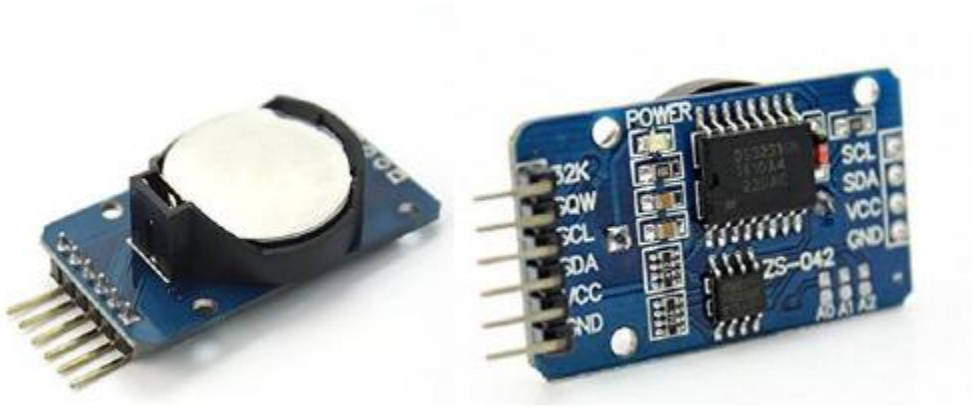
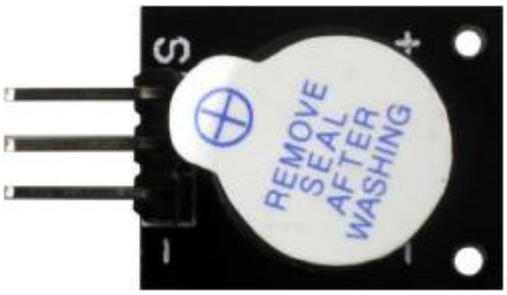
Alarm clock

Overview





This lesson will teach you how to use DS3231 and Active Buzzer module make a Alarm clock.

Specification

Please view DS3231-datasheet.pdf.

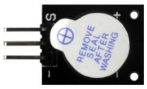
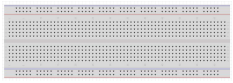
Path: \Public_materials\Datasheet\ DS3231-datasheet.pdf

Pin definition

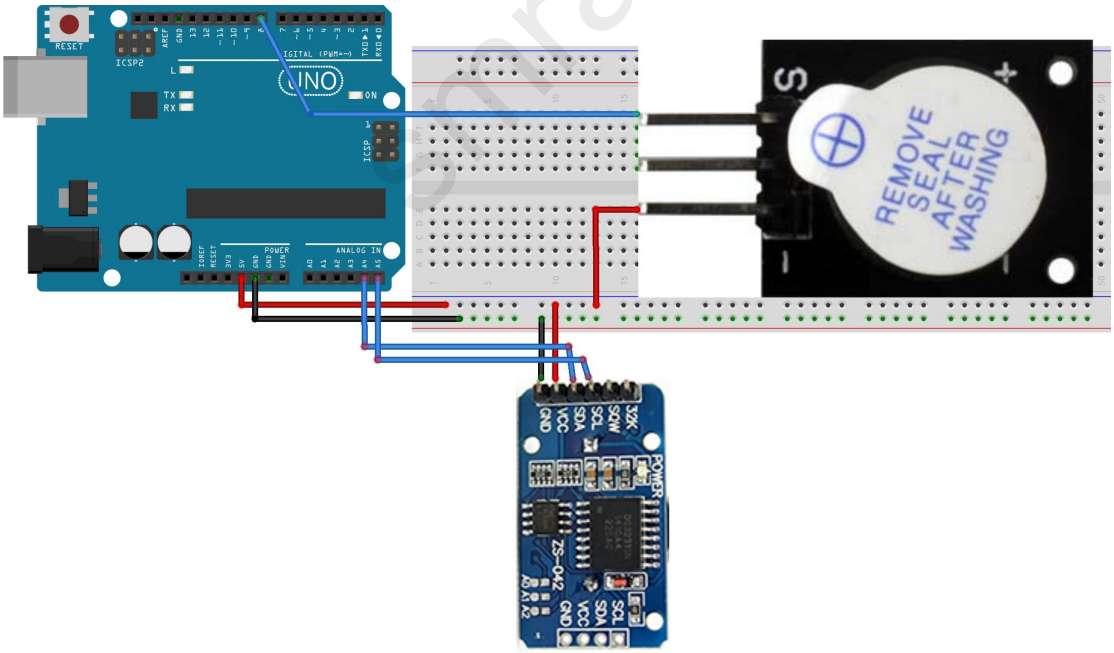
DS3231	Arduino
32K	->null
SQW	->null
SCL	->A5
SDA	->A4
VCC	->5V
GND	->GND

