



KEY FEATURES



High Performance CPU

10th Gen Intel® Xeon/Core™/Pentium/Celeron Processors



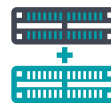
PoE or 10G Fiber ports

4 x PoE ports at 15.4W or
2 x 10G SFP+ ports



Wide Range Power Input

9~50Vdc power input with power ignition management



Multiple Expansions

1 miniPCIe and 4 M.2 slots



Wide-Temperature

Operating temperature: -20 to 70°C

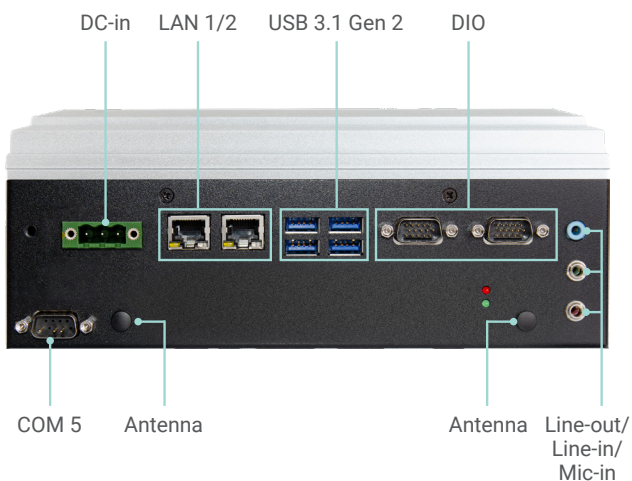


IoT Solutions Alliance

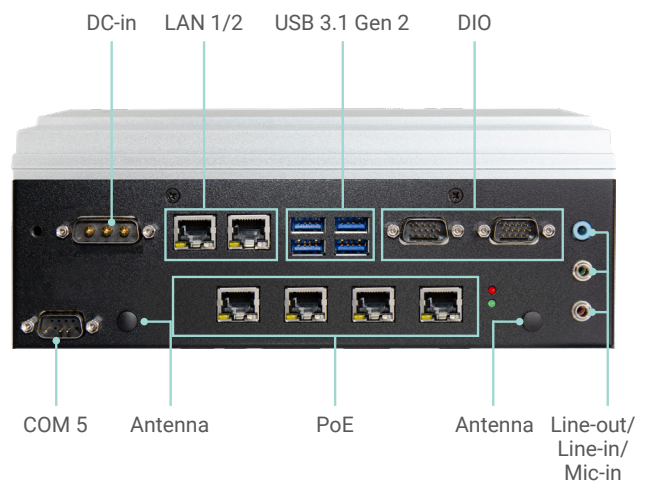
PANEL

Front View

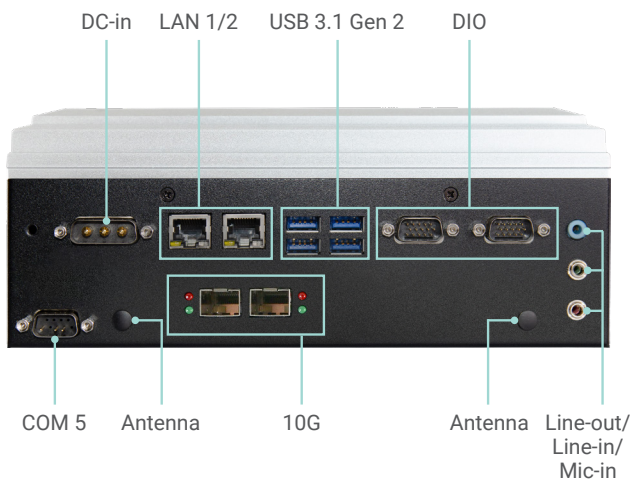
Front View (w/o PoE)



