

CMI222 System Family

Mini-ITX Standard Systems

User's Manual

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Compliance

CE

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.

FCC

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)

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 VENTILATION OPENINGS.
- Slots and openings on the chassis are for ventilation. Do not block or cover these openings. Make sure you leave plenty of space around the device for ventilation. NEVER INSERT OBJECTS OF ANY KIND INTO THE VENTILATION OPENINGS.
- Use this product in environments with ambient temperatures between 0°C and 45°C.
- DO NOT LEAVE THIS 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

You are not suggested to disassemble, repair or make any modification to the device. Disassembly, modification, or any attempt at repair could generate hazards and cause damage to the device, even bodily injury or property damage, and will void any warranty.



CAUTION

Danger of explosion if internal lithium-ion battery is replaced by an incorrect type. 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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Chapter 1

General Information

The information provided in this chapter includes:

- Features
- Specifications
- Overview
- Dimensions

1.1 Introduction

The CMI222 System Family is a chassis applicable to 4 iBASE Mini-ITX motherboards – MI811, MI808, MI805 and MI802, and 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.

Models & Compatible Motherboards:

System Model	CMI222-811	CMI222-808	CMI222-805	CMI222-802
Motherboard	MI811	MI808	MI805	MI802

This system family is able to be operated at the ambient operating temperature ranging from 0 ~ 45 °C, and even from -20 ~ 80 °C for storage.



1.2 Features

- Expandable Mini-ITX system designed for iBASE Mini-ITX motherboards
- Dual memory slot
- Dual channel for display
- USB 2.0 & USB 3.0 ports
- Dual LAN
- Audio Jacks
- 2.5" HDD and/or mSATA storage
- Expansion slots:
 - 2 x PCI slot (IP245 riser card)
 - 1 x PCI and 1 x PCIe (x1) (IP246 riser card)
- ATX power supply and DC power input 12V

1.3 Overview

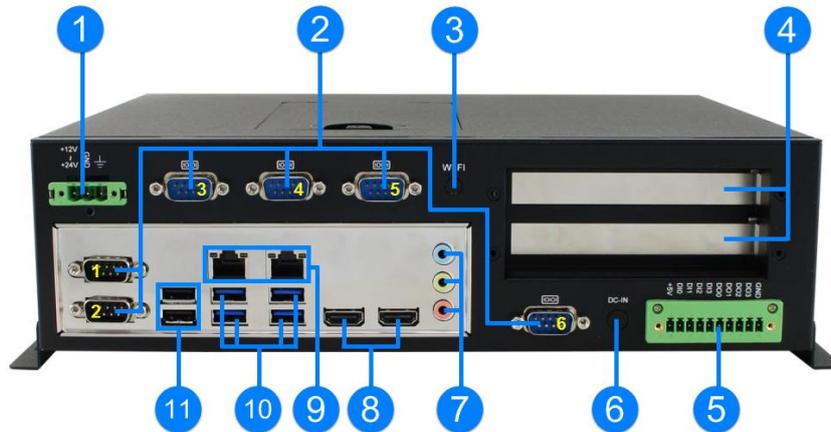
Oblique View



No.	Name	No.	Name
1	HDD Tray	4	LED Indicators for HDD & Power
2	Wall Mount Brackets	5	USB 2.0 Ports
3	Power Switch	6	Reserved COM Ports

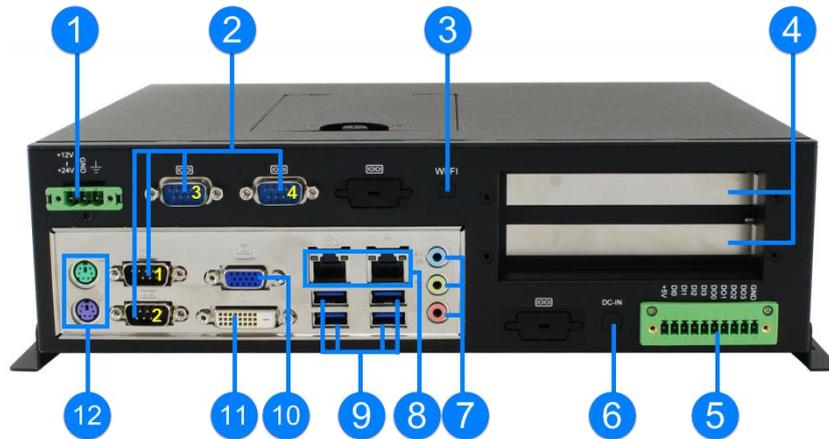
Rear View

CMI222-811:



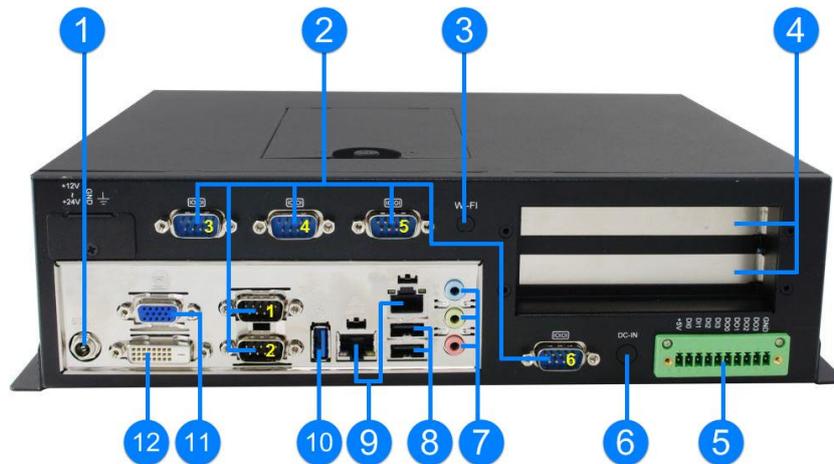
No.	Name	No.	Name
1	DC Power Connector	7	Audio Jacks (From top to bottom: Line-In, Line-Out, Mic-In)
2	COM Ports (COM1 ~ COM6 marked in yellow)	8	HDMI Port
3	Antenna Hole	9	GbE LAN Ports
4	Expansion Slots	10	USB 3.0 Ports
5	GPIO Connector	11	USB 2.0 Ports
6	Reserved for DC Power Jack 2.5 mm		

CMI222-808:



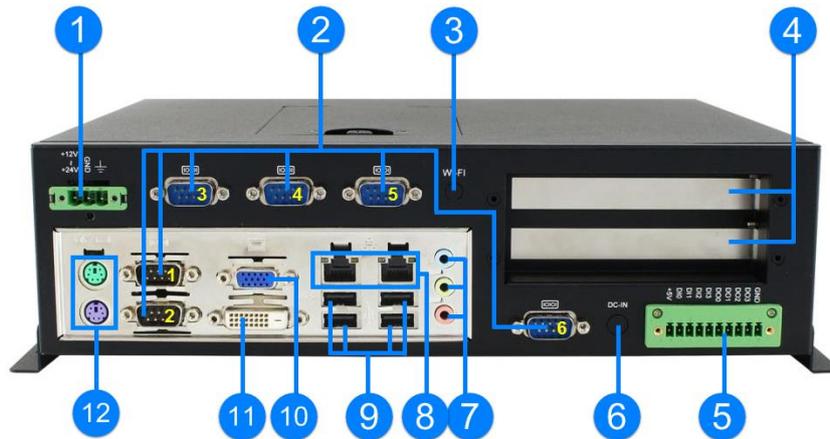
No.	Name	No.	Name
1	DC Power Connector	7	Audio Jacks (From top to bottom: Line-In, Line-Out, Mic-In)
2	COM Ports (COM1 ~ COM4 marked in yellow)	8	GbE LAN Ports
3	Antenna Hole	9	USB 3.0 Ports
4	Expansion Slots	10	VGA Port
5	GPIO Connector	11	DVI-D Port
6	Reserved for DC Power Jack 2.5 mm	12	PS/2 Ports (From top to bottom: KB, MS)

CMI222-805:



No.	Name	No.	Name
1	DC Power Connector	7	Audio Jacks (From top to bottom: Line-In, Line-Out, Mic-In)
2	COM Ports (COM1 ~ COM6 marked in yellow)	8	USB 2.0 Ports
3	Antenna Hole	9	GbE LAN Ports
4	Expansion Slots	10	USB 3.0 Ports
5	GPIO Connector	11	VGA Port
6	Reserved for DC Power Jack 2.5 mm	12	DVI-D Port

