



PROXIMITY MODULE

PXEM-BWS-01

PXEM-BWS-02

Ver.14.1

● Features

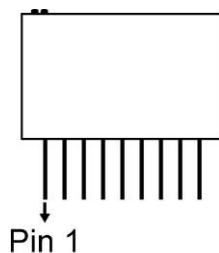
1. AM 125KHz contactless proximity reading module specially for EM cards.
2. Either Wiegand 26 or ASCII(TTL) output determined by pin assignment.
3. Read only for EM cards, and the data are sent by Data 0 and Data 1.
4. Read for TEMIC cards, and the data are sent by Data 0 and Data 1.
5. Lower cost with effective performance.
6. Compact size.



● Specification

Dimensions	26.5 (L) x 6.9 (W) x 16.5 (H) mm
Transmitting Frequency	AM 125 KHz
Operating Voltage	VCC= 5V
Power Consumption	18 mA (5V) nominal
Operating Temperature	-40℃ ~ 85℃
Storage Temperature	-40℃ ~ 85℃
Storage Humidity	5 ~ 95% RH
Net Weight	6 g

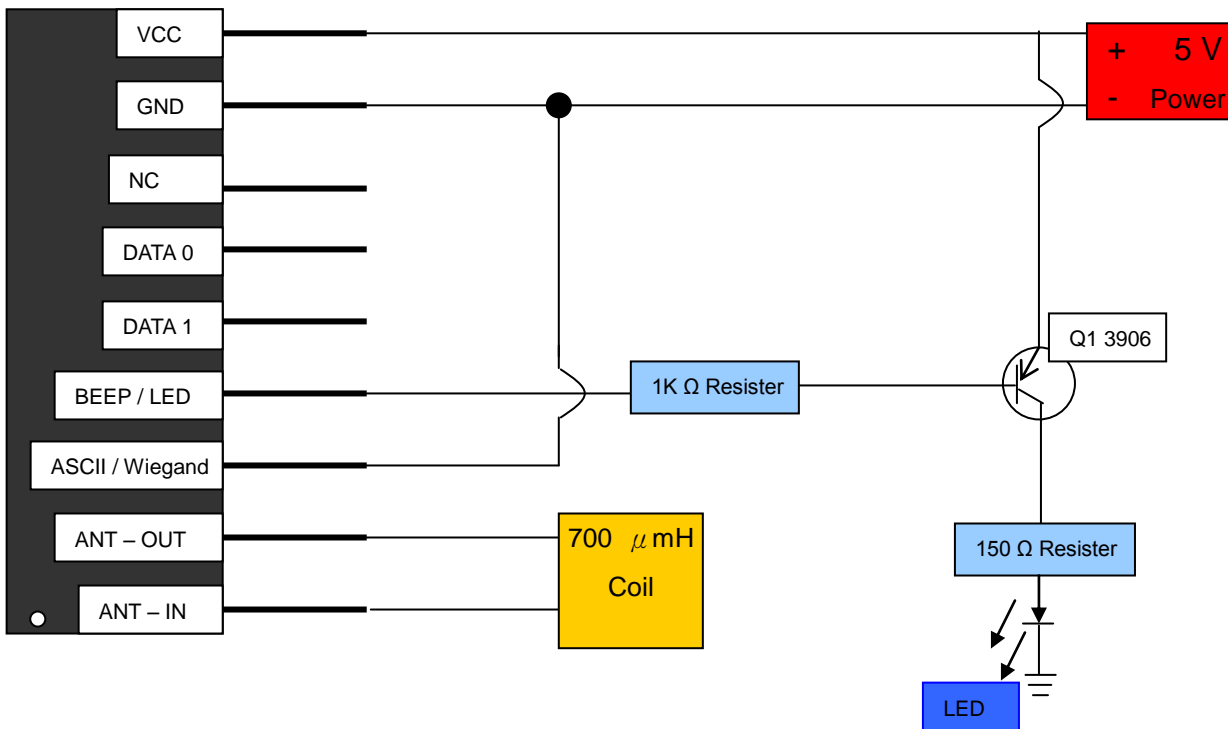
● Pin assignments



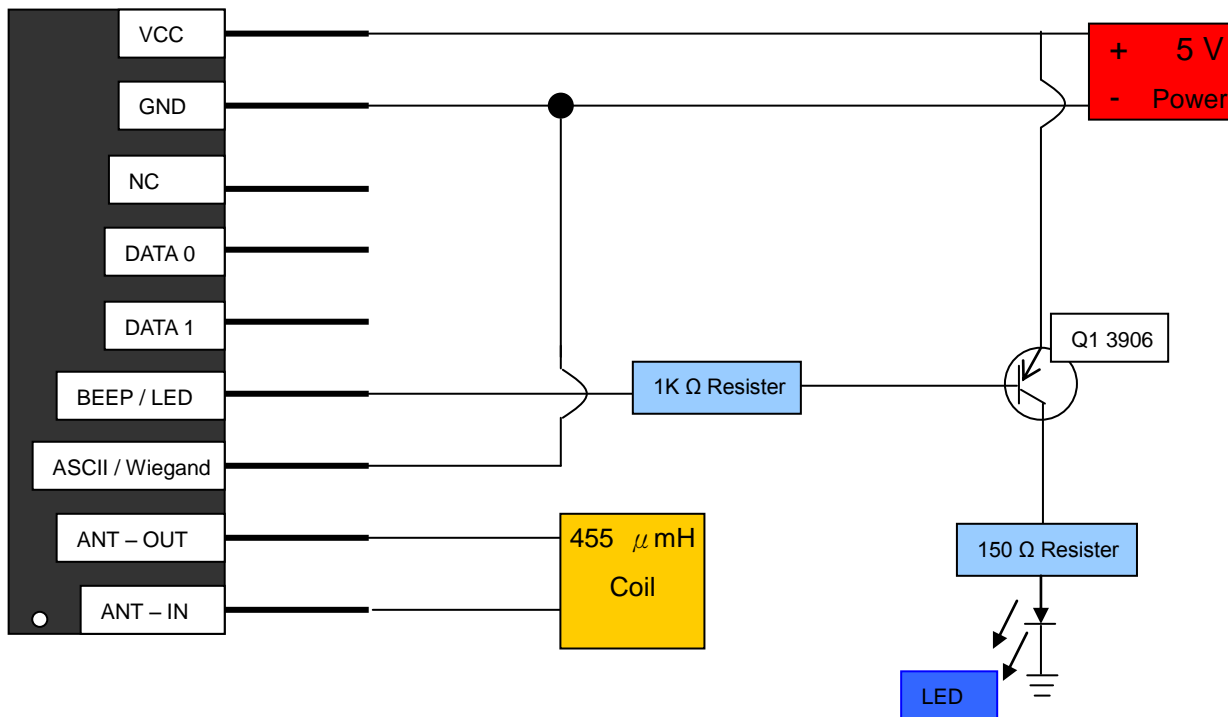
PIN No.	Description	ASCII	Wiegand26
PIN 1	To external antenna and tuning capacitor	Antenna IN	Antenna IN
PIN 2	To external antenna	Antenna OUT	Antenna OUT
PIN 3	Format selector(+/-)	Strap to +5V	Strap to GND
PIN 4	Beeper/LED	Beeper/LED	Beeper/LED
PIN 5	Data 1	TTL to IC UART	Data 1
PIN 6	Data 0	NC	Data 0
PIN 7	---	Inverter TTL	NC
PIN 8	Zero volts and tuning capacitor ground	GND 0V	GND 0V
PIN 9	DC voltage supply	VCC +5V	VCC +5V

- **Circuit diagram: Wiegand Output.**

PXEM-BWS-01:

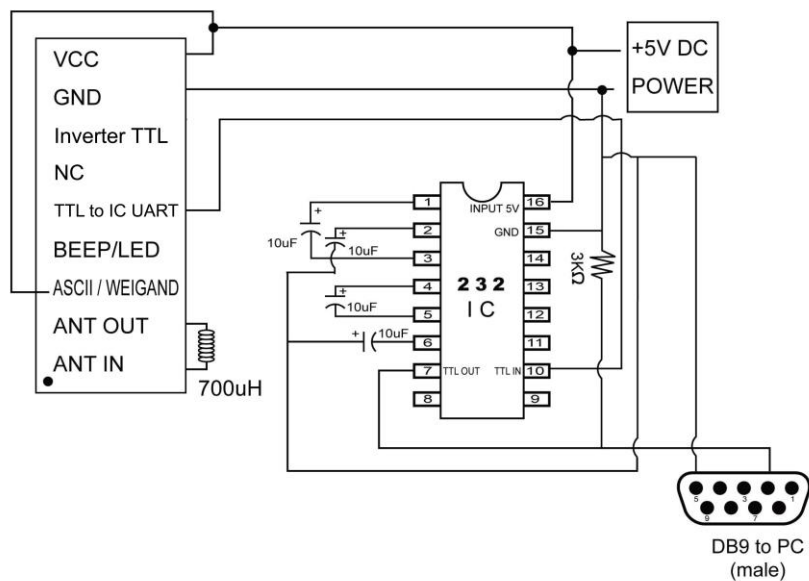


PXEM-BWS-02:

