

MEC-COM-2032i

M.2 2242/2260/2280 2-port RS-232/422/485 isolated serial board

User's Manual

First Edition, December 2021



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M.2 2242/2260/2280 Serial Card

User's Manual

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Technical Support Contact Information

<http://www.cervoz.com/contact.php>

Cervoz Technology Co., Ltd.

Tel: +886-2-2911-9599

Fax: +886-2-2911-9566

Table of Contents

Chapter 1	Introduction	4
	Overviews	4
	Features	4
	Installation Flowchart	5
	Package Checklist	5
Chapter 2	DIP Switch Setting	6
Chapter 3	Hardware Installation	8
Chapter 4	Driver Installation	12
Appendix	Pin Assignments	18
	Board Side Pin Assignments	18
	Device Side Pin Assignments	19
	Technical Reference	20
	MEC-COM-2032i Specifications	20
	MEC-COM-2032i Dimensions	21
	Product Warranty Statement	22

1

Introduction

Overview

MEC-COM-2032i is a serial communication card for embedded PC. The card follows the M.2 standard which is compliant with PCI Express x 1 classification and M.2 form factor. This board fits in any host computer that has M.2 slots.

Features

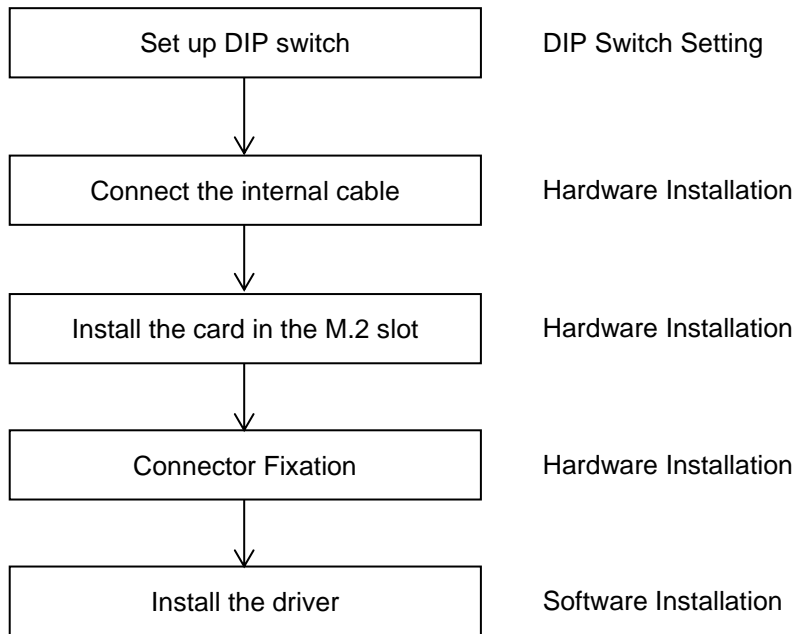
The PCI Express boards have the following outstanding features:

- Single-Lane (x1) PCI-Express with throughput up to 5.0 / 2.5Gbps
- Fully compliant with PCI-Express Base Specification Rev 2.0
- Top serial transmission performance up to 921.6 Kbps baud rate
- FIFO 256 Bytes, 15 KV ESD protections on board
- H/W, S/W automate flow control supported
- RS-232/422/485 mode selectable by DIP switch setting
- Support port to computer isolation 2.5kV

Installation Flowchart

Installation Flowchart of MEC-COM-2032i

The following flowchart provides a brief summary of the procedure you should follow to install the M.2 card:



Package Checklist

The following items are included in the M.2 board package:

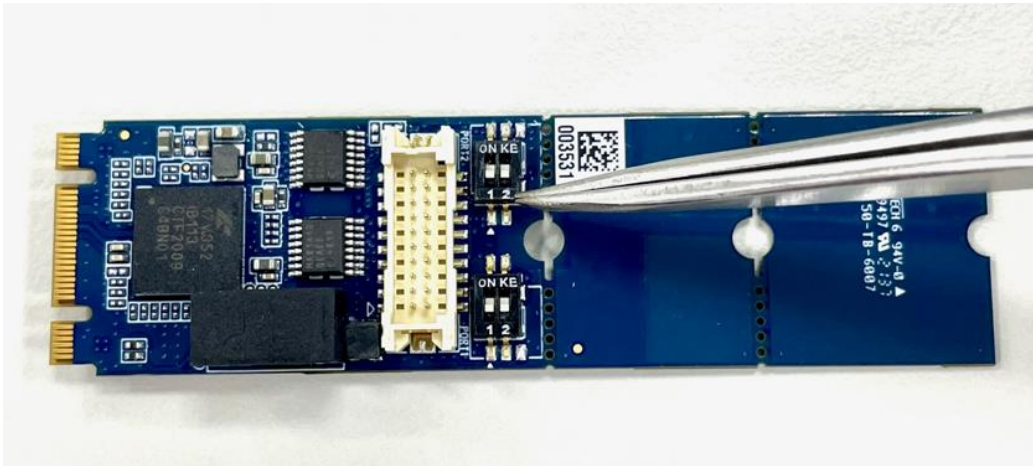
- M.2 Card x 1
- Bracket x 1
- 20Pin Internal Cable w/ two DB9 Male Connectors (30cm) x 1
- Quick Installation Guide (Printed) x 1

Note: Notify your sales representative if any of the above items are missing or damaged.

