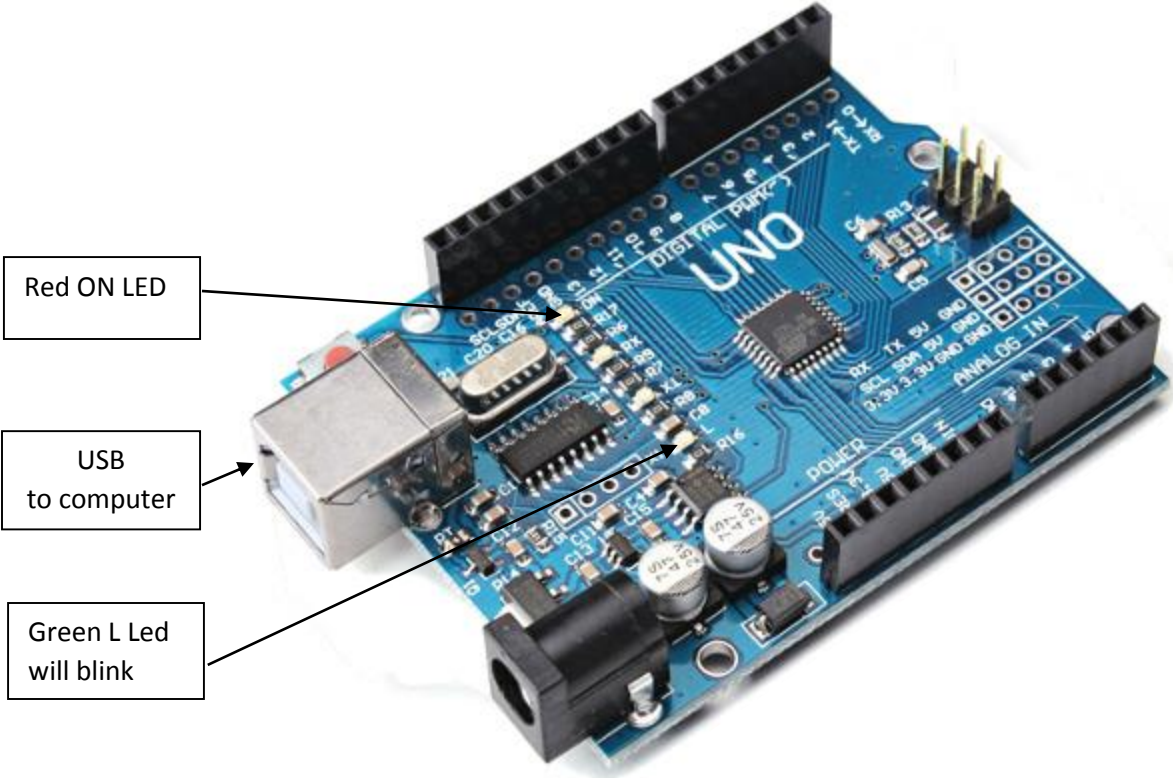


GoldSTEM_Lesson_01_Parts

Kit 105 Intermediate Experimental

| Item # | Kit 105 INTERMEDIATE EXPERIMENTAL | Quantity | | Check list |
|--------|--|----------|-----------------------|------------|
| 1 | Arduino UNO R3 Compatible | 1 | | |
| 2 | Male to Male Dupont cable | 20 | need to separate | |
| 3 | USB Cable | 1 | | |
| 4 | Breadboard 400 Holes | 1 | | |
| 5 | LED Red | 5 | | |
| 6 | LED Green | 5 | | |
| 7 | LED Yellow | 5 | | |
| 8 | LID White | 5 | | |
| 9 | LED RGB Red Green Blue | 1 | | |
| 10 | Resistor 220 Ohm | 10 | | |
| 11 | Resistor 1K | 10 | | |
| 12 | Resistor 10K | 10 | | |
| 13 | Resistor 100K | 10 | | |
| 14 | Photo resistor 5516 | 2 | | |
| 15 | Button Switch | 6 | | |
| 16 | Button Switch Cover | 6 | | |
| 17 | 9V Battery Connector | 1 | | |
| 18 | DS3231 Clock Memory Module Temperature | 1 | | |
| 19 | LCD 1602 5V Blue 2X16 | 1 | Need to solder header | |
| 20 | DHT11 Temperature and Humidity | 1 | | |
| 21 | 2 Digit Multiplexed Common Anode LED | 1 | | |
| 22 | Speaker 28MM 1W 8Ohm | 1 | Need to solder lugs | |
| 23 | Speaker Solder Lugs | 2 | | |

Arduino UNO R3 Compatible



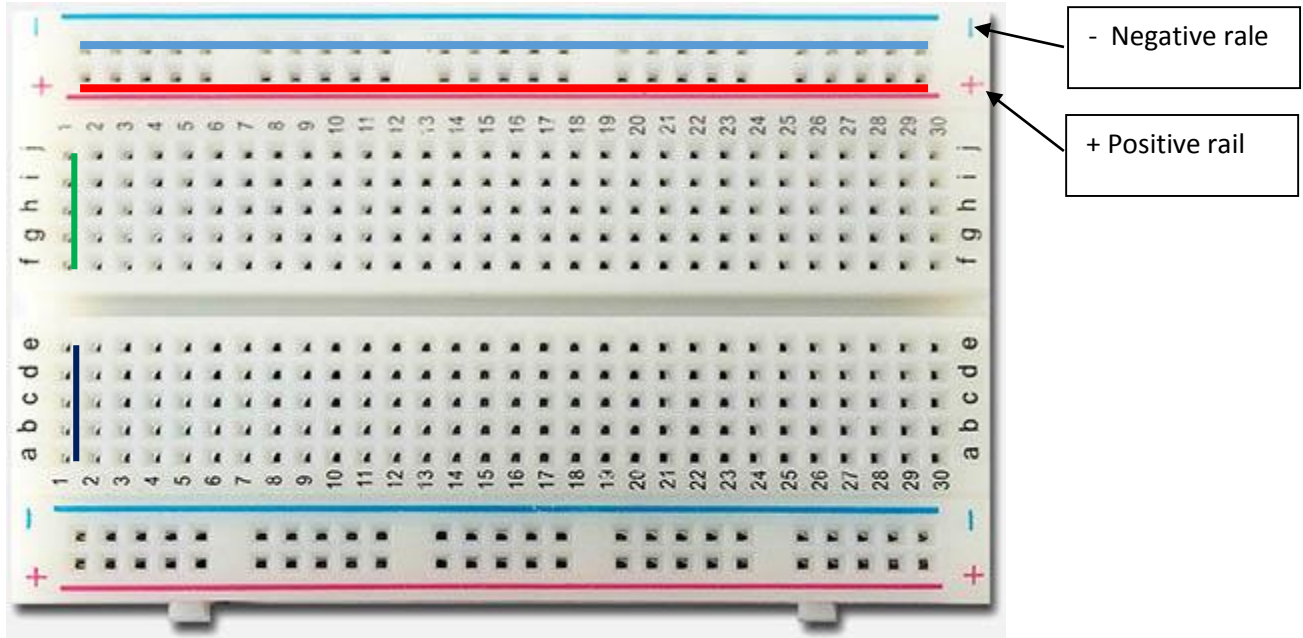
Cable



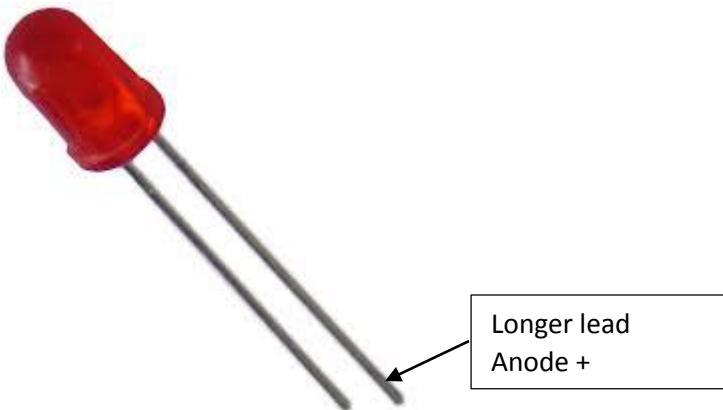
USB Cable



Breadboard



LED RED



You will notice that one lead of the LED is longer than the other and on the side of the short lead there is a flat spot on the LED.

