



## IPC-E2202S

Industrial 2 ports RS-422/485 with  
Surge PCI-Express Serial Card



### Introduction

SUNIX IPC-E2202S, Industrial 2 ports RS-422/485 with Surge PCI-Express Serial Card, allows users to expand two RS-422/485 ports on PC-based system. Each serial port achieves data rates up to 921.6 Kbps and utilizes 16C950 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-E2202S board is provided with 2KV IEC6100-4-5 Level 3 Surge Suppressor and 15KV IEC61000-4-2 ESD Discharge Transceiver. Besides, board supports a wide variety of operating systems, including Windows, Linux, DOS, and UNIX. It is the best serial communicating solution for industrial and harsh environment applications.

### Features

- Expands 2 independent RS-422/485 serial ports with communication speeds up to 921.6Kbps.
- With high reliable SUNIX SUN2212 native PCI Express 16C950 UART controller.
- Designed to meet PCI Express Base Specification Revision 2.0.
- RS-422 and RS-485 auto detect and switching technology – jumper and software free.
- 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 for all serial signals meets IEC-61000-4-2 standard.
- 2KV surge protection for all serial signals meets IEC-61000-4-5 Level 3 standard.
- Plug-n-Play, I/O address and IRQ assigned by BIOS.
- Certified by CE, FCC, VCCI, C-Tick, BSMI, RoHS, and Microsoft WHQL approval.
- Support Microsoft Windows, Linux, and DOS OS.

# Specifications

## Serial Communication

<b>Interface</b>	RS-422/485	<b>Baud rate</b>	50bps ~921.6Kbps
<b>Controller</b>	SUNIX SUN2212 (16C950 UART Compatible)	<b>Stop bit</b>	1, 1.5, 2
<b>BUS</b>	PCI Express 2.0 x 1 (single lan)	<b>Parity</b>	even, odd, none, mark, space
<b>No. of Port</b>	2-port	<b>Flow Control</b>	Xon/Xoff (software)
<b>IRQ &amp; IO</b>	Assigned by System	<b>FIFO</b>	128byte Hardware
<b>Signal</b>	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 ±4KV ESD IEC61000-4-2 Level 2 Line-to-Line 2KV Surge IEC61000-4-5 Level 3 Surge Immunity Test		
<b>PCB Connector</b>	DB9 Male		

## Driver Support

<b>Windows Client</b>	Windows XP/Vista/7/8/8.1 (X86/X64)
<b>Windows Server</b>	Windows 2000 / 2003 / 2008 / 2008 R2 / 2012 / 2012 R2 (X86/X64)
<b>Windows Embedded</b>	Windows CE 4.2/5.0/6.0/XP Embedded/POSReady 2009/POSReady 7/ Embedded System 2009/Embedded Standard 7
<b>Linux</b>	Linux 2.4.x/2.6.x/3.x
<b>DOS</b>	DOS

## Regulatory Approvals

<b>Hardware</b>	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, FCC Part 15 Class B, BSMI: CNS13438, C-Tick: CISPR22 AS/NZS, RoHS
<b>Software</b>	Microsoft WHQL Windows <ul style="list-style-type: none"> <li>● <b>Windows Client:</b> XP/Vista/7/8/8.1 (X86/X64)</li> <li>● <b>Windows Server:</b> 2000 / 2003 / 2008 / 2008 R2 / 2012 / 2012 R2 (X86/X64)</li> </ul>

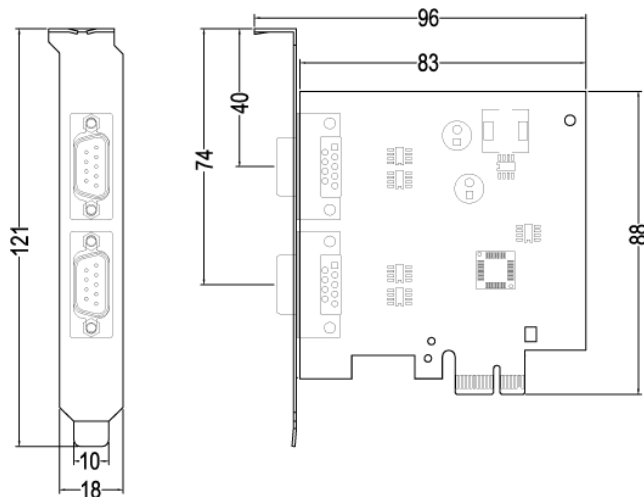
## Environment

<b>Operation Temperature</b>	0 to 70°C (32 to 158°F)
<b>Operation Humidity</b>	5 to 95% RH
<b>Storage Temperature</b>	-20 to 85°C (-4 to 185°F)

### Dimension

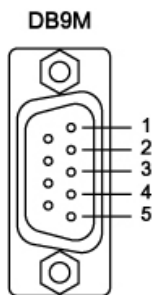
<b>PCB Dimension</b>	83 x 88 mm
<b>Bracket</b>	Standard 121 mm
<b>Bracket Space</b>	1

### Mechanical Drawings (Unit = mm)



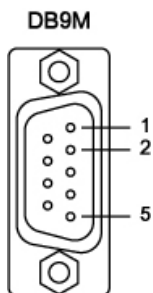
### Pin Assignment

#### ■ RS-422



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

#### ■ RS-485



PIN	DB9M
1	Data-
2	Data+
5	GND

### Package

- IPC-E2202S - Industrial 2 ports RS-422/485 with Surge PCI-Express Serial Card
- Quick Installation Guide
- Software CD Driver

## Ordering Information

Bus	Port	Connector	ESD			Surge	Isolation	Model No.
			IEC-6100-4-2			IEC-6100-4-5	IEC60747-5-5	
			Air Discharge	Contact Discharge	Line-to-Line Level 2	Surge Immunity Level 3	Hi-Pot	
PCI Express	8	DB44 Female	±15KV	±8KV	±4KV	2KV	-	IPC-E2108
							1.5KV	IPC-E2108SI
	4	DB44 Female					-	IPC-E2204S
							1.5KV	IPC-E2204SI
							-	IPC-E2204SL
	2	DB9 Male DB44 Female					1.5KV	IPC-E2204LI
							-	IPC-E2202S
							1.5KV	IPC-E2202SI
							-	IPC-E2202SL
		1.5KV	IPC-E2202LI					

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