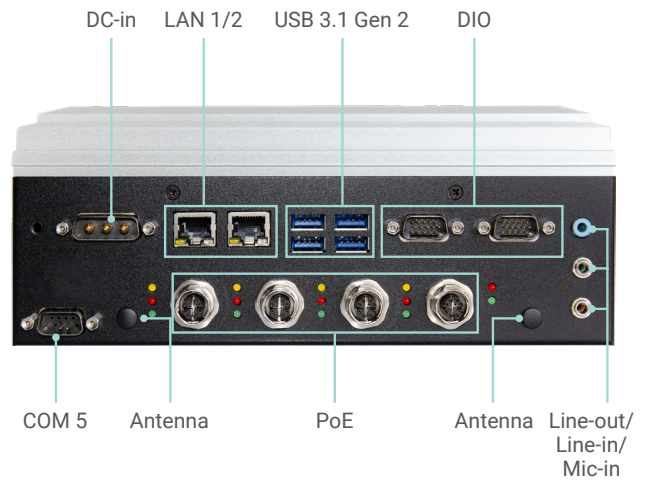
Front View (4PoE)



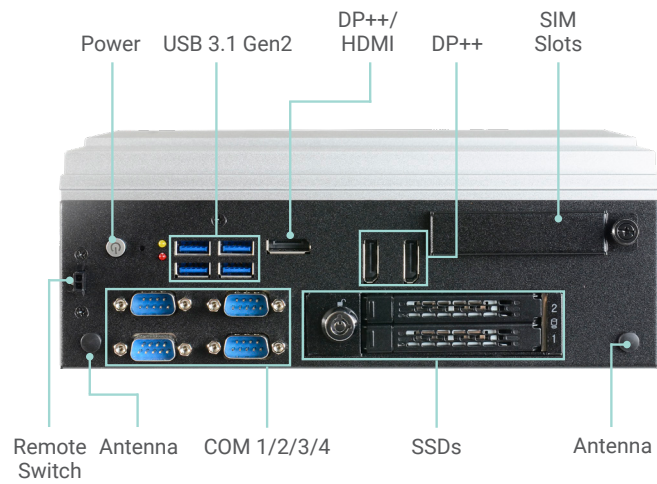
**Front View
(10g)**



**Front View
(4PoE12)**

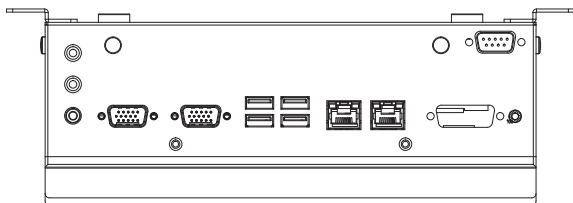


Rear View

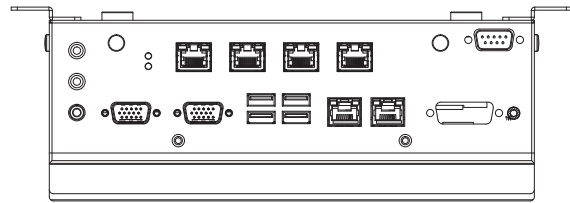


DIMENSIONS

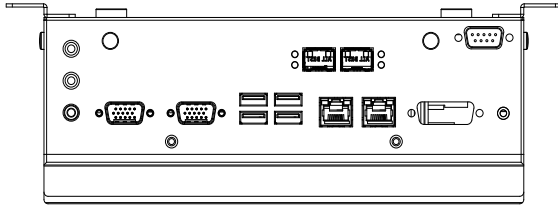
**Front View
(w/o PoE)**



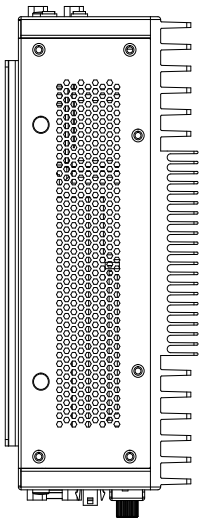
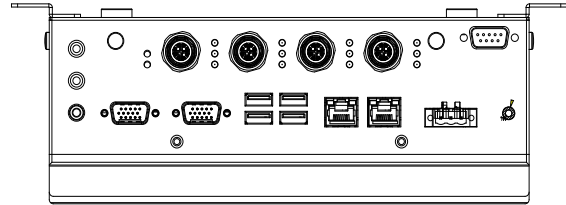
**Front View
(4PoE)**