Anode Longer lead +

Cathode Shorter lead -

LED

GREEN



YELLOW

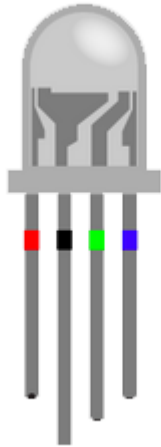


WHITE



RGB LED

R G B LED



Common Anode

Resistor

Resistor 1K 4 band code



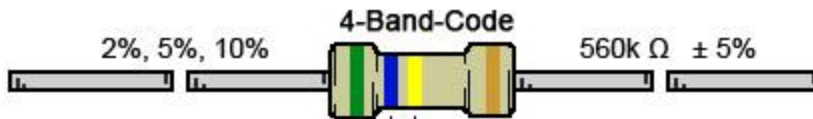
E12 Range, Resistor 1K Ω , 5% Tolerance, Carbon Film



If your Kit has resistors with blue bodies they are metal oxide 1% resistors with a 4 band resistor code.

Brown Black Black Brown Brown

1 0 0 0 1% = 1K at 1%



| COLOR | 1 ST BAND | 2 ND BAND | 3 RD BAND | MULTIPLIER | TOLERANCE |
|--------|----------------------|----------------------|----------------------|---------------|------------------|
| Black | 0 | 0 | 0 | 1 Ω | |
| Brown | 1 | 1 | 1 | 10 Ω | $\pm 1\%$ (F) |
| Red | 2 | 2 | 2 | 100 Ω | $\pm 2\%$ (G) |
| Orange | 3 | 3 | 3 | 1K Ω | |
| Yellow | 4 | 4 | 4 | 10K Ω | |
| Green | 5 | 5 | 5 | 100K Ω | $\pm 0.5\%$ (D) |
| Blue | 6 | 6 | 6 | 1M Ω | $\pm 0.25\%$ (C) |
| Violet | 7 | 7 | 7 | 10M Ω | $\pm 0.10\%$ (B) |
| Grey | 8 | 8 | 8 | | $\pm 0.05\%$ |
| White | 9 | 9 | 9 | | |
| Gold | | | | 0.1 Ω | $\pm 5\%$ (J) |
| Silver | | | | 0.01 Ω | $\pm 10\%$ (K) |

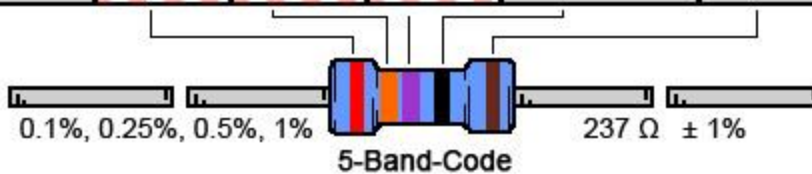


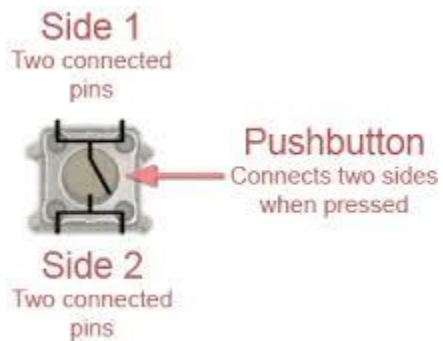
Photo Resistor

A photoresistor or light-dependent resistor (LDR) or photocell is a light-controlled variable resistor. The resistance of a photoresistor decreases with increasing incident light intensity; in other words, it exhibits photoconductivity.



Button Switch With Cover

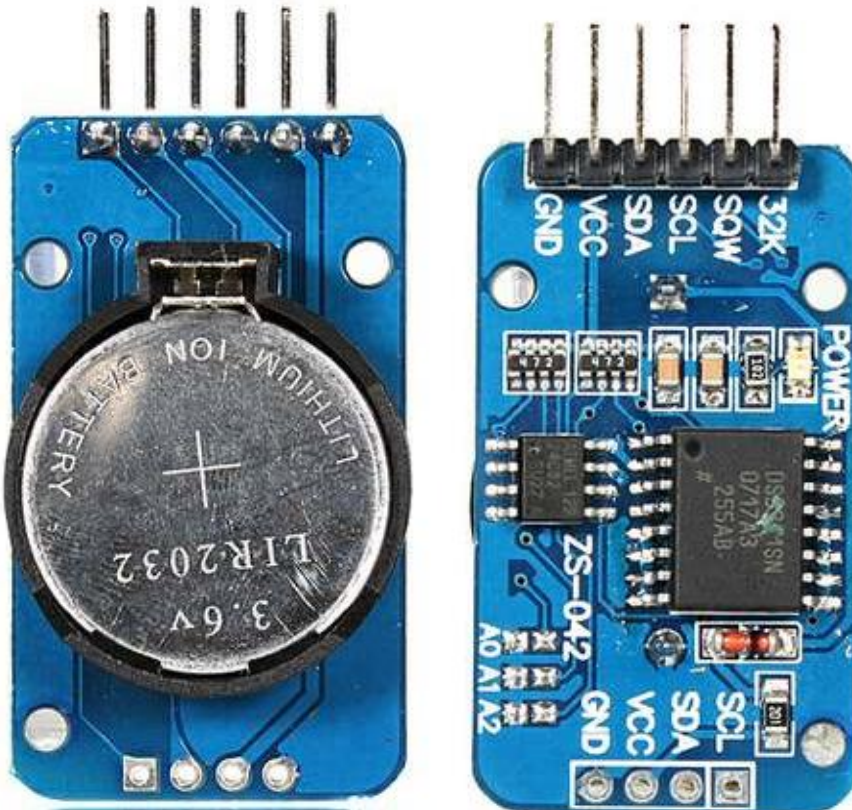
Momentary normally open



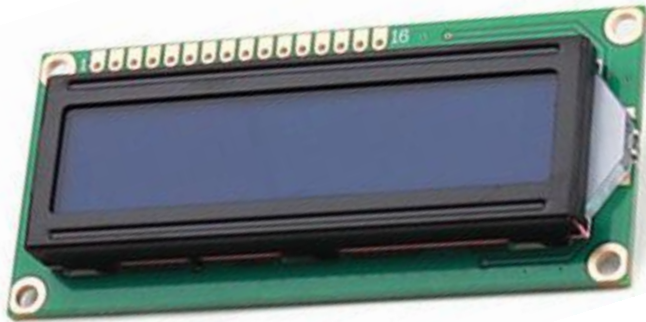
9 V Battery Connector



DS3231 Clock Module

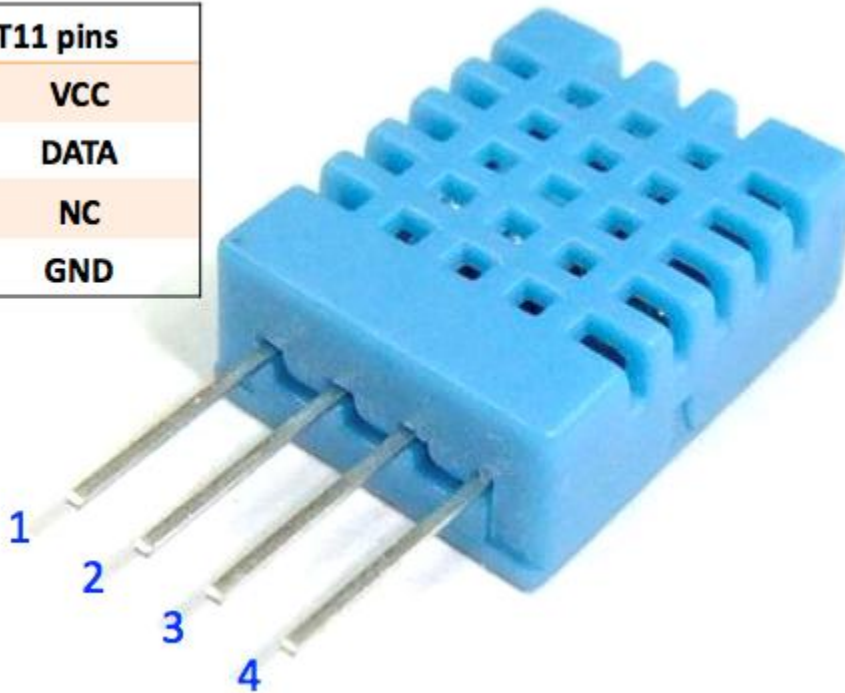


LCD 1602 2X16 Two rows by 16 Characters



DHT11 Temperature and Humidity

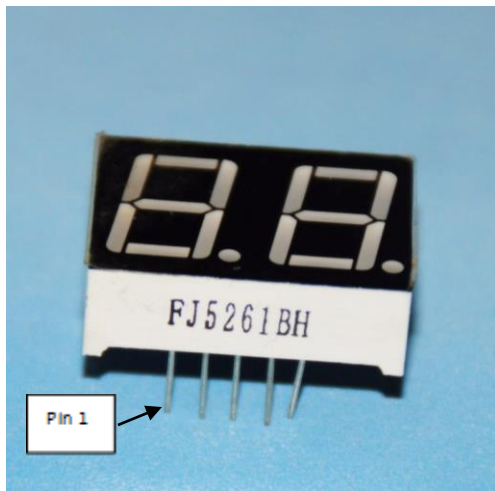
| DHT11 pins | |
|------------|------|
| 1 | VCC |
| 2 | DATA |
| 3 | NC |
| 4 | GND |



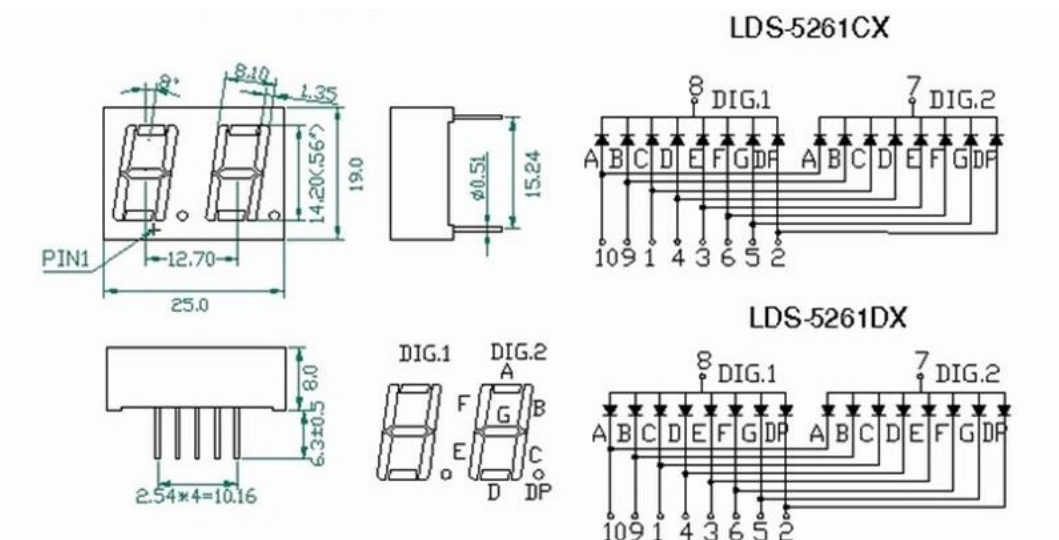
Data sheet on DHT11

<http://akizukidenshi.com/download/ds/aosong/DHT11.pdf>

2 Digit Seven Segment Display



- Pin 1 of the unit is the front left most pin
- Pin 5 is the front right most pin
- Pin 6 is the back right
- Pin 10 is the back left



Common Cathode means all of digit 1 cathodes are connected together at pin 8
 All of digit 2 cathodes are connected together at pin 7

Speaker 28mm 1W 8 Ohm

With Speaker Solder Lugs

