

FPC-5211-M4

Intel® 12th / 13th Gen Core™ Fanless Edge AI Computer supporting Nvidia® RTX-A2000 w/4x M12 POEs



Features

- Fanless design (Embedded heat pipes cooling solution)
- 12th/13th Generation Core™ i9/i7/i5/i3 Processor (Alder Lake-S/Raptor Lake-S)
- Up to 60W GPU MXM module expansion
- 4 x 802.3af (15.4W) Gigabit PoE ports
- DP x 2 + HDMI x 1 and DVI x 1 (support 4 independent displays)
- Power on/off delay control / configurable ignition power control
- Supports TPM 2.0 and Time-Sensitive Networking (TSN)
- Two-mPCIe for optional WiFi/3G/4G/GPS or I/O expansion supported
- Front-accessible I/O support
- 1 x M.2 B-Key for storage or 5G / LTE +1 x M.2 E-Key for WiFi / BT
- 1 x M.2 M-Key for NVMe SSD

System

CPU	Intel® 12 th / 13 th generation Core™ i9/i7/i5/i3 processor in LGA1700 socket (Max 35W CPU)
Memory	2 x 262-pin DDR5 SO-DIMM sockets, supporting 4800 MHz SDRAM up to 64GB (ECC/ Non-ECC)
Chipset	Intel® R680E
Graphics	Integrated Intel® HD Graphics 770
ATA	2 x Serial ATA ports with 600MB/s HDD transfer rate
LAN Chipset	1 x Intel® WGI219LM GbE controller w/ iAMT 16.0 3 x Intel® I226 2.5G GbE controllers 2 x Intel® I210 GbE controllers for PoE 2 x Intel® I226 2.5G GbE controllers for PoE
Watchdog Timer	1~255 levels reset
TPM	Onboard TPM 2.0
I/O	
Serial Port	2 x RS-232/422/485 configurable ports via DB-9 connectors (Default RS232, Switch via BIOS) 2 x RS-232 via DB-9 connectors
USB Port	8 x USB 3.2/ 2.0 ports
LAN	4 x RJ-45 connectors for GbE 4 x M12 X-coded connectors by 2 x Intel® I210(1GbE) + 2 x Intel® I225(2.5GbE) supports 802.3af POE
Display	2 x DP 1.4a from MXM module or Intel Graphics (Default Intel graphics switch via BIOS) 1 x HDMI 2.0b female conn. for Digital Video output 1 x DVI-I female conn. for Digital/ Analog video output * Support 4 independent displays
DIO Port	1 x DB15 conn.for 8 x digital input (Dry/ Wet contact) with 2KV isolation 1 x DB15 conn.for 8 x digital output with 2KV isolation
Audio	Mic-in/Line-out
Expansion Bus	1 x MXM3.1 TYPE A/B GPU Slot (PCIe Gen5 x16) MXM A2000 support 2 x mPCIe Slots interconnected with SIM card sockets for optional WiFi/BT/3G/LTE/ GPS (PCIex1+USB2.0, Full Size)
	1 x M.2 B key (2242/3052/2280) w/ (PCIex2+USB3.0+SATA) interconnected with SIM for 5G / LTE expansion or for storage (either one) 1 x M.2 E key (2230) with PCIex1+USB2.0+CNVi) for Wireless

Environmental

Operating Temp.	-20 ~ 50°C (-4 ~ 122°F), ambient w/ air flow -20 ~ 65°C (-4 ~ 149°F), ambient w/ air flow (w / External SMART FAN kit) *A2000 GPU 100% loading without throttling
Storage Temp.	-40 ~ 85°C (-40 ~ 185°F)
Operating Humidity	10 ~ 95% @ 65°C (non-condensing)
Vibration	5~500Hz 3G rms X,Y,Z axis w/SSD, according to IEC 60068-2-64
Shock	50 Grms, Half-sine 11 m sec. duration w/ SSD, according IEC60068-2-27

Qualification

Certification	CE, FCC Class A, E mark.
Power Requirement	
Power Input	DC 9~36V input (w/ 4-pin DC input terminal block) (V+ ,V+, V-, V-)
Ignition Switch	2-pin terminal block : IGN, GND
Power Consumption	Max. 180W

Storage

Type	2 x 2.5" outside accessible drive bays 1 x M.2 B key (2242/2280) w/ (PCIex2+USB+SATA) for storage or LTE expansion (either one) 1 x M.2 2280 M key supports 2242, 2280 devices (PCIe x4 & SATA signal, support boot up function)
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Mechanical

