

Connect the signal to Arduino digital 10, and open serial port monitor:

```
#include
```

```
/* DS18S20 Temperature chip i/o
```

```
*/
```

```
OneWire ds(10); // on pin 10
```

```
void setup(void) {
```

```
  // initialize inputs/outputs
```

```
  // start serial port
```

```
  Serial.begin(9600);
```

```
}
```

```
void loop(void) {
```

```
  byte i;
```

```
  byte present = 0;
```

```
  byte data[12];
```

```
  byte addr[8];
```

```
  int Temp;
```

```
  if ( !ds.search(addr)) {
```

```
    //Serial.print("No more addresses.n");
```

```
    ds.reset_search();
```

```
    return;
```

```
}
```

```

Serial.print("R="); //R=28 Not sure what this is

for( i = 0; i < 8; i++) {
    Serial.print(addr[i], HEX);
    Serial.print(" ");
}

if ( OneWire::crc8( addr, 7) != addr[7]) {
    Serial.print("CRC is not valid!\n");
    return;
}

if ( addr[0] != 0x28) {
    Serial.print("Device is not a DS18S20 family device.\n");
    return;
}

ds.reset();
ds.select(addr);
ds.write(0x44,1);    // start conversion, with parasite power on at the end

delay(1000);  // maybe 750ms is enough, maybe not
// we might do a ds.depower() here, but the reset will take care of it.

present = ds.reset();
ds.select(addr);
ds.write(0xBE); // Read Scratchpad

Serial.print("P=");

```

```

Serial.print(present,HEX);

Serial.print(" ");

for ( i = 0; i < 9; i++) {      // we need 9 bytes

    data[i] = ds.read();

    Serial.print(data[i], HEX);

    Serial.print(" ");

}

Temp=(data[1]<<8)+data[0];//take the two bytes from the response relating to
temperature

Temp=Temp>>4;//divide by 16 to get pure celcius readout

//next line is Fahrenheit conversion

Temp=Temp*1.8+32; // comment this line out to get celcius

Serial.print("T=");//output the temperature to serial port

Serial.print(Temp);

    Serial.print(" ");


Serial.print(" CRC=");

Serial.print( OneWire::crc8( data, 8), HEX);

Serial.println();

}

```