

125KHz RFID module – UART

RDM 125KHz card mini-module is designed for reading code from 125KHz card compatible read-only tags and read/write card . It can be applied in office/home security, personal identification, access control, anti-forgery, interactive toy and production control systems etc.

Note: Module will notify whenever 125khz tag approaches, tag serial number will be send via TX pin. Easy way for a RFID module on MCU projects or PC connection via UartSB.

Features

- Support external antenna
- Maximum effective distance up to 50mm
- Less than 100ms decoding time
- UART TTL interface
- Support EM4100 compatible read only or read/write tags
- Built-in external bi-color LED and buzzer driver
- Small outline design

Specification

May include key specification and other specifications.

Key Specification

Frequency	125KHz
Baud Rate	9600 (TTL Electricity Level RS232 format)
interface	Weigang26 Or TTL Electricity Level RS232 format
Power supply	DC 5V (±5%)
Current	<50Ma
Operating range	>50mm(Depend on Card/Tag shape, manufacturer)
Expand I/O port	N/A
Indication light	N/A
Working temperature	-10°C~ +70°C
Storage temperature	-20°C~ +80°C
Max. humidity	Relative humidity 0 ~ 95%
Size	38.5mm ×19mm×9mm

Pin definition and Rating

Look the image below(Mechanic Dimensions), and check the pin definition list here:

Pin Definition :

P1:

PIN1 TX

PIN2 RX

PIN3

PIN4 GND

PIN5 +5V(DC)

P2:

PIN1 ANT1

PIN2 ANT2

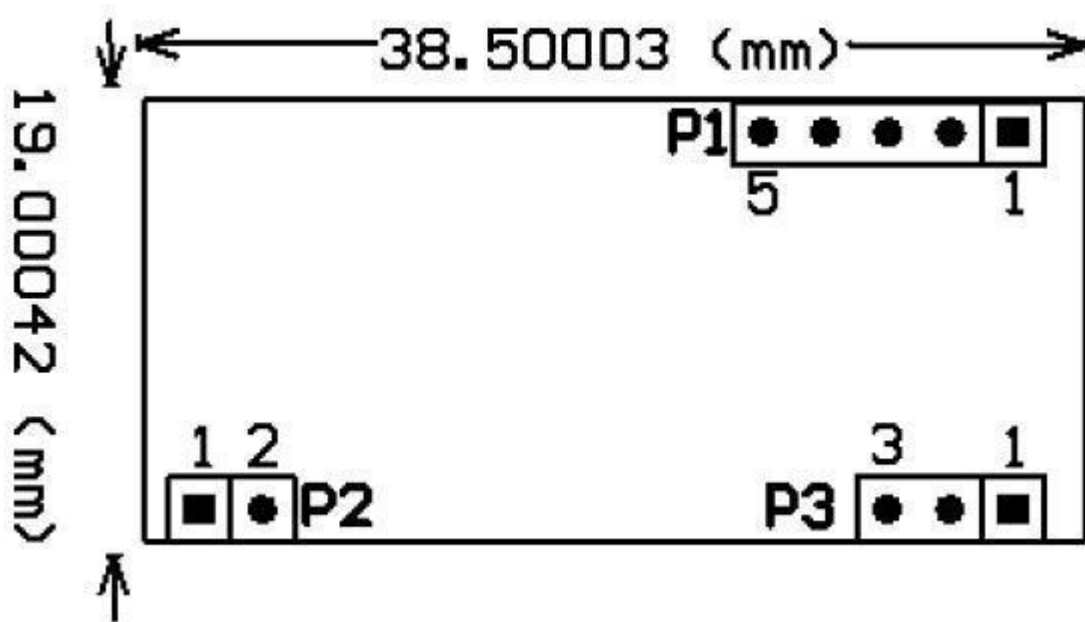
P3:

PIN1 LED

PIN2 +5V(DC)

PIN3 GND

Mechanic Dimensions



Usage

TTL Interface RS232 Data output format

1. 9600bps,N,8,1
2. CHECKSUM: card 10byte DATA entire do XOR operation
02 10ASCII Data Characters