2

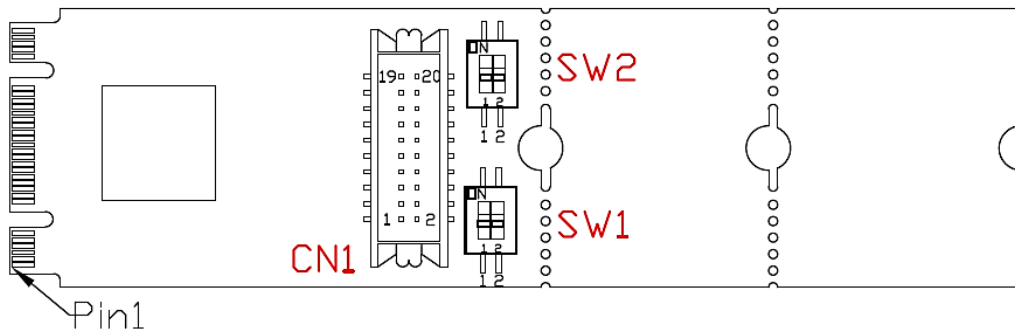
DIP Switch Setting

Set up the DIP switch

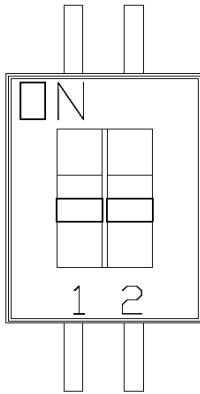


Make sure you set up the correct DIP switch before hardware installation

DIP Switch Define



Mode Select



SW1: PORT 1 RS232/RS422/RS485 MODE Select switch

SW2: PORT 2 RS232/RS422/RS485 MODE Select switch

**SW1 and SW2 are the same way to set up.

	RS232	RS422	RS485
Switch 1	ON	ON	OFF
Switch 2	OFF	ON	ON



Make sure you set up the correct DIP switch before hardware installation

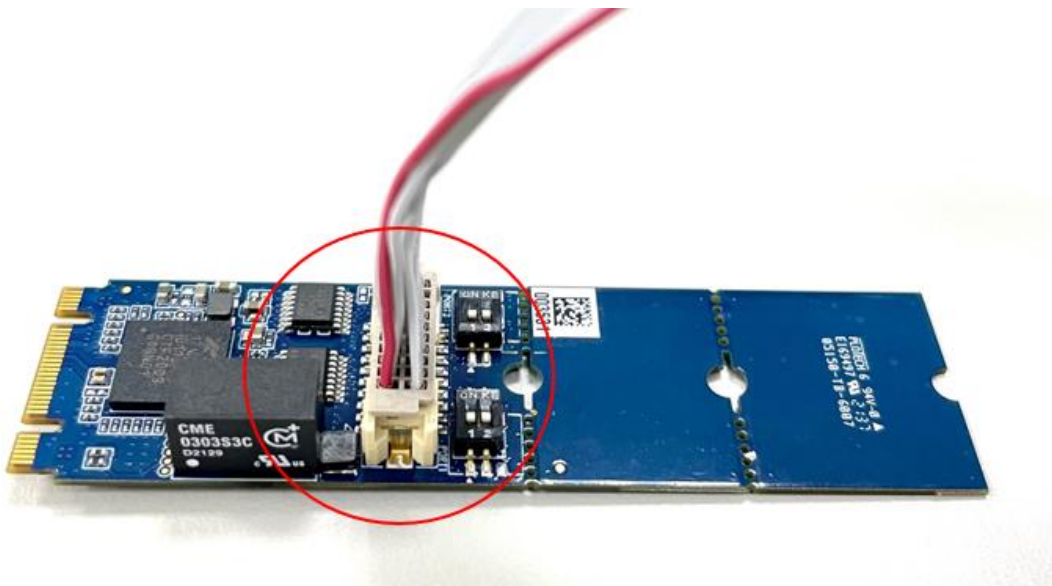
3

Hardware Installation

This chapter describes the PCI Express Series hardware installation procedure. Since the BIOS automatically assigns the PCI Express board's IRQ number and I/O addresses, you must plug in the board before installing the driver.

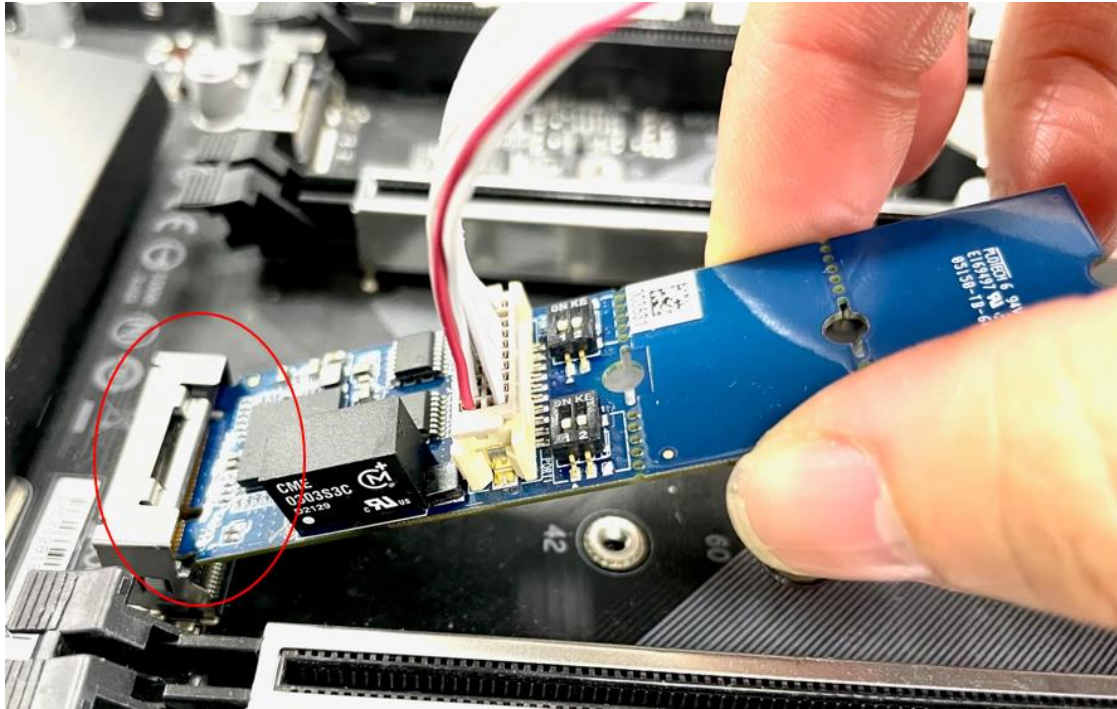
Step 1

Connect the internal cable to the card



Step 2

Install the card to the M.2 slot

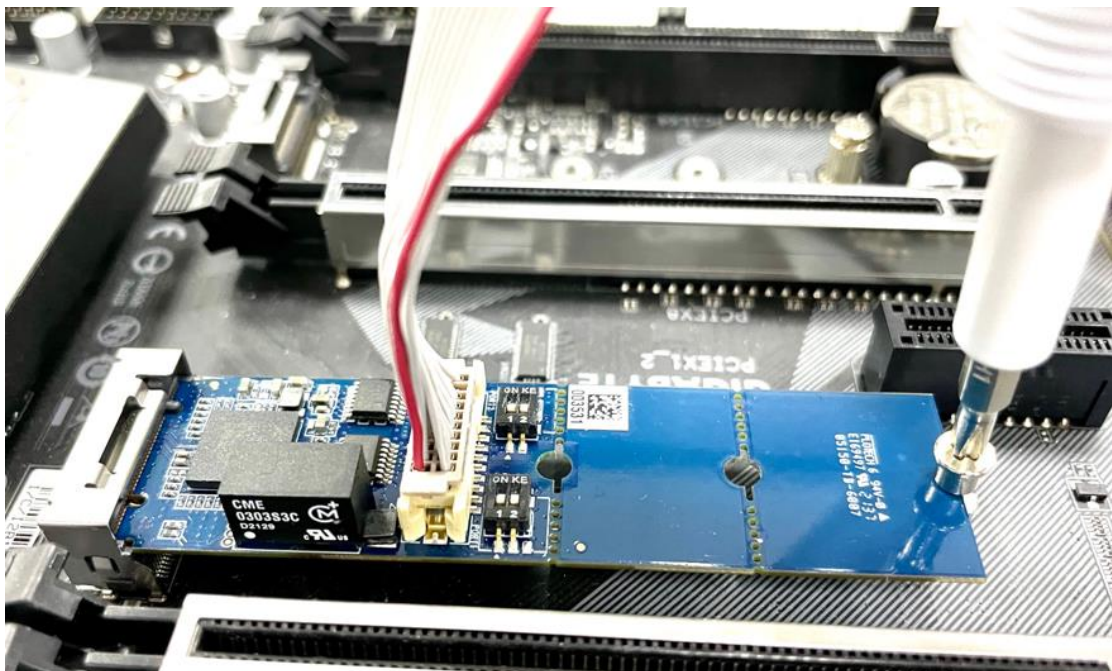


Make sure you install the card in the right position (fool-proof design)

