

# R A D I O N I C S

## D8210 Wiegand Reader Interface Module Operation and Installation Instructions

### Features

- Provides direct interface of 26 bit Wiegand card readers to the D8112A
- Four card readers (on two doors) can be controlled by each D8210
- Each D8112A can support two D8210 Wiegand Interface Modules
- Simple wiring interface to D8112A Control/Communicator

### Description

The D8210 Interface Module can interface with Wiegand compatible readers having the Sensor Engineering "2601" standard output format (one parity bit, 24 data bits, followed by an additional parity bit). The D8210 is connected directly to the D8112A Control/Communicator. Each interface controls two doors (either A & B or C & D, selected by a jumper). Two readers can be paralleled on each door providing both exit and entrance access for two doors (Card Readers A1, A2 and B1, B2).

### Installation

Install the D8210 in a D8103, D8109, or D8108A enclosure in either the far left position on the top, the upper position on the right side of the enclosure (or use a D137 Mounting Bracket). Remove the hole knockouts with a screwdriver and pliers, and align the Module to one of these mounting locations. Fasten the D8210 in place with the three screws provided.

The Interface Module has two terminal strips. One strip connects to the D8112A and the other is called the Card Reader/Relay Terminal Strip.

The Card Reader/Relay Terminal Strip is divided into two areas. The top section contains terminals for connecting data and power to the card readers (up to 4). The lower half of the Card Reader/Relay Terminal Strip contains four Form C relays used to connect door strikes and optional LED indicators or buzzers.

