USB to RS-422/485 Serial Adapter Installation Guide

Introduction

The *USB to RS-422/485 Serial Adapter* provides additional RS-422/485 serial port(s) to your systems.

Key Features and Benefits

- Compliant with Universal Serial Bus 2.0 Specification
- Supports serial port data transfer rates up to 1 Mb/s
- Built in 15KVDC ESD serial interface protection
- LED indicators for TxD/RxD activities
- Metal housing with wall mount ready

System Requirements

- Desktop or notebook computer with an available USB port

- Windows® 8 (32-/64-bit) / Windows 7 (32-/64-bit) / Vista (32-/64-bit) / XP (32-/64-bit) / Server 2003 & 2008 (32-/64-bit) / Server 2008 R2

Package Contents

- *USB to RS-422/485 Serial Adapter*
- USB cable (Type A/B)
- Termination resistor jumpers (2 for ID-SC0P11-S1, 4 for ID-SC0Q11-S1, 8 for ID-SC0R11-S1)
- Software CD & installation guide

Layout

1-Port USB to RS-422/485 Serial Adapter
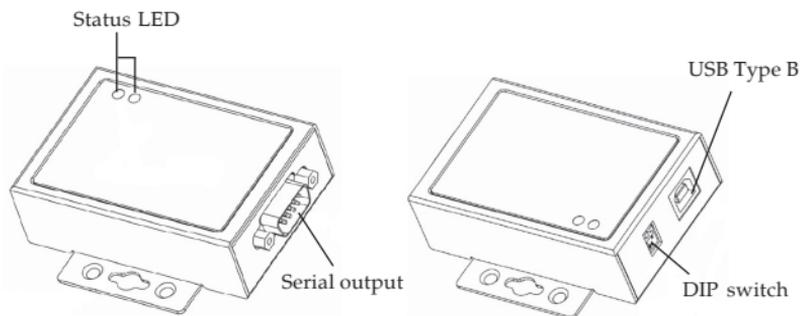
Figure 1: ID-SC0P11-S1 Layout

2-Port USB to RS-422/485 Serial Adapter
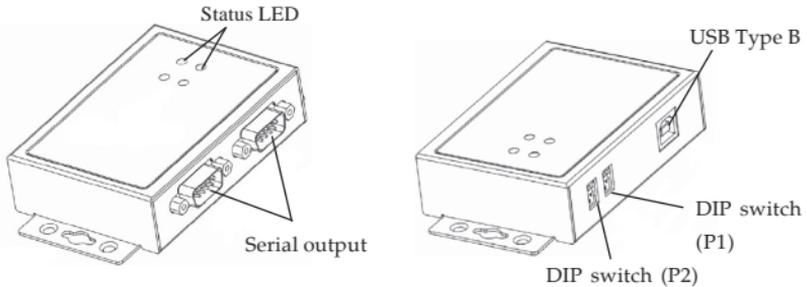
Figure 2: ID-SC0Q11-S1 Layout

4-Port USB to RS-422/485 Serial Adapter
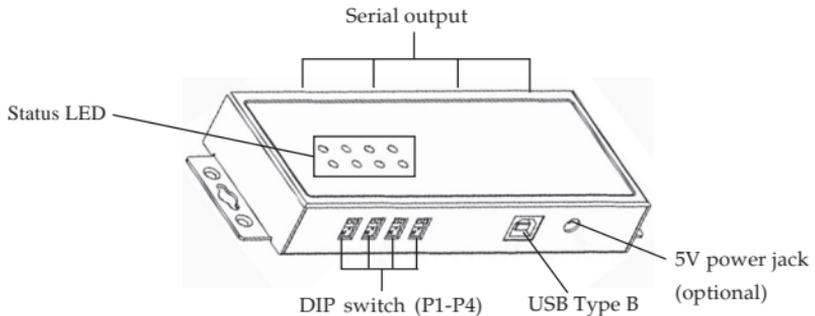
Figure 3: ID-SC0R11-S1 Layout

Status LED

- Tx: Flashing green when sending data
- Rx: Flashing yellow when receiving data

- 5V power jack (optional): Connect your power adapter here (not included).

> **Note:** Most serial devices do not require additional power through the serial port. Refer to your serial device's manual for more information.

