

M.2-COM4

M.2 Serial Port Module
User's Manual

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Changes after the publication's first release will be based on the product's revision. The website will always provide the most updated information.

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Trademarks

Product names or trademarks appearing in this manual are for identification purpose only and are the properties of the respective owners.

FCC and DOC Statement on Class B

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio TV technician for help.

Notice:

1. The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
2. Shielded interface cables must be used in order to comply with the emission limits.

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About this Manual

This manual can be downloaded from the website, or acquired as an electronic file included in the optional CD/DVD. The manual is subject to change and update without notice, and may be based on editions that do not resemble your actual products. Please visit our website or contact our sales representatives for the latest editions.

Warranty

1. Warranty does not cover damages or failures that arised from misuse of the product, inability to use the product, unauthorized replacement or alteration of components and product specifications.
2. The warranty is void if the product has been subjected to physical abuse, improper installation, modification, accidents or unauthorized repair of the product.
3. Unless otherwise instructed in this user's manual, the user may not, under any circumstances, attempt to perform service, adjustments or repairs on the product, whether in or out of warranty. It must be returned to the purchase point, factory or authorized service agency for all such work.
4. We will not be liable for any indirect, special, incidental or consequential damages to the product that has been modified or altered.

About the Package

The package contains the following items. If any of these items are missing or damaged, please contact your dealer or sales representative for assistance.

- One M.2-COM4 Module

Optional Item

- Converter cable, pin headers to DB9, Length = 250mm

Before Using the System Board

When installing the system board in a new system, you will need at least the following internal components.

- Host system with M.2 M or B key socket

Static Electricity Precautions

It is quite easy to inadvertently damage your PC, system board, components or devices even before installing them in your system unit. Static electrical discharge can damage computer components without causing any signs of physical damage. You must take extra care in handling them to ensure against electrostatic build-up.

1. To prevent electrostatic build-up, leave the system board in its anti-static bag until you are ready to install it.
2. Wear an antistatic wrist strap.
3. Do all preparation work on a static-free surface.
4. Hold the device only by its edges. Be careful not to touch any of the components, contacts or connections.
5. Avoid touching the pins or contacts on all modules and connectors. Hold modules or connectors by their ends.



Important:

Electrostatic discharge (ESD) can damage your processor, disk drive and other components. Perform the upgrade instruction procedures described at an ESD workstation only. If such a station is not available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the system chassis. If a wrist strap is unavailable, establish and maintain contact with the system chassis throughout any procedures requiring ESD protection.

Safety Measures

- To avoid damage to the system, use the correct AC input voltage range.
- To reduce the risk of electric shock, unplug the power cord before removing the system chassis cover for installation or servicing. After installation or servicing, cover the system chassis before plugging the power cord.

Chapter 1 - Introduction

► Specifications

I/O CONNECTORS

RS232/RS422/RS485 functions with DB9 connector.

POWER INPUT

3.3V via M.2 connector

COMPATIBLE MODELS

All DFI systems and boards with M.2 interface

TEMPERATURE

Operating: -40oC to 85oC

Storage: -40oC to 85oC

HUMIDITY

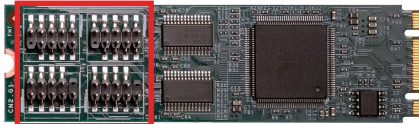


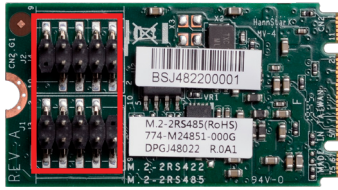
5% to 90%

FORM FACTOR

M.2 B-M Key 22mm x 80mm (4 ports)

