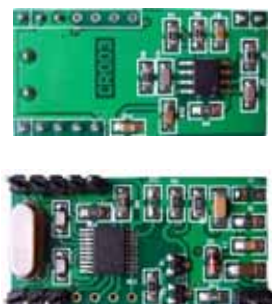


CR003 SERIES Proximity Reader Module

DATA SHEET

Proximity Reader Modules

Operational and Physical Characteristics

Parameters	Description	Photo
Read Range	8-12cm	
Dimensions	40mm(L)x20mm(H)x8mm(W)	
Frequency	125kHz	
Card Format	uEM 4001 or compatible	
Encoding	Manchester 64-bit, modules 64	
Power Requirement	5VDC @ 35mA nominal	
Voltage Supply Range	+4.6V through +5.4VDC	

Pin Out

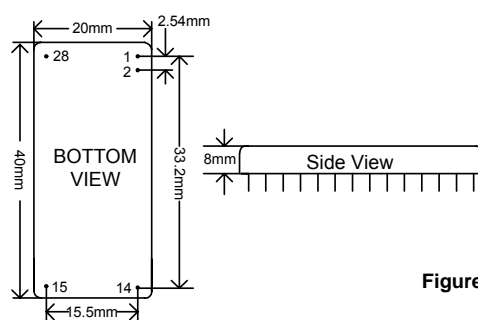


Figure1

Pin Description & Output Data Formats

PinNo.	Description	CR003T (ASCII)	CR003W(Wiegand)	CR003M	CR003A(ABA)
Pin 1	D1	TTL Data Output(Tx)	DATA1 Output	Data Output Manchester Code	DATA Output
Pin 2	D0	NC	DATA0 Output	NC	CLK
Pin 3	CS	NC	NC	NC	CP
Pin 4	GND	GND			
Pin 5	VCC	POWER(+4.6V - +5.4V DC)			
Pin 15	ANT1	To Antenna (L1=1000uH)			
Pin 16	ANT2	To Antenna			
Pin 26	GND	GND			
Pin 27	VCC	POWER(+4.6V - +5.4VDC)			
Pin 28	BEEP/LED	BEEPER/LED	BEEPER/LED	NC	BEEPER/LED

*Pin28 is BEEPER/LED Driver, after Data output , Pin28 is set low

*CR003W01 = Wiegand26

CR003W02 = Wiegand26/34 Switch

CR003W03 = Wiegand34

Data Formats

CR003T-01 Output Data Structure– ASCII(RS232.TTL) [9600bps,N,8,1](#)

STX (02H)	DATA(10 ASCII)	LRC (2 ASCII)	CR	LF	ETX (03H)
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[The 1byte (2 ASCII charaters) , LCR is the Longitudinal Redundancy Check.]

For Example: DATA : 62H E3H 08H 6CH EDH , LRC: (62H) XOR (E3H) XOR (08H) XOR (6CH) XOR (EDH)=08H , Output:
0X02 0X36 0X32 0X45 0X33 0X30 0X38 0X36 0X43 0X45 0X44 0X30 0X38 0X0D 0X0A 0X03

CR003T-02 Output Data Structure– ASCII(RS232.TTL) 9600bps,N,8,1

STX (02H)	DATA(10 ASCII)	LRC (1BYTEI)		ETX (03H)
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[The 1byte (2 ASCII charaters) , LCR is the Longitudinal Redundancy Check.]

For Example: DATA : 62H E3H 08H 6CH EDH , LRC: (62H) XOR (E3H) XOR (08H) XOR (6CH) XOR (EDH)=08H , Output:
0X02 0X36 0X32 0X45 0X33 0X30 0X38 0X36 0X43 0X45 0X44 0X08 0X03

CR003T-03 Output Data Structure– ASCII(RS232.TTL) 9600bps,N,8,1

DATA(10 ASCII)	CR		
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[The 1byte (2 ASCII charaters) , LCR is the Longitudinal Redundancy Check.]

