CMI203 System Family
Mini-ITX Standard Systems

User's Manual

Version 1.0
(Mar. 2018)

iBASE

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Copyright

Disclaimer

Trademarks

Compliance

$C\epsilon$

This product has passed CE tests (pre-scan) for environmental specifications and limits. This product is in accordance with the directives of the Union European (EU). If users modify and/or install other devices in this equipment, the CE conformity declaration may no longer apply.

FC

This product has been tested and found to comply with the limits for a Class B (pre-scan) device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications.

WEEE

This product must not be disposed of as normal household waste, in accordance with the EU directive of for waste electrical and electronic equipment (WEEE - 2012/19/EU). Instead, it should be disposed of by returning it to a municipal recycling collection point. Check local regulations for disposal of electronic products.

Green IBASE

This product is compliant with the current RoHS restrictions and prohibits use of the following substances in concentrations exceeding 0.1% by weight (1000 ppm) except for cadmium, limited to 0.01% by weight (100 ppm).

- Lead (Pb)
- Mercury (Hg)
- Cadmium (Cd)
- Hexavalent chromium (Cr6+)
- Polybrominated biphenyls (PBB)
- Polybrominated diphenyl ether (PBDE)

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Important Safety Information

Carefully read the precautions before using the device.

Environmental conditions:

- Lay the device horizontally on a stable and solid surface in case the device may fall, causing serious damage.
- Leave plenty of space around the device and do not block the openings for ventilation. NEVER DROP OR INSERT ANY OBJECTS OF ANY KIND INTO THE VENTIILATION OPENINGS.
- Use this product in environments with ambient temperatures between 0˚C and 45˚C.
- Do not leave the device in an environment where the storage temperature may go below -20˚C or above 80˚C. This could damage the device. The device must be used in a controlled environment.

Care for your IBASE products:

- Before cleaning the device, turn it off and unplug all cables such as power in case a small amount of electrical current may still flow.
- Use neutral cleaning agents or diluted alcohol to clean the device chassis with a cloth. Then wipe the chassis with a dry cloth.
- Vacuum the dust with a computer vacuum cleaner to prevent the air vent or slots from being clogged.

⚠ WARNING

Attention during use:

- Do not use this product near water.
- Do not spill water or any other liquids on your device.
- Do not place heavy objects on the top of the device.
- Operate this device from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your distributor or local power company.
- Do not walk on the power cord or allow anything to rest on it.
- If you use an extension cord, make sure that the total ampere rating of the product plugged into the extension cord does not exceed its limits.

Avoid Disassembly

Do not disassemble, repair or make any modification to the device. Doing so could generate hazards and cause damage to the device, even bodily injury or property damage, and will void any warranty.

⚠ CAUTION

Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Warranty Policy

- **IBASE standard products:**

  24-month (2-year) warranty from the date of shipment. If the date of shipment cannot be ascertained, the product serial numbers can be used to determine the approximate shipping date.

- **3rd-party parts:**

  12-month (1-year) warranty from delivery for the 3rd-party parts that are not manufactured by IBASE, such as CPU, memory, HDD, power adapter, panel and touchscreen.

* PRODUCTS, HOWEVER, THAT FAILS DUE TO MISUSE, ACCIDENT, IMPROPER INSTALLATION OR UNAUTHORIZED REPAIR SHALL BE TREATED AS OUT OF WARRANTY AND CUSTOMERS SHALL BE BILLED FOR REPAIR AND SHIPPING CHARGES.

Technical Support & Services

1. Visit the IBASE website at www.ibase.com.tw to find the latest information about the product.
2. If you need any further assistance from your distributor or sales representative, prepare the following information of your product and elaborate upon the problem.

   - Product model name
   - Product serial number
   - Detailed description of the problem
   - The error messages in text or in screenshots if there is any
   - The arrangement of the peripherals
   - Software in use (such as OS and application software, including the version numbers)

3. If repair service is required, you can download the RMA form at http://www.ibase.com.tw/english/Supports/RMAService/. Fill out the form and contact your distributor or sales representative.

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Table of Contents

Chapter 1
General Information

The information provided in this chapter includes:

- Features
- Specifications
- Overview
- Dimensions

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1.1 Introduction

The CMI203 System Family is a chassis applicable to 4 IBASE Mini-ITX motherboards – MI991, MI990, MI982 and MI981. These motherboards feature iSmart that allows the device capable of auto-scheduling for general applications and gives energy savings on power. The system family and the compatible motherboards are listed as below.