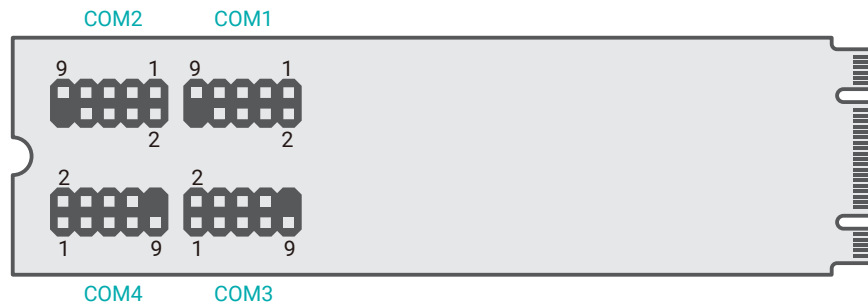
REGULATION

CE/FCC class B/RoHS

Model Name	Form Factor	Port Number	Photo
M.2-COM4	M.2 B-M key, 22mm x 80mm	4 ports	 <p>COM</p>
M.2-2RS232	M.2 B-M key, 22mm x 42mm	2 ports	 <p>COM</p>
M.2-2RS422	M.2 B-M key, 22mm x 42mm	2 ports	 <p>COM</p>
M.2-2RS485	M.2 B-M key, 22mm x 42mm	2 ports	 <p>COM</p>

Chapter 2 - Hardware Installation

► Module Layout



Pin headers for the four COM (serial) ports are located on the top side of the M.2 B+M Key 22mm x 80mm module. Cables or converter cables may be required for connection to your terminal devices.



Important:

Electrostatic discharge (ESD) can damage your board, processor, disk drives, add-in boards, and other components. Perform installation procedures at an ESD workstation only. If such a station is not available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the system chassis. If a wrist strap is unavailable, establish and maintain contact with the system chassis throughout any procedures requiring ESD protection.

► Pin Assignment

■ COM Pin Assignment

Pin	RS232	RS422	RS485
1	DCD-	RXD+	Data+
2	RD	RXD-	Data-
3	TD	TXD+	N.C.
4	DTR-	TXD-	N.C.
5	GND	GND	GND
6	DSR-	N.C.	N.C.
7	RTS-	N.C.	N.C.
8	CTS-	N.C.	N.C.
9	RI-	N.C.	N.C.

The serial ports are asynchronous communication ports with 16C550A-compatible UARTs that can be used with modems, serial printers, remote display terminals, and other serial devices.

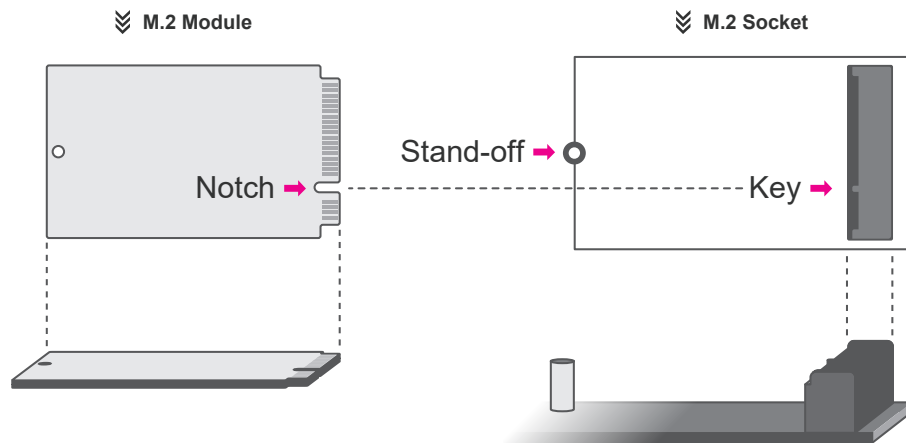
[Serial Mode Setting](#)

Configure the serial mode of the COM ports in the Device Manager.

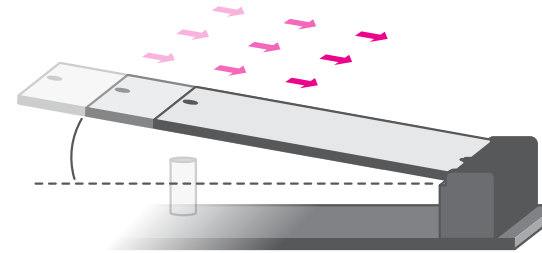
► M.2 Installation

Before installing the M.2 module into the M.2 socket, please make sure that the following safety cautions are well-attended.

