RS-232 to RS-422/485 Converter Installation Guide

Introduction

SIIG's *RS-232 to 422/485 Converter* converts RS-232 signals to RS-422/485 compatible signal. It offers surge protection for your RS-422/485 serial device and 15KV ESD protection for your RS-232 serial device.

Key Features and Benefits

- 500W surge protection
- 3KV isolation protection (ID-SC0S11-S1 only)
- 15KV ESD protection for RS-232
- Supports up to 115.2Kbps data throughput
- Compatible with EIA/TIA RS-232C & RS-485/RS-422 standards
- Port powered from RS-232 data line
- Transmit up to 4000ft (1.2km) at 19,200bps, depending on the power provided from the RS-232 port

04-0930A

Package Contents

- *RS-232 to RS-422/485 Converter*
- 5-pin terminal block
- 2-pin terminal block and 12V/2A Power adapter (ID-SC0S11-S1 only)
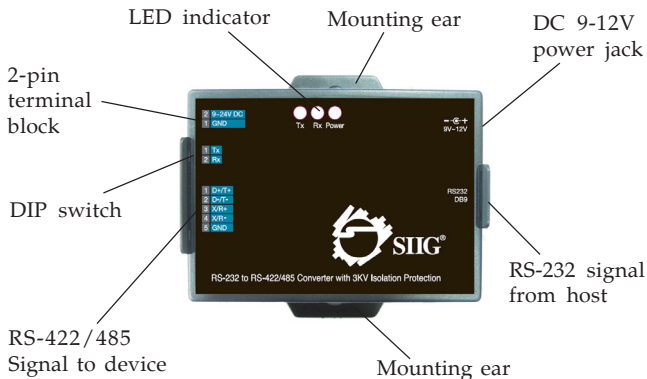- Installation guide

Layout

ID-SC0S11-S1

Figure 1: ID-SC0S11-S1 Top Layout

2-pin terminal
block

DIP
switch

5-pin terminal block
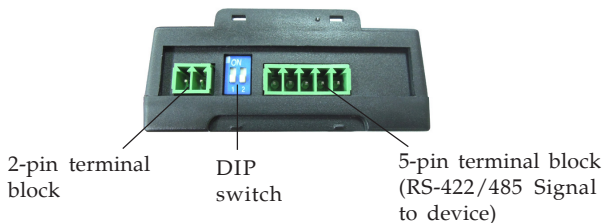(RS-422/485 Signal
to device)

Figure 2: ID-SC0S11-S1 Side Layout

- **LED Indicator**

   Tx: On when transmitting data

   Rx: On when receiving data

   Power: On when the *Converter* is powered
   up

- **DIP Switch**

   The DIP switch can be adjusted to avoid
   impedance mismatch problems. Move DIP
   Switch 1 and 2 to **ON** to enable 120 ohms
   terminal resistor.

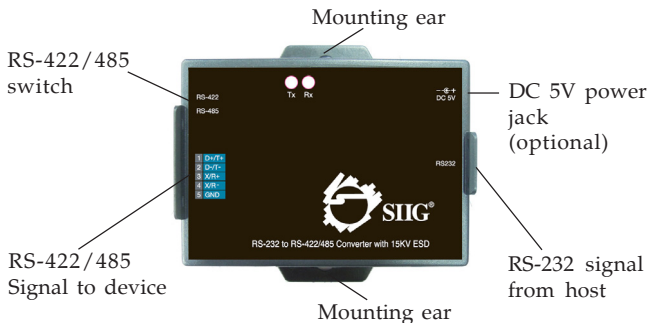**Figure 3: DIP switch**

ID-ST0T11-S1

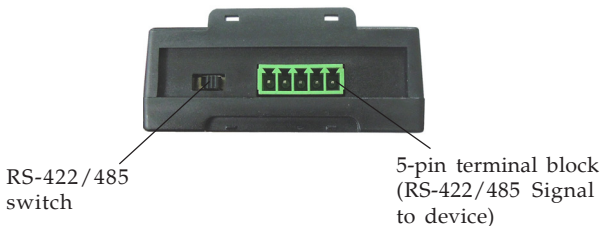**Figure 4: ID-SC0T11-S1 Top Layout**

Figure 5: ID-SC0T11-S1 Side Layout

- **LED Indicator**

  Tx: On when transmitting data

  Rx: On when receiving data

Hardware Installation

1. Connect the power source or use standard RS-232. Refer to **Powering the Converter** below for more details.

2. Connect *Converter* with host PC.

3. Connect to the RS-422 or RS-485 serial device to the *Converter*. Refer to page 7 to 9 for **Pin Assignment** and **RS-422/485 Wiring Diagram**.