Step 3

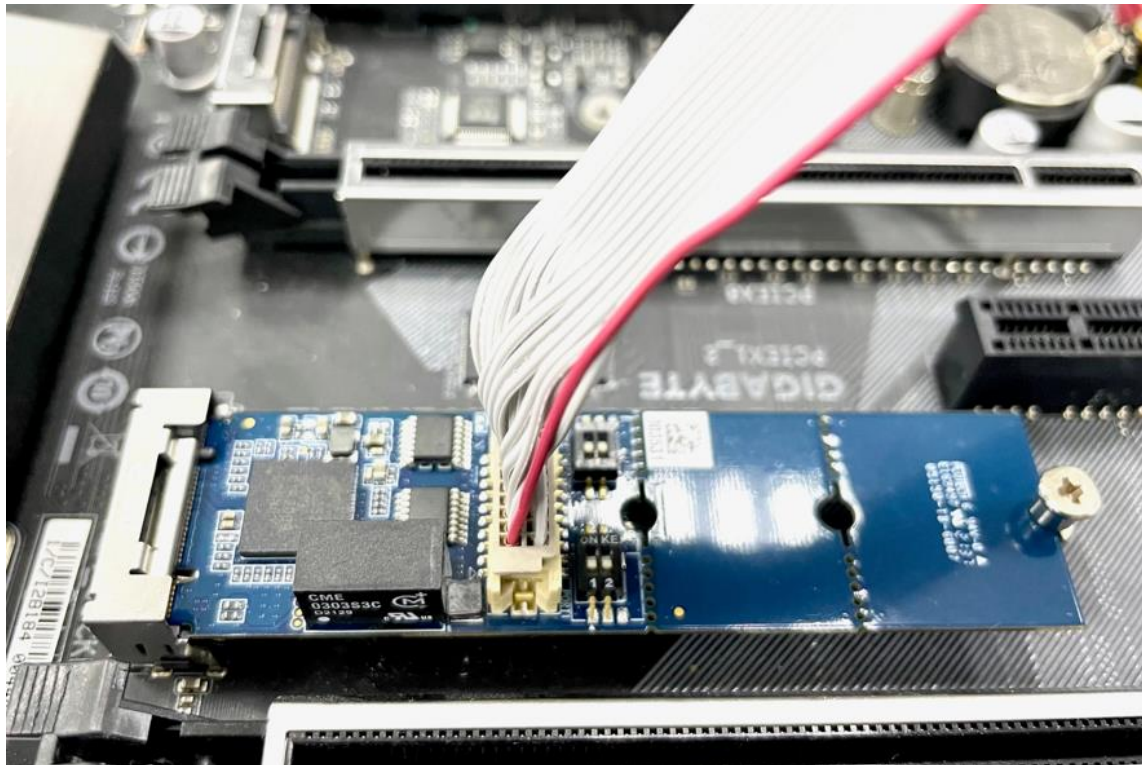
Fix the card on the motherboard

Make sure you tighten up the screws to fix the card



Step 4

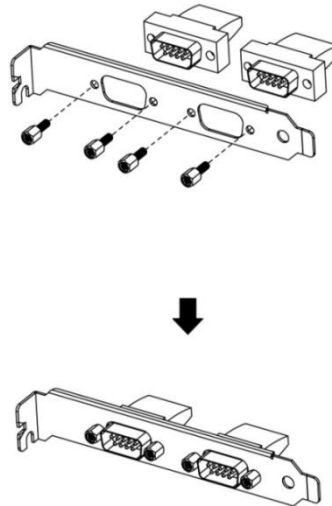
Card installation completed



Connector Fixation

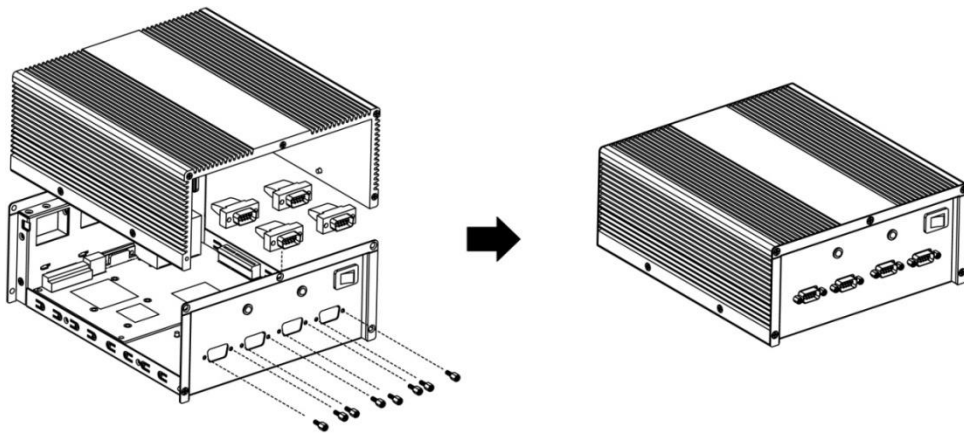
1. Standard PCI/PCIe Bracket

PCI / PCIe IO Bracket

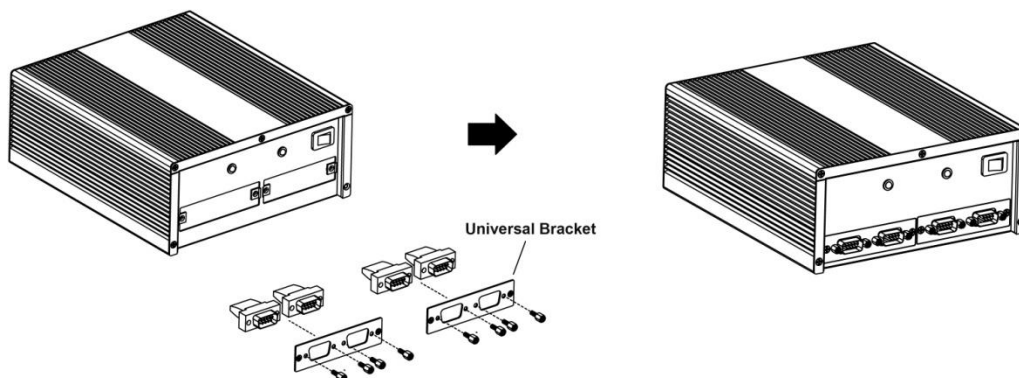


2. Customized Front / Rear Plate

Front / Rear I/O Plate



Universal Bracket



4

