

Shenzhen Keyi Interactive Robot Co., Ltd.

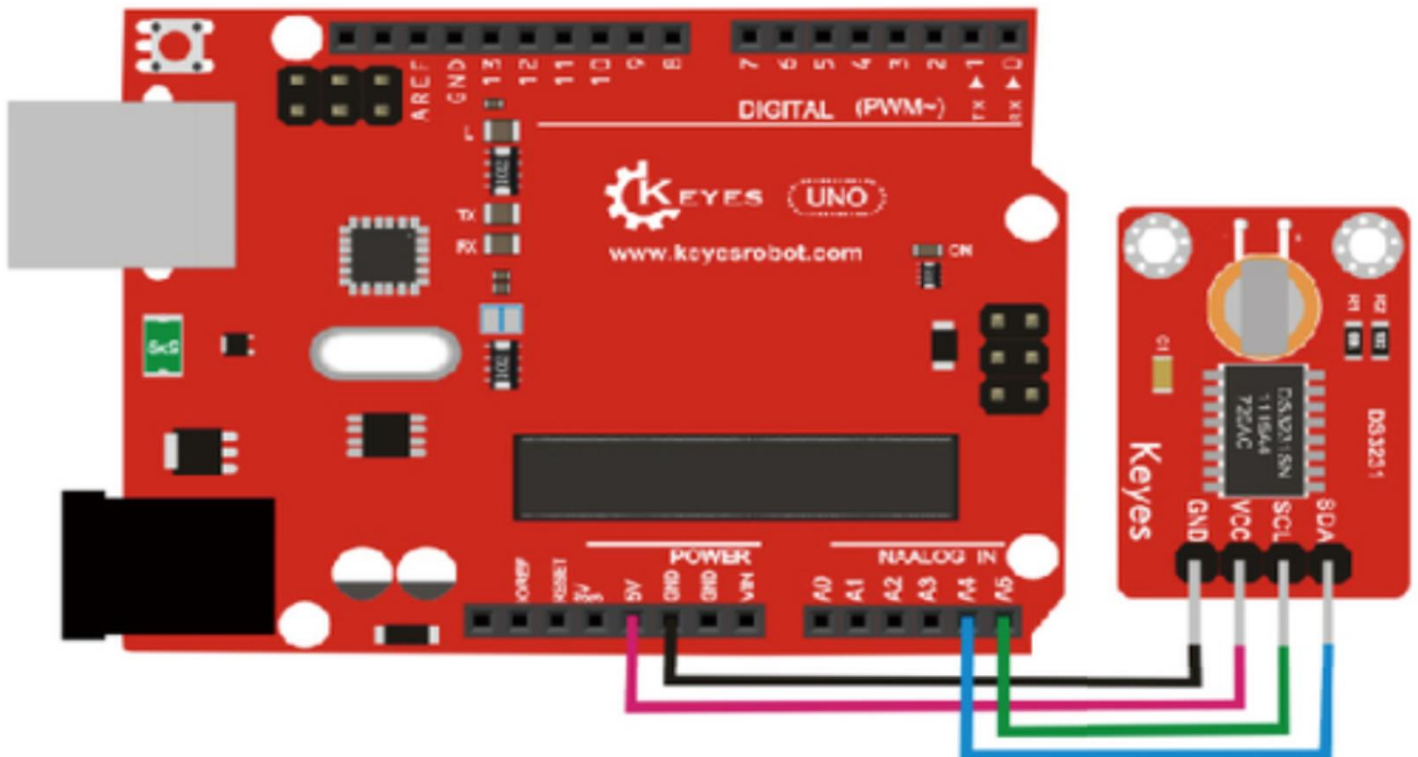
KE0071 KEYES DS3231 high-precision clock module IIC module AT24C32 storage module

Parameters:

Working Voltage: 3.3 ~ 5VDC
Accuracy $\pm 3.5\text{ppm}$ from -40°C to $+85^{\circ}\text{C}$
Colour: Red
Size: 36x22x7mm.



PINOUT Instruction:



Sample Code:

```
#include <Wire.h>
#include "DS3231.h"
DS3231 RTC; //Create the DS3231 object
char weekDay[][4] = {"Sun", "Mon", "Tue", "Wed", "Thu", "Fri", "Sat" };
//year, month, date, hour, min, sec and week-day(starts from 0 and goes to 6)
//writing any non-existent time-data may interfere with normal operation of the RTC.
//Take care of week-day also.
DateTime dt(2011, 11, 10, 15, 18, 0, 5);//open the serial port and you can check time here
void setup () //or make a change to the time as needed.
{ Serial.begin(57600);//set baud rate to 57600
  Wire.begin();
  RTC.begin();
  RTC.adjust(dt); //Adjust date-time as defined 'dt' above
}
void loop ()
{
  DateTime now = RTC.now(); //get the current date-time
  Serial.print(now.year(), DEC);
  Serial.print('/');
  Serial.print(now.month(), DEC);
  Serial.print('/');
  Serial.print(now.date(), DEC);

  Serial.print(' ');
  Serial.print(now.hour(), DEC);
  Serial.print(':');
  Serial.print(now.minute(), DEC);
  Serial.print(':');
  Serial.print(now.second(), DEC);
  Serial.println();
  Serial.print(weekDay[now.dayOfWeek()]);
  Serial.println();
  delay(1000);
}
```

Result:

When the above steps are done, you can upload the code to arduino and open the serial monitor and get the following results:



DS3231 library <https://github.com/rodan/ds3231>

```
String ReadTimeDate(){
String temp;
int TimeDate [7]; //second,minute,hour,null,day,month,year
for(int i=0; i<=6;i++){
if(i==3)
i++;
digitalWrite(cs, LOW);
SPI.transfer(i+0x00);
unsigned int n = SPI.transfer(0x00);
digitalWrite(cs, HIGH);
int a=n & B00001111;
if(i==2){
int b=(n & B00110000)>>4; //24 hour mode
if(b==B00000010)
b=20;
else if(b==B00000001)
b=10;
TimeDate[i]=a+b;
}
else if(i==4){
int b=(n & B00110000)>>4;
TimeDate[i]=a+b*10;
}
else if(i==5){
int b=(n & B00010000)>>4;
TimeDate[i]=a+b*10;
}
else if(i==6){
int b=(n & B11110000)>>4;
TimeDate[i]=a+b*10;
}
else{
int b=(n & B01110000)>>4;
TimeDate[i]=a+b*10;
}
}
temp.concat(TimeDate[4]);
temp.concat("/") ;
temp.concat(TimeDate[5]);
temp.concat("/") ;
temp.concat(TimeDate[6]);
temp.concat(" ");
temp.concat(TimeDate[2]);
temp.concat(":");
temp.concat(TimeDate[1]);
temp.concat(":");
temp.concat(TimeDate[0]);
return(temp);
}
```

Result:

Open serial monitor, you can see the time display as ajasrnt:

