

# VC500-CMS-MXM



10th Gen Intel® Processors  
In-vehicle Edge AI System



## KEY FEATURES



### High Performance CPU

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



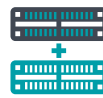
### 802.11af PoE Ports

4 x RJ45 or M12 X-coded type PoE ports at 15.4W



### AI Accelerated

Support MXM GPU module



### Multiple Expansion

1 miniPCIe and 4 M.2 slots



### Dual SIM for single modem

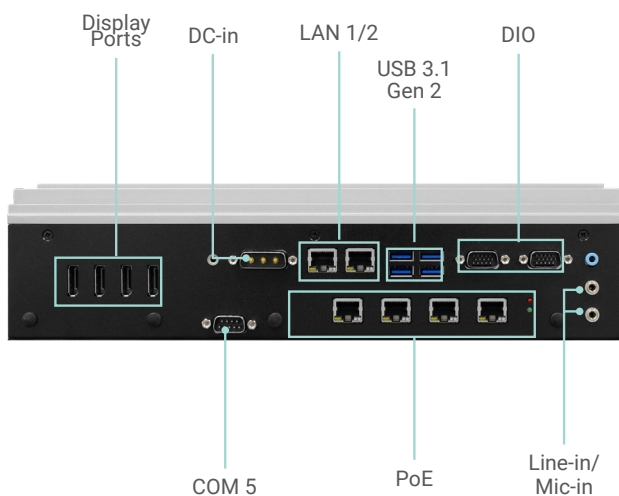
Two SIM cards for 5G/LTE module



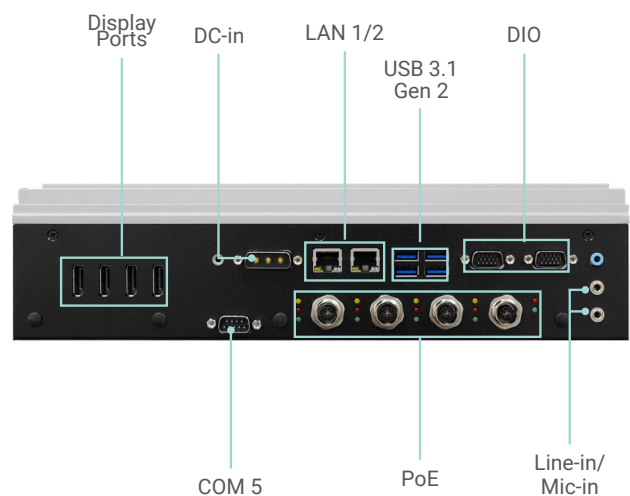
IoT Solutions Alliance



## PANEL

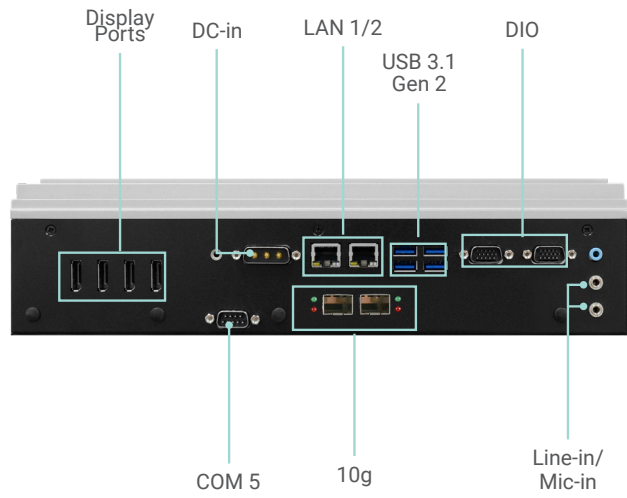


Front View  
(4PoE)