Driver Installation

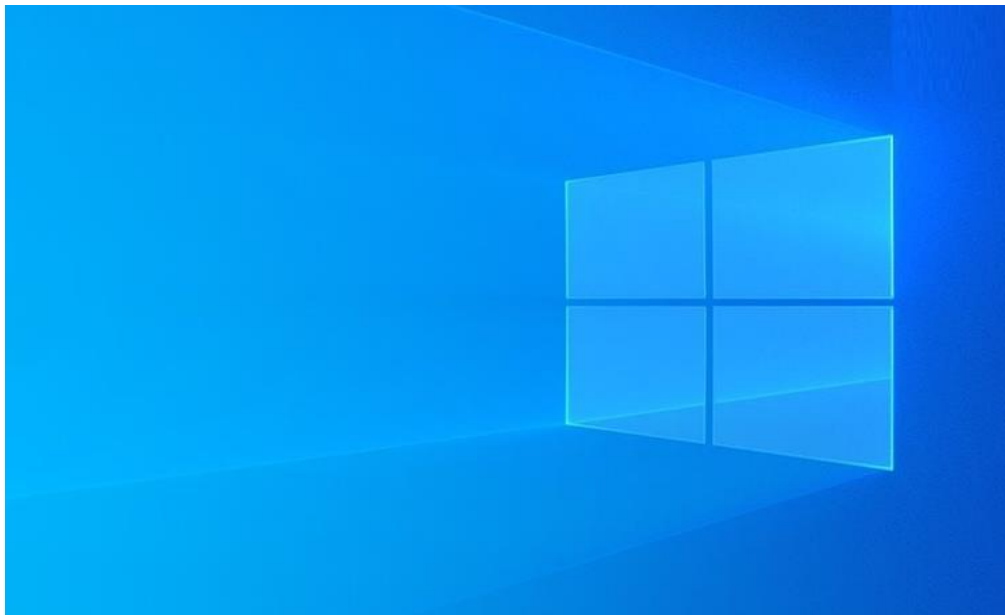
This chapter describes the procedures of installation, configuration and update/removal the driver on Windows 10.

Step 1 Turn on PC and start Windows



Please download driver from Cervoz website.

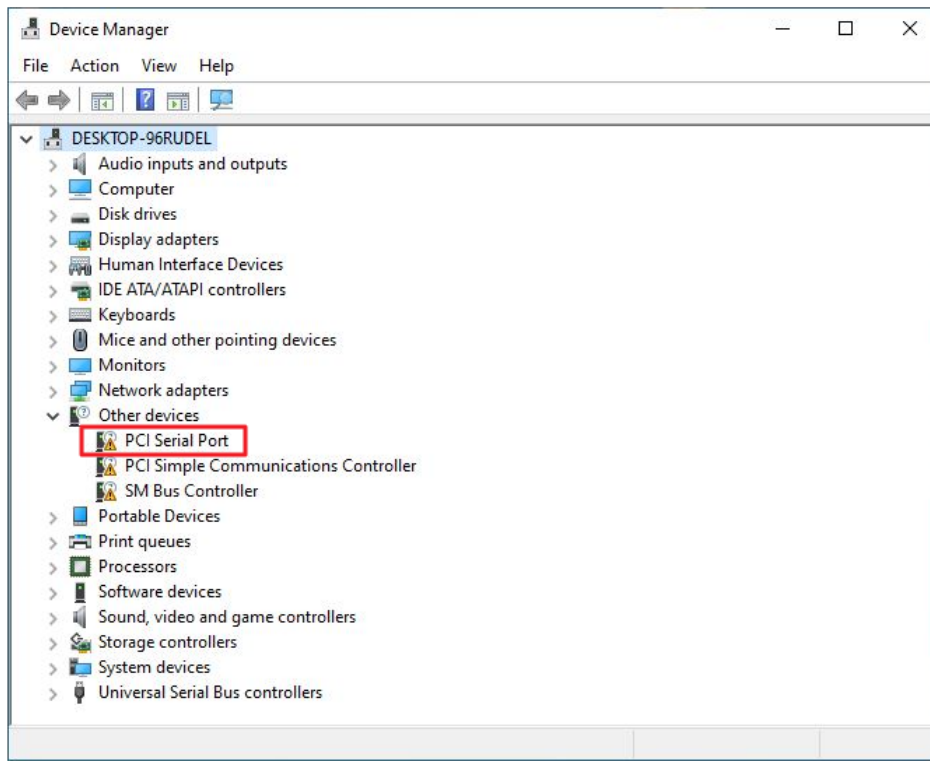
1. To ensure the installation of hardware device.



Note Win 10 OS as example

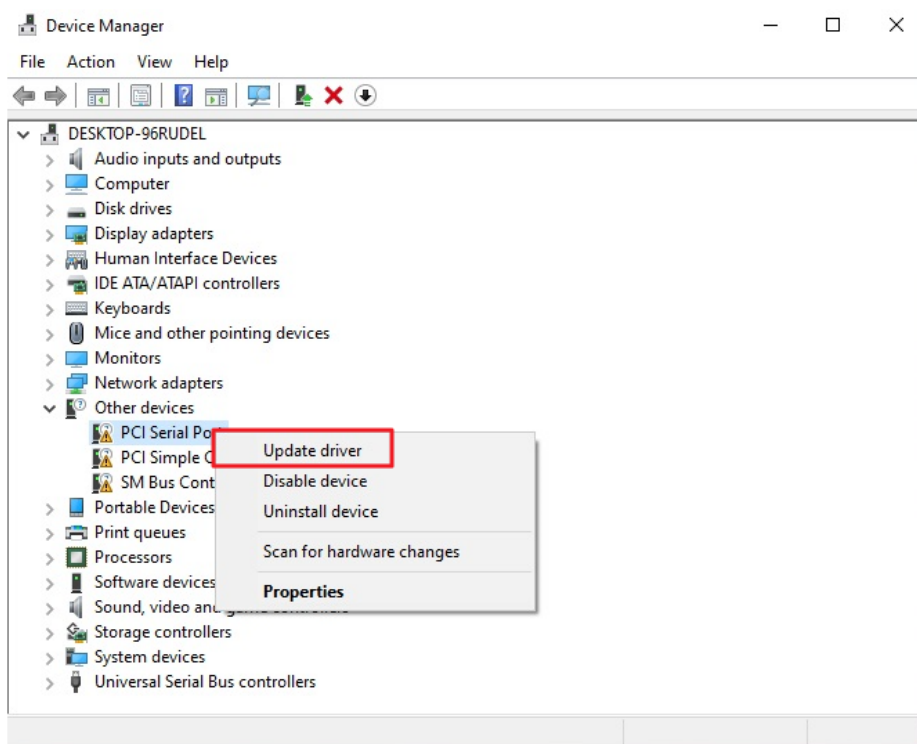
Step 2 Windows automatically detects the new device