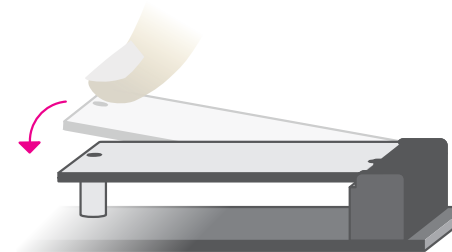
1. Make sure the PC and all other peripheral devices connected to it has been powered down.
2. Disconnect all power cords and cables.
3. Locate the M.2 socket on the system board
4. Make sure the notch on card is aligned to the key on the socket.



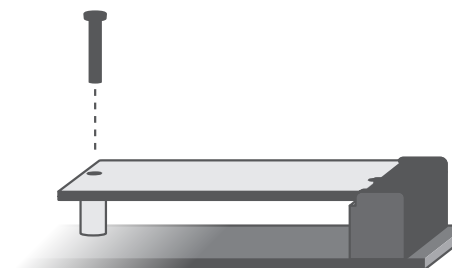
Please follow the steps below to install the card into the socket.



Step 1:
Insert the card into the socket at an angle while making sure the notch and key are perfectly aligned.



Step 2:
Press the end of the card far from the socket down until the gap between the card and the stand-off closes up.



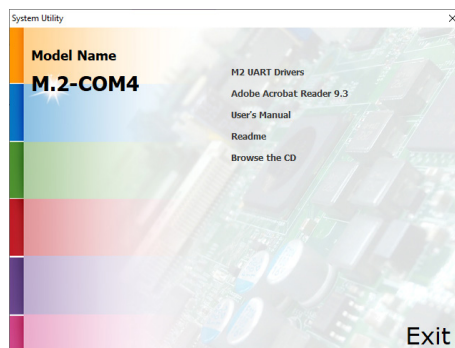
Step 3:
Screw tight the card onto the stand-off with a screw driver and a stand-off screw until the gap between the card and the stand-off closes up. The card should be lying parallel to the board when it's correctly mounted.

Chapter 3 - Software

Install drivers, utilities and software applications that are required to facilitate and enhance the performance of the system board. You may acquire the software from your sales representatives, from an optional DVD included in the shipment, or from the website download page at <https://www.dfi.com/DownloadCenter>.

► Auto-run Menu

After inserting your DVD-ROM into your optical drive or executing your DVD image, the System Utility auto-run menu may pop up. Click on the utility or driver that is to be installed on the system. Please refer to the following sections that correspond to your selection for more information.

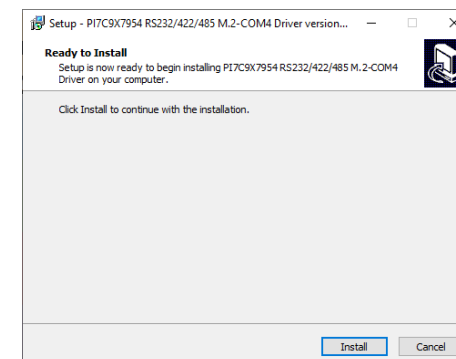


Note:

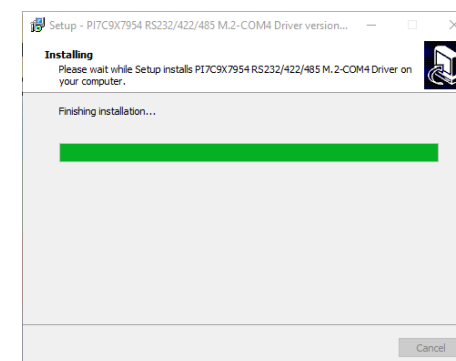
This step can be ignored if the applications are downloaded standalone files.

