

SMART PLANT MONITORING SYSTEM



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Importance of Plant Health

- Enhanced Growth:** Smart plant monitoring systems provide real-time data on soil moisture, light exposure, and nutrient levels, enabling optimal conditions for plant growth.
- Preventive Care:** By detecting early signs of stress or disease, plant monitoring systems help prevent plant damage and ensure timely intervention.
- Environmental Impact:** Monitoring plant health contributes to environmental sustainability by reducing water wastage and minimizing the use of fertilizers and pesticides.

Components

- PIR MOTION SENSOR
- DHT 11 SENSOR
- SOIL MOISTURE SENSOR
- RELAY MODULE TO TURN ON AND OFF THE WATER PUMP
- BATTERY 7.4V TO POWER THE WATER PUMP
- 16 X 2 I2C LCD DISPLAY.
- IT RUNS WITH ESP8266



Various Components of System..



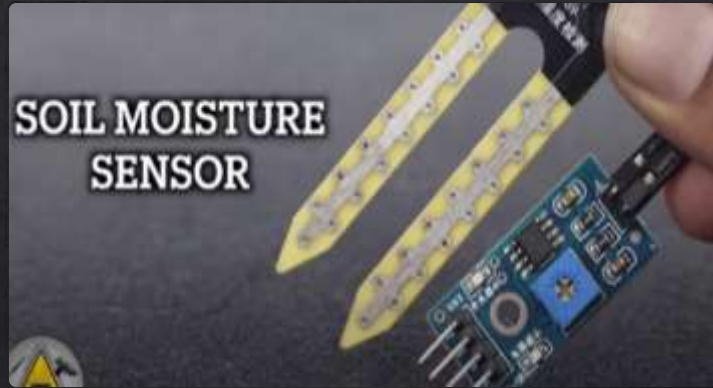
*It enables
microcontrollers to
connect to wi-fi*



*Measures the
temperature and
humidity of the
surrounding*



*Measures infrared
light radiating from
objects in its field of
view.*



*Measure or estimate
the amount of
water in the soil*



*To switch electrical
devices or systems
on and off*



*Used in projects to
display the text or
ascii characters of
all types.*



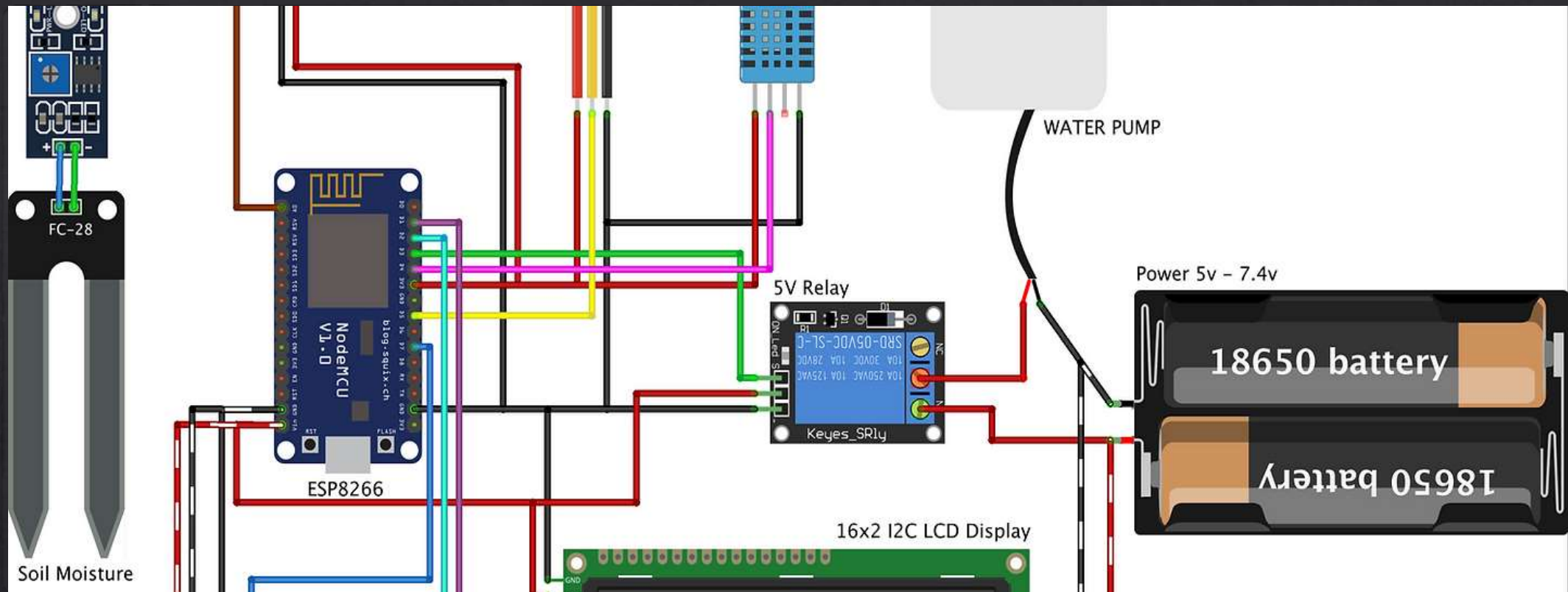
To move, compress or transfer water And provides water supply



Used for building temporary circuits.



To close, open or bypass part of an electronic circuit.



Circuit Diagram of Smart Plant Monitoring System

Benefits of Smart Plant Monitoring System

- Optimized Plant Care:** Smart plant monitoring systems empower home gardeners and urban farmers to provide optimal care for their plants, leading to healthier and more productive yields.
- Space Efficiency:** In urban settings, these systems enable efficient use of limited space by ensuring that plants receive precise care tailored to their specific needs.
- Educational Tool:** Smart plant monitoring serves as an educational tool for teaching sustainable gardening practices and environmