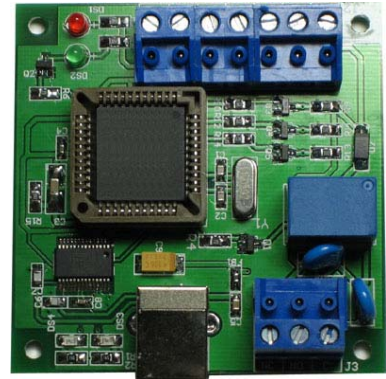


Wiegand to USB Converter

MA1900 is a Wiegand to USB converter. The USB interface is implemented as a Virtual COM Port (VCP). The MA1900 will automatically convert the Wiegand input data from 24-bit up to 40-bit to a formatted ASCII string and output on the USB interface. Commands can be sent to the MA1900 to control the on board relay, green LED and the connected reader buzzer and reader LED.



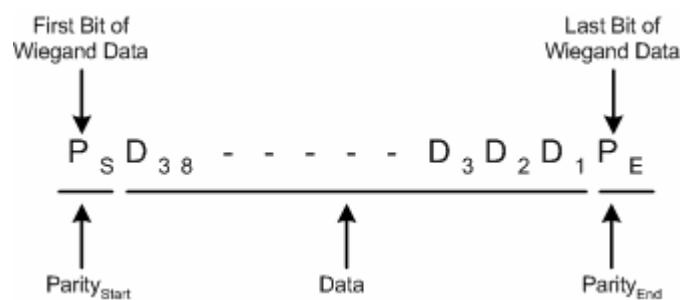
1. Specification

1.1 Communications:

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

1.2 Input Wiegand Format (Wiegand Side)

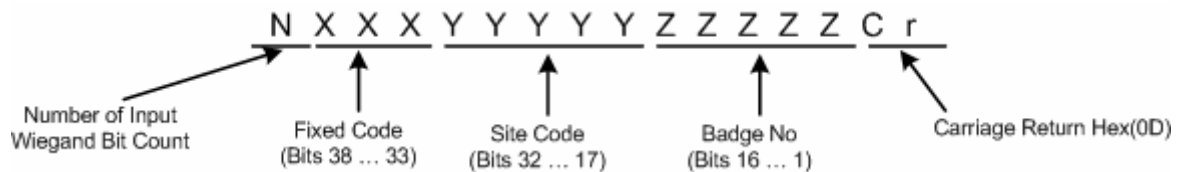
The format of the input Wiegand data is shown as follows:



1.3 Output Serial Data Format (USB Side)

The format of the serial data is in the form of 15-byte ASCII string as follow.

1.3.1 Output Format of 24-35, 37-40 Bits Wiegand Input



1.3.2 Output Format of 36 Bits Wiegand Input



The number of input Wiegand bit count N is represented as follows

Character	SP	!	“	#	\$	%	&	‘	(
No. of Bits	24	25	26	27	28	29	30	31	32
Character)	*	+	,	-	.	/	0	
No. of Bits	33	34	35	36	37	38	39	40	

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:

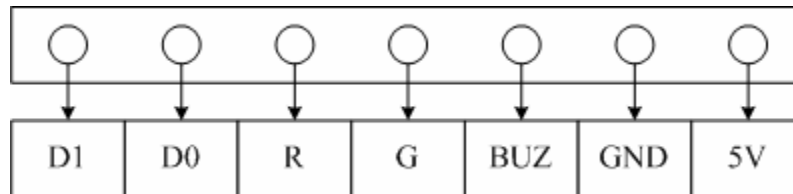
There are total 2 pluggable connectors and one USB Type B connector located on the MA1900 board serving different functions as described below.

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

