

EC180-CS

Q370
H310



8th/9th Gen Intel® Core™
Fanless AI-Enabled Embedded System

KEY FEATURES



Multiple Displays

4 DP (from MXM), 1 DP/HDMI



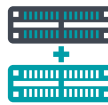
Compact and Fanless

Dimensions (W x H x D): 250 x 180 x 76mm



AI Accelerated

Up to 60W GPU MXM module supported



Scalability

3 M.2 expansion slots

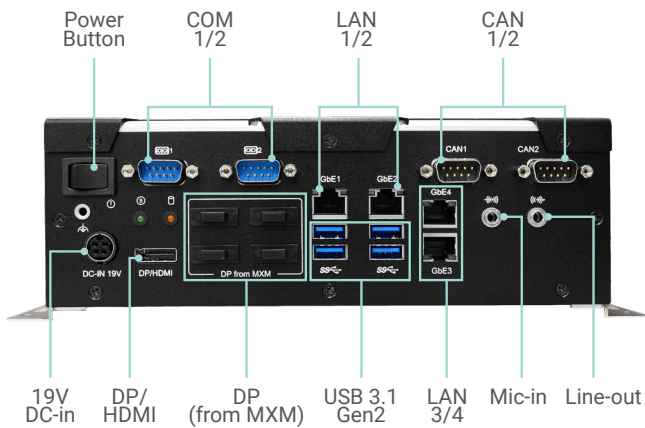


Support 5G Communication

Support M.2 B key 3052 5G cellular module



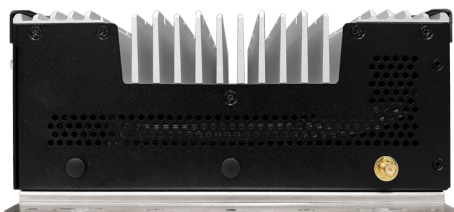
PANEL



Front View

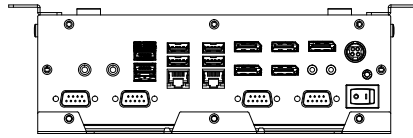


Rear View

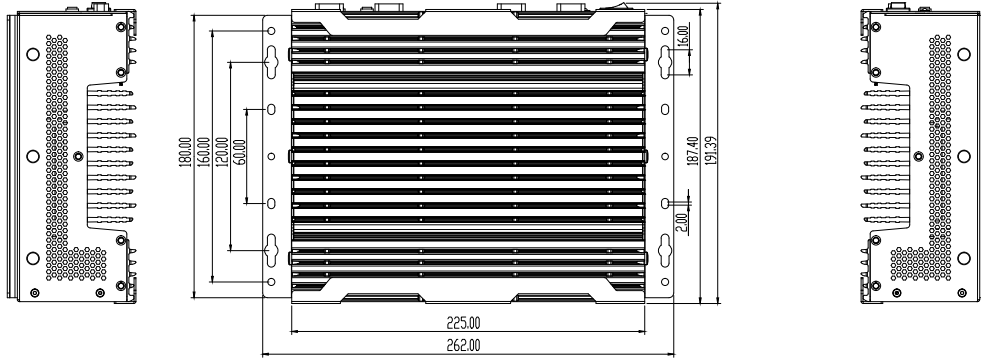


Right View

DIMENSIONS

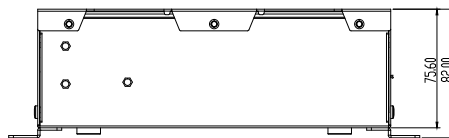


Front View



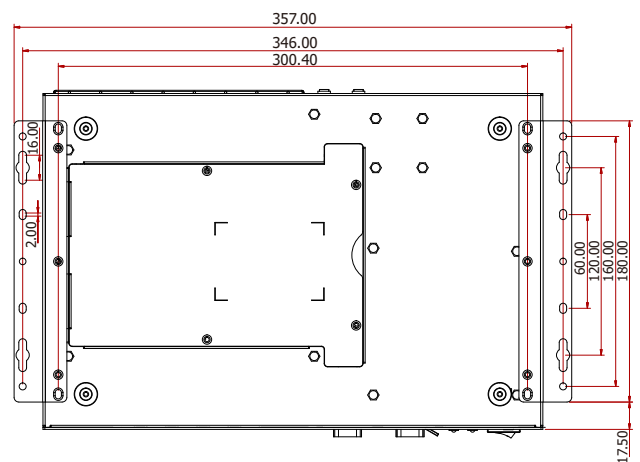
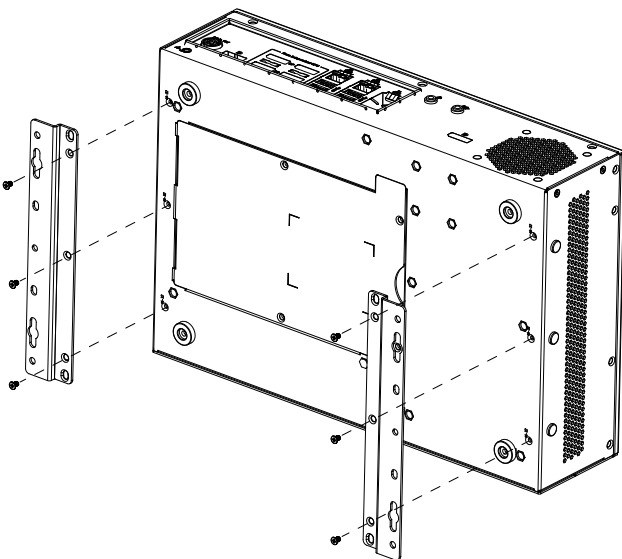
Left View