For Example: DATA : 62H E3H 08H 6CH EDH ,

Output: **0X36 0X32 0X45 0X33 0X30 0X38 0X36 0X43 0X45 0X44 0X0D**

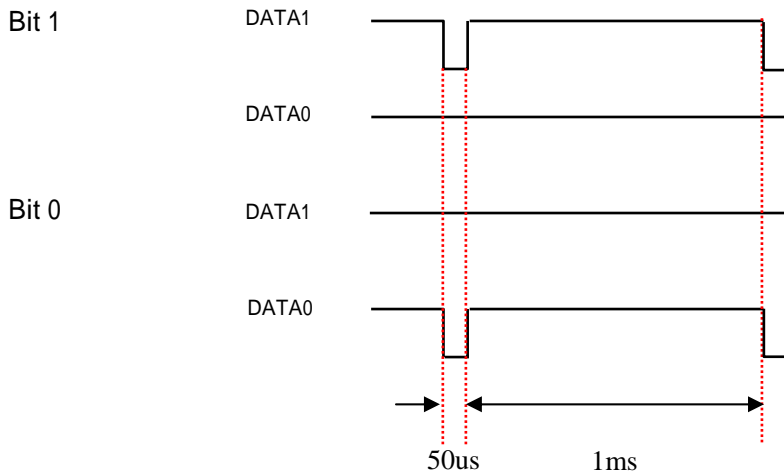
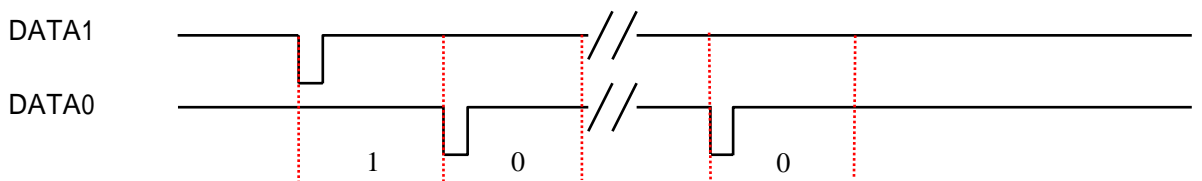
CR003W Output Data Structure , For Example: Wiegand 26 bit

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
P(1)	E	E	E	E	E	E	E	E	E	E	E	E	O	O	O	O	O	O	O	O	O	O	O	O	O	P(2)
EVEN Parity(E)													ODD Parity(O)													

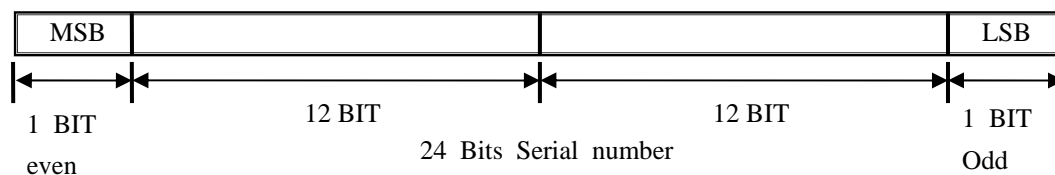
P(1):Parity Start Bit, 2-13 bit EVEN Parity bit

P(2):Parity Stop Bit, 14-26 bit ODD Parity bit

Wiegand :



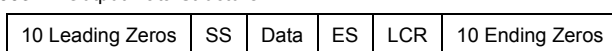
Data format



NOTE

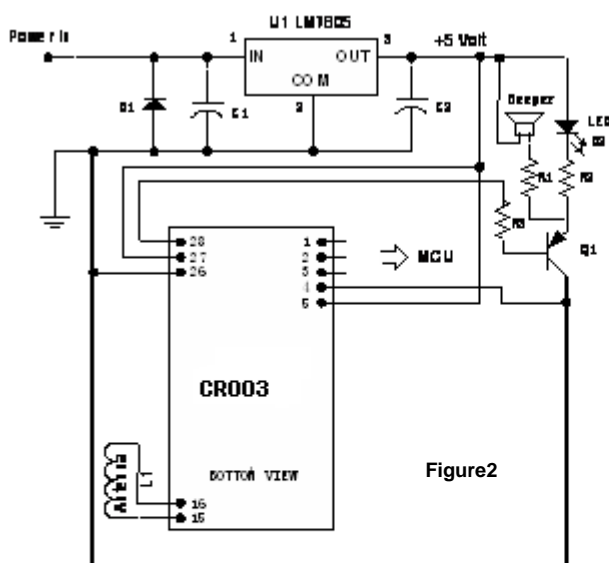
- 1 : MSB send first
- 2 : MSB first 12Bits a even check bit , LSB 12 Bit an Odd check bit.

CR003A Output Data Structure – ABAll



[SS is the Start Character of 11010, ES is the End Character of 11111, LCR is the Longitudinal Redundancy Check.]

Circuit Diagram for the CR003 Module



COMPONENT LIST

- R1=100Ω
- R2=1K
- R3=1K
- C1=100uF/16V
- C2=100uF/10V
- D1=1N4001
- D2=LED
- U1=LM7805
- Q1=UTC8550 (PNP)
- L1=1000uH