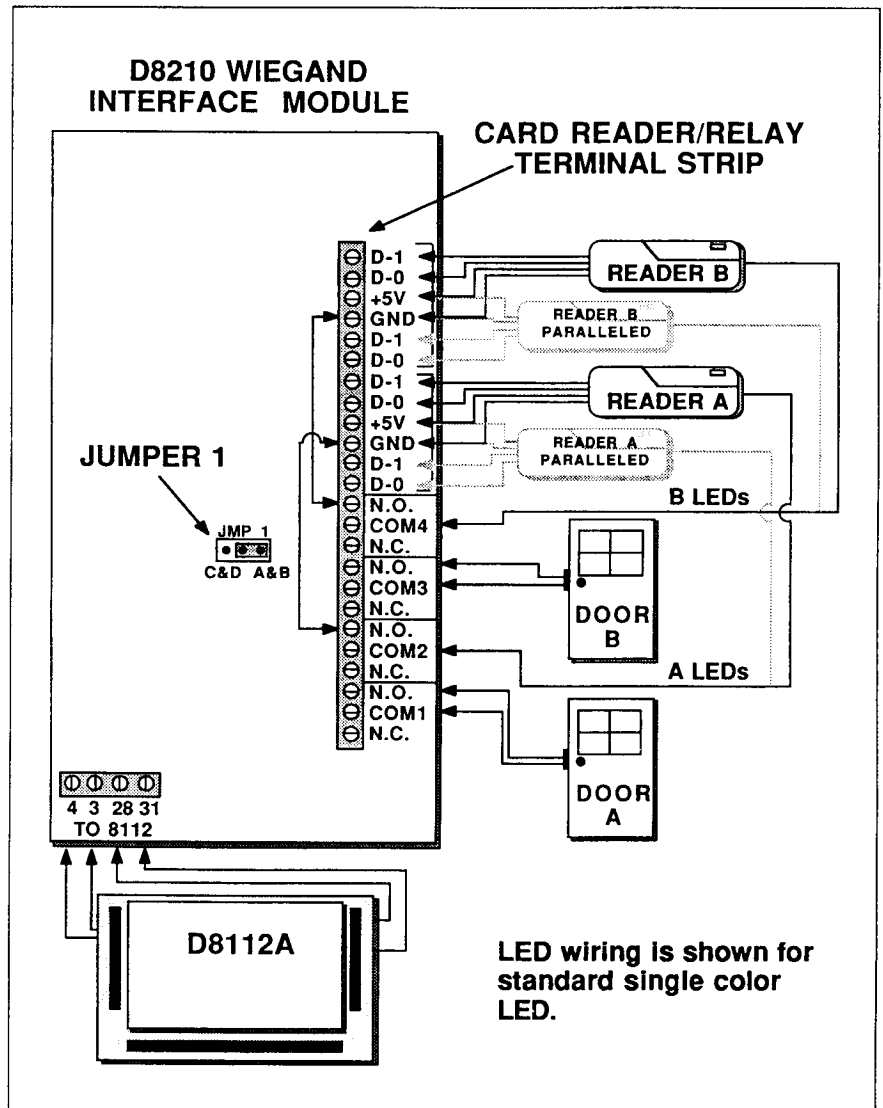


Figure 1: WIRING THE D8210

**CONNECTING THE D8210 TO THE D8112A**

Connect the D8210 to the D8112A as shown in Figure 1. The card readers can be installed up to 500 feet away from the D8210. Up to two D8210 modules can be connected to each D8112A. Long wire lengths can be susceptible to noise, therefore, Radionics recommends the use of standard installation practices to avoid AC and RF interference. See Figure 2 for wire length guidelines.

**Caution:** Do not run wire for door strike within the same jacket or conduit of the reader wiring circuit.

MAXIMUM CURRENT DRAW (mA)	LOOP WIRE LENGTH (ft)	
	22 AWG	18 AWG
200 mA	500 ft	500 ft
300	500	500
400	500	500
500	400	500
600	320	500
700	300	500
800	250	500
900	220	450

Figure 2: WIRE LENGTH GUIDELINES

**CONNECTING THE D8210 TO THE CARD READERS**

- Set Jumper 1 to the correct configuration (for card readers A&B or C&D).
- Each card reader requires a minimum of four wires; Data to **D-1**, **D-0**, Power to **+5** and **GND** (see Figure 1). (A fifth wire will be required if connecting an LED or Buzzer to the D8210.)  
  
If a door requires two card readers, parallel the second card reader on connections **+5**, **GND**, and use separate **D-1** and **D-0** connections as shown in Figure 1. Both card readers will share the same **+5** and **GND** connections.
- There are four relays (relay number 1 is at the bottom) each consisting of N.O., COM and N.C. terminals (See Figure 1). Each relay is configured as follows:  
  
Relay #1 = Door Strike, Door A, (or C)  
Relay #2 = LED or Buzzer, Reader A, (or C)  
Relay #3 = Door Strike, Door B, (or D)  
Relay #4 = LED or Buzzer, Reader B (or D)
- Connect the doorstrikes to relay 1 (for Door A or C), or relay 3 (for Door B or D) as needed.
- If using optional LED or Buzzers connect them to relay 2 (for Reader A or C), or relay 4 (for Reader B or D) as needed.
- When a single LED light is needed to indicate the reading of a card, use a jumper wire to connect the card reader ground (**GND**) terminal to the **N.O.** terminal of the corresponding LED relay (see Figure 1).

- Note:**
- LEDs do not illuminate when a card is added using Command 53 (unlike the D8220 and D8225 readers).
  - Wiegand names their data bits differently. The Wiegand 8 bit facility code is programmed in the TYPE field and the 16 bit pin number is programmed in the S/N field. Both must be programmed for each card.
  - When you receive cards from your supplier, they may or may not have the TYPE and S/N numbers printed on each card (if TYPE and S/N information is not on the card it may be supplied separately). Wiegand cards purchased from Radionics have a removable label which contains the TYPE and S/N information. If you do not know the TYPE and S/N of the card, use Command 53 to add the card by running it through the card reader.

**Specifications**

**Operating Voltage:** 12 VDC nominal (supplied by D8112 Auxiliary Power)

**Operating Current:** Idle: 11 mA (D8210 only, no readers or LEDs)

**Relay Contacts:** 1 Amp @ 12VDC or 24VAC

**Operating Temperature:** 0 to 50 °C (32 to 122 °F)

**Dimensions:** 6"L x 3"W

**Humidity:** 5 to 85% at 30 °C (86 °F) (non-condensing)

**Wiring:** See Figure 1.



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