6	4.6	65	i7-9700E	8	4.4	65	N/A
	i7-8700T	6	4	35	i7-9700TE	8	3.8	35	
	i5-8500	6	4.1	65	i5-9500E	6	4.2	65	
	i5-8500T	6	3.5	35	i5-9500TE	6	3.6	35	Yes
	i3-8100	4	3.6	65	i3-9100E	4	3.7	65	
	i3-8100T	4	3.1	35	i3-9100TE	4	3.2	35	

## Graphics Card List

Model No.	CUDA Core	Memory	Display	TDP
GeForce RTX 2060	1920	6GB GDDR6	HDMI x1, DP x3	160W
GeForce RTX 2070	2304	8GB GDDR6	HDMI x1, DP x3, DVI-D x1	175W

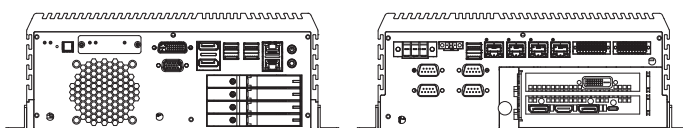
## Accessories

DDR4 32G	Certified DDR4 32GB 2666MHz RAM
DDR4 16G	Certified DDR4 16GB 2666/2400/2133MHz RAM
DDR4 8G	Certified DDR4 8GB 2666/2400/2133MHz RAM
DDR4 4G	Certified DDR4 4GB 2666/2400/2133MHz RAM
PWA-280WB-WT	280W, 24V, 85V AC to 264V AC Power Adaptor with 3-pin Terminal Block (7.62mm pitch), Wide Temperature -30°C to +70°C
PWS-360W	360W, 28.8V, 90 to 132V AC/180 to 264V AC (selected by switch) Power Supply
PWS-480W-WT	480W, 24V, 90V AC to 305V AC Power Supply, Wide-Temp, IP65
VESA Mount	VESA Mounting Kit
DIN-RAIL Kit	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
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth	WiFi & Bluetooth Module with Antenna

# Dimensions & Drawing

Unit : mm (inch)

## ECX-1400 PEG



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