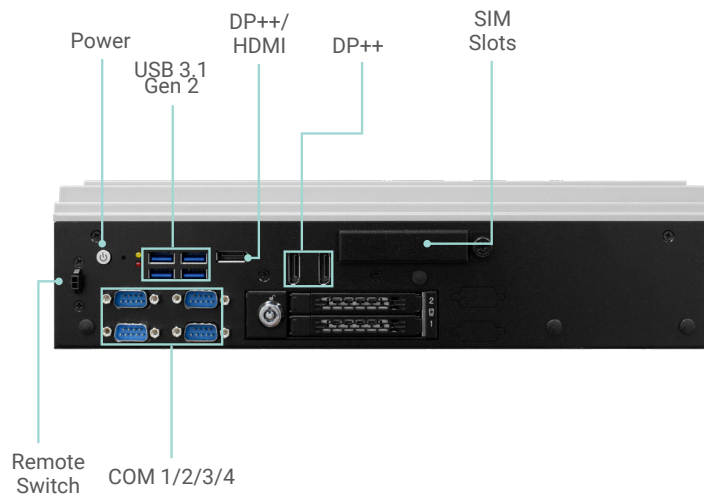


Front View  
(4PoEM12)

# PANEL

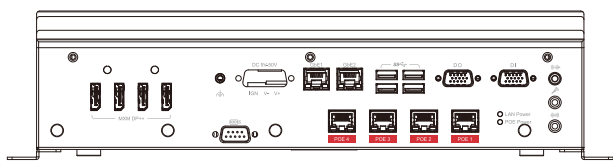


**Front View  
(10G)**

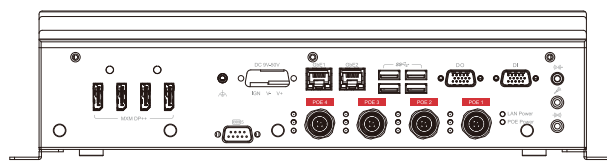


**Rear View**

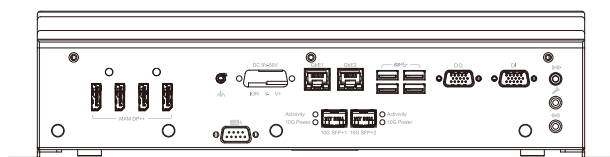
# DIMENSIONS



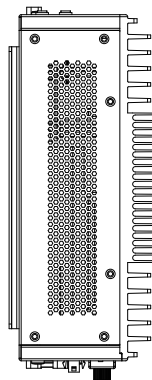
Front View  
(4PoE)



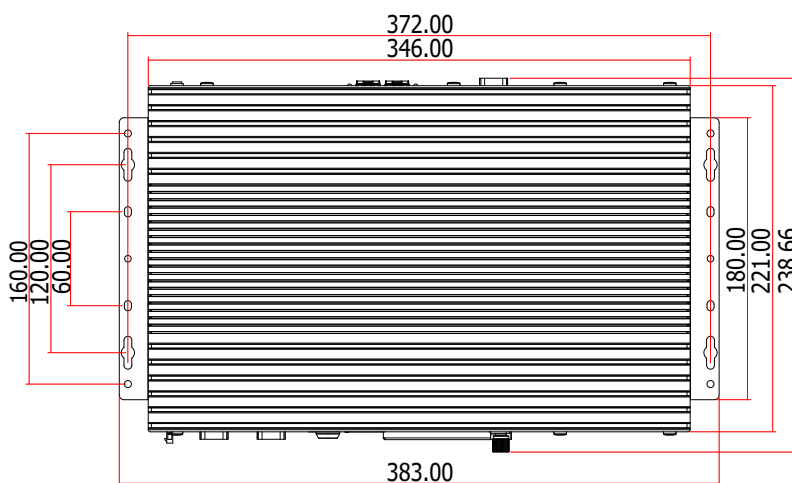
Front View  
(4PoE+)



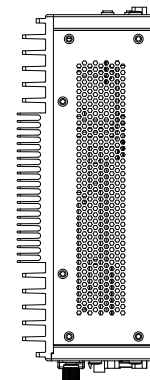
Front View  
(10G)



