![MiTAC Logo]

MITAC COMPUTING TECHNOLOGY CORP.

MX1-10FEP

Fanless Embedded System
with Intel Coffee Lake Xeon / Core-i Powerful Processor

Introduction

MiTAC's MX1-10FEP embedded system is the next generation embedded system with Intel® Coffee Lake C246 workstation chipset which can support Xeon and Core-i LGA1151 socket type processor. The excellent performance, powerful processor, OCP/OVP power protection, and expandable design provide the solution for every complicated task and most types of application.

The MX1-10FEP's 7.8 liter fan-less chassis design and expandable module design give it the possibility to implement the complicated tasks and for every workspace and environment. VESA mount holes allow for space-saving and rear-mounting on VESA arms. Flexibilities also mean a rich array of I/O ports (including 2 x Ethernet RJ45, 8 x USB, 1 x HDMI, 1 x DVI-I, 1 x DisplayPort, 2 x COM, PCIe X16 slot, 3PIN Terminal Block Power Input, and 3 x Expansion doors) to add a variety of peripherals. Storage expandability is supported for 3 x high-density hard drives in 2.5" HDD bracket design. Two mPCIe (shared with mSATA) slots provide the support of SSD and wireless interfaces which allow effortless connection to Wi-Fi and Bluetooth networks, and 4G connectivity. DIO/COM/LAN/PoE/Power Ignitoin expansion modules extend the capability and possibility to be used in more applications.

EN-50155	Isolation I/O	Power Ignition	8KV/15KV High ESD protection	5G/50Grms High shock & vibration protection	Fanless Design

Dimension (mm)

Optional Peripheral

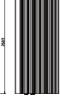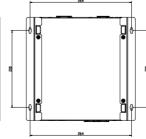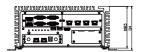| Model Number	Description
MS-48CDN-DT10	Expansion Module with 4 x RS232 / 422 / 485, 8-bit Isolated DIDO (4 x DI, 4 x DO)
MS-04LAN-R10	Expansion Module with 4 x Intel i210-IT Giga LAN, RJ45 Port
MS-04LAN-M10	Expansion Module with 4 x Intel i210-IT Giga LAN, M12 Port
MS-04POE-R10	Expansion Module with 4 x PoE+, Intel i210-IT Giga LAN, RJ45 Port
MS-04POE-M10	Expansion Module with 4 x PoE+, Intel i210-IT Giga LAN, M12 Port
ME-02POE-R10	Expansion Module with 2 x PoE +, Intel i210-IT Giga LAN, RJ45 Port
MS-01IGN-S10	Vehicle Power Ignition Card, 12V/24V and Power ON/OFF Timing Selectable
220W Power Adapter	AC to DC, DC24V / 9.2A, 220W*
300W Power Adapter	AC to DC, DC24V / 12.5A, 300W*

* Safety Operating: 0~40°C, parctical Operating: -30~60°C
  (Over 40°C need derating by 2.5%/°C).
* AC to DC Accessory for industrial application. Not for railay application

MX1-10FEP

Fanless Embedded System

SYSTEM	
CPU	8th Gen Intel® Coffee Lake Xeon / Core-i LGA1151 Socket Processor, TDP Max. 80W
Chipset	Intel® C246
System Memory	DDR4 2666MHz, 2 x 260-pin SO-DIMM, Max. 32GB (Xeon: ECC; Core-i: Non-ECC)
Graphics	Intel® HD Graphics
Display Interface	HDMI, DisplayPort, DVI-I
Storahe Slot	3 x 2.5 HDD / SSD (1 w/ Removable HDD Bay, 2 w/ Internal HDD Bracket)
	2 x mSATA
Ethernet	Intel® I219-LM Giga LAN + I210-IT Giga LAN
Audio	Realtek® ALC662
I/O Chipset	Nuvoton NCT6116D
TPM	Nuvoton NPCT750AAAYX
Expansion Slot	Storage: M.2 2242 / 2260 / 2280 M key (PCIe X4 / SATA)
	Storage/LTE/Wireless: 2 x Mini PCIe Full / Half size (USB / PCIe / SATA), w/ SIM Card Holder
	Wireless: M.2 2230 E key (PCIe / USB)
	PCIe 3.0 x16
Indicator	Power LED, HDD LED, DIO LED, LAN1 & 2 ACT / SPEED
FRONT I/O	2 x USB 3.0
	1 x HDMI 1.4
	2 x SIM Card Slot w/ Cover
	1 x 2.5" SATAIII HDD / SSD Bay
REAR I/O	4 x USB 3.1 Gen 2 (Gbps), 2 x USB 2.0, 2 x RJ-45 , 1 x DisplayPort 1.2, 1 x DVI-I, 1 x PS/2
	2 x RS232 / 422 / 485 (Support Power 5V / 12V), 1 x Mic-in, 1 x Line-out
	1 x 2-pin Terminal Block Remote Power on / off
	1 x 2-pin Terminal Block Remote Power reset
	1 x 4-pin Terminal Block External Fan Connector
	1 x 3-pin Terminal Block Power Input
	4 x SMA Antenna (Optional for WiFi/LTE function)
H/W Monitor	-
Watchdog Timer	1~255 Steps by Software Program

POWER REQUIREMENT	
Power Input	9~48V Wide Rage DC Input w/ Terminal Block Connectivity

MECHANICAL	
Thermal Design	Fanless
Mounting	Wallmount / 100mm x 100mm VESA Mount
Dimension	10.6" x 9.7" x 4.3" (268 mm x 246 mm x 108 mm)
Material	Top cover: Aluminum Alloy , Bezel and chassis: Steel

ENVIRONMENTAL	
Operating Temperature	35W TDP Processor: -40°C to 70°C (with 0.7m/s Air Flow and Wide Temperature Memory/Storage)
	51~80W TDP Processor: -40°C to 50°C (with 0.7m/s Air Flow and Wide Temperature Memory/Storage)
Operating Humidity	10%~90% R/H (Non-condensing)
Vibration Resistance	Operating, 5 Grms, 5-500 Hz, 3 Axes
	(w/ SSD, according to IEC60068-2-64)
Shock Resistance	Operating, 50 Grms, Half-sine 11 ms Duration
	(w/ SSD, according to IEC60068-2-27)
Certification	EMC: CE & FCC
	Safety: compliant with LVD,EN60950-1 / EN62368-1
	Compliant with EN50155/EN50121/E-mark

OS	
OS Support	Windows® 10 64-bit, Linux (support by request)

Ordering Information

Model Number	Chipset	HDMI / DP / DVI-I	USB 3.0 / 2.0	COM	LAN	mSATA & mPCIe / M.2 E Key / M.2 M Key	Mic-in / Line-out	Power
MX1-10FEP-C246	C246	1 / 1 / 1	6 / 2	2	2	1 / 1 / 1	1 / 1	9~48V Wide Rage DC Input w/ Terminal Block Connectivity

Packing List

Packing		
• 1 x MX1-10FEP Box PC	• 1 x 3-pin Terminal Block Power Connector	• 1 x 4-pin Terminal Block Power Connector
• 1 x CPU Cooler (passive)	• 1 x DVI to VGA converter	• 1 x Wall Mount Bracket
• 1 x Screw Pack (For HDD)	• 2 x 2-pin Terminal Block Power Connector	• 1 x Driver CD