Vecow

ECX-2200/2100 Series

5G

VHub

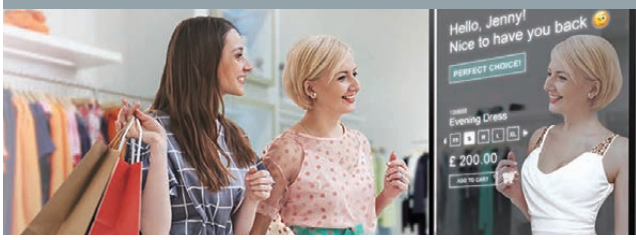
10th Gen Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (Comet Lake)
Workstation-grade Expandable Fanless Embedded System

- Workstation-grade Platform : 10-core 10th Gen Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CML-S) running with Intel® W480E chipset supports max 95W TDP CPU
- 2 DDR4 2933MHz Memory support up to 64GB, optional with ECC
- 9V to 50V wide range DC Power Input with 80V Surge Protection
- Fanless, -40°C to 75°C Operating Temperature
- 6 Independent GigE LAN with 4 X-coded M12 IEEE 802.3at PoE+
- PCIe x16 expansion supports up to 250W Power Budget
- Expansion : 1 PCI/PCIe, 1 M.2 Key B, 1 M.2 Key E, 2 Mini PCIe, optional SUMIT A, B
- Storage : 2 2.5" SSD Tray, 1 Micro SD Card, 1 M.2 Key M, 2 SATA III
- Display : VGA, DVI-D & 2 DisplayPort interfaces, up to 4K resolution
- 6-port USB 3.2 support up to 10Gbps data transfer
- 32 Isolated DIO, 4 COM RS-232/422/485
- 3 External Nano SIM Sockets for 5G/WiFi 6/4G/3G/LTE/GPRS/UMTS
- Supports Configurable Software Ignition Power Control and TPM 2.0
- Optimized user-friendly design for easier system maintenance
- Optional VHub One-Stop AIoT Solution Service supports OpenVINO based AI accelerator and advanced Edge AI applications

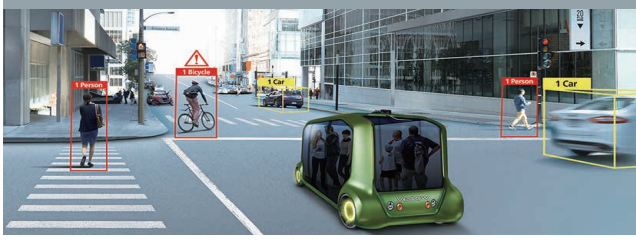
Rolling Stock



Smart Retail



Vehicle Computing



AMR/AGV







intel partner Gold IoT Solutions

M12 · SS 10 · M.2 · PoE · SUMIT · Isolated DIO · SIM · WiFi 6 · Micro SD · TPM · 9V~50V · 80V

-40° 75° · EN50155 · CE · FC · RoHS

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Specifications

System

Processor	10th Gen Intel® Xeon®/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)
Isolated DIO	**ECX-2200 Series :** 32 Isolated DIO : 16 DI, 16 DO **ECX-2100 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/PCI	1 PCI/PCIe x16 Slot, by signal request
M.2	- 1 M.2 Key B Socket (2280/3042/3052, PCIe x2/USB3/USB2) - 1 M.2 Key E Socket (2230, PCIe/USB)
SUMIT A, B	2 SUMIT Slot (Optional)

Graphics

Graphics Processor	Intel® UHD Graphics 630
Interface	- 1 VGA : Up to 1920 x 1080 @60Hz - 1 DVI-D : Up to 1920 x 1080 @60Hz - 2 DisplayPort : Up to 4096 x 2304 @60Hz

Storage

SATA	2 SATA III (6Gbps) support S/W RAID 0, 1
mSATA	2 SATA III (Mini PCIe Type, 6Gbps)
M.2	1 M.2 Key M Socket (2280, PCIe x4/SATA)
Storage Device	- 1 Micro SD Card, Push-in/Push-out Ejector - 2 Front-access 2.5"SSD/HDD Tray

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 14.0
LAN 2	Intel® I210 GigE LAN

PoE (ECX-2200)

LAN 3 to LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I350, X-Coded M12 Connector (ECX-2200MX)

Power

Power Input	9V 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 79mm (10.24" x 9.45" x 3.11")
Weight	4.5 kg (9.92 lb)
Mounting	- Wallmount by mounting bracket - DIN Rail Mount (Optional) - 2U Rackmount (Optional)

Environment

Operating Temp.	**35W TDP CPU :** -40°C to 75°C (-40°F to 167°F), Fanless **65W TDP CPU :** -40°C to 55°C (-40°F to 131°F), Fanless **80W & 95W TDP CPU :** -40°C to 55°C (-40°F to 131°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% @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, EN50155, EN50121-3-2

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Order Information

Model	GigE LAN	PoE+	M12 PoE+	SSD Tray	PCIe x16	PCI	USB 3.2	COM	Nano SIM	Isolated DIO	GPIO	Fan Sink*
ECX-2210MX	6	-	4	2	1	-	6	4	3	32	-	-
ECX-2210MXF	6	-	4	2	1	-						Y
ECX-2201MX	6	-	4	2	-	1						-
ECX-2201MXF	6	-	4	2	-	1						Y
ECX-2210	6	4	-	2	1	-						-
ECX-2210F	6	4	-	2	1	-						Y
ECX-2201	6	4	-	2	-	1						-
ECX-2201F	6	4	-	2	-	1						Y
ECX-2110	2	-	-	2	1	-				-	16	-
ECX-2110F	2	-	-	2	1	-						Y
ECX-2101	2	-	-	2	-	1						-
ECX-2101F	2	-	-	2	-	1						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-180WB	180W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
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
PWA-330WB	330W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
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
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/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)

ECX-2200MXA



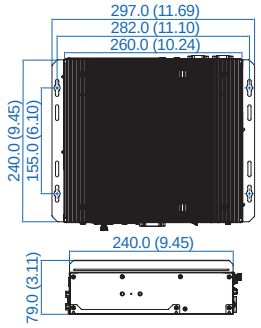
ECX-2200A



ECX-2100A



ECX-2200A/2100A Series



ECX-2200MXAF



ECX-2200AF



ECX-2100AF



ECX-2200AF/2100AF Series

