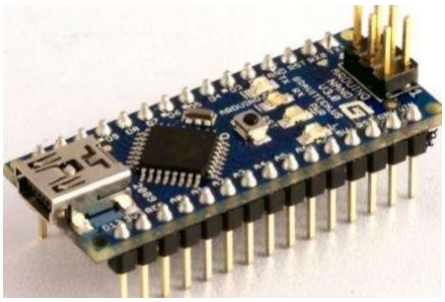
HARDWARE DETAILS

1. ARDUINO **NANO 3.0**
2. ULTRASONIC RANGING MODULE. **HC -SR04**
3. DC MOTOR /SUBMERSIBLE SPRAY PUMP
4. MICRO SERVO
   SG90 9
5. TEMPERATURE
   SENSOR**[ML614**]
6. BUZZER
7. BREAD BOARD
8. LCD16X2
9. RELAY

Arduino Nano 3.0

It is an open source microcontroller based computing platform used for easy programming and synchronizing of different analog and digital sensors and it is also capable of sending and receiving data over the internet. It is built up with 8-bit Atmel AVR or 32- bit Atmel ARM microcontrollers.

It provides a comfortable design platforms for hobbyists , students and professional designers



Ultrasonic Ranging HC-SR04

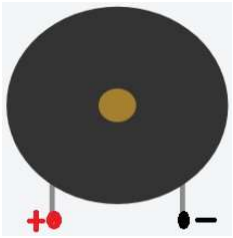
The sensor has a range of 2cm - 400 cm. The sensor operates by transmitting an ultrasound and receiving the echo as it bounces back against an obstacle after a certain time and calculates the distance of the object accordingly. The sensors sends the ultrasound and senses the echo with the same pin SIG. .

DC motor/submersible pump

Micro dc 3-6v micro submersible pump mini water pump for fountain garden mini water circulation system diy project dc 3v to 6v submersible pump micro mini submersible water pump 3v to 6vdc waterpump for diy dc pump for hobby kit mini submersible pump motor this is a low cost, small size submersible pump motor which can be operated from a 2.5 ~ 6V power supply. It can take up to 120 liters per hour with very low current consumption of 220ma. Just connect tube pipe to the motor outlet,submerge it in water and power it. Make sure that the water level is always higher than the motor. Thedry run may damage the motor due to heating and it will also produce noise.

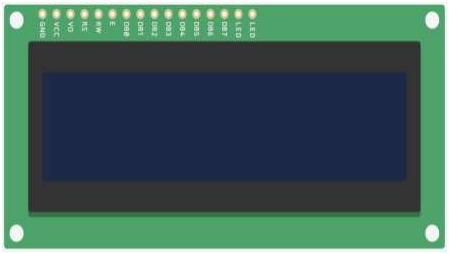
Buzzer

It produces a tone when it is synchronized with other sensors or it is made to producetone for particular purpose



LCD

It is a liquid crystal display module that produces visible displays. It has 16 columns and 2 rows. Each character is displayed in 5 × 7 pixel matrix.**250 k ohmpotentiometer** is used to maintain the contrast of the display.220 ohm resistor is attached in anode terminal.



Temperature Sensor [MLX90614]

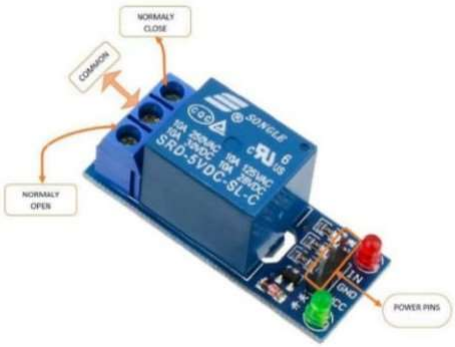
The sensor works on the property of diode, as the temperature changes in the diode the voltage also changes at a constant rate. The analog input represents 0 as no voltage and 1023 as 5v. According tothe datasheet the sensor will give output 0 – 1.75 V over a range of 175□C(- 50□ C- 125□C) that's depicts every 0.01V = 1 □ .

Pin 1 – input voltage , Pin 2 – signal out , Pin 3 – ground.

Bread Board

It is a construction base used for making prototypes of different electronic circuits. It isa solderless base that ease in circuitry rectification.

1 Channel 5V Optical Isolated Relay Module



9g Tower Pro Servo

These Micro strong and made to last, great for planes.The servos include 3 servo arms .

SPECIFICATION:-

- DIMENSION: 26mm*13mm*24mm
- WEIGHT: 9G
- OPERATING SPEED: 0.12sec/60degree(4.8V);0.11sec/60degree(6V)
- STALL TORQUE: 1.2kg/cm or 17oz-in. (4.8V) 1.6kg/cm or 22oz-in.(6.0V)
- OPERATING VOLTAGE: 4.8V~6.0V
- FEATURE: 3 pole wire, all nylon gear, connector wire length: 15cm

SG90 9g Micro Servo

The wire colors are Red = Battery(+) Brown = Battery(-) Orange = Signal

SOFTWARE DETAILS

- ARDUINO IDE (ARDUINO nightly)