1. Start Computer Management and click device manager.
2. Look for the PCI Serial Port.



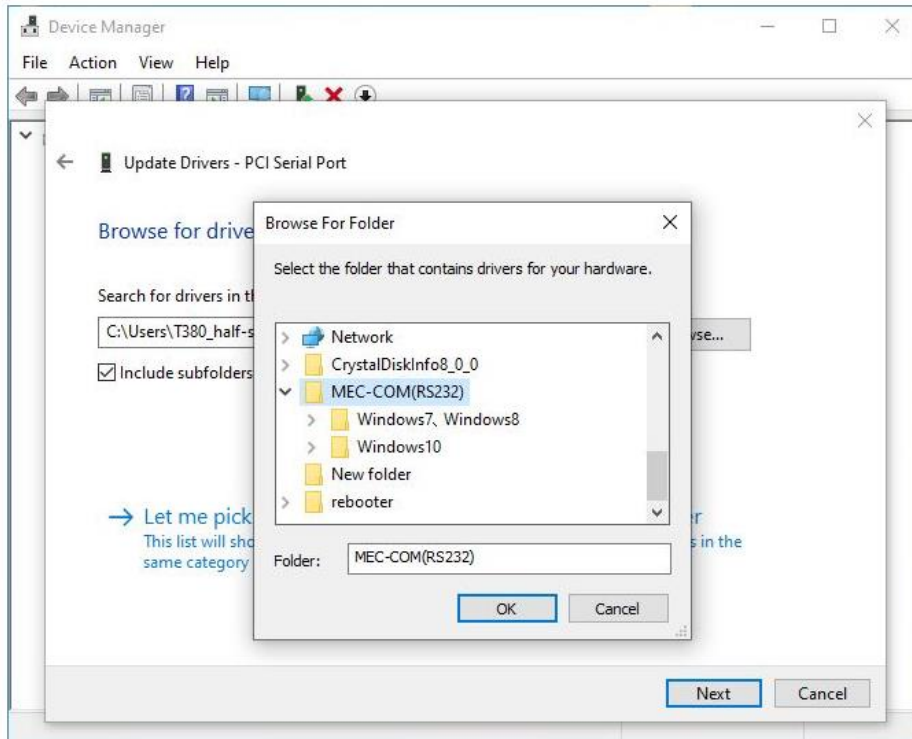
Step 3 Update driver – PCI Serial Port

1. Right click on "PCI Serial Port" and click "Update Driver".



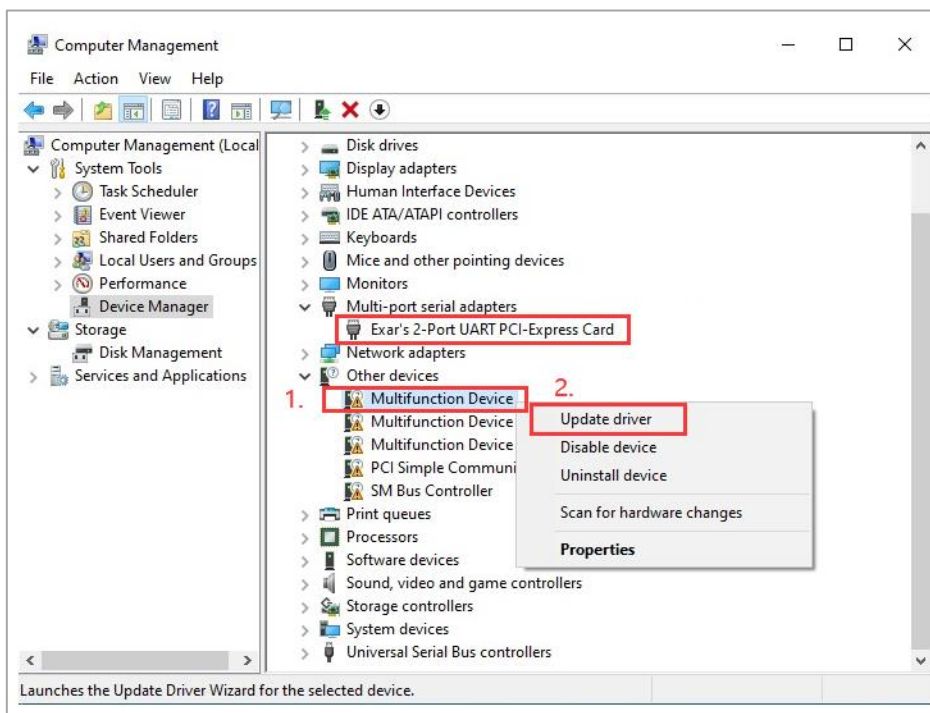
Step 4 Install driver

1. Select “Browse” and choose “MEC-COM(RS232)”.
2. Locate your driver (base on your system).
3. Click “Next” and it will attempt to install the driver.



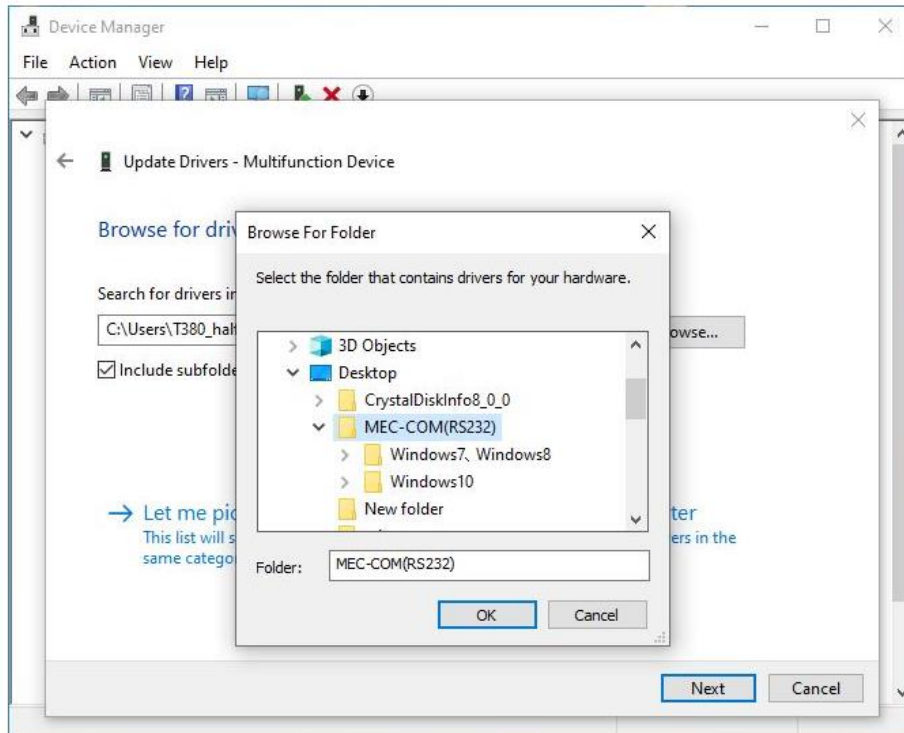
Step 5 Update driver – Multifunction Device

