

HEC

1000

13th/12th Gen Intel® Core™ i9/i7/i5/i3 Processor (Raptor Lake/Alder Lake)
Workstation-grade Fanless High Endurance System



^ Advanced Driver Assistance Systems (ADAS)



- Workstation-grade Platform : 13th/12th Gen Intel® Core™ i9/i7/i5/i3 Processor (Raptor Lake-S/Alder Lake-S) running with Intel® R680E PCH supports 35W TDP CPU
- Rugged MIL-DTL-38999 Circular Connector with IP66 Rating for 6 USB, 1 GigE LAN, 3 2.5G LAN, 4 COM RS-232/422/485, 1 DVI-I
- 2 Front-access 2.5" SSD/HDD Tray
- High-Endurance System Design, MIL-STD-810G, MIL-STD-461G compliant
- DC 9V to 50V Power Input, AT mode

▼ Robotic Control



^ AMR

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Vecow

Specifications

System

Processor	- 24-core 13th Gen Intel® Core™ i9/i7/i5/i3 Processor (Raptor Lake-S) - 16-core 12th Gen Intel® Core™ i9/i7/i5/i3 Processor (Alder Lake-S)
Chipset	Intel® R680E Chipset
Graphics	Intel® UHD Graphics 730/770 driven by Intel® Xe Architecture
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 3200MHz SO-DIMM, up to 64GB (ECC/Non-ECC)
OS	Windows 11, Windows 10, Linux

I/O Interface (D38999 connector)

Serial	4 COM RS-232/422/485
USB	6 USB 2.0
Display	DVI-I : Up to 1920 x 1080 @60Hz

Expansion

Mini PCIe	1 Mini PCIe Socket for PCIe/USB/SIM Card/Optional mSATA**
M.2	- 1 M.2 Key B Socket (3042/3052, SATA/USB 3, default/USB 2)** - 1 M.2 Key E Socket (2230, PCIe x2/USB)**

Storage

SATA	2 SATA III (6Gbps) support software RAID 0, 1
mSATA	1 SATA III (Mini PCIe Type, 6Gbps)
M.2	1 M.2 Key M Socket (2280, PCIe x4)
Storage Device	2 Front-access 2.5" SSD/HDD Tray

Audio

Audio Codec	Realtek® ALC885-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® I226 2.5GigE LAN supports TSN
LAN 3	Intel® I226 2.5GigE LAN supports TSN
LAN 4	Intel® I226 2.5GigE LAN supports TSN

Power

Power Input	DC 9V to 50V, AT mode
Power Interface	4-pin MIL-DTL-38999 Connector

Others

TPM	Infineon SLB9670 supports TPM 2.0, SPI Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.

Mechanical

Dimensions	276.0mm x 351.6mm x 130.0mm (10.86" x 13.84" x 5.11")
Weight	15.2 kg (33.5lb)
Mounting	Wallmount by mounting bracket

Environment

Operating Temperature	-40°C to 65°C (-40°F to 149°F) with air flow
Storage Temperature	-55°C to 85°C (-67°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @65°C
Low Pressure/Altitude	MIL-STD-810G method 500.5, Procedure II
High Temperature	MIL-STD-810G method 501.5, Procedure II
Low Temperature	MIL-STD-810G method 502.5, Procedure II
Vibration	MIL-STD-810G method 514.6, Category 24
Shock	MIL-STD-810G method 516.6, Procedure I
EMC	CE, FCC, MIL-STD-461G, EN50155

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Order Information

Model	LAN		COM	USB 2.0	SSD Tray	DVI
	2.5G	GigE				
HEC-1000	3	1	4	6	2	1

CPU List

Series	CPU	Cores	GHz	TDP (W)	CPU	Cores	GHz	TDP (W)	ECC
Intel® Core™	i9-13900TE	24	5	35	i9-12900TE	16	4.8	35	Y
	i7-13700TE	16	4.8	35	i7-12700TE	12	4.7	35	
	i5-13500TE	14	4.5	35	i5-12500TE	6	4.3	35	
	i3-13100TE	4	4.1	35	i3-12100TE	4	4	35	

Optional Software

VHub AI Developer	AI Developer Kit
VHub ROS	AMR Developer 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-120W1	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
Rack Mount Handle	Rackmount Handle Kit
M.2 Storage Module	M.2 Key M/Key B Storage Module
5G Module	5G Module with Antenna ** (Optional customization by request)
4G Module	4G/GPS Module with Antenna ** (Optional customization by request)
WiFi & Bluetooth	WiFi & Bluetooth Module with Antenna ** (Optional customization by request)

Dimensions & Drawing

Unit : mm (inch)

HEC-1000