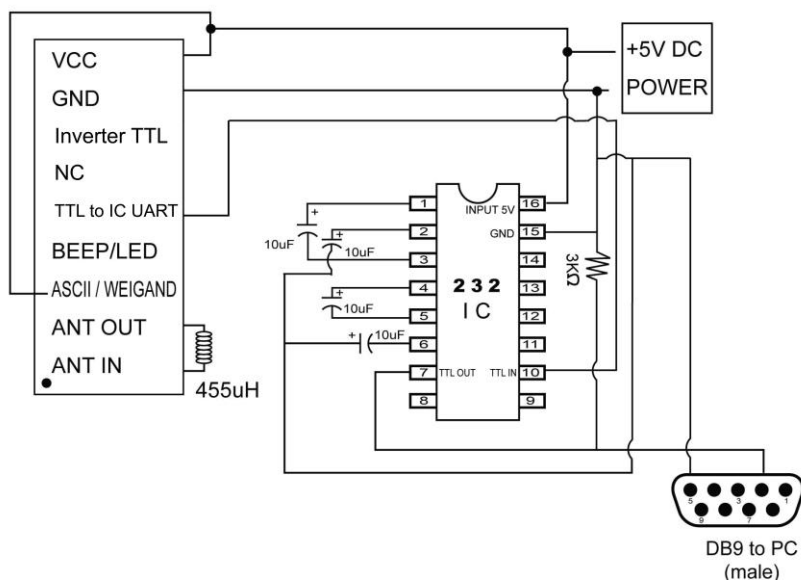


● Circuit diagram: RS232C Output.

Wiring examples for 125KHz EM prox. module (PXEM-BWS-01)



Wiring examples for 125KHz EM prox. module (PXEM-BWS-02)

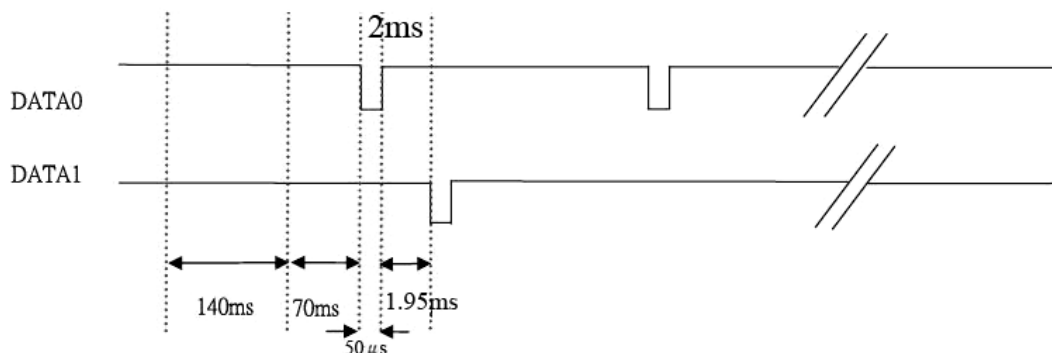


● Connectivity Diagram: Weigand Output.

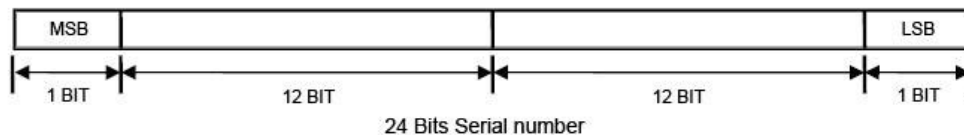
The bits period for D0& D1 is 730μs.

D0 & D1signal BIT LOW PULSE is about 35μs.

1. Time period flow chart



2.Data output format



● Connectivity Diagram: RS232C(ASCII) Output.