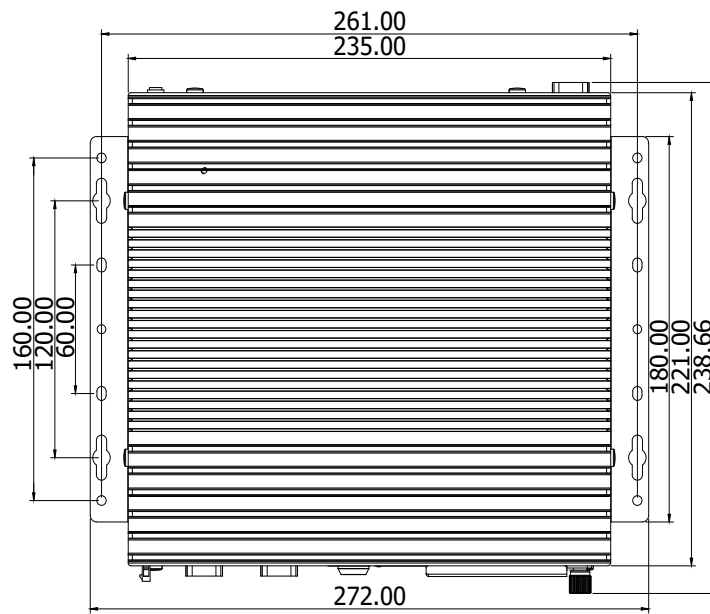
Front View
(10 G)



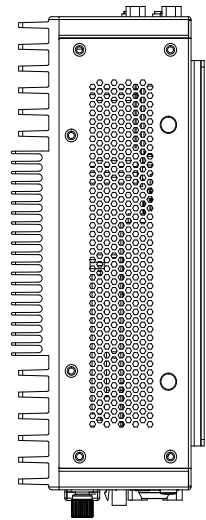
Front View
(4 PoE+12)



