

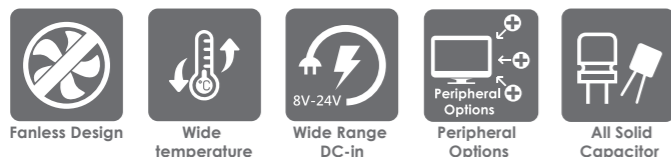
# MB1-10AP

Fanless Embedded System  
with Intel Apollo Lake N3350 / N4200 Processor (up to 2.5 GHz)

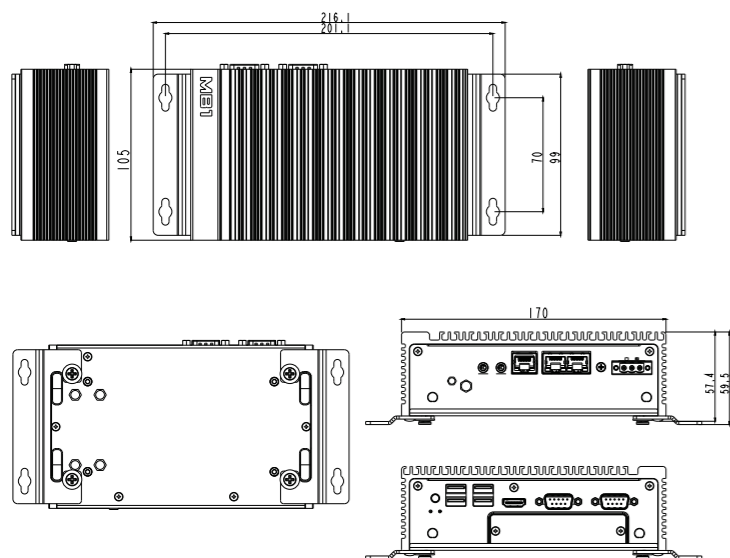
## Introduction

MITAC's MB1-10AP embedded system is the next generation embedded system with Intel® Apollo Lake processor. The whole new SOC structure packs more powerful capability for your tasks or applications.

The MB1-10AP's 1.5 liter fanless chassis design and expandable module design give it the flexibility to adapt to every workspace and environment, whether implemented as an embedded system. Din Rail mount support allows it to be used in factory environment and application. VESA mount support allows for space-saving and rear-mounting on flat-screen displays. Flexibilities also mean a rich array of I/O ports (including 3 x Ethernet RJ45, 4 x USB 3.0, 1 x HDMI, 2 x RS232/422/485, 1 x 3-pin Terminal Block Power Input, 1 x Expansion Socket) to add a variety of peripherals. Storage expandability is supported for high-density hard drives in 2.5" HDD bracket design. 2 mini PCIe (1 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. HDMI and one additional expansion display module extend your visual experience with support for dual displays.



## Dimension (mm)

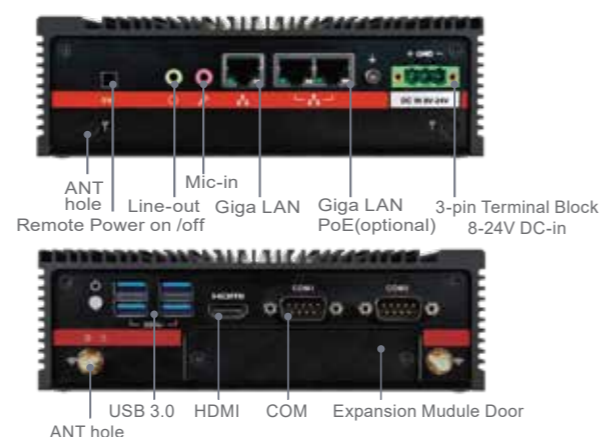


## Optional Peripheral

Model Number	Description
MS-01VGA-D10	VGA Port Expansion Module
MS-01DVI-D10	DVI-D Port Expansion Module
MS-01DPN-D10	DisplayPort Expansion Module
MS-02COM-D10	Expansion Module with 2 x RS232 / 422 / 485 (support power 5V/12V)
MS-08DIO-T10	Expansion Module with 8-bit Isolated DIDO (4 x DI, 4 x DO)
Power Adapter	Description
72W Power Adapter	AC / DC, DC24V / 3A, 72W*
120W Power Adapter	AC / DC, DC24V / 5A, 120W*