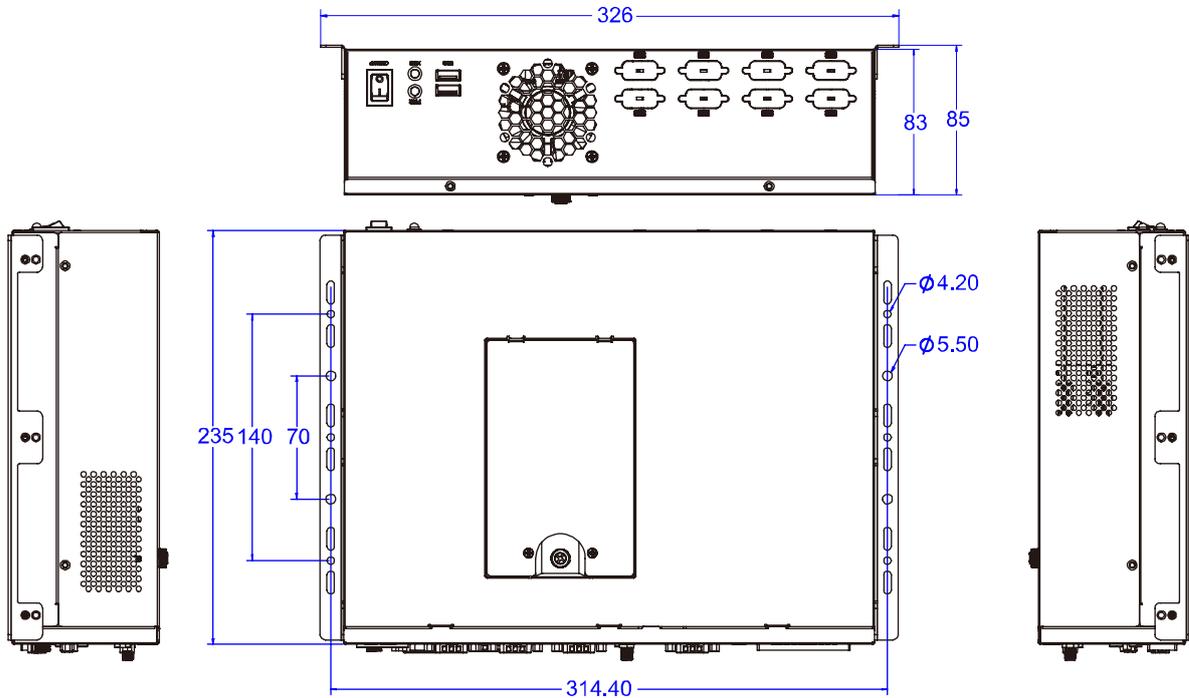
CMI222-802:



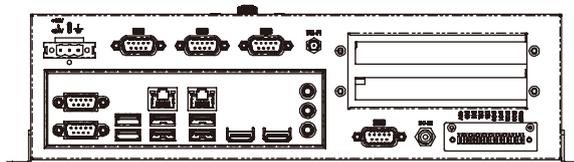
No.	Name	No.	Name
1	DC Power Connector	7	Audio Jacks (From top to bottom: Line-In, Line-Out, Mic-In)
2	COM Ports (COM1 ~ COM6 marked in yellow)	8	GbE LAN Ports
3	Antenna Hole	9	USB 2.0 Ports
4	Expansion Slots	10	VGA Port
5	GPIO Connector	11	DVI-D Port
6	Reserved for DC Power Jack 2.5 mm	12	PS/2 Ports (From top to bottom: KB, MS)

1.4 Dimensions

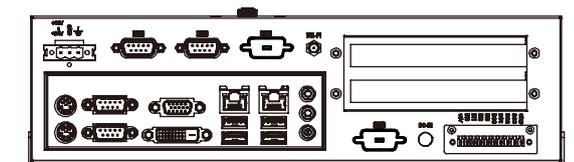
Unit: mm



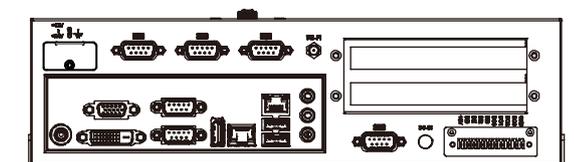
CMI222-811:



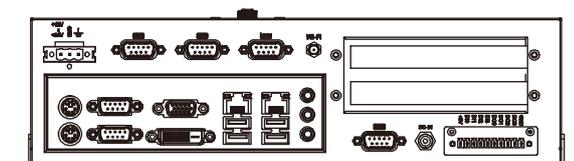
CMI222-808:



CMI222-805:



CMI222-802:



Chapter 2

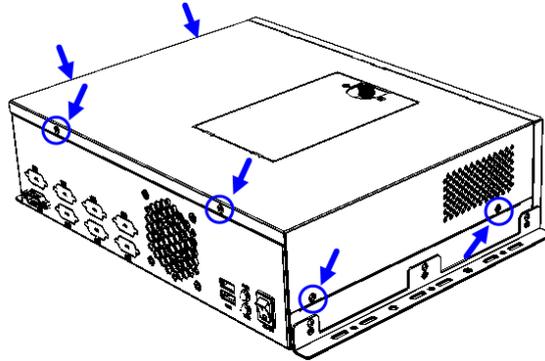
Hardware Installation

The information provided in this chapter includes:

- Essential installations before you begin: memory, HDD & mini-PCIe
- Expansion card, antenna, fan, and wall mount installation

2.1 Essential Installations Before You Begin

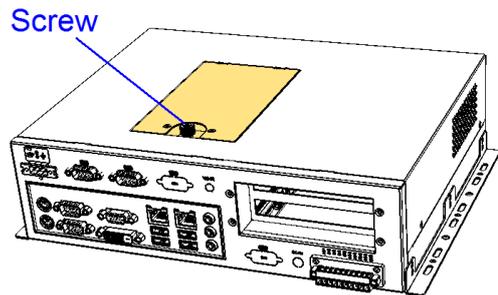
Release 6 screws to disassemble the device cover for all the installations except the HDD. After installation, secure the device cover.



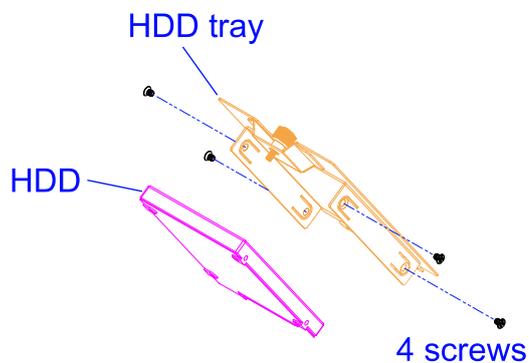
2.1.1 HDD Installation

Follow the instructions below for HDD installation or replacement.

1. Loosen the screw indicated below to free up the HDD tray.



2. Loosen another 4 screws to attach your HDD, tighten the screws to fix the HDD and connect the related cables to the motherboard.

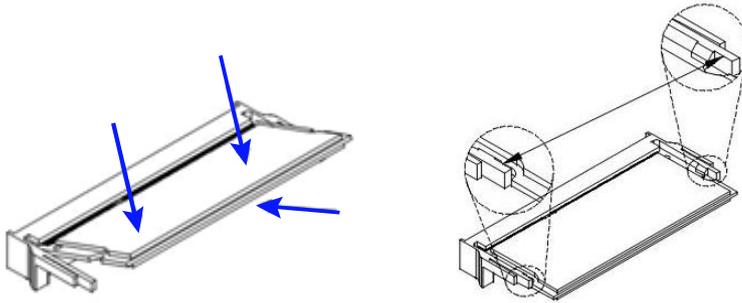


3. Close and secure the tray back.

2.1.2 Memory Installation

If you need to replace or install a memory module, follow the instructions below for installation after disassembling the device cover.

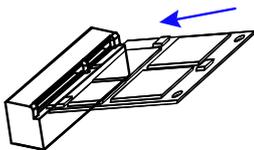
1. Locate the memory slot and align the key of the memory module with that on the memory slot.
2. Insert the module slantwise and gently push the module straight down until the clips of the slot close to hold the module in place when the module touches the bottom of the slot.



