

VC500-CMS

10th Gen Intel® Processors
In-vehicle System



KEY FEATURES



High Performance CPU

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



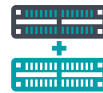
PoE or 10G Fiber ports

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

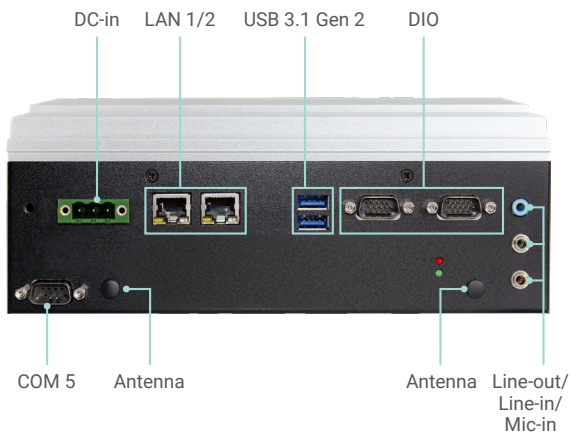


Dual SIM for single modem

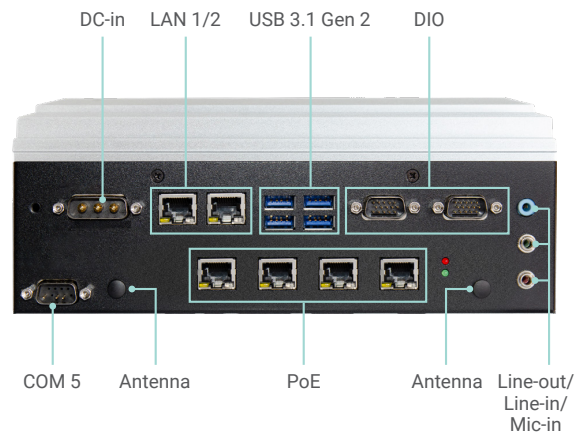
Two SIM cards for 5G/LTE module



PANEL

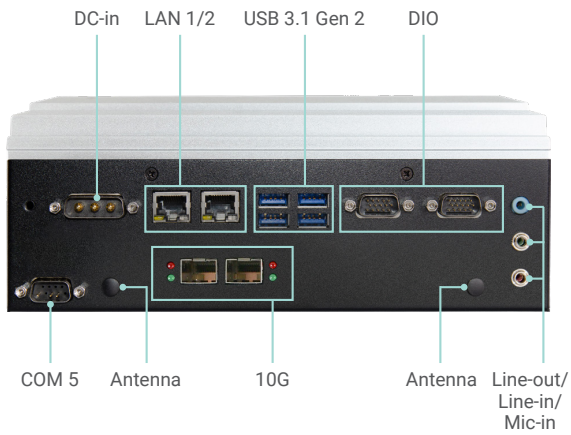


Front View
(w/o PoE)

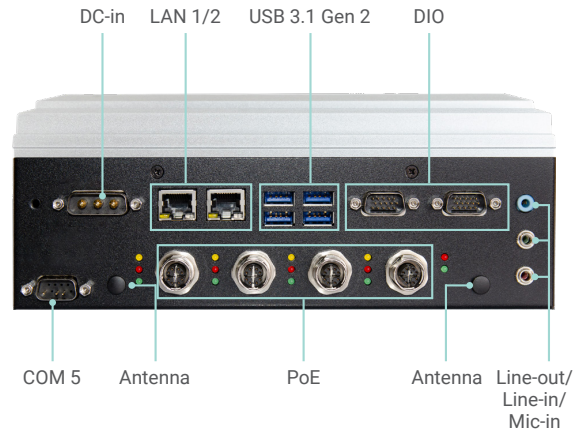


Front View
(4PoE)

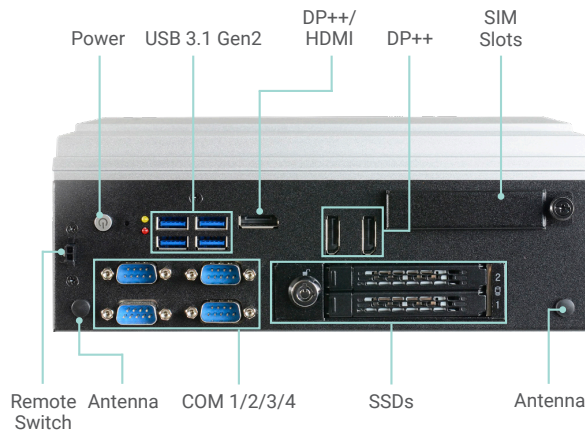
PANEL



Front View (10G)

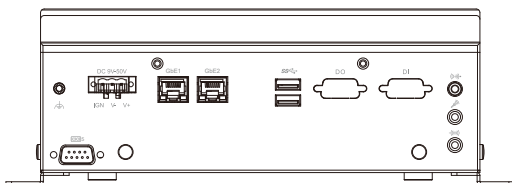


Front View (4PoE)

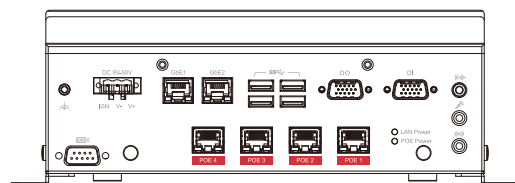


Rear View

DIMENSIONS



Front View (w/o PoE)



Front View (4PoE)

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™ 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)	
	Chipset	Intel® Q470E/W480E/H420E Chipset	
	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)
GRAPHICS	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® i219LM with iAMT11.0 support (Core i7/i5 only) 1 x Intel® i210IT	
LED	Indicators	1 x Storage Activity (Red) 1 x Power Status (Yellow) 2 x Programmable general purpose (Green, Blue)	
FRONT I/O	Ethernet	2 x RJ45 GbE ports	
	PoE / 10G	Q470E/W480E Only: 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 (2 x USB 3.1 Gen2 only for H420E PCH)	
	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	1 x Line-out, 1 x Mic-in and 1 x 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	
	REAR I/O	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
	INTERNAL I/O	Serial	1 x 2x5 pin block header for RS232
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)
	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 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: 3pin terminal block
	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
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 without turbo boost and throttling is expected
	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	FCC, E-Mark

ORDERING INFORMATION

Model Name	Part Number	CPU	Power connector	PCH	USB 3.1	DI	DO	POE	10G
VC500-CMS-POEM12-Q	750-VC50000-000G	-	3W3	Q470E	8	1	1	4 (M12)	-
VC500-CMS-10G-Q	750-VC50000-100G	-	3W3	Q470E	8	1	1	-	2
VC500-CMS-POE-Q	750-VC50000-210G	-	3W3	Q470E	8	1	1	4 (RJ45)	-
VC500-CMS-H	750-VC50000-310G	-	Terminal block	H420E	6	-	-	-	-
VC500-CMS-10G-W-X127	750-VC50000-600G	Xeon-1270TE	Terminal block	W480E	8	1	1	-	2
VC500-CMS-Q	750-VC50000-700G	-	Terminal block	Q470E	8	1	1	-	-

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
	A81-006065-016G	Terminal Block 1*3P/5.0mm to DC Jack, L=100mm 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
	671-116005-000G	160W, GST160A24, Input:100~240V, Output:24V/6.67A, 175x72x35mm, L=1200mm, DC PLUG 5.5*2.5*7.5mm(Lockable), LV6, 62368-1, GST160A24-DFIA(MEAN WELL)RoHS

PACKING LIST

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

Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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