Model	CMI203-991	CMI203-990	CMI203-982	CMI203-981
Motherboard	MI991	MI990	MI982	MI981

1.2 Features

- Expandable Mini-ITX system designed for IBASE Mini-ITX motherboards
- Dual memory slot
- Triple channel for display
- 2 x memory slot, 8 x USB port, 2 x GbE LAN
- Audio jacks for line-in, line-out and mic-in
- 2.5" /3.5" HDD and/or mSATA storage
- PCIe (x16) expansion
- ATX power supply and AC 100 ~ 240V power input
- DC 12V output
- Configurable GPIO port

1.3 Specifications – CMI203-991 & CMI203-990

Product Name	CMI203-991		CMI203-990	
System				
Motherboard	MI991AF	MI991EF	MI990VF	MI990EF
CPU	Intel® 6th Gen. Core™ i7/i5/i3 / Pentium® / Celeron® DT Processor		Intel® 6th Gen. Core™ i7/i5/i3 / Pentium® / Celeron® MB Processor	
Chipset	Intel® Q170	Intel® H110	Intel® CM236	Intel® HM170
Memory	2 x DDR4-2133 SO-DIMM, upgradable to 32 GB			
Graphics	Integrated HD graphics			
Super I/O	Fintek F81846AD-I			
Storage	• 3.5" / 2.5" drive bay for HDD • 1 x mSATA			
Audio Codec	Realtek ALC662			
Network (GbE)	Intel® I219LM Intel® I211AT	Intel® I219V Intel® I211AT	Intel® I219LM Intel® I211AT	Intel® I219V Intel® I211AT
Power Supply	Industrial ATX power 250W AC-In 100 ~ 240V Input frequency 47 ~ 63 Hz			
BIOS	AMI BIOS			
Watchdog	Watchdog Timer 256 segments, 0, 1, 2…255 sec/min			
Chassis	SECC black			
Mounting	Desktop or wall mount			
Dimensions (W x H x D)	345 x 100 x 225 mm (13.58" x 3.94" x 8.86")			
Net Weight	4.4 kg (9.7 lb)			
Certificate	CE / LVD / FCC Class B (Pre-scan only)			
Operating System	• Windows 10 (64-bit) / 8.1 (64-bit) / 7 Pro (32-bit / 64-bit) • Windows Embedded 8.1 (64-bit) • Linux Fedora (64-bit) / Ubuntu (64-bit)		• Windows 10 (64-bit) / 8.1 (64-bit) / 7 (32-bit / 64-bit) • Linux Fedora / Ubuntu	

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Product Name	CMI203-991	CMI203-990
I/O Ports		
Front Panel	N/A	
Rear Panel	1 x AC power inlet 4 x COM ports (plus 1 reserved hole) 1 x DVI-D 1 x HDMI 1 x DisplayPort 6 x USB 3.0 2 x USB 2.0 2 x RJ45 GbE LAN 3 x Audio Jack (Line-In, Line-Out, MIC-In) 1 x GPIO Port (4-In & 4-Out) 1 x DC 12V (2-pin connector)	
Expansion	1 x PCIe (x16) slot * The max. dimensions (W x H x D) for the add-on PCIe card is 111 x 40 x 170 mm (4.37" x 1.57" x 6.93").	
Environment		
Temperature	**Operating:** 0 ~ 45 °C (32 ~ 113 °F) **Storage:** -20~ 80 °C (-4 ~ 176 °F)	
Relative Humidity	5 ~ 90% at 45 °C (non-condensing)	
Vibration Protection	**Operating:** 0.25 Grms / 5 ~ 500 Hz **Non-operating:** 1 Grms / 5 ~ 500Hz	

All specifications are subject to change without prior notice.

For detailed MB specifications, refer to the respective user manuals on our website.