Multi-port serial adapters: *Exar's 2-Port UART PCI-Express Card* completed and update “Multifunction Device”.



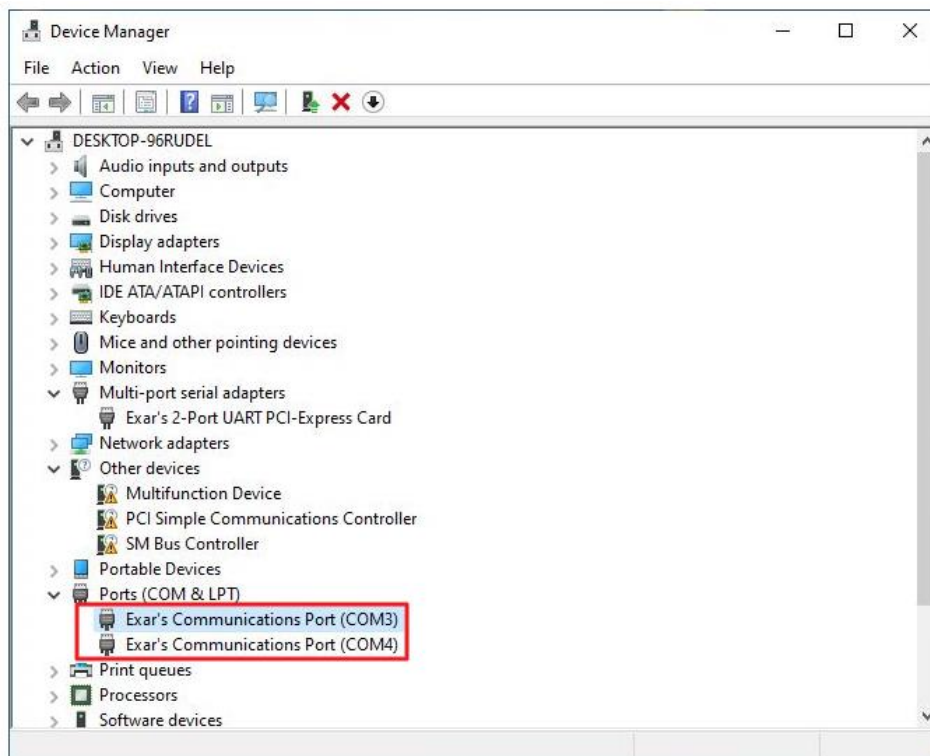
Step 6 Install driver

1. Select "Browse".
2. Locate your driver (base on your system).
3. Click "Next" and it will attempt to install the driver.



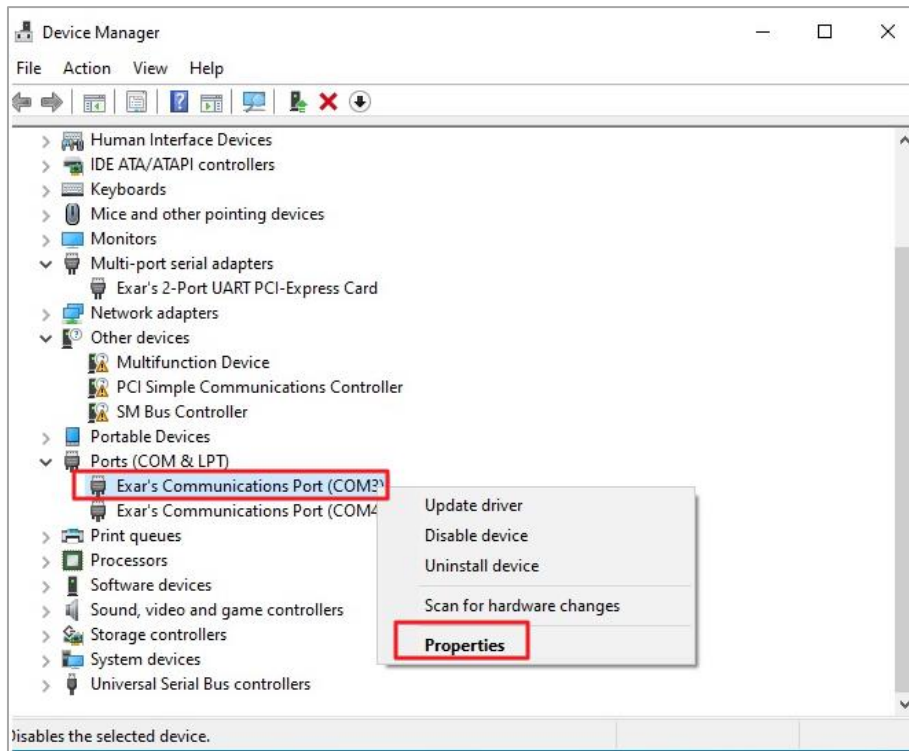
Step 7 Driver installation completed

You will see the COM ports listed on the device manager if the installation is success.