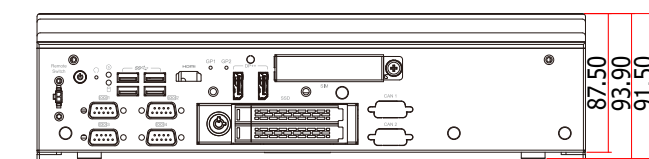
Right View



Top View



Left View



Rear View

## SPECIFICATION

SYSTEM	Processor	10th Gen Intel® Xeon/Core™/Pentium/Celeron Processors, LGA 1200 Socket - 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™ 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
	Chipset	Intel® Q470E/ W480E
	Memory	Dual SO-DIMM slots (horizontal type) with anti-vibration bracket 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® processor integrated or Independent MXM module by BIOS selection
	Compatible MXM	Type A or B MXM modules: RTX A2000, RTX3000, A500, A1000
	Display	4 x Display Ports with lock holes from MXM 1 x HDMI combo port and 2 x DP++ ports from CPU
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 2280 devices PCIe x4 & SATA signal, support boot up function
	Interface	SATA
AUDIO	Audio Codec	ALC 888
	Interface	1 x Mic-in and 1 x Line-in
ETHERNET	Controller	1 x Intel® i219LM with iAMT11.0 support (Core i7/i5 only) 1 x Intel® i210IT
LED	Indicators	1 x Storage Activity (Red) 1 x Power (Green) 2 x Programmable general purpose (Green, Blue)
FRONT I/O	Ethernet	2 x RJ45 GbE ports
	PoE / 10G	4 x 802.11af PoE ports at RJ45 or M12 X-coded connectors, max 15.4W (PSE side) or 2 x 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	2 x Isolated DIO port by 2 x DB-15 female connectors Supports 8bit DI & 8 bit DO with 2KV isolation
	Audio	1 x Line-out, 1 x Mic-in and 1x Line-in with 3.5mm audio jacks
	Antenna	2 x antenna holes
	DC in	W3 3 pin connector
	OOB	Optional RJ45 port for OOB management
	REAR I/O	Serial
USB		4 x USB 3.1 Gen2
Display		4 x Display Ports with lock holes from MXM 1 x DP++/HDMI combo port and 2 x DP++ ports from CPU
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)
Switch		2-pin remote switch
Button		1 x Power Button 1 x Reset Button
SIDE I/O	Antenna	2 x antenna holes on right side 2 x antenna holes on left side
	INTERNAL I/O	Serial
INTERNAL I/O	Mini PCIe slot	1 x mini PCIe slot with SIM holer on faceplate Supports WiFi/BT/LTE or CAN bus module
	M.2 Slot	Total 3 x M.2 slots 1 x 2230 E-key slot (PCIe x1 & USB2.0) 1 x 3042/3052 B-Key (USB3.0 & PCIe x1) with dual SIM slots on faceplate 1 x 2280 M-Key-slot (PCIe gen3 x4 & SATA) supporting Intel® Optane memory (Both of the M10 and H10) and NVMe
	COOLING	FAN
HARDWARE MONITOR	Gravity Sensor	Support 3-axis femto accelerometer User-selectable ±2g/±4g/±8g/±16g scale Supports 6D/4D orientation detection, Free-fall detection, Motion detection and leep-to-wake and return-to-sleep
SECURITY	TPM	Supports dTPM2.0 by default (disabled by BIOS setting) Optional fTPM2.0 supported
POWER	Type	3pin 3W3 connector
	Supply	Wide Range 9~50VDC with power management (on/off delay) and ignition
OS SUPPORT	Microsoft	Windows 11 IoT Enterprise LTSC SW Windows 10 IoT Enterprise RS5
	Linux	Ubuntu Linux 20.04