1.4   Specifications – CMI203-982 & CMI203-981

Product Name	CMI203-982	CMI203-981
System		
Motherboard	MI982EF	MI981AF
CPU	Intel® 4th Gen. Core™ i7/i5/i3 / Pentium® / Celeron® DT Processor	
Chipset	Intel® H81 PCH	Intel® Q87 PCH
Memory	2 x DDR3L-1600 SO-DIMM, upgradable to 16 GB	2 x DDR3L-1600 SO-DIMM, upgradable to 16 GB
Graphics	Integrated HD graphics	
Super I/O	Fintek F81866AD-I	
Storage	3.5" / 2.5" drive bay for HDD	• 3.5" / 2.5" drive bay for HDD • 1 x mSATA
Audio Codec	Realtek ALC892	
Network (GbE)	Intel® I217LM Intel® I211AT	
Power Supply	Industrial ATX power 250W AC-In 100V ~ 240V Input frequency 47 ~ 63 Hz	
BIOS	AMI BIOS	
Watchdog	Watchdog Timer 256 segments, 0, 1, 2…255 sec/min	
Chassis	SECC black	
Mounting	Desktop or wall mount	
Dimensions (W x H x D)	345 x 100 x 225 mm (13.58" x 3.94" x 8.86")	
Net Weight	4.7 kg (10.36 lb)	
Certificate	CE / LVD / FCC Class B (Pre-scan only)	
Operating System	• Windows 8 / 7 • Linux	• Windows 8 / 7 • Linux

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Product Name	CMI203-982	CMI203-981
I/O Ports		
Front Panel	N/A	
Rear Panel	• 1 x AC power inlet • 4 x COM ports (plus 1 reserved hole) • 1 x DVI-D • 1 x VGA • 1 x DisplayPort • 6 x USB 3.0 • 2 x USB 2.0 • 2 x RJ45 GbE LAN • 3 x Audio Jack (Line-In, Line-Out, MIC-In) • 1 x GPIO Port (4-In & 4-Out) • 1 x DC 12V (2-pin connector)	
Expansion	1 x PCIe (x16) slot * The max. dimensions (W x H x D) for the add-on PCIe card is 111 x 40 x 170 mm (4.37" x 1.57" x 6.93").	
Environment		
Temperature	• **Operating:** 0 ~ 45 °C (32 ~ 113 °F) • **Storage:** -20~ 80 °C (-4 ~ 176 °F)	
Relative Humidity	5 ~ 90% at 45 °C (non-condensing)	
Vibration Protection	• **Operating:** 0.25 Grms / 5 ~ 500 Hz • **Non-operating:** 1 Grms / 5 ~ 500Hz	

All specifications are subject to change without prior notice.

For detailed MB specifications, refer to the respective user manuals on our website.
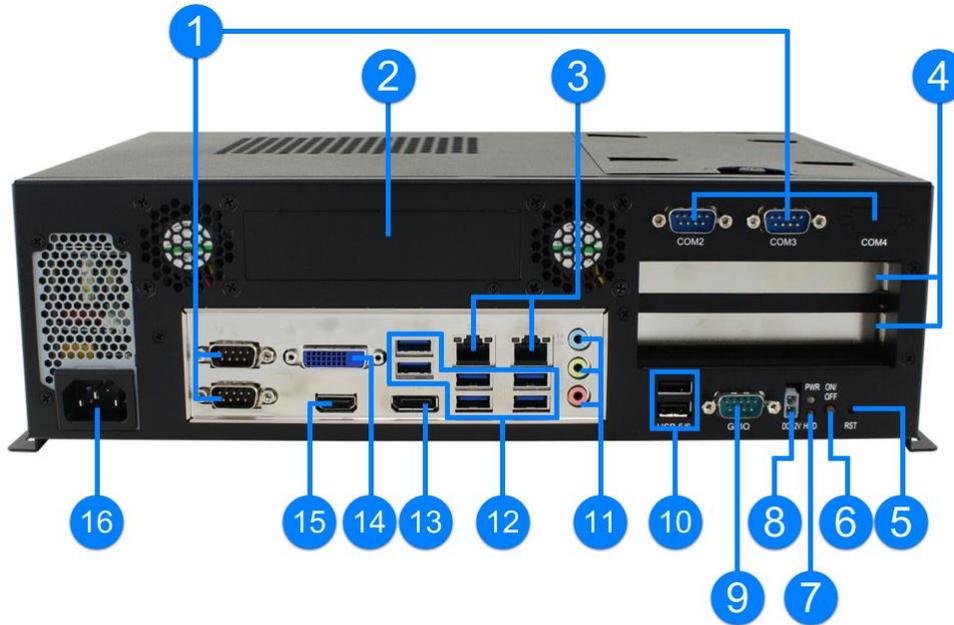
1.5 Overview