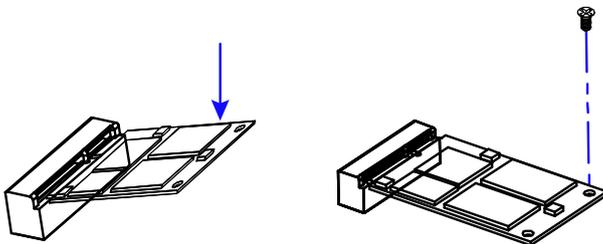
To remove the module, press the clips outwards with both hands.

2.2 Mini-PCle Cards Installation

1. Locate the mini-PCle slot, align the key of the mini-PCle card to the interface, and insert the card slantwise.



2. Push the mini-PCle card down, fix it with one or two flat head screws.

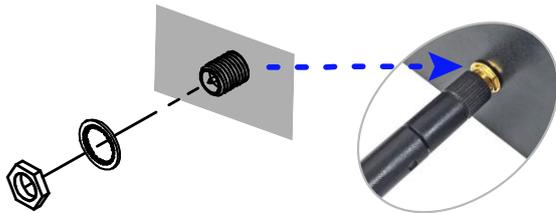


After installation, secure the device cover.

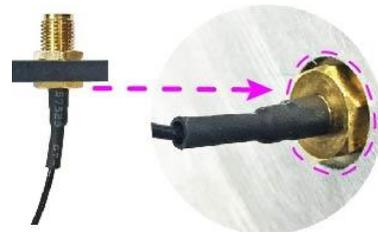
2.3 WiFi / 3G / 4G Antenna Installation

Thread the WiFi / 3G / 4G antenna extension cable through an antenna hole of the front I/O cover and fasten the antenna as shown below. Then apply adhesive to the edge of the hex nut behind the front I/O cover to prevent the extension cable from falling if the cable becomes loose. After installation, secure the device cover.

1. Thread and fasten the hex nut and the washer. Then install the antenna.



2. Apply adhesive around here.

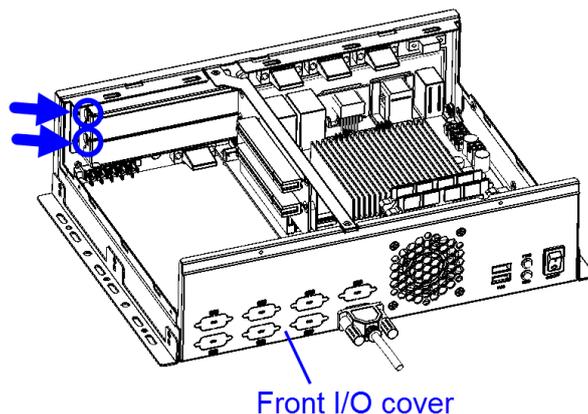


Info: The diameter of the nut is around 6.35 mm (0.25"-36UNC).

2.4 PCIe (x16) Expansion Card Installation

If you need to install an expansion card, follow the instructions below for installation after disassembling the device cover.

1. Release each screw for the expansion filler removal.

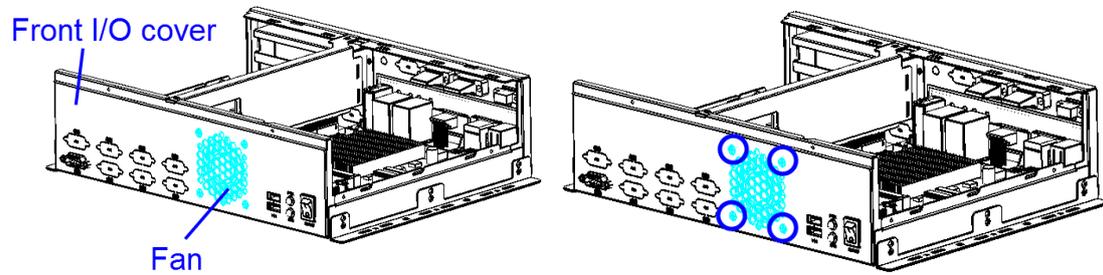


2. Install the expansion card(s) and fix with the screw(s) mentioned in Step 1.

After installation, secure the device cover.