► M.2 UART Drivers

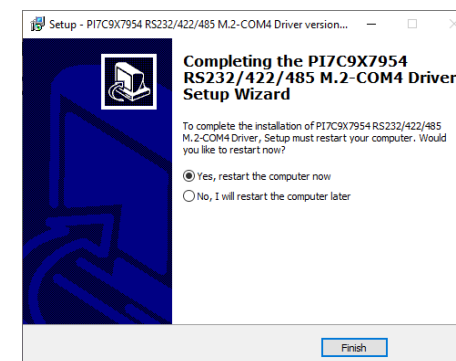
1. Setup is ready to install the utility. Click "Install".



2. Setup is in progress. Please wait for a moment.

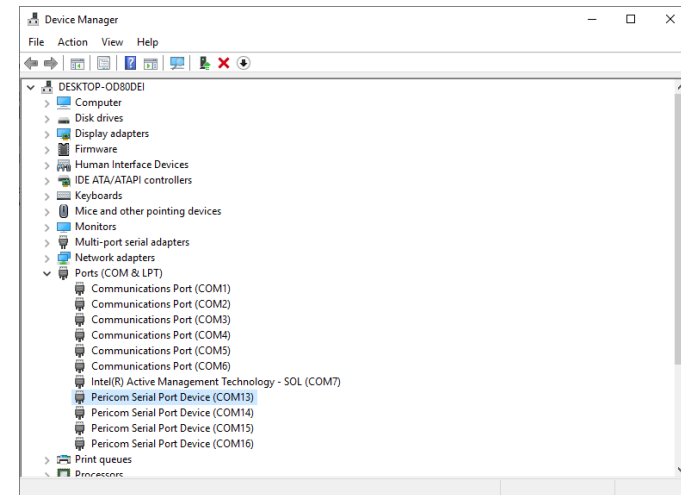
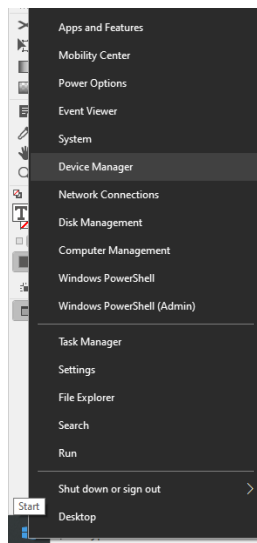


2. Installation is complete. Please restart the system before using the COM ports.

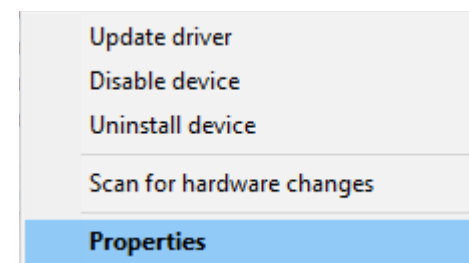


► Serial Mode Configuration

1. Boot the system into Windows OS.
2. Go to Device Manager by right clicking the "Start" icon, and click "Device Manager".
3. Find "Ports (COM&LPT)" in the list and expand it. Locate the COM ports that are named "Pericom Serial Port Device".



4. Right click on the port and and select "Properties".



- Go to the tab "Port Settings". Configure the terminal communication settings to match those of the terminal device. Click "OK" to save the settings., or click "Restore Defaults" to reset the port to default settings.

Bits per second	110, 300, 600, 1200, 2400, 4800, 9600, 14400, 19200, 38400, 57600, 56000, 115200, 128000, 230400, 256000, 460800, 921600
Data bits	4, 5, 6, 7, 8
Parity	Even, Odd, None, Mark, Space
Stop bits	1, 1.5, 2
Flow control	Xon/Xoff, Hardware, None

- Click "Advanced" to bring out additional settings.

- Click "COM Port Number" to choose which COM port is to be configured.

- Configure the buffer to correct communication speed when abnormality occurs.

Click "Transceiver Type" to change serial mode – RS232, RS422, RS485-4W, RS485-2W.

Note: 4W = Four wires; 2W = Two wires

- Click "OK" to save the settings, or click "Defaults" to reset to default settings.