Front View
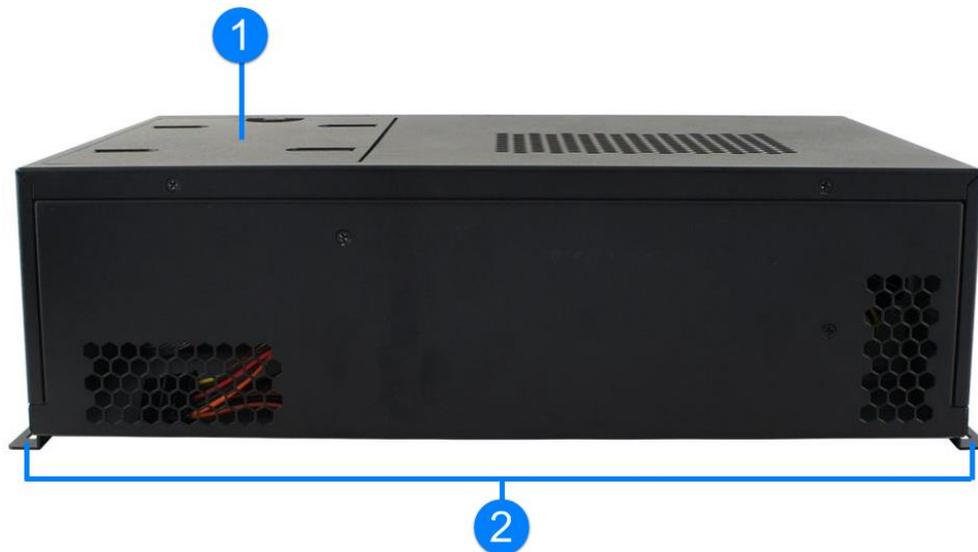
No.	Name	No.	Name
1	2.5" / 3.5" HDD Drive Bay	2	Wall Mount Brackets

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Rear View

CMI203-**991** & CMI221-**990**:

No.	Name	No.	Name
1	COM Ports (COM4 is reserved)	9	GPIO Port
2	LCM Slot (Reserved)	10	USB 2.0 Ports
3	GbE LAN Ports	11	Audio Jacks (From top to bottom: Line-In, Line-Out, Mic-In)
4	PCIe (x16) Expansion Slots	12	USB 3.0 Ports
5	Reset Button	13	DisplayPort
6	Power Button	14	DVI-D Port
7	LED Indicatorss for HDD & Power	15	HDMI Port
8	DC-Out 12V Connector	16	AC Power Inlet

CMI203-**982** & CMI221-**981**:

No.	Name	No.	Name
1	COM Ports (COM4 is reserved)	9	GPIO Port
2	LCM Slot (Reserved)	10	USB 2.0 Ports
3	GbE LAN Ports	11	Audio Jacks (From top to bottom: Line-In, Line-Out, Mic-In)
4	PCIe (x16) Expansion Slots	12	USB 3.0 Ports
5	Reset Button	13	DisplayPort
6	Power Button	14	VGA Port
7	LED Indicatorss for HDD & Power	15	DVI-D Port
8	DC-Out 12V Connector	16	AC Power Inlet

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1.6   Dimensions

Unit: mm

CMI203-**991**:
CMI203-**990**:

