

Preliminary

Vecow

EVS-2000 Series



**Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (Comet Lake)
Fanless AI Computing System with
Compact NVIDIA® or AMD MXM Graphics**

- LGA 1200 Socket Type 10-Core 10th Gen Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (Comet Lake-S) with Intel® W480E Chipset
- Dual 260-pin SO-DIMM support up to 64GB DDR4 Memory
- Compact NVIDIA® Quadro®/GeForce® MXM graphics card delivers leading AI computing productivity by advanced NVIDIA® CUDA® cores
- Fanless, -25°C to 55°C Operation Temperature
- Nano SIM Sockets for 5G/WiFi 6/4G/3G/LTE/GPRS/UMTS
- Expansion : 1 PCI/PCIe, 1 M.2 Key B, 1 M.2 Key E, 1 Mini PCIe, optional SUMIT A, B
- Storage : 2 2.5" SSD Tray, 1 Micro SD Card, 1 M.2 Key M, 1 M.2 Key B
- 9V to 50V wide range DC Power Input with 80V Surge Protection
- Supports Configurable Software Ignition Power Control and TPM 2.0
- Optional VHub One-Stop AIoT Solution Service supports OpenVINO based AI accelerator and advanced Edge AI applications

Facial Recognition



Factory Automation



Smart Retail



Machine Vision



Specifications

System

| | |
|-----------|---|
| Processor | LGA 1200 Socket supports 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

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|--------------|---------------------------------|
| Serial | 3 COM RS-232/422/485 (ESD 8kV) |
| USB | 6 USB 3.2 (External) |
| Isolated DIO | 32 Isolated DIO : 16 DI, 16 DO |
| LED | Power, HDD |
| SIM Card | 2 External Nano SIM Card Socket |
| SD Card | 1 External Micro SD Card Socket |

Expansion

| | |
|------------|---|
| Mini PCIe | 1 Mini PCIe Socket for PCIe/USB/SIM Card/mSATA |
| PCI/PCIe | 1 PCI/PCIe x4 Slot |
| M.2 | - 1 M.2 Key B Socket (3042/3052) - 1 M.2 Key E Socket (2230) |
| SUMIT A, B | 2 SUMIT Slot (Optional) |

Graphics

| | |
|--------------------|---|
| Graphics Processor | Intel® UHD Graphics 630 Independent MXM Graphics : By request |
| Interface | Up to 7 independent displays : - 1 VGA : Up to 1920 x 1200 @60Hz - 1 DVI-D : Up to 1920 x 1200 @60Hz - 2 DisplayPort : Up to 4096 x 2304 @60Hz - 4 DisplayPort : Up to 7680 x 3840 @60Hz (By requested MXM) |

Storage

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|----------------|--|
| SATA | 2 SATA III (6Gbps) support 5W RAID 0, 1 |
| mSATA | 1 SATA III (Mini PCIe Type, 6Gbps) |
| M.2 | - 1 M.2 Key B Socket (2280) - 1 M.2 Key M socket (2280) |
| Storage Device | - 1 Micro SD Card Socket, Push-in/Push-out Ejector - 2 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 |

Power

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|------------------|---|
| Power Input | 9V to 50V, DC-in (External) |
| Power Interface | 3-pin Terminal Block : V+, V-, Frame Ground |
| Ignition Control | 16-mode Software Ignition Control |
| Remote Switch | 3-pin Terminal Block : On, Off, IGN |
| 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 | EVS-2000 Series : 280.0mm x 215.0mm x 79.1mm (11.02" x 8.46" x 3.11") |
| | EVS-2000F Series : 280.0mm x 215.0mm x 86.5mm (11.02" x 8.46" x 3.41") |
| Weight | EVS-2000 Series : 4.9 kg (10.80 lbs) |
| | EVS-2000F Series : 5 kg (11.02 lbs) |
| Mounting | - Wallmount by mounting bracket |
| | - DIN Rail Mount (Optional) |
| | - 2U Rackmount (Optional) |

Environment

| | |
|-------------------|--|
| Operating Temp. | 35W TDP CPU : -25°C to 55°C (-40°F to 131°F) 65W TDP CPU : -25°C to 45°C (-40°F to 123°F) |
| Storage Temp. | -40°C to 85°C (-40°F to 185°F) |
| Humidity | 5% to 95% Humidity, non-condensing |
| Relative Humidity | 95% @55°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 | Graphics MXM TDP | GigE LAN | USB 3.2 | PCIe x4 | PCI | System Fan | Operating Temp. |
|-----------|---------------------|-------------|------------|------------|-----|---------------|-------------------------------|
| EVS-2010 | 50W | 2 | 6 | 1 | - | N/A | -25°C to 55°C with 35W CPU |
| EVS-2001 | | | | - | 1 | N/A | |
| EVS-2010F | 80W to 150W | 2 | 6 | 1 | - | Y | -25°C to 45°C with 65W CPU |
| EVS-2001F | | | | - | 1 | Y | |

CPU List

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

Optional MXM Module

Supports 50W to 150W TDP MXM 3.1 Type A/B Form Factor MXM Module

*Please discuss with your regional Vecow Sales contact to find out ideal MXM module for your application.

Optional Software

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

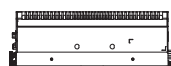
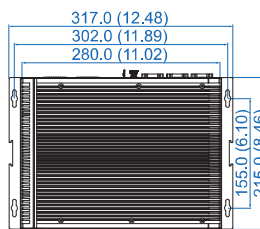
Accessories

| | |
|--------------------|--|
| 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 Adaptor 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 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 |
| 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)

EVS-2000



EVS-2000F