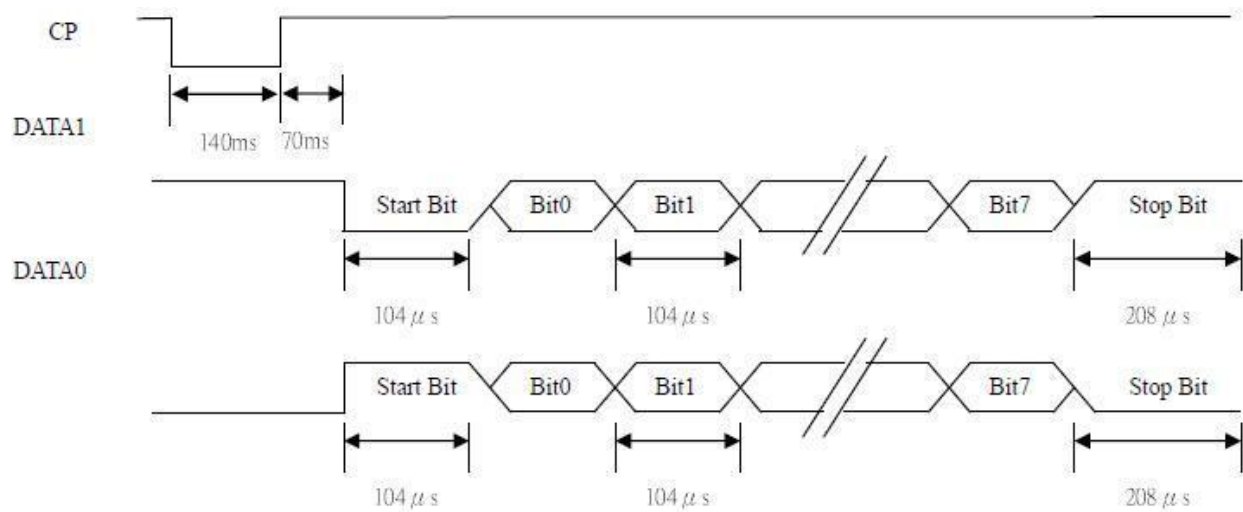
Checksum

03

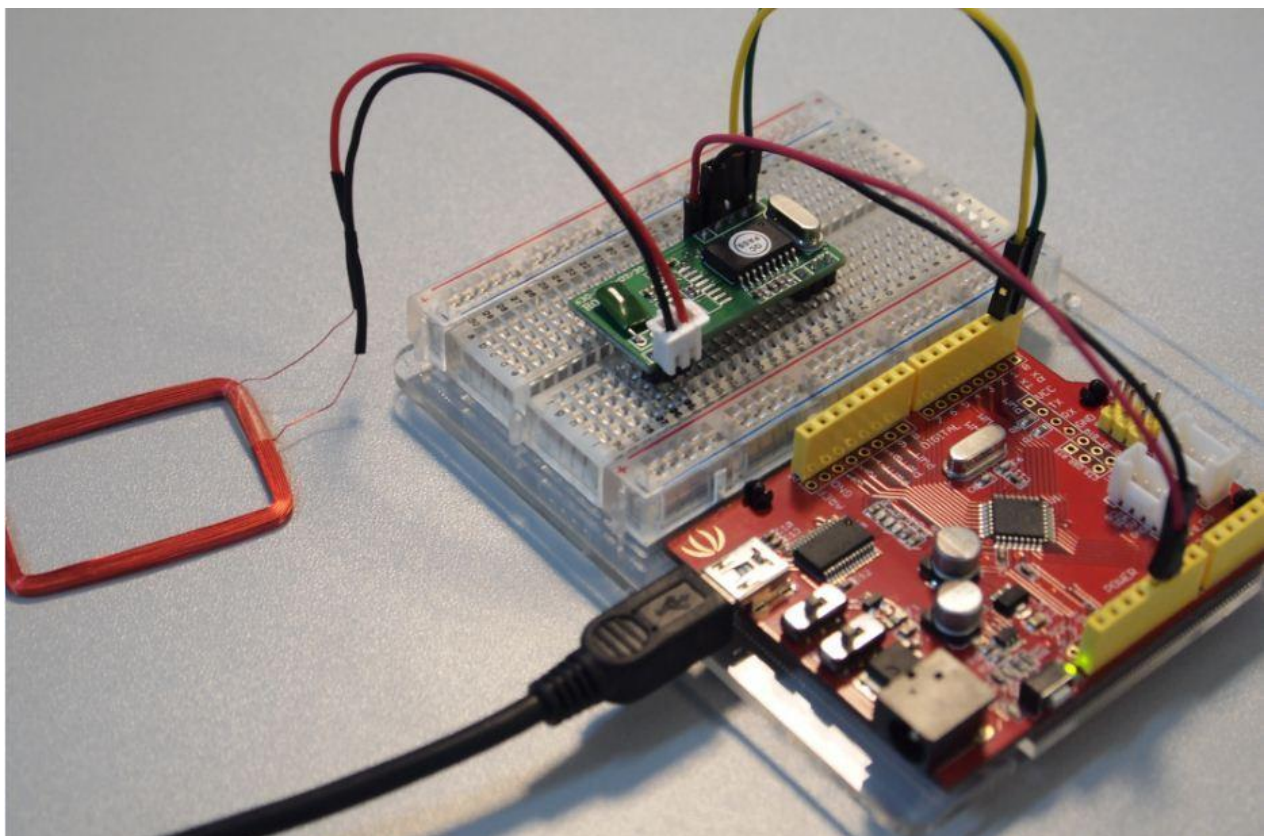
Example: card number: 62E3086CED

- Output data:36H、32H、45H、33H、30H、38H、36H、43H、45H、44H
- CHECKSUM: (62H) XOR (E3H) XOR (08H) XOR (6CH) XOR (EDH)=08H

Time sequence chart



Exampel



Output date(HEX): 02 | 30 31 30 30 30 37 33 34 45 30 | 44 32 | 03 ->Change to Decimal
 CardNumber Decimal: 48 49 48 48 48 55 51 52 69 48 CheckSum Decimal: 68 50 -
 >Refer to ASCII table,get Ascill value CardNumber Ascill: 0 1 0 0 0 7 3 4 E 0 CheckSum
 Ascill : D 2 (01H) xor (00H) xor (07H) xor (34H) xor (E0H) = D2H

Programming

Connect RX/TX to Arduino UART port , Uart demo code :

```
void setup()
{
  Serial.begin(9600);
}
void loop()
{
  if(Serial.available())
  {
    while(Serial.available())
      Serial.write(Serial.read());
  }
}
```

Resources

- Datasheet: [RDM630-Spec.pdf](#)
- [How to connect Arduino and RFID](#)