



# IPC-M3202

Industrial 2 ports RS-232/422/485

M.2 (2280, Key B+M) PCI-Express Serial Card



## Introduction

SUNIX IPC-M3202, Industrial 2-port RS-232/422/485 PCI-Express M.2 Serial Card, allows users to expand two RS-232/422/485 ports on M.2 Key-M or Key-B PC system. Each serial port achieves data rates up to 921.6 Kbps and utilizes UART with an on-chip 128-bytes hardware FIFO buffer for reliable, high-speed serial I/O. With SUNIX patented Auto-Switching RS-422/485 and RS-485 AHDC™ technology, user can easily manage different serial interfaces selection and RS-485 signal direction control. SUNIX IPC-M3202 board is also provided with 15KV IEC61000-4-2 ESD Discharge Transceiver. Besides, this board supports a wide variety of operating systems, including Windows and Linux. It is the best serial communicating solution for industrial and harsh environment applications.

## Features

- Support M.2 2280 slot of Key-M or Key-B based on PCI Express
- Expands two independent RS-232/422/485 serial ports up to 921.6Kbps
- High reliable SUNIX PCI Express UART controller
- Designed to meet PCI Express Base Specification Revision 2.0
- RS-422 and RS-485 auto detect and switching technology
- AHDC/CS™ technology for collision free communication
- On-chip hardware auto flow control to guarantee no data loss
- Ultra low power consumption design for Green Environment
- 15KV ESD protection on all serial signals, IEC-61000-4-2 standard
- Plug-n-Play, I/O address and IRQ assigned by BIOS
- Certified by CE, FCC, VCCI, BSMI, RoHS, and Microsoft WHQL approval
- Support Microsoft Windows and Linux OS.

# Specifications

## Serial Communication

<b>Interface</b>	RS-232/422/485	<b>Baud rate</b>	50bps ~921.6Kbps
<b>Controller</b>	SUNIX SUN2410 (16C950 UART Compatible)	<b>Stop bit</b>	1, 1.5, 2
<b>BUS</b>	PCI Express 2.0 x 1 M.2 2280 Key B+M	<b>Parity</b>	even, odd, none, mark, space
<b>No. of Port</b>	2 ports	<b>Flow Control</b>	Xon/Xoff (software)
<b>IRQ &amp; IO</b>	Assigned by System	<b>FIFO</b>	128byte Hardware
<b>Signal</b>	RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND, RI RS-422: TxD+, TxD-, RxD+, RxD-, GND 4-wire RS-485: TxD+, TxD-, RxD+, RxD-, GND 2-wire RS-485: Data+, Data-, GND		
<b>Protection</b>	±15KV ESD IEC6000-4-2 Air Discharge ±8KV ESD IEC61000-4-2 Contact Discharge		
<b>PCB Connector</b>	WAFFER 2x5P pitch 1.0mm (180°)		
<b>Cable</b>	D-Sub 9 pin male with nuts connection cable		

## Driver Support

<b>Microsoft Client</b>	Windows 10 (X86/X64) / Windows 11 (X64)
<b>Microsoft Server</b>	Windows Server 2022 (X64)
<b>Linux</b>	Linux Kernel 2.4.x / 2.6.x / 3.x / 4.x / 5.x

## Regulatory Approvals

<b>Hardware</b>	CE, FCC, VCCI, BSMI
<b>Software</b>	Microsoft WHQL Windows <ul style="list-style-type: none"><li>● <b>Microsoft Client:</b> Windows 10 (X86/X64) / Windows 11 (X64)</li><li>● <b>Microsoft Server:</b> 2022 (X64)</li></ul>

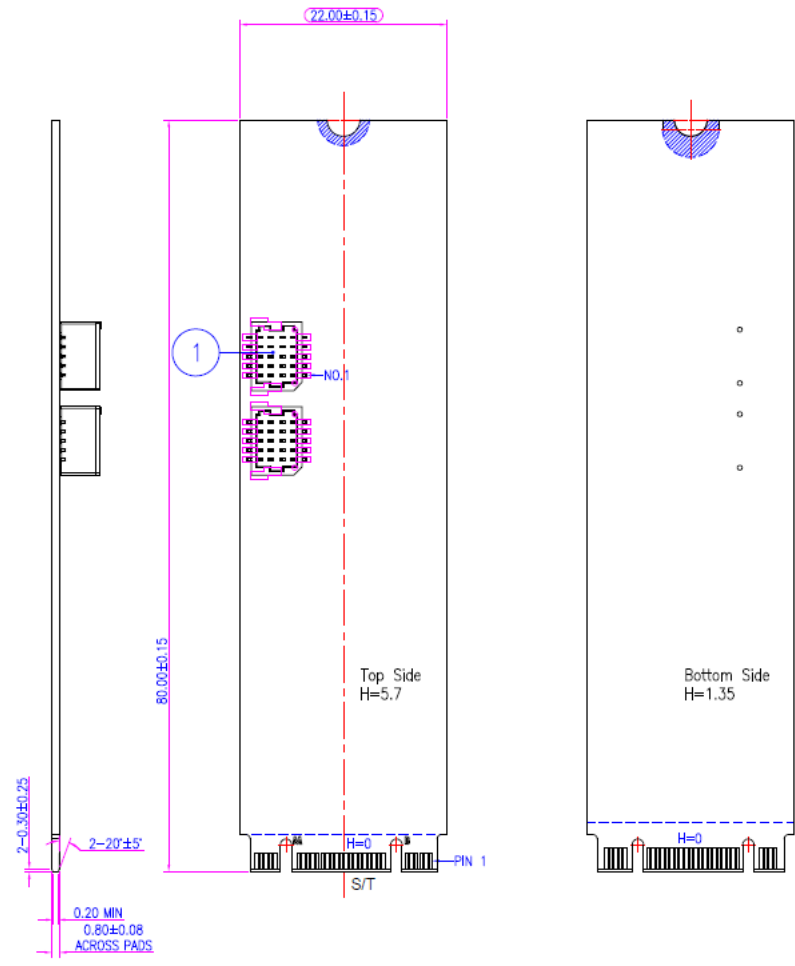
## Environment

<b>Operation Temperature</b>	-20 to 70°C (-4 to 158°F)
<b>Operation Humidity</b>	5 to 95% RH
<b>Storage Temperature</b>	-20 to 85°C (-4 to 185°F)

## Dimension

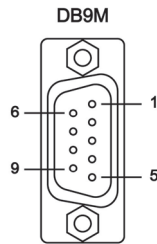
<b>PCB Dimension</b>	22 x 80 mm
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Mechanical Drawings (Unit = mm)



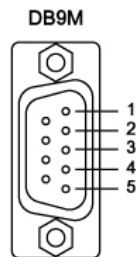
## Pin Assignment

### ■ RS-232



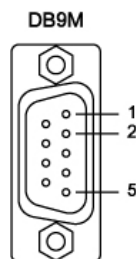
PIN	DB9M
DCD	1
RxD	2
TxD	3
DTR	4
GND	5
DSR	6
RTS	7
CTS	8
RI	9

### ■ RS-422



PIN	DB9M
TxD-	1
TxD+	2
RxD+	3
RxD-	4
GND	5

### ■ RS-485



PIN	DB9M
Data--	1
Data+	2
GND	5

## Package

- IPC-M3202 - Industrial 2 ports RS-232/422/485 M.2 (2280, Key B+M) PCI-Express Serial Card
- 2 pcs x D-Sub 9 pin male with nuts connector cable
- Quick Installation Guide

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