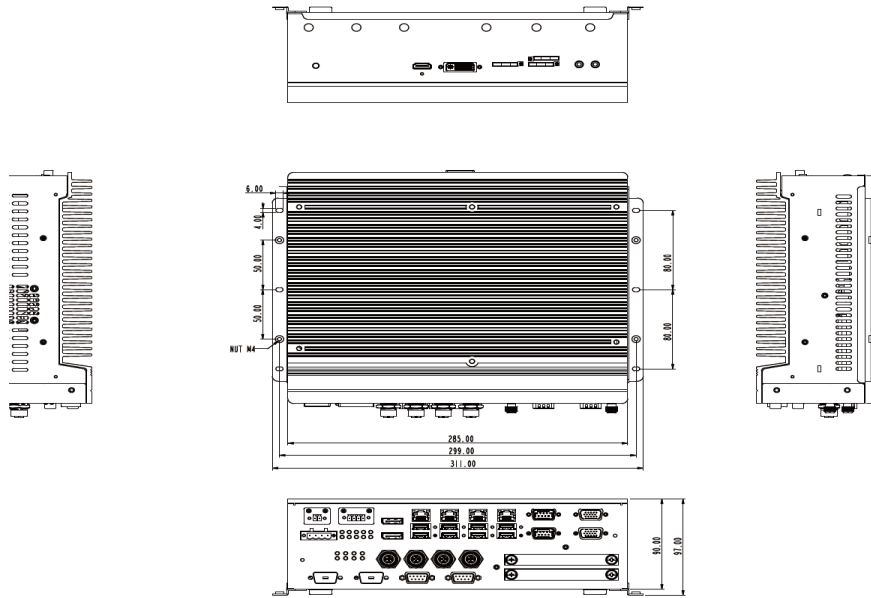
Construction	Aluminum alloy
Mounting	Wall-mount
Weight	5.83 Kg (12.85lb)
Dimensions (W x D x H)	285x230x 90mm (9.84" x11.50" x 3.54"), Fanless 285x230x110mm (9.84" x11.50" x 4.33"), w/ FAN

OS Support

Windows 10 IOT Enterprise 64-bit
Linux (Ubuntu 20.04)

Ordering Information

FPC-5211-M4	Edge AI GPU Computer Bare BOM, w/4x M12 POEs
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Optional Accessories

WMK-5210	Wall-mount kit for FPC-521x Series	
PAC-280W6C-MW	280W AC/DC adapter kit w/ 2-pin/3-pin/4-pin block	

Optional Configuration (CTOS* Kit)

MM-5C-8G/16G/32G	DDR5-4800 8GB/16GB/32G SDRAM DIMM module	
MXM-A2000-8G	MXM 3.1 Type A NVIDIA® Quadro® Embedded A2000_8GB GDDR6 60W TGP)	
WIFI-IN2550	Intel® AX200NGW M.2 Wi-Fi 6 module w/ 2 x 30cm internal wires	
ANT-H11	1 x 2dBi HSUPA antenna	
ANT-D11	1 x WiFi dual-band 2.4G/5G antenna	
Core™ i9-12900TE	Intel® 12 th Gen. Core™ i9-12900TE processor, L3/30M, 1.1G	
Core™ i7-12700TE	Intel® 12 th Gen. Core™ i7-12700TE processor, L3/25M, 1.4G	
Core™ i5-12500TE	Intel® 12 th Gen. Core™ i5-12500TE processor, L3/18M, 1.9G	
Core™ i3-12100TE	Intel® 12 th Gen. Core™ i3-12100TE processor, L3/12M, 2.1G	
Core™ i9-13900TE	Intel® 13 th Gen. Core™ i9-13900TE processor, L3/36M, 1.0G	
Core™ i7-13700TE	Intel® 13 th Gen. Core™ i7-13700TE processor, L3/30M, 1.1G	
Core™ i5-13500TE	Intel® 13 th Gen. Core™ i5-13500TE processor, L3/24M, 1.3G	
Core™ i3-13100TE	Intel® 13 th Gen. Core™ i3-13100TE processor, L3/12M, 2.4G	
EXFAN-8015	External SAMRT Fan kit (80 x 80 x 15mm, 4 pin Terminal Block Plug, Mounting Bracket, support Smart Fan Function)	

*CTOS means Configure-to-Order Service.