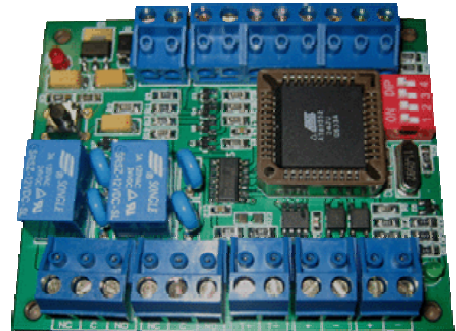


Wiegand to RS485 Bidirectional Converter

MA1409 is a Wiegand to RS485 bidirectional converter. When Wiegand data is used as input, the converter can convert Wiegand data from 3-bit up to 42-bit to a formatted ASCII string on the RS485 port. In a reverse process, when the formatted ASCII string is used as input to the RS485 port of the converter, the converter can convert the formatted ASCII string to Wiegand data format.



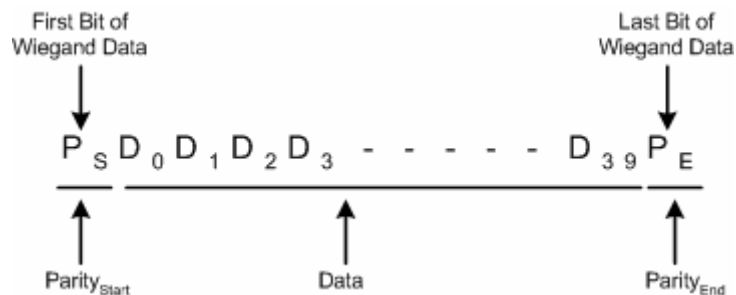
1. Specification

1.1 Communications:

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 RS485 Data Format

The format of the RS485 data is in the form of 16-byte ASCII string (In Hex Format) as follow.



The Parity Character P is defined as follow.

RS485 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 A
02 _H 34 _H 31 _H 03 _H	Turn off Converter Relay A
02 _H 35 _H 30 _H 03 _H	Turn on Converter Relay B
02 _H 35 _H 31 _H 03 _H	Turn off Converter Relay B
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

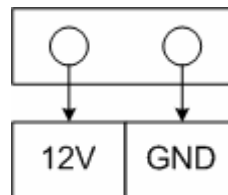
2. Connectors:

There are total 7 pluggable connectors located on the MA1409 board serving different functions as described below.

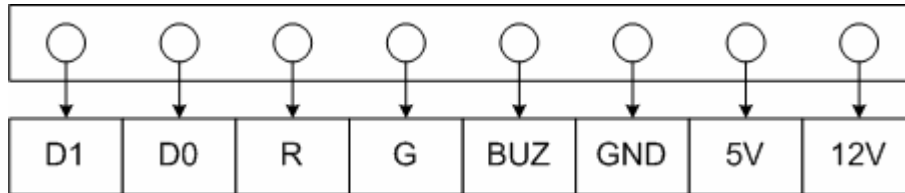
Connector Symbol	Description
J1	9V – 12V DC Power Supply
J2	Wiegand Reader Port
J3	Not used in model MA1409.
J4	Not used in model MA1409.
J5	RS485 Port
J6	Relay A
J7	Relay B

2.1 Connector J1

Connector J1 Port Assignment	
Designator	Description
12V	12V DC Power Supply In
GND	Power Supply Ground



2.2 Connector J2



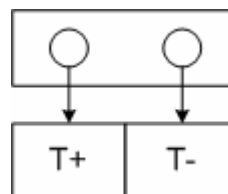
Connector J2 Port Assignment	
Designator	Description
D1	Wiegand Data 1
D0	Wiegand Data 0
R	To Reader Red LED
G	To Reader G LED
BUZ	To Reader BUZ
GND	To Reader Ground
5V	To 5V Reader Supply
12V	To 12V Reader Supply

2.3 Connector J3 – J4

Connector J3 to J4 are not used in model MA1409.

2.4 Connector J5

Connector J5 Port Assignment	
Designator	Description
T+	RS485 Transmit
T-	RS485 Receive



2.5 Connector J6 – J7

Connector J5 Port Assignment	
Designator	Description
NC	Normally Open
C	Common
NO	Normally Close