DIP Switch

Auto RS-422/485 (1-ON, 2-OFF)

This is default setting. The COM port will automatically detect device status and control the data transmitting or receiving. See **Figure 4a**.

RS-422 or 4-Wire RS-485 (1-OFF, 2-ON)

Full duplex mode. See **Figure 4b**.

Auto RS-422/485

RS-422 or 4-Wire RS-485

Figure 4a

Figure 4b

Termination Resistor

Open the cover of the *USB to RS-422/485 Serial Adapter* to configure the jumper settings.

1. Unscrew the screw(s) at the bottom of the *Adapter*.

Bottom screw
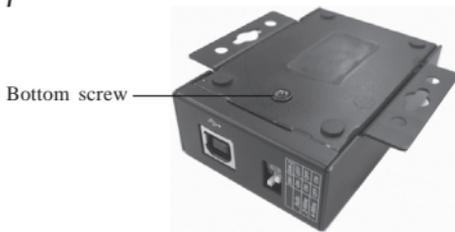
Figure 5

2. Slide the bottom cover in the direction of the serial output to open.

Serial output
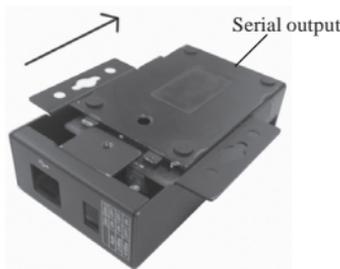
Figure 6

3. Follow the instructions on page 6 to configure the jumper settings.

Jumper Settings

RS-422 or 4-wire RS-485 working model with termination resistor.

```
          USB to RS-422/485
          Serial  Adapter                    Device
            Tx+ ────────────────────         Rx+
            Tx- ────────────────────  ≥      Rx-

            Rx+ ────────  ≥ ──────────        Tx+
            Rx- ──────────────────────        Tx-
```

2-wire RS-485 working model with termination resistor.

```
          USB to RS-422/485
          Serial  Adapter                    Device
         D + (Tx+) ───────  ≥ ────  ≥ ───     D +
         D + (Tx+) ──────────────────────     D -
```
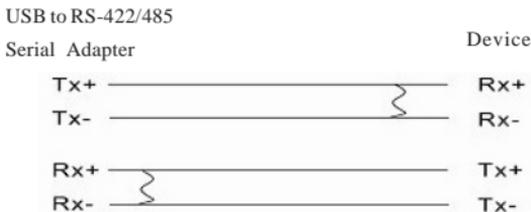
The adapter comes with Tx and Rx termination resistors for each serial port. You can configure the jumper settings to avoid impedance mismatched problems.

■■ Short □□ Open (Default)

Default jumper setting is Open (disconnect 120 ohms termination resistor across the two wires).
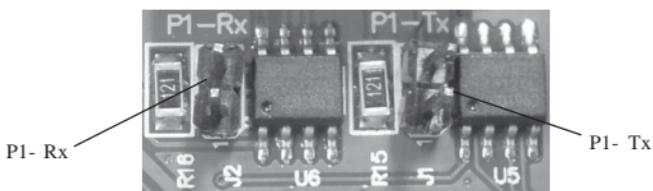
Figure 7: Tx and Rx jumper for each port

Pin Assignment
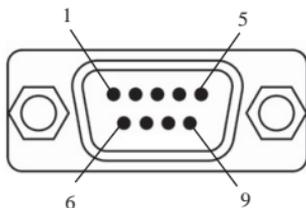
Pin	Transmission Signals		
	RS-422	4-Wire RS-485	2-Wire RS-485
1	Tx-	Tx-	D-
2	Tx+	Tx+	D+
3	Rx+	Rx+	
4	Rx-	Rx-	
5	GND	GND	GND

Note: Pins 6 to 9 have no function.

Figure 8: Pin assignment

RS-422 Wire Diagram
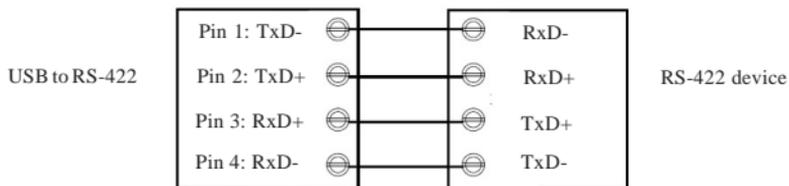
Figure 9: point-to-point / 4-wire full-duplex communication
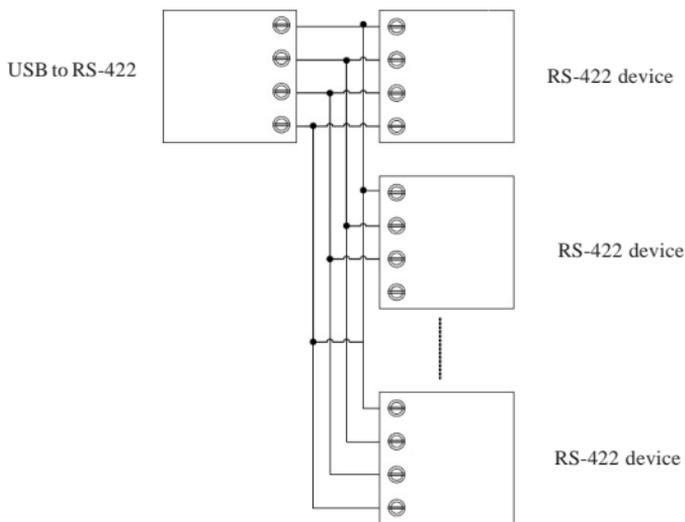
Figure 10: point-to-multi point / 4-wire full-duplex communication

RS-485 Wire Diagram

	Pin 1: TxD-	D-	
USB to RS-485	Pin 2: TxD+	D+	RS-485 device
	Pin 3: RxD+		
	Pin 4: RxD-		
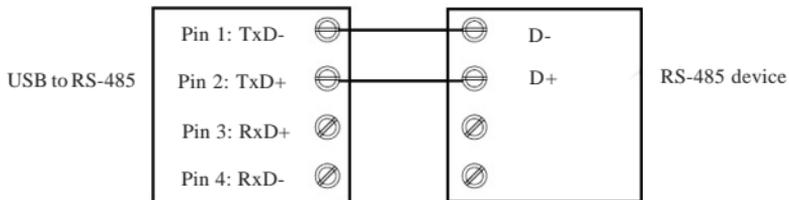
**Figure 11: Point-to-point / 2-wire half-duplex
communication**
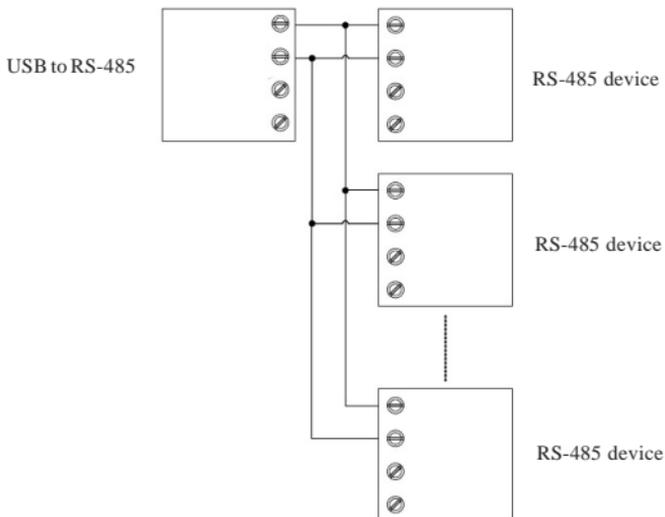
**Figure 12: Point-to-multi point / 2-wire half-duplex
communication**

Windows Installation

Follow the instructions below to install the *USB to RS-422/485 Serial Adapter* drivers.

> **Note:** Do not plug the *Adapter* to your computer until instructed to do so.

Windows 8 (32-/64-bit) / Windows 7 (32-/64-bit) / Server 2008 R2

1. Insert the driver CD. Close the CD autoplay box if prompted.
2. Press **Windows key** and **R**, type **D:\setup.exe**, and click **OK**. (Change D: to match your CD/DVD-ROM drive letter)
3. At the **User Account Control**, click **Yes.** For 2008 R2, skip this step.
4. At the **Program Compatibility Assistant**, click **close**. Skip this step if not prompted.
5. Repeat step 2 & 3.
6. Plug the adapter into the computer, click **Cancel** at the **Found New Hardware** (if prompted). The driver will install automatically.

Windows Vista (32-/64-bit)

1. Insert the driver CD. Close the CD autoplay window.
2. Click **Start**, at the **Start Search**, type **D:\setup.exe**, click **OK**. (Change D: to match your CD/DVD-ROM drive letter)
3. At the **User Account Control**, click **Allow**.
4. Repeat steps 2 & 3.
5. Plug the adapter into the computer, click **Cancel** at the **Found New Hardware** (if prompted). The driver will install automatically.

Windows XP (32-/64-bit) / Server 2003 (32-/64-bit) / Server 2008 (32-/64-bit)

1. Insert the driver CD. Close the CD autoplay window.
2. Click **Start**, **Run**, type **D:\Setup.exe**, click **OK**. (Change D: to match your CD/DVD-ROM drive letter)
3. Click **Install this software anyway**. Skip this step if not prompted.
4. Repeat steps 2 & 3 two times.

5.   Plug the adapter into the computer, click **Cancel** at the **Found New Hardware** (if prompted).

To Verify Windows Installation

1.   Go to Device Manager to verify installation.
     For Windows 8 / 7 / XP / Server 2003: Right click **Computer** or **My Computer**, click **Manage**, then click **Device Manager.**
     For Windows Vista: Right click **Computer,** click **Manage**, click **Continue**, then click **Device Manager.**
     For Server 2008 & 2008 R2: Right click **Computer**, click **Manage**, then double click **Diagnostics**, and click **Device Manager**.

2.   Double click **Ports(COM & LPT)**, **USB Serial Port** should be displayed.

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Technical Support and Warranty

QUESTIONS? SIIG's **Online Support** has answers! Simply visit our web site at *www.siig.com* and click **Support**. Our online support database is updated daily with new drivers and solutions. Answers to your questions could be just a few clicks away. You can also submit questions online and a technical support analyst will promptly respond.

SIIG offers a 3-year manufacturer warranty with this product. This warranty covers the original purchaser and guarantees the product to be free of any defects in materials or workmanship for three (3) years from the date of purchase of the product.

SIIG will, at our discretion, repair or replace (with an identical product or product having similar features and functionality) the product if defective in materials or workmanship. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Please see our web site for more warranty details.

If you encounter any problems with this product, please follow the procedures below.

A) If it is within the store's return policy period, please return the product to the store where you purchased from.

B) If your purchase has passed the store's return policy period, please follow the steps below to have the product repaired or replaced.

Step 1: Submit your RMA request.

Go to **www.siig.com**, click **Support**, then **REQUEST A PRODUCT REPLACEMENT** to submit a request to SIIG RMA or fax a request to 510-657-5962. Your RMA request will be processed, if the product is determined to be defective, an RMA number will be issued.

Step 2: After obtaining an RMA number, ship the product.

- Properly pack the product for shipping. All accessories that came with the original package must be included.

- Clearly write your RMA number on the top of the returned package. SIIG will refuse to accept any shipping package, and will not be responsible for a product returned without an RMA number posted on the outside of the shipping carton.

- You are responsible for the cost of shipping to SIIG. Ship the product to the following address:

    SIIG, Inc.
    6078 Stewart Avenue
    Fremont, CA 94538-3152, USA
    RMA #: _____

- SIIG will ship the repaired or replaced product via Ground in the U.S. and International Economy outside of the U.S. at no cost to the customer.

About SIIG, Inc.

Founded in 1985, SIIG, Inc. is a leading manufacturer of IT connectivity solutions (including Serial ATA and Ultra ATA Controllers, FireWire, USB, and legacy I/O adapters) that bridge the connection between Desktop/Notebook systems and external peripherals. SIIG continues to grow by adding A/V and Digital Signage connectivity solutions to our extensive portfolio. SIIG products offer comprehensive user manuals, many user-friendly features, and are backed by an extensive manufacturer warranty. High quality control standards are evident by the overall ease of installation and compatibility of our products, as well as one of the lowest defective return rates in the industry. SIIG products can be found in computer retail stores, mail order catalogs, through major distributors, system integrators, and VARs in the Americas and the UK, and through e-commerce sites.