



KEY FEATURES

- Intel® 10th Gen (Comet Lake-S) Core™ Processors with H420E chipset
- 2 x 260-pin SO-DIMM up to 64GB (32GB per DIMM)
- 1 x M.2 Key M, 1 x M.2 Key B, 1 x M.2 Key E, 2 x Mini PCIe
- 4 x USB 3.2 Gen1, 3 x USB 2.0, 6 x COM, 2 x SATA3, 8 x DI, 8 x DO
- 3 x Intel Gigabit LAN

SPECIFICATIONS

Processor System

CPU	Intel® 10th Gen (Comet Lake-S) Core™ Processors
Chipset	Intel® H420E
Socket	LGA 1200

Memory

Technology	Dual Channel DDR4 2933 / 2666 / 2400 MHz, - Intel Core i9 / i7 CPUs support DDR4 up to 2933 MHz - Intel Core i5 / i3 CPUs support DDR4 up to 2666 MHz - Intel Pentium / Celeron CPU support DDR4 up to 2400 MHz
Capacity	64 GB (32 GB per DIMM)
Socket	2 x 260-pin SO-DIMM

Graphics

Controller	Intel® UHD Graphics
DisplayPort	DisplayPort 1.2, DP++ Max resolution up to 4096x2160@60Hz
VGA	Max resolution up to 1920x1200@60Hz
MultiDisplay	Dual Display

Expansion Slot

Mini-PCIe	1 x Full/Half size with PCIe x1 and USB 2.0 1 x Full/Half size with PCIe x1
M.2	1 x M.2 (Key E, 2230) with PCIe x1 and USB 2.0 for Wireless 1 x M.2 (Key B, 2280/3042/3052) with PCIe x1 and USB 3.2 for 4G / 5G
SIM Socket	2 (1 connected to Mini PCIe, 1 connected to M.2 Key B)

Audio

Interface	Realtek ALC897, High Definition Audio.
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Ethernet

Controller/ Speed	2 x I210T + 1 x I219V
Connector	3 x RJ45

Storage

M.2	1 x M.2 (Key M, 2230/2242/2280) with SATA for SSD
SATA	2 x SATA3 (6Gb/s) 2 x 2.5" HDD/SSD Tray
CFast	1 x Type II socket (Shared SATA)

Rear I/O

DisplayPort	2
VGA	1
Ethernet	3 x 1 Gigabit LAN
USB	4 x USB 3.2 Gen1, 3 x USB 2.0 (1 x internal connector w/ lock function)
Audio	1 x Mic-in, 1 x Line-out
COM	6 x COM (2 x RS-232, 4 x RS-232/422/485)
DIO	8-ch DI and 8-ch DO

Watchdog Timer

Output	From Super I/O to drag RESETCON#
Interval	256 Segments, 0, 1, 2, ...255sec

Power Requirements

Input PWR	9V~36V VDC with Ignition control and remote power on/off switch. 80V Surge Protection, OVP, UVP, OCP and reverse protection
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Environment

Operating Temp	35W CPU: -40°C~70°C (-40°F~158°F) 65W CPU: -40°C~50°C (-40°F~122°F) 80W CPU: -40°C~45°C (-40°F~113°F) (w/ air flow 0.6 m/s)
Storage Temp	-40°C~85°C (-40°F~185°F)
Operating Humidity	95% @ 40°C (non-condensing)
Storage Humidity	95% @ 40°C (non-condensing)
Shock	Operating: 100 Grms, half sine 11ms duration (w/ 2.5" SSD/CFast)
Vibration	Operating: 5 Grms, 5-500 Hz, 3 axes (w/2.5" SSD/CFast) Operating: 0.3 Grms, 5-500 Hz, 3 axes (w/ HDD)
ESD	Contact +/-4kV, Air +/-8kV
EMC	EN61000-6-4/-2, CE & FCC Class A

Mechanical

Construction	Aluminum heatsink + Metal chassis
Mounting	Wall Mount
Dimensions (W x H x D)	202mm (W) x 244mm (D) x 108.7mm (H) (7.95" x 9.61" x 4.28")
Weight	TBD

Others

OS Support	Windows 10 & Linux (Ubuntu)
TPM	TPM 2.0