Right View



Rear View

WALL MOUNTING



SPECIFICATION

SYSTEM	Processor	Intel® Core i7-9700TE Processor (Core 8; Max speed 3.8 GHz; TDP 35W) Intel® Core i5-9500TE Processor (Core 6; Max speed 3.6 GHz; TDP 35W) Intel® Core i3-9100TE Processor (Core 4; Max speed 3.2 GHz; TDP 35W) Intel® Core™ i7-8700T Processor (Core 6; Max speed 4.0 GHz; TDP 35W) Intel® Core™ i5-8500T Processor (Core 6; Max speed 3.5 GHz; TDP 35W) Intel® Core™ i3-8100T Processor (Core 4; Max speed 3.1 GHz; TDP 35W) Intel® Pentium® G5400 Processor (Core 2; Max speed 3.7 GHz; TDP 58W) Intel® Celeron® G4900 Processor (Core 2; Max speed 3.1 GHz; TDP 54W)	
	Chipset	Intel® H310/Q370 Chipset	
	Memory	DDR4 2400/2666MHz up to 64GB	
	BIOS	AMI SPI 128Mbit (supports UEFI/Legacy mode)	
	GRAPHICS	Controller	Intel® UHD Graphics 630 (Pentium® G5400 and Celeron® G4900 support Intel® UHD Graphics 610)
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		4 x DP (from MXM) 1 x DP/HDMI (auto-detection) DP: resolution up to 4096x2304@60Hz HDMI: resolution up to 4096x2160@30Hz	
AI ACCELERATOR	Interface	1 x MXM 3.1 slot, Type-A/B up to 60W	
STORAGE	Internal	1 x M.2 M key supports 2242/2280 slot (PCIe Gen3 x4/SATA)	
		1 x SATA III connector for 1 x 2.5" SSD	
EXPANSION	M.2 M key 2242/2280 slot	H310: PCIe Gen2 x1	Q370: PCIe Gen3 x4, SATA3.0
	M.2 B key 3052 slot	H310: SATA 3.0	Q370: PCIe Gen3 x1, USB 3.2 Gen1
	M.2 E key 2230 slot	H310: USB 2.0, PCIe Gen2 x1	Q370: USB 2.0, PCIe Gen3 x1
AUDIO	Audio Codec	5.1 CH Audio Codec:Realtek ALC888S-VD2-GR	
ETHERNET	Controller	H310: 3 x Intel® I210AT 1 x Intel® I219V	Q370: 3 x Intel® I210AT 1 x Intel® I219LM with iAMT11.0 PCIe (10/100/1000Mbps) (only Core i7/i5 supports iAMT)
LED	Indicators	1 x PWD LED 1 x HDD LED	
FRONT I/O	Serial	2 x RS232/RS422/RS485, Select by BIOS	
	Buttons	1 x Power button	
	Audio	1 x Line-out 1 x Mic-in	
REAR I/O	Ethernet	4 x GbE	
	USB	4 x USB 3.1 Gen2	
	Display	4 x DP (from MXM) 1 x DP/HDMI (auto-detection)	
	Antenna Holes	4 x SMA for 5G module 2 x SMA for WiFi module	
WATCHDOG TIMER	Output & Interval	Watchdog timeout programmable via software from 1 to 255 seconds	
SECURITY	TPM	dTPM2.0 (default)	
POWER	Voltage	19V DC-in	
	Connector	DC-in Jack	
OS SUPPORT	Microsoft	Windows 10 IoT Enterprise 64-bit	
	Linux	Linux	
ENVIRONMENT	Operating Temperature	0 to 45°C	
	Storage Temperature	-40 to 85°C	
	Relative Humidity	5 to 95% RH (non-condensing)uminum extrusion + Metal	
MECHANICAL	Construction	Aluminum + SGCC	
	Mounting	Wall mount (mounting brackets and screws)	
	Dimensions (W x H x D)	250 x 180 x 76mm (not include wall mount bracket)	
	Weight	5 Kg	
STANDARDS AND CERTIFICATIONS	Shock	IEC 60068-2-27 15 g, 11 ms, 18 Shock ±X, ±Y, ±Z (each axis 3 times)	
		IEC 60068-2-64 Test Fh: Vibration board-band random test Frequency: 5 Hz to 500 Hz Acceleration: 2g rms Test Axis: X, Y, Z axis Test Time: 30 mins (Each axis), total 90 mins.	
	Certifications	CE, FCC Class A, RoHS	

ORDERING INFORMATION

Model Name	Part Number	Description
EC180-CS	750-EC18000-100G	Fanless, CS181-H310, DC-in 19V, F/G SYSTEM RoHS
EC180-CS-9700-16G-A500	750-EC18000-200G	Fanless, CS181-H310, i7-9700TE, DDR4 16GB x2, M.2 2280 512GB Gen4x4, MXM A500, RTL8822CE, CAN module, DC-in 19V, F/G SYSTEM RoHS
EC180-CS-9700-16GB-A2000	750-EC18000-000G	Fanless, CS181-H310, i7-9700TE, DDR4 16GB x2, M.2 2280 512GB Gen4x4, MXM A2000, RTL8822CE, CAN module, DC-in 19V, F/G SYSTEM RoHS

OPTIONAL ITEMS

Optional Items	Part Number	Description
Wifi Module	612-RTL882-000G	Wi-Fi+BT(V5.0+LE and BR/EDR) M.2 2230 Combo Module Card RTL8822CE
A2000 MXM	612-M3A200-000G	60W, 2560 CUDA cores, 8.25 TFLOPS, 8GB GDDR6 with 4x DP outputs
A500 MXM	612-SKYMXM-000G	35W, 2048 CUDA cores, 6.54 TFLOPS, 4GB GDDR6 (computing only)

PACKING LIST

• 1 EC180-CS system unit
• 3 M.2 slot screws
• 2 MXM Module screws