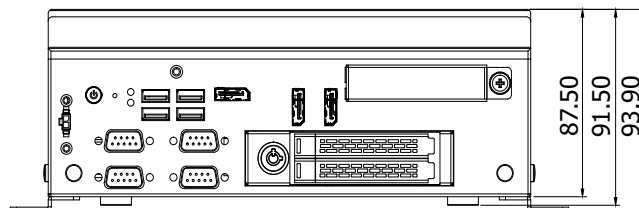
Right View



Top View



Left View



Rear View

SPECIFICATION

SYSTEM	Processor	10th Gen Intel® Xeon/Core™/Pentium/Celeron Processors, LGA 1200 Socket Q470E/ W480E: - Intel® Xeon-1270TE (8 Cores, 16M Cache, up to 2.0/4.4 GHz); 35W - Intel® Core™ i9-10900TE (10 Cores, 20M Cache, up to 1.8/4.5 GHz); 35W - Intel® Core™ i7-10700TE (8 Cores, 16M Cache, up to 2.0/4.4 GHz); 35W - Intel® Core™ i7-10700T (8 Cores, 16M Cache, up to 2.9/4.5 GHz); 35W - Intel® Core™ i5-10500TE (6 Cores, 12M Cache, up to 2.3/3.7 GHz); 35W - Intel® Core™ i3-10100TE (4 Cores, 6M Cache, to 2.3/3.6 GHz); 35W H420E: - Intel® Core™ i3-10100TE (4 Cores, 6M Cache, to 2.3/3.6 GHz); 35W - Intel® Pentium® G6400TE (2 Cores, 4M Cache, 3.2 GHz); 35W - Intel® Celeron® G5900TE (2 Cores, 2M Cache, 3.0 GHz); 35W(65W CPU is supported on request)
	Chipset	Q470E/ W480E/H420E
	Memory	Dual SO-DIMM slots (horizontal type) Dual Channel DDR4 2933/2666/2400/2133 SDRAM, up to 64GB ECC support for Xeon-1270TE processor only
	BIOS	AMI SPI 256Mbit
GRAPHICS	Controller	Intel® UHD Graphics 630 (processor integrated)
	Feature	OpenGL 4.5, DirectX 12, OpenCL 2.1 HW Decode: AVC/H.264, MPEG2, VC1/WMV9, JPEG/MJPEG, HEVC/H265, VP8, VP9 HW Encode: AVC/H.264, MPEG2, JPEG, HEVC/H265, VP8, VP9
	Display	Support DP++/DP 1.4 Resolution up to 4096x2304 @60Hz for DP 1 x HDMI with lock hole 2 x DP ports with lock hole
	Triple Displays	1 HDMI + 2 DP++
STORAGE	External	2 x swappable 2.5" SATA drive bays with lock on rear panel Supports RAID 0/1
	Internal	1 x M.2 2280 M Key slot, supports 2242, 2260 & 2280 devices and NVME SSD PCIe x4 & SATA signal, support boot up function
AUDIO	Audio Codec	Realtek ALC888
	Interface	1 x Mic-in and 1 x Line-in
ETHERNET	Controller	1 x Intel® i219AT 1 x Intel® i210IT
LED	Indicators	1 x Storage Activity (Red) 1 x Power Status (Yellow) 2 x Programmable general purpose (TBD)
FRONT I/O	Ethernet	2 x RJ45 GbE ports
	PoE/ 10G	Q470E/W480E Only: 4x 802.11af PoE ports at RJ45 or M12 X-coded connectors, max 15.4W (PSE side) or 2x 10G fiber ports at SFP+ cage based on Intel X710-BM2 Ethernet controller
	Serial	1 x DB-9 RS232 ports (COM 5)
	USB	4 x USB 3.1 Gen2
	DIO	Q470E/W480E Only: 2 x Isolated DIO port by 2 x DB-15 female connectors Supports 8bit DI & 8 bit DO with 2KV isolation
	Audio	1x Line-out, 1 x Mic-in and 1x Line-in with 3.5mm audio jacks
	Antenna	2 x antenna holes
	DC in	3 pin terminal block connector
	OOB	Optional RJ45 port for OOB management
	Serial	4 x DB-9 RS232/422/485 ports by BIOS selection (COM 1/2/3/4)
REAR I/O	USB	4 x USB 3.1 Gen2
	Display	2 x DP++ ports 1 x HDMI port
	Antenna	2 x antenna holes
	SIM slot	3 x accessible SIM slots with cover bracket
	CAN bus	2 x DB-9 ports for CAN bus (optional)
	Remote Switch	2-pin remote switch
	Power Button	1 x Power button
	Reset Button	1 x Reset button
SIDE I/O	Antenna	2 x antenna holes on right side 2 x antenna holes on left side
	Serial	1 x 2x5 pin block header for RS232
INTERNAL I/O	Mini PCIe slot	1 x mini PCIe slot with SIM holer on faceplate Supports WiFi/BT/LTE or CAN bus module

SPECIFICATION

INTERNAL I/O	M.2 Slot	Total 3 x M.2 slots 1 x 2230 E-key slot (PCIe x1 & USB2.0) Q470E/ W480E: 1 x 3042/3052 B-key (USB3.0 & PCIe x1) with dual SIM slots on faceplate 1 x 2242/2280 M-Key-slot (PCIe gen3 x4 & SATA) supporting Intel® Optane memory (Both of the M10 and H10) and NVMe H420E: 1 x 3042/3052 B-key (USB3.0 only) with dual SIM slots on faceplate 1 x 2242/2280 M-Key-slot (SATA only)
	FAN	Passive cooling
HARDWARE MONITOR	Gravity Sensor	Support 3-axis femto accelerometer User-selectable $\pm 2g/\pm 4g/\pm 8g/\pm 16g$ scale Supports 6D/4D orientation detection, Free-fall detection, Motion detection and leap-to-wake and return-to-sleep
SECURITY	TPM	Q470E/ W480E only: Supports dTPM2.0 by default (disabled by BIOS setting) Optional fTPM2.0 supported
POWER	Type	Q470E/ W480E: 3pin 3W3 connector H420E: 3 pin terminal block
	Supply	Wide Range 9~50VDC with power management (on/off delay) and ignition
OS SUPPORT	Microsoft	Windows 10 IoT Enterprise RS5
	Linux	Ubuntu Linux 20.04
MECHANISM	Construction	Metal + Aluminum
	Mounting	Wall mount
	Dimensions (W x H x D)	235mmx 87.5mmx 221mm (mounting bracket excluded)
	Weight	5.5 kg
	Color	Black and Silver
ENVIRONMENT	Operating Temperature	-20°C to 70°C for 35W CPU -20°C to 60°C for 65W CPU
	Storage Temperature	-40°C to 85°C
	Relative Humidity	10% to 95% (non-condensing)
STANDARDS AND CERTIFICATIONS	Shock	MIL-STD-810G Method 516.6, Procedure 1, OP:10G 11ms, Non-OP: 40G 11ms (Tested by SSD, HDD is not support)
	Vibration	MIL-STD-810G Method 514.6C-3, Category 4 Composite wheeled vehicle Table 514.6C-VI
	Certification	CE, FCC, RoHS, E-Mark