Active Buzzer	Arduino
"S"	->D8
"-"	->5V

Hardware required

Material diagram	Material name	Number
	DS3231	1
	Active Buzzer	1
	USB Cable	1
	UNO R3	1
	Breadboard	1
	Jumper wires	Several

Connection diagram



Sample code

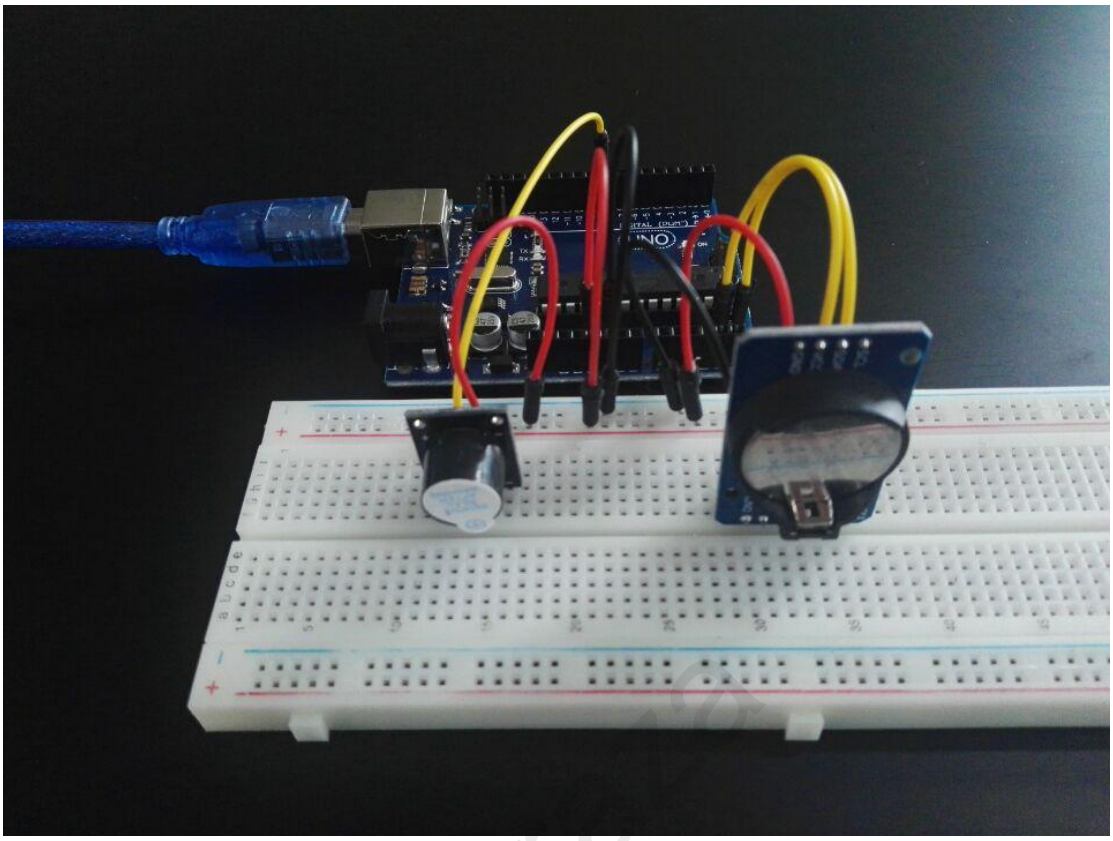
Note: sample code under the **Sample code** folder

You need to add the DS3231 to the Arduino library file directory, otherwise the compiler does not pass. **Please refer to 'How to add library files.docx'.**

