



PCIe-S144i

PCI Express, Serial Communication Board with
4 Isolated RS-422/485 ports

Features

- Supports PCI Express x1
- Provides 4 RS-422/485 ports
- 256-byte Hardware FIFO for Each Port
- Transmission Speed of up to 921600 bps
- 256 modules max. in one RS-485 network
- Automatic RS-485 direction control
- ±4 kV ESD Protection for i versions
- 3000 V_{DC} Isolation for i versions
- Short Card Design



Introduction

The PCIe-S144i series card provides 4 RS-422/RS-485 serial ports. Uart Bridge provides automatic data direction control for RS-485 signals. Each port can be configured as either RS-485 for half-duplex or RS-422 for full-duplex communication. It supports for speed up to 921600 bps and supports full-duplex communication.

The data lines of each serial ports on i version PCIe-S cards come with photocouplers design. The on-board photo couplers use a short optical transmission path to transfer a signal between elements of a circuit, and keep the data lines electrically isolated. It can help cutting down on ground loops, common mode voltages and block voltage spikes, provide electrical isolation, and offer significant protection from serious over-voltage conditions in one circuit affecting the other.

In harsh industrial environments, the on-board ESD protection component (for i version) diverts the potentially damaging charge away from sensitive circuit to protects the computer and equipment from the sudden and momentary electric current.

Drivers provided for a broad selection of operating systems, including 32/64-bit Windows XP/2003/2008/7/8/10 and Linux Kernel 2.6.31~5.16.0.

Software

Drivers

- 32-bit and 64-bit Windows XP/2003/2008/7/8/10
- Linux

Applications

- Industrial Machinery
- Building Automation
- Restaurant Appliances
- Laboratory Equipment & Research
- Industrial Communication

Hardware Specifications

Hardware	
Connector	DB-37 (Female)
COM Ports	
Ports	4 x RS-422/485 (RS-422: TxD+, TxD-, RxD+, RxD-, RTS+, RTS-, CTS+, CTS-, GND / RS-485: Data+, Data-, GND)
Baud Rate	300 - 921600 bps
Parity	None, Even, Odd, Mark, Space
Data Bit	5, 6, 7, 8
Stop Bit	1, 1.5, 2
FIFO Size	Internal 256 bytes
Isolation	3000 V _{DC}
Power	
Consumption	440 mA @ 5 V
Mechanical	
Dimensions (mm)	101 x 114 x 22 (W x L x D)
Environment	
Operating Temperature	0 ~ +60°C
Storage Temperature	-20 ~ +70°C
Humidity	5 ~ 85% RH, Non-condensing

Pin Assignments

Pin Assignment	Terminal No.	Pin Assignment
N.C.	01	
TxD3-(A)/Data3-(A)	02	20 CTS3-(A)
GND	03	21 RxD3-(A)
CTS3+(B)	04	22 RTS3-(A)
TxD3+(B)/ata3+(B)	05	23 RTS3+(B)
CTS4-(A)	06	24 RxD3+(B)
RxD4-(A)	07	25 TxD4-(A)/Data4-(A)
RTS4-(A)	08	26 GND
RTS4+(B)	09	27 CTS4+(B)
RxD4+(B)	10	28 TxD4+(B)/Data+(B)
TxD2-(A)/Data2-(A)	11	29 CTS2-(A)
GND	12	30 RxD2-(A)
CTS2+(B)	13	31 RTS2-(A)
TxD2+(B)/Data2+(B)	14	32 RTS2+(B)
CTS1-(A)	15	33 RxD2+(B)
RxD1-(A)	16	34 TxD1-(A)/Data1-(A)
RTS1-(A)	17	35 GND
RTS1+(B)	18	36 CTS1+(B)
RxD1+(B)	19	37 TxD1+(B)/Data1+(B)

RS-422/485 Female DB-37 Connector




Pin Assignment	Terminal No.	Pin Assignment
GND	05	
RxD-(A)	04	09 CTS-(A)
RxD+(B)	03	08 CTS+(B)
TxD+(B)/Data+(B)	02	07 RTS+(B)
TxD-(A)/Data-(A)	01	06 RTS-(A)

RS-422/485 Female DB-37 to Male DB-9 Connector

Ordering Information

PCIe-S144i CR	PCI Express, Serial Communication Board with 4 Isolated RS-422/485 ports (RoHS)
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Accessories

<p>CA-4002 CR</p> 	<p>Female DB37 to Screw Terminal Board (Pitch= 3.81 mm) with DIN-rail Mounting (RoHS) Include: CA-3710 (DB37 Male to Male, 45°, 1M)</p>
<p>CA-9-3715D CR</p> 	<p>Male DB-37 to 4-port Male DB-9 Cable, 1.5 M (180°)</p>
<p>CA-9-3705 CR</p> 	<p>Male DB-37 to 4-port Male DB-9 Cable, 0.3 M (90°)</p>