ORDERING INFORMATION

Model Name	Part Number	CPU	PCH	DI	DO	POE	10G	MXM
VC500-CMS-POEM12-Q	750-VC50000-000G	-	Q470E	1	1	4 (M12)	-	-
VC500-CMS-10G-Q	750-VC50000-100G	-	Q470E	1	1	-	2	-
VC500-CMS-POE-Q	750-VC50000-200G	-	Q470E	1	1	4 (RJ45)	-	-
VC500-CMS-Q470-POE-Q-i90	750-VC50000-210G	Core™ i9-10900TE	Q470E	1	1	4 (RJ45)	-	-
VC500-CMS-H	750-VC50000-300G	-	H420E	-	-	-	-	-
VC500-CMS-H-G64	750-VC50000-300G	Pentium® G6400TE	H420E	-	-	-	-	-
VC500-CMS-10G-W-X127	750-VC50000-600G	Xeon-1270TE	W480E	1	1	-	2	-

OPTIONAL ITEMS

Optional Items	Part Number	Description
2.5" SSD	TBD	2.5" SATA SSD, 64GB~ 1TB MLC, -40 to 85°C, RoHS
	TBD	2.5" SATA SSD, 128~4TB TLC, -40 to 85°C, RoHS
M.2 SATA SSD	TBD	32GB~256GB, M.2 2242/2280 SSD, SATA3 B+M Key, MLC, Wide Temp.
	TBD	128GB~2TB, M.2 2242/2280 SSD, SATA3 B+M Key, 3D TLC, Wide Temp.
	TBD	128GB~4TB, M.2 2280, PCIe Gen3x4, M-Key, 3D TLC, Wide Temp.
Memory	138-540002-106G	4GB DDR4 2666Mhz SO-DIMM 1Rx8 512Mx8 CL19 1.2V
	138-580004-104G	8GB DDR4 2666Mhz SO-DIMM 1Rx8 IND 1Gx8 CL19 1.2V
	138-5G0163-103G	16GB DDR4 2666Mhz SO-DIMM 2Rx8 IND 1Gx8 CL19 1.2V
WiFi/BT module kit	761-ES2200-100G	WiFi+BT Kit, WiFi+BT (V5.0+LE and BR/EDR) Module, with 2 IPEX MHF4 to RP-SMA Jack cables and 2 Dipole Antennas
LTE module kit	761-RC3000-001G	Quectel EG25GGB CAT4 miniPCIe module with 2 antenna and 2 300mm SMA cables
5G module kit	TBD	Quectel RM520N-GL M.2 module with 2 antenna and 4 SMA cables
M12 Cable	A81-005038-054G	8-pin M12 X-coded to RJ45 PoE cable
CAN bus module	770-MPE21-100G	MPE-CAN2 MiniPCIe Full CAN Module Card Assembly
OoB module kit	TBD	Out of band remote management module kit

PACKING LIST

1 VC500-CMS system unit
1 Power connector
1 Mounting bracket