CMI203-**982**:
CMI203-**981**:
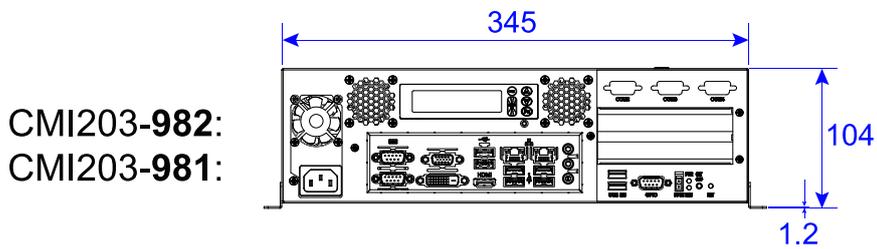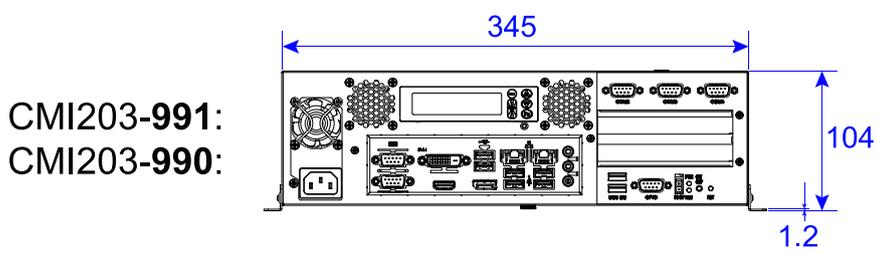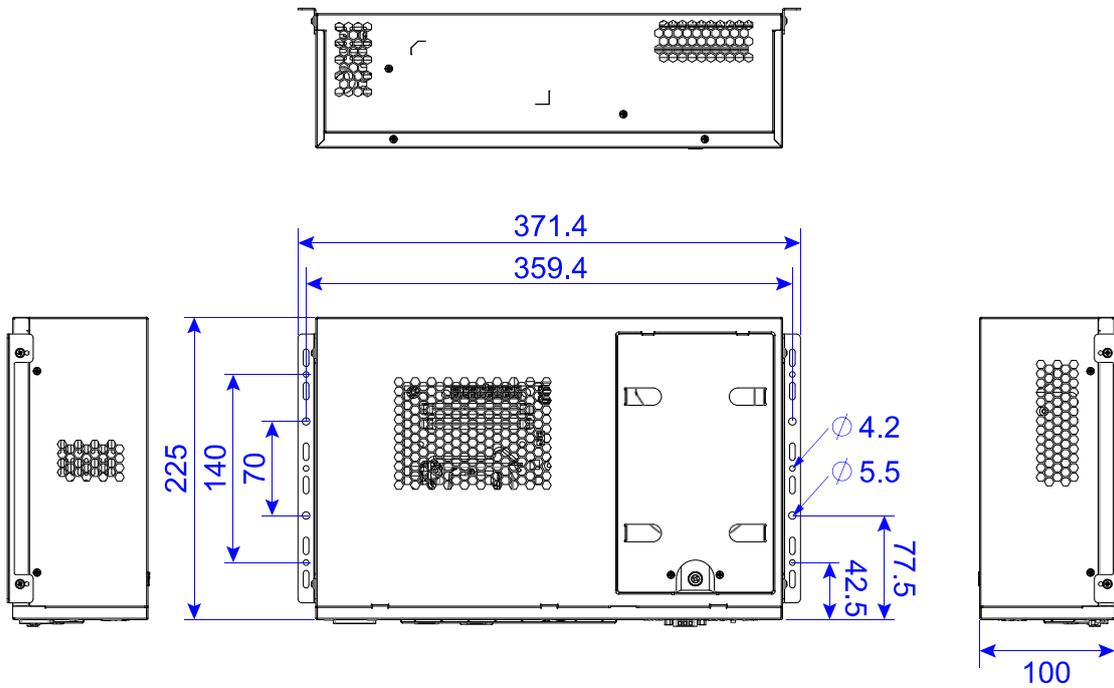
Chapter 2
Hardware Installation

The information provided in this chapter includes:

- Essential installations: memory and HDD
- Expansion card , fan, and wall mount installation

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2.1 Essential Installations Before You Begin

2.1.1 Memory Installation

If you need to install or replace a memory module, disassemble the device cover first and then follow the instructions below for installation.

1. Loosen 6 screws from the device cover and remove the cover.

6 screws

Device Cover
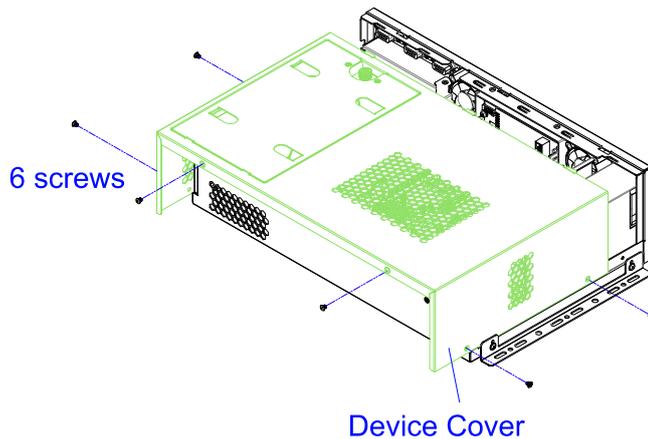
2. Press the ejector tab of the memory slot down and outwards with your fingertips.