## SPECIFICATION

<b>MECHANISM</b>	<b>Construction</b>	Metal + Aluminum
	<b>Mounting</b>	Wall mount
	<b>Dimensions (W x H x D)</b>	346mm x 87.55 mm x 221mm
	<b>Weight</b>	6.95 Kg
	<b>Color</b>	Black and Silver
<b>ENVIRONMENT</b>	<b>Operating Temperature</b>	-20°C to 60°C without turbo boost and throttling is expected
	<b>Storage Temperature</b>	-40°C to 85°C
	<b>Relative Humidity</b>	10% to 95% (non-condensing)
<b>STANDARDS AND CERTIFICATIONS</b>	<b>Shock</b>	MIL-STD-810G Method 516.6, Procedure 1, OP:10G 11ms, Non-OP: 40G 11ms (Test by SSD, HDD is not support)
	<b>Vibration</b>	MIL-STD-810G Method 514.6C-3, Category 4 Composite wheeled vehicle Table 514.6C-VI
	<b>Certification</b>	FCC, E-Mark, CE, RoHS, UKCA

## ORDERING INFORMATION

Model Name	Part Number	CPU	Power connector	PCH	USB 3.1	DI	DO	POE	10G	MXM
VC500-CMS-MXM-10G-Q	750-VC50000-400G	-	3W3	Q470E	8	1	1	-	2	1
VC500-CMS-MXM-POE-Q	750-VC50000-500G	-	3W3	Q470E	8	1	1	4 (RJ45)	-	1
VC500-CMS-A1000-POE-Q-i70	750-VC50000-510G	Core™ i7-10700TE	3W3	Q470E	8	1	1	4 (RJ45)	-	A1000

## OPTIONAL ITEMS

Optional Items	Part Number	Description
2.5" SSD	785-S251TBG	2.5" SATA SSD, 1TB MLC, -40 to 85°C, RoHS
	785-S25512G	2.5" SATA SSD, 512GB MLC, -40 to 85°C, RoHS
	785-S25256G	2.5" SATA SSD, 256GB MLC, -40 to 85°C, RoHS
	785-S25128G	2.5" SATA SSD, 128GB MLC, -40 to 85°C, RoHS
M.2 SATA SSD	785-M2SATA64G	64GB, M.2 2280 SSD, SATA3 B+M Key, MLC, Wide Temp.
	785-M2SATA128G	128GB, M.2 2280 SSD, SATA3 B+M Key, MLC, Wide Temp.
	785-M2SATA256G	256GB, M.2 2280 SSD, SATA3 B+M Key, MLC, Wide Temp.
	785-M2SATA512G	512GB, M.2 2280 SSD, SATA3 B+M Key, 3D TLC, PE: 3K, 30u" -20~75°C
Memory	138-540002-121G	4GB DDR4 2666Mhz SO-DIMM, -40 to 85°C
	138-580004-104G	8GB DDR4 2666Mhz SO-DIMM 1Rx8 IND 1Gx8 CL19 1.2V
WiFi/BT module kit	761-AP1235-000G	WiFi/Bluetooth Module AP12356, antenna *2, 200mm SMA cables*2, Mini PCIe Bracket, screws
LTE module kit	761-RC3000-001G	Quectel EG25GGB CAT4 miniPCIe module, antenna*2, 300mm SMA cables*2
5G module kit	761-RC3000-100G	SIM8202G-M2 M.2 module, antenna*4, 184mm SMA cables *4
M12 Cable	A81-005038-054G	8-pin M12 X-coded to RJ45 PoE cable
CAN bus module	770-MPEC21-100G	MPE-CAN2 MiniPCIe Full CAN Module Card Assembly
Power Switch Cable	A81-004363-054G	3W3 to terminal block 2*4P/4.2mm, L=250 & 300mm with ignition switch button
Power Adapter	671-133001-000G	330W, GST360A, Input: 85~264V, Output: 12V/27.5A, 220x95x46mm, L=1000mm, C8P, LV6, 62368-1, GST360A12-C8P(MEAN WELL)RoHS

## PACKING LIST

1 VC500-CMS-MXM system unit
1 Power connector
1 Mounting bracket
1 3W3 adaptor cable