1. Data output format
 - a. 9600bps, N, 8, 1
 - b. PIN3:TX non-reverse output
 - c. PIN4:TXreverse output
 - d. CHECKSUM: Using card 10 bytes DATA for XOR calculation

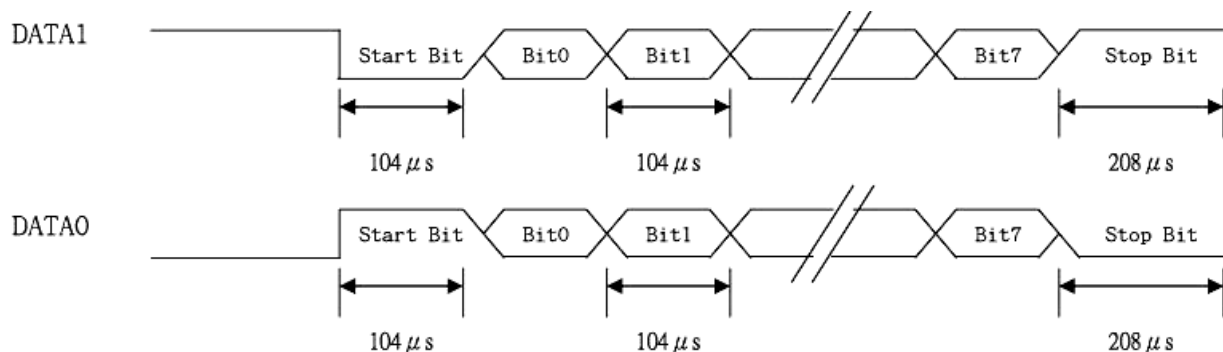
02	10 ASCII Data Characters	Checksum	03
----	--------------------------	----------	----

For example: card number : 62E3086CED

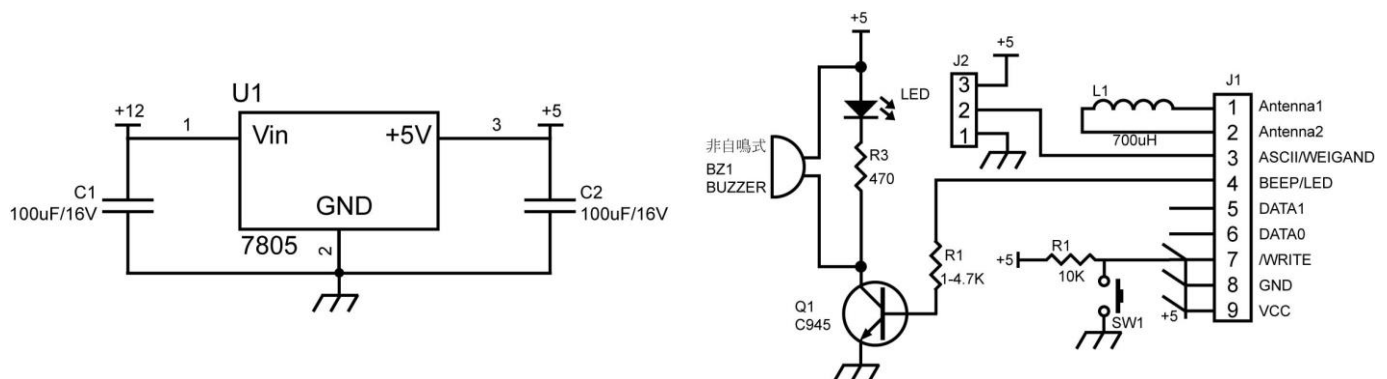
ASCII with check sum :36H, 32H, 45H, 33H, 30H, 38H, 36H, 43H, 45H, 44H

Check sum algorism :62(H) XOR (E3H) XOR (08H) XOR (6CH) XOR (EDH)=08H

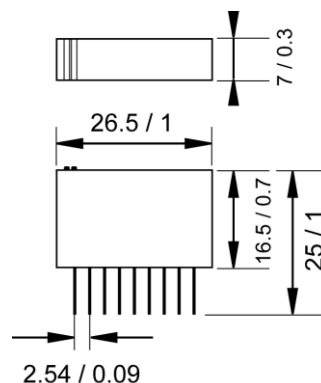
2. Time period flow chart



● Application Wiring



● Dimensions: Unit (mm/inch)



Specifications subject to change without notice for further modification.