\* Safety operating: For AC Adapter 0 ~ 40°C

## I/O Interface (mm)



## MB1-10AP Fanless Embedded System

SYSTEM	
CPU	Intel® Apollo Lake-M N4200 / N3350 Processor
Chipset	Intel® SoC Integrated
System Memory	DDR3L 1867, 1 x 204-pin SO-DIMM, Max. 8GB (Non-ECC)
Graphics	Intel® HD Graphics
Display Interface	HDMI, Optional DisplayPort/VGA/DVI-D by Expansion Module
Storage Slot	1 x 2.5 HDD / SSD (Default w/ HDD Bracket) 1 x mSATA
Ethernet	2 x Intel® I210-IT Giga LAN (2 x PoE LAN: Optional), 1 x Realtek RTL8154 LAN (Up to 480 Mbps)
Audio	Realtek® ALC662
I/O Chipset	Nuvoton NCT6116D
TPM	Nuvoton NPCT750AAAYX (Optional)
Expansion Slot	Storage: Mini PCIe Full size (USB / PCIe / SATA) LTE/Wireless: Mini PCIe Full size (USB / PCIe), w/ SIM Card Holder (w/ Full to Half size adapter plate)
FRONT I/O	1 x HDMI 1.4 4 x USB 3.0 2 x SMA Antenna (Optional for WiFi/LTE function) 1 x Expansion Module Door
REAR I/O	2 x RS232 / 422 / 485 (Support Power 5V / 12V) 3 x RJ-45 1 x Mic-in, 1 x Line-out 1 x 3-pin Terminal Block Power Input 2 x SMA Antenna (Optional for WiFi/LTE function)
H/W Monitor	-
Watchdog Timer	1~255 Steps by Software Program
POWER REQUIREMENT	
Power Input	8~24V Wide Range DC Input w/ Terminal Block Connectivity
MECHANICAL	
Thermal Design	Fanless
Mounting	Wallmount (default), 75 x 75 mm VESA hole and din rail mount combo kit (optional)
Dimension	6.9" x 4.1" x 2.2" (170 mm x 105 mm x 57 mm)
Material	Top cover: Aluminum Alloy, Bezel and chassis: Steel
ENVIRONMENTAL	
Operating Temperature	-25°C to 70°C (For non-PoE SKU, with 0.7m/s Air Flow and Wide Temperature Memory/Storage) -25°C to 60°C (For PoE SKU, with 0.7m/s Air Flow and Wide Temperature Memory/Storage)
Operating Humidity	10%~90% (Non-condensing)
Vibration Resistance	Operating: 5Hz~500Hz / 5Grms / 3Axis (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	CE & FCC Class A
OS	
OS Support	Windows® 10 64-bit, Linux (support by request)

## Ordering Information

Model Number	Processor	Giga / PoE LAN	Operating Temperature	AC Adaptor
MB1-10AP-N3350	N3350	3 / 0	-25 ~ 70°C	None
MB1-10AP-N3350-AC	N3350	3 / 0	-25 ~ 70°C	72W AC to DC Adaptor
MB1-10AP-N3350-POE	N3350	1 / 2	-25 ~ 60°C	None
MB1-10AP-N3350-POE-AC	N3350	1 / 2	-25 ~ 60°C	72W AC to DC Adaptor
MB1-10AP-N4200	N4200	3 / 0	-25 ~ 70°C	None
MB1-10AP-N4200-AC	N4200	3 / 0	-25 ~ 70°C	72W AC to DC Adaptor
MB1-10AP-N4200-POE	N4200	1 / 2	-25 ~ 60°C	None
MB1-10AP-N4200-POE-AC	N4200	1 / 2	-25 ~ 60°C	72W AC to DC Adaptor

## Packing List

Packing		
1 x MB1-10AP Box PC	1 x Quick Installation Guide	1 x 3-pin Terminal Block Power Connector
1 x Screw Pack (For HDD)	1 x Mini PCIe Full to Half size adapter plate	1 x Wall Mount Bracket
1 x Driver CD		

\* Option: TPM