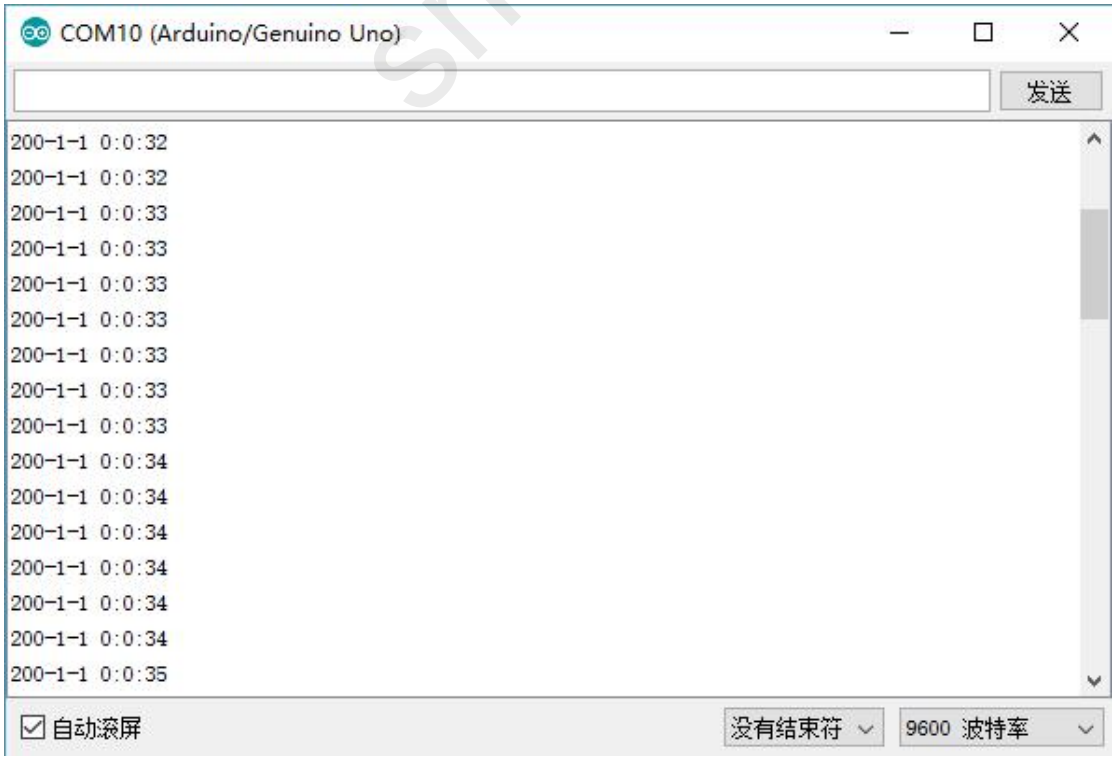
```
#include <DS3231.h>
#include <Wire.h>
const int Data = 8;
//initialize variable
DS3231 Clock;
boolean Century=false;
boolean h12;
boolean PM;
byte ADay, AHour, AMinute, ASecond, ABits;
boolean ADy, A12h, Apm;
int second,minute,hour,date,month,year,val;

void setup(void)
{
  Wire.begin();
  Serial.begin(9600);
  pinMode(Data,OUTPUT);
}

void ReadDS3231()
{
  int second,minute,hour,date,month,year,pm;
  second=Clock.getSecond();
  minute=Clock.getMinute();
  hour=Clock.getHour(h12,PM);
  date=Clock.getDate();
  month=Clock.getMonth(Century);
  year=Clock.getYear();
  Serial.print("20");
  Serial.print(year,DEC);
  Serial.print('-');
  Serial.print(month,DEC);
  Serial.print('-');
  Serial.print(date,DEC);
  Serial.print(' ');
  Serial.print(hour,DEC);
  Serial.print(':');
  Serial.print(minute,DEC);
  Serial.print(':');
```

```
  Serial.print(second,DEC);
  Serial.print('\n');
}
void loop()
{
  ReadDS3231();
  if((hour==8)&&(minute==0)&&(second==0))
  {
    digitalWrite(Data,LOW);
    delay(500);
    }
    else{
      digitalWrite(Data,HIGH);
      delay(500);
      }
  delay(150);
}
```

Example picture



Result



Language reference

Tips : click on the following name to jump to the web page.
If you fail to open, use the Adobe reader to open this document.

boolean

byte

Application effect

Open the serial port monitor, you will be able to see the time displayed on the serial port monitor.

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Amazon IT store: http://www.amazon.it/shops/AVEAJYX3AHG8Q

Amazon ES store: https://www.amazon.es/shops/AVEAJYX3AHG8Q

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