Powering the Converter

ID-SC0S11-S1 needs to be powered before use. Please power the *Converter* by connecting an external power adapter to the DC power jack or wiring through the included 2-pin terminal block.

> **NOTE**: Please do not use a power adapter and 2-pin terminal block simultaneously.

DC Power Jack (9-12VDC)

Plug the power adapter into a reliable power source then connect it to the *Converter*'s DC power jack. See **Figure 6**.
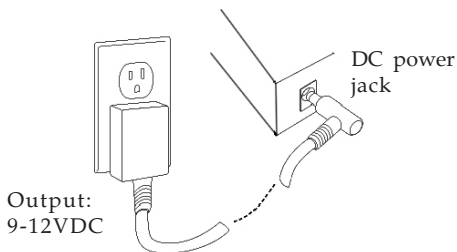
Figure 6: DC In

2-Pin Terminal Block (9-24VDC)

1. Plug the included 2-pin terminal block into the *Converter*'s terminal block connector. See **Figure 7**.
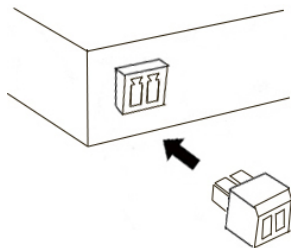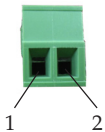

Figure 7: Power Terminal

2. Refer to the **Pin Assignment** below for wiring the power adapter.

1	GND
2	9-24VDC

Figure 8

Pin Assignment
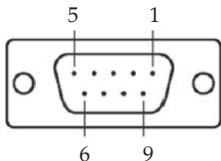
Pin	Name
1	CD
2	RX
3	TX
4	DTR
5	Ground
6	DSR
7	RTS
8	CTS
9	RI

Figure 9: DB9 Pin assignment

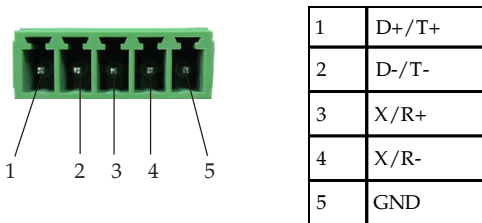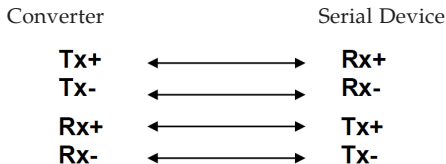| 1 | D+/T+ |
2	D-/T-
3	X/R+
4	X/R-
5	GND

Figure 10: 5-pin terminal block pin assignment

RS-422/485 Wiring Diagram

NOTE: For ID-SC0T11-S1, please adjust the RS-422/485 switch before wiring. Move the switch to left for RS-422; move the switch to right for RS-485.

RS-422 Wiring

Converter   Serial Device

Tx+ ←→ **Rx+**
Tx- ←→ **Rx-**

Rx+ ←→ **Tx+**
Rx- ←→ **Tx-**

RS-485 Wiring

Converter   Serial Device

    D+   ←————————→   **D+**

    D-   ←————————→   **D-**
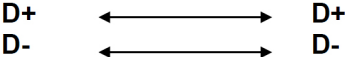
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Technical Support and Warranty

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 5-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 five (5) 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 <u>SIIG RMA</u> 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.

PRODUCT NAME

RS-232 to RS-422/485 Converter

FCC RULES: TESTED TO COMPLY WITH FCC PART 15, CLASS B
OPERATING ENVIRONMENT: FOR HOME OR OFFICE USE

FCC COMPLIANCE STATEMENT:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

THE PARTY RESPONSIBLE FOR PRODUCT COMPLIANCE

SIIG, Inc.
6078 Stewart Avenue
Fremont, CA 94538-3152, USA
Phone: 510-657-8688