3. Hold the memory module and align the key of the module with that on the memory slot.

4. Gently push the module in an upright position until the ejector tabs of the memory slot close to hold the module in place when the module touches the bottom of the slot.


Memory Module
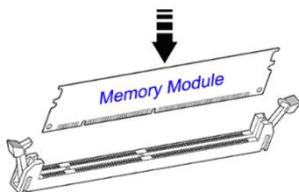
To remove the module, press the ejector tabs outwards with your fingertips to eject the module.
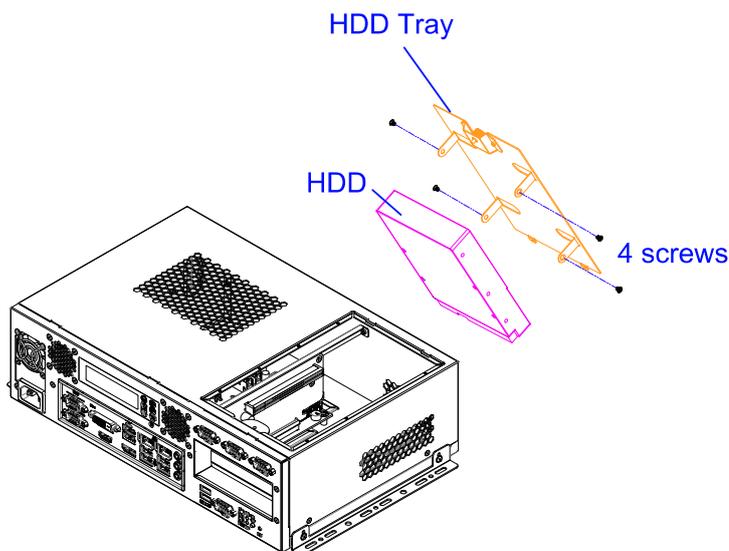
2.1.2   HDD Installation

If you are using a model type of CMI203 System that doesn't include a HDD, you will need to install one. Follow the instructions below for HDD installation or replacement.

1. Loosen the screw from the HDD tray and open the tray up.

Screw for HDD tray
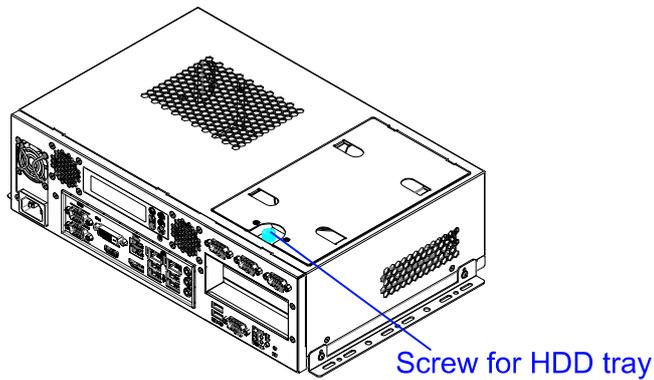
2. Loosen 4 screws, attach your HDD, tighten these screws to fix the HDD and connect the related cables to the motherboard.
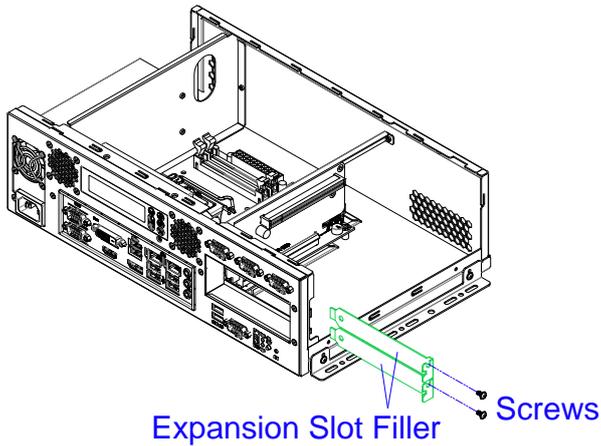

HDD Tray

HDD

4 screws

3. Put the tray back and tighten the screw mentioned in Step 1 to secure the HDD tray.

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2.2 PCIe (x16) Expansion Card Installation

