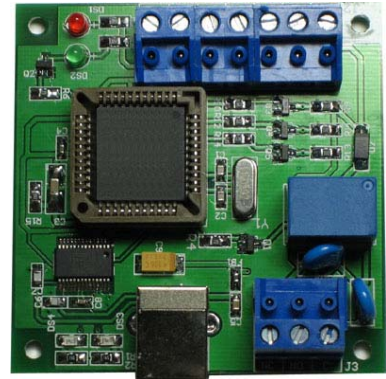


Wiegand to USB Converter

MA1905 is a Wiegand to USB Bi-directional converter. The USB interface is implemented as a Virtual COM Port (VCP). When Wiegand data is received, the MA1905 will automatically convert the Wiegand data from 3-bit up to 42-bit to a formatted ASCII string and output on the USB port. In a reverse process, when the formatted ASCII string is used as input to the USB port of the converter, the converter can convert the formatted ASCII string to Wiegand data format and output on the Wiegand data line port. Commands can be sent to the MA1905 to control the on board relay, green LED and the connected reader buzzer and reader LED.



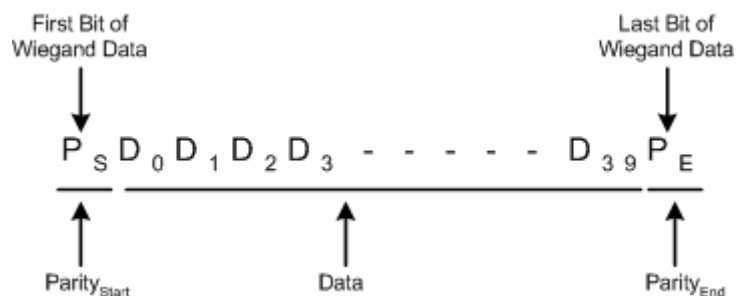
1. Specification

1.1 Communications:

USB Type B interface. 9600 BPS ASYNC, 8 bits, 1 Stop, No Parity.

1.2 Wiegand Data Format

The format of the Wiegand data is shown as follows:



1.3 USB Interface Data Format

The format of the USB interface data is in the form of 16-byte ASCII string (In Hex Format) as follow.



The Parity Character P is defined as follow.

RS232 Side	Wiegand Side	
P	P _S	P _E
0	0	0
1	0	1
2	1	0
3	1	1

1.4 Command Data

Command (4 Byte Hex Value)	Description
02 _H 31 _H 30 _H 03 _H	Turn on Reader Green LED
02 _H 31 _H 31 _H 03 _H	Turn off Reader Green LED
02 _H 31 _H 32 _H 03 _H	Toggle LED
02 _H 32 _H 30 _H 03 _H	Turn on Reader Buzzer
02 _H 32 _H 31 _H 03 _H	Turn off Reader Buzzer
02 _H 33 _H 30 _H 03 _H	Turn on Converter Status LED
02 _H 33 _H 31 _H 03 _H	Turn off Converter Status LED
02 _H 34 _H 30 _H 03 _H	Turn on Converter Relay
02 _H 34 _H 31 _H 03 _H	Turn off Converter Relay
02 _H 36 _H 30 _H 03 _H	Turn on Reader Red LED
02 _H 36 _H 31 _H 03 _H	Turn off Reader Red LED

2. Connectors:

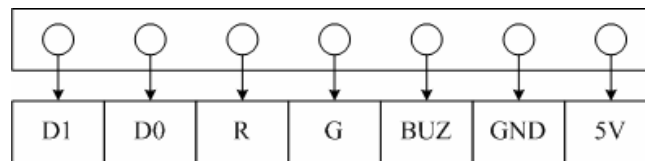
There are total 2 pluggable connectors and one USB Type B connector located on the MA1900 board serving different functions as described below.

Connector Symbol	Description
J1	USB Type B connector
J2	Wiegand Reader Port
J3	Relay Output

2.1 Connector J1

USB Type B connector.

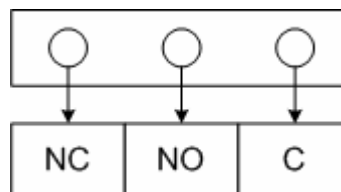
2.2 Connector J2



Connector J2 Port Assignment	
Designator	Description
D1	Wiegand Data 1
D0	Wiegand Data 0
R	To Reader Red LED
G	To Reader G LED
BUZ	To Reader BUZ
GND	To Reader Ground
5V	To 5V Reader Supply. (Output only, DO NOT connect external power)

2.3 Connector J3

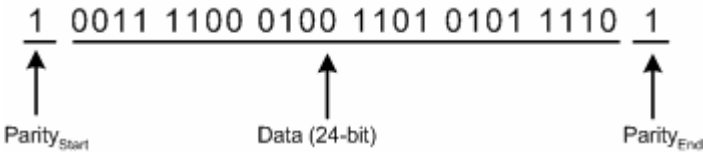
Connector J3 Port Assignment	
Designator	Description
NC	Normally Open
NO	Normally Close
C	Common



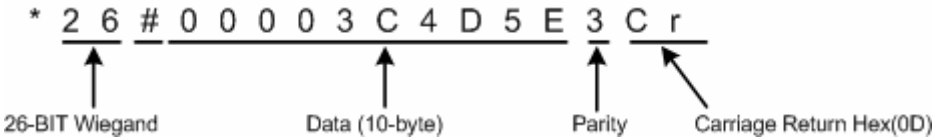
3. Conversion Example

3.1 Wiegand to USB Interface

Input: Wiegand (26-bit)

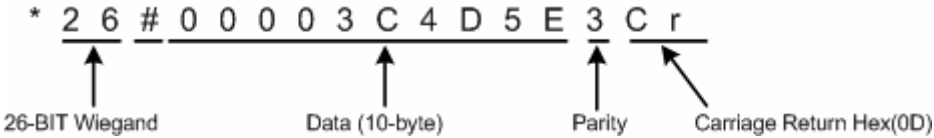


Output: 16-byte ASCII string on USB port



3.2 USB Interface to Wiegand

Input: 16-byte ASCII string on USB port



Output: Wiegand (26-bit)