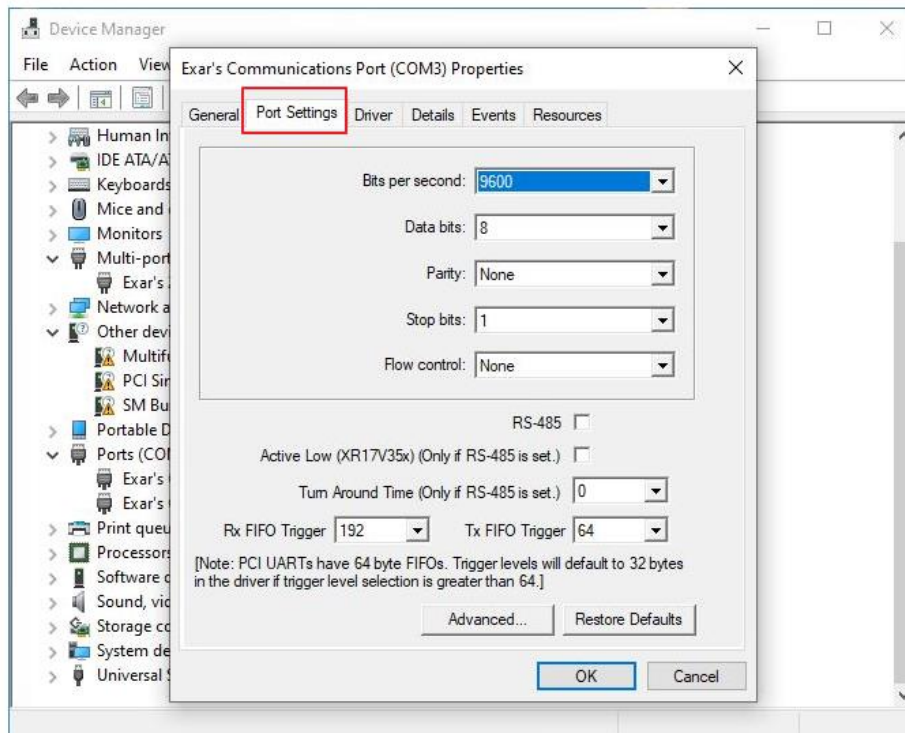
Step 8 Set up the COM ports

1. Select the COM port and right click.
2. Select "Properties".



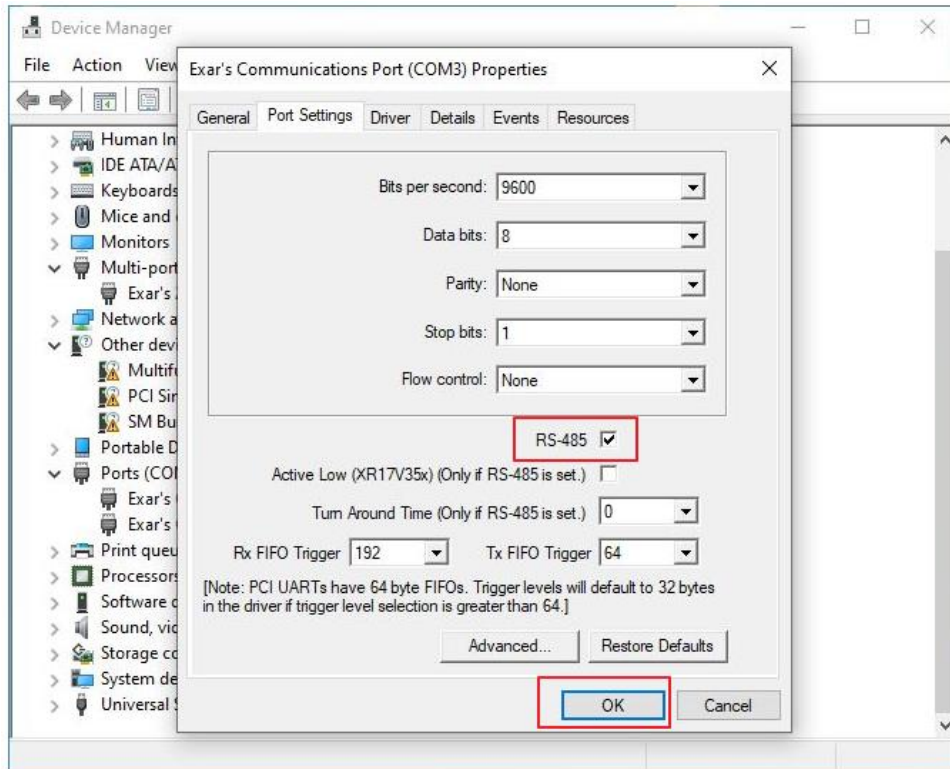
Step 9 COM ports properties settings

1. Properties settings window would pop out.
2. Select the "Port Setting" page.



Step 10 Select COM ports hardware configuration

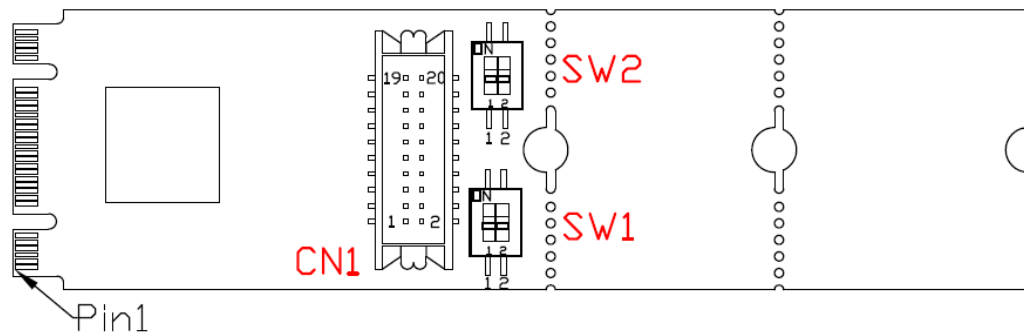
Click "RS-485" to select the hardware configuration for your COM port (RS422/485).



Note Default setting of the COM port is RS232

Appendix

□ Pin Assignments



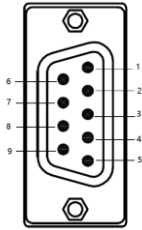
Board Side Pin Assignments

Wire to Board Connector (CN1)

Pin	Description	Pin	Description
1	DCD_1	2	DCD_2
3	DSR_1	4	DSR_2
5	RXD_1	6	RXD_2
7	RTS_1	8	RTS_2
9	TXD_1	10	TXD_2
11	CTS_1	12	CTS_2
13	DTR_1	14	DTR_2
15	RI_1	16	RI_2
17	NC	18	NC
19	GND	20	GND

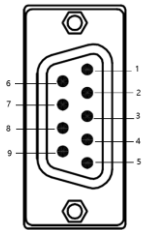
Device Side Pin Assignments

RS232/422/485 Port DB9 Male Connector-1



Pin	RS232 Description	RS-422/485 FULL DUPLEX Description	RS-485 HALF DUPLEX Description
1	DCD_1	TX_1-	DATA_1-
2	RxD_1	TX_1+	DATA_1+
3	TxD_1	RX_1+	
4	DTR_1	RX_1-	
5	GND		
6	DSR_1		
7	RTS_1		
8	CTS_1		
9	RI_1		

RS232/422/485 Port DB9 Male Connector-2



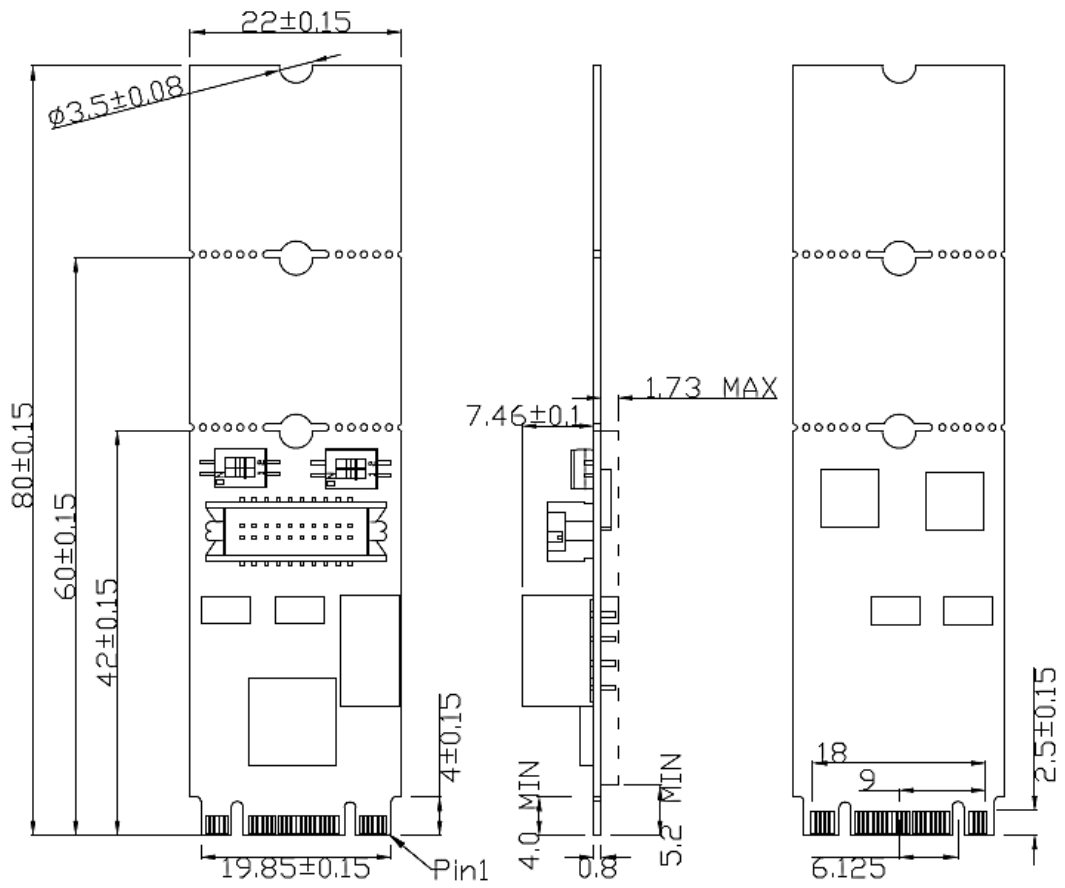
Pin	RS232 Description	RS-422/485 FULL DUPLEX Description	RS-485 HALF DUPLEX Description
1	DCD_2	TX_2-	DATA_2-
2	RxD_2	TX_2+	DATA_2+
3	TxD_2	RX_2+	
4	DTR_2	RX_2-	
5	GND		
6	DSR_2		
7	RTS_2		
8	CTS_2		
9	RI_2		

Technical Reference

MEC-COM-2032i Specifications

General	
PCI-Express Revision	PCI-Express Base Specification Rev 2.0
PCI-Express Electromechanical Revision	PCI-Express M.2 Electromechanical Rev. 1.1
Hardware	
Controllers	XR17V352 (16C550C compatible)
Bus	Single-Lane (x1) PCI-Express with throughput up to 5.0 / 2.5Gbps
Interface (Connector)	
RS-232/422/485	2 (DB9 male)
Serial Line Protection	
ESD Protection	15 KV on board
Galvanic Isolation	
Voltage	2.5kV
Performance	
Baud Rate	Asynchronous baud rates up to 921.6 Kbps
Serial Communication Parameters	
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	No Parity bit Odd Parity bit Even Parity bit Parity bit forced to 1 Parity bit forced to 0
Flow Control	RTS/CTS, XON/XOFF
Serial Signals	
RS-232	TXD, RXD, RTS, CTS, DTR, DSR, DCD, GND
RS-422	TXD+, TXD-, RXD+, RXD-
RS-485	DATA+, DATA-
Driver Support	
Operating Systems	Win 7, Win 8, Win 10
Power Requirement	
Power Consumption	155mA@3.3V
Dimensions	
Width x Length (mm)	22.00 x 42.00 / 22.00 x 60.00 / 22.00 x 80.00
Environmental Limits	
Operating Temperature	-40°C ~ 85°C
Storage Temperature	-40°C ~ 95°C
Humidity	5% ~ 95%
Regulatory Approvals	
EMC	CE, FCC
EMI	EN 55022, EN61000-3-2, EN61000-3-3, FCC Part 15 Subpart B Class B
EMS	EN 55035, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11 IEC-60950
Reliability	
Warranty	3 years

MEC-COM-2032i Dimensions



❑ **Product Warranty Statement**

Cervoz products are warranted to be free from manufacturing defects in materials and workmanship starting from the date of delivery. The actual warranty period of Cervoz products vary with product categories. Complete details can be found here:

<http://www.cervoz.com/warranty.php>

During the warranty period, we shall, at our option, either repair or replace any product that proves to be defective under normal operation.

Defects, malfunctions, or failures of the warranted product caused by damage resulting from natural disasters (such as by lightning, flood, earthquake, etc.), environmental and atmospheric disturbances, other external forces such as power line disturbances, plugging the board in under power, or incorrect cabling, and damage caused by misuse, abuse, and unauthorized alteration or repair, and the product in question is either software, or an expendable item (such as a fuse, battery, etc.), are not warranted.

RMA Instruction

- Customers must fill in Cervoz Return Merchandise Authorization (RMA) Request Form and obtain a RMA number prior to returning a defective product to Cervoz for service.
- Customers must collect all the information about the problems encountered and note anything abnormal and describe the problems on the "Cervoz Service Form" for the RMA number application process.
- Charges may be incurred for certain repairs. Cervoz will charge for repairs to products whose warranty period has expired. Cervoz will also charge for repairs to products if the damage resulted from acts of God, environmental or atmospheric disturbances, or other external forces through misuse, abuse, or unauthorized alteration or repair. If charges will be incurred for a repair, Cervoz lists all charges, and will wait for customer's approval before performing the repair.
- Customers agree to insure the product or assume the risk of loss or damage during transit, to prepay shipping charges, and to use the original shipping container or equivalent.
- Customers can send back faulty products with or without accessories (manuals, cable, etc.) and any components from the card. If the components were suspected as part of the problems, please note clearly. Otherwise, Cervoz is not responsible for the devices/parts.
- Repaired items will be shipped along with a "Repair Report" detailing the findings and actions taken.

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