1. Loosen 6 screws from the device cover and remove the cover.

6 screws
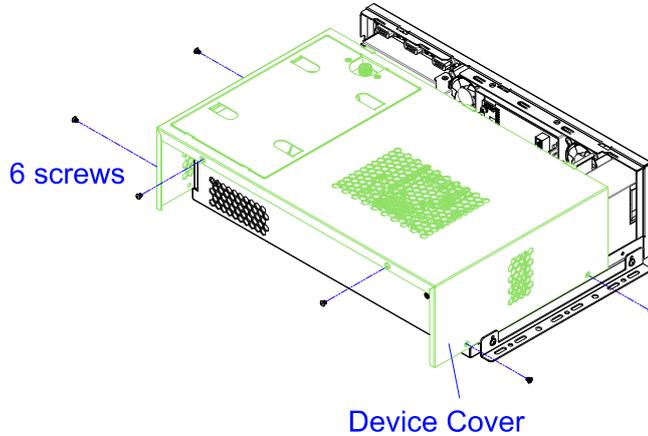
Device Cover

2. Remove the screw(s) to take out the expansion slot filler(s).
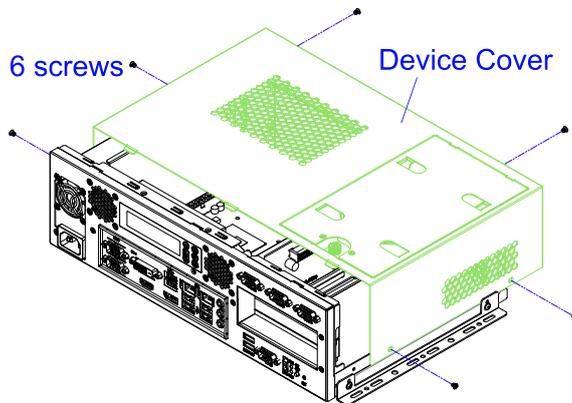

Expansion Slot Filler   Screws

3. Install your PCIe (x16) expansion card and fix the card by tightening the screw mentioned above.
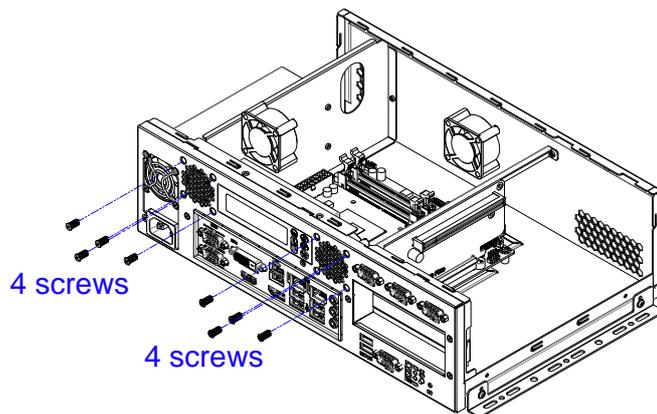
After installation, tighten 6 screws mentioned in Step 1 to secure the device cover.

2.3   Fan Replacement

1. Remove 6 screws from the device cover and remove the cover.

2. Remove 4 screws for a fan for replacement and tighten the screws after installation.

After installation, tighten 6 screws mentioned in Step 1 to secure the device cover.

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2.4 Mounting Brackets Installation

Requirements

Before mounting the system, ensure that you have enough room for the power adaptor and signal cable routing, and have good ventilation for the power adaptor. The method of mounting must be able to support the weight of the SE-102-N plus the weight of the suspending cables attached to the system. Use the following methods for mounting your system:

Wall Mount Installation instructions:

1. Attach the mounting brackets to your CMI203 System, and secure with the supplied 4 screws as below.
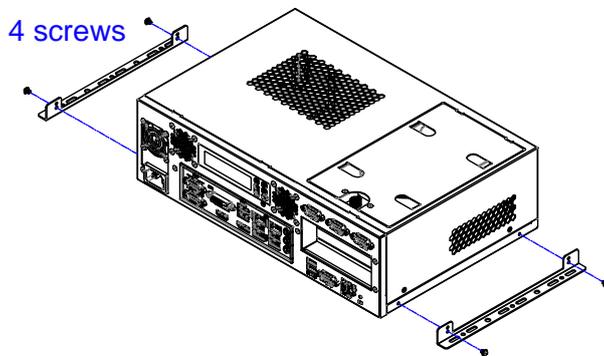
2. Then prepare at least four screws (M3, 6 mm) to mount the device on wall .