2.5 Fan Replacement

For fan replacement, you also need to disassemble the device cover first. Then release 4 screws for fan replacement and tighten the screws after installation.



After installation, secure the device cover.

2.6 Mounting Brackets Installation

Note: Before mounting the system on wall, ensure that you are following all applicable building and electric codes.

Requirements

When mounting, ensure that you have enough room for power and signal cable routing. And have good ventilation for power adapter. The method of mounting must be able to support weight of the CMI222 System plus the suspend weight of all the cables to be attached to the system. Use the following methods for mounting your system:

Selecting the Location

Plan the mounting location thoroughly. Locations such as walkway areas, hallways, and crowded areas are not recommended. Mount the product to a flat, sturdy, structurally sound column or wall surface.

The best mounting surface is a standard countertop, cabinet, table, or other structure that is minimally the width and length of the product. This will reduce the risk that someone may accidentally wall into and damage the product. Local laws governing the safety of individuals might require this type of consideration.

Selecting the type of wall construction

1. Mounting on a hollow wall

- **Wood surface**

Use construction-grade wood and the recommended minimum thickness is 38 x 25.4 mm (1.5" x 10").

Note: This method provides the most reliable attachment for the product with little risk that the product may come loose or require ongoing maintenance.

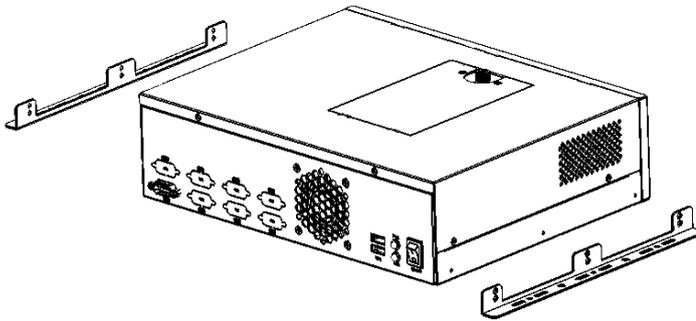
- **Drywall**

Drywall over wood studs is acceptable.

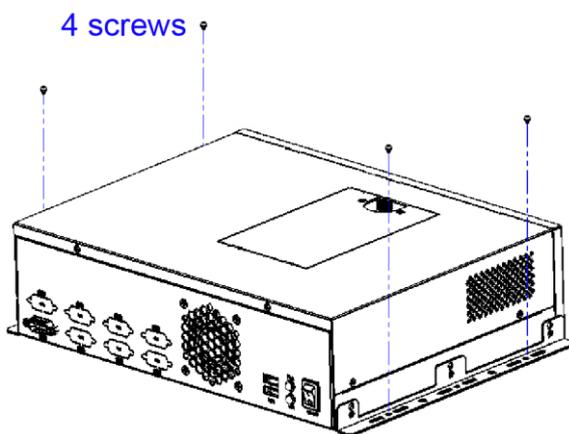
2. Mounting on a solid concrete or brick wall with flat and smooth surface

Wall Mount Installation instructions:

1. Attach the mounting brackets to your CMI222 System, and secure with the supplied six screws as below.



2. Prepare at least four screws (M3, 6 mm) to mount the device on wall .

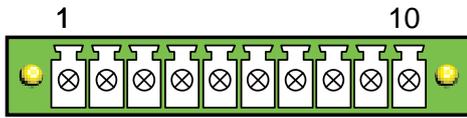


You can install CMI222 System on plastic (LCD monitor), wood, drywall surface over studs, or a solid concrete or metal plane directly. The types of fasteners required are dependent on the type of wall construction.

Fasteners are not supplied in the product package. You will need to prepare the fasteners. Choose fasteners that are rated either **Medium Duty** or **Heavy Duty**. To assure proper fastener selection and installation, follow the fastener manufacturer's recommendations.

2.7 Pinout for GPIO Connectors

- **GPIO Connector (10-pin terminal block)**



Pin	Assignment	Pin	Assignment
1	5V	6	DO0
2	DI0	7	DO1
3	DI1	8	DO2
4	DI2	9	DO3
5	DI3	10	Ground