

SSI-300-W Wiegand interface board

Quick Start Guide

Revision 2
8 June 2007

Introduction

The SSI-300-W is a board designed to connect Wiegand compatible devices to the RS-485 reader network used by the SDC-550 Multiple door controller, the SDC-510 Single door controller and the SEB-720 Remote IO board.

It mimics an SSR-201 proximity reader on the RS-485 side and has a Wiegand host connection on the other side, which allows it to translate data between the two standards.

The unit is addressed on the RS-485 reader network using the rotary dipswitch. There are two LEDs to indicate the status of the device.

It requires a 12Vdc power source, allowing it to then provide either 12Vdc or 5Vdc power to the Wiegand device depending on which is required.

This device has been designed to be used with the following devices:

- SDC-550 controller board (Primary purpose).
- SDC-510 Single door controller.
- SEB-720 Remote IO board
- And any Wiegand compatible device

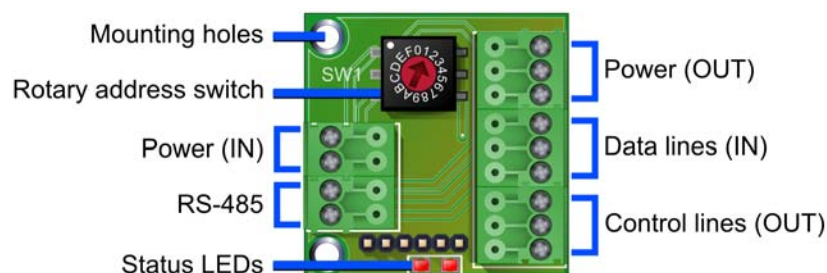
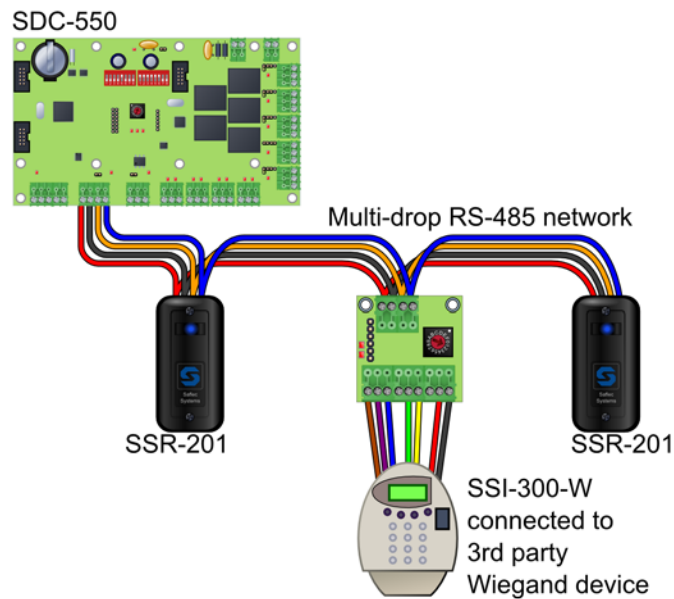


Figure 1

SSI-300-W with feature labels

**Figure 2**

System layout showing Wiegand-compatible device and SSI-300-W interface board

Step 1: Set the address using the address switch

The SSI-300-W communicates with the master device (e.g. SDC-550 controller) via a multi-drop RS-485 communications network as if it was an SSR-201 proximity card reader. Each device on this network requires a unique address for communications and identification. Duplicate addresses will cause communication problems.

The address of this interface board can be a number from 0 to F (0 to 15). This setting can be adjusted using the rotary dipswitch on the board. Turn the dial until the arrow points to the address that you wish to assign to the interface board.

**Figure 3**

Address switch with address 1 selected

Note: This address of the interface board will be configured to be the address of a reader in the SACS software.

Step 2: Connect the RS-485 reader network

Connect the RS-485 network to the other readers or compatible devices (e.g. the SSI-300-W Wiegand interface board) on the line (See Figures 2, 4 and 6). If this is the first device on the line, connect it to the controller board (SDC-550, SDC-510 or SEB-720).

Each device in the network will have a positive (A) and a negative (B) connector which connects to the corresponding line on the reader network. The RS-485 connections are always made this way, so all devices on the line will be wired in the same way.

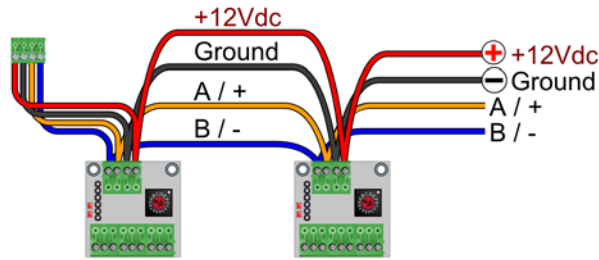


Figure 4

RS-485 wiring diagram showing connection to controller and another SSI-300-W board.

Step 3: Connect the Wiegand device

The Wiegand device communicates with the SSI-300-W via six signalling lines. These lines can be broken into two groups:

- The data lines (Data 0, Data 1 and Present)
- The control lines (Red LED, Green LED and Buzzer)

Connect these lines ensuring that the correct cables are used.

Note: Make sure that the power is switched off before connecting these cables.

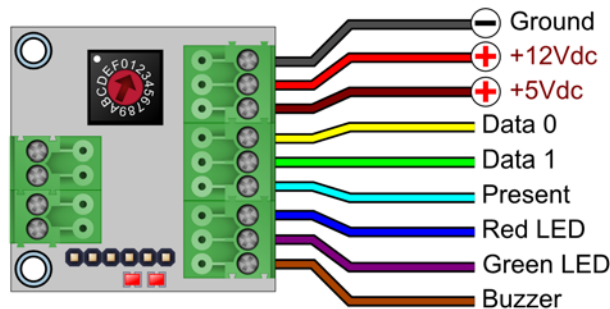


Figure 5

Wiring diagram for the Wiegand connections on the SSI-300-W interface board.

Step 4: Connect the power

The interface board must be powered by a +12Vdc power supply capable of supplying both 30mA for the interface board and the power requirements for the attached Wiegand device. The Wiegand device can also be powered separately, should this be more convenient.

Ensure that all connections are correct before connecting the power. Note that the power can be taken from the controller, although the number of devices that can use the power and the distance of the cables are limited as the voltage drop over distance might cause the interface board to have insufficient power.

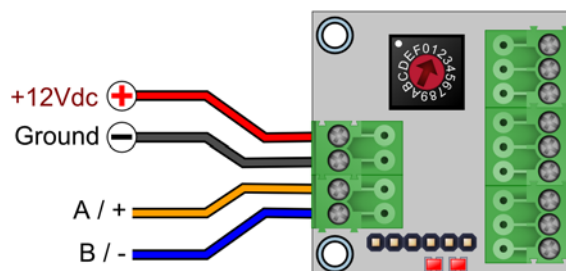


Figure 6

Wiring diagram for the Power and RS-485 connections on the SSI-300-W interface board.

Product specifications

Power requirements

Operating Voltage (DC)	10 to 14 Vdc
Maximum Current	30 mA (+ Wiegand Device power requirements)

Environmental characteristics

Operating Temperature	0°C to +70°C
Storage Temperature	-10°C to +80°C

Digital Outputs (Wiegand)

Specification:	Open collector transistor output with 4k7 Pull-up Resistor to 5V DC.
Max Voltage on terminal	-2 to +20V referenced to ground
Max Load	100ma

Digital Inputs (Wiegand)

Specification:	TLL input with 4k7 Pull-up Resistor to 5V DC.
Max Voltage on terminal	-10 to +20V referenced to ground
V Input Low	< 1V
V Input High	> 3V

Wiegand settings

Wiegand length	34 bits
Data length	32 bits
Site code length	0 bits (No site code)
Start parity bit	Even parity over the first 16 data bits
Stop parity bit	Odd parity over the last 16 data bits

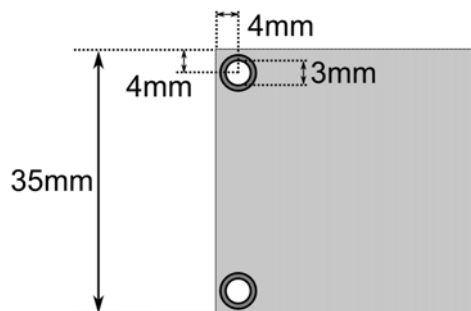


Figure 7

Locations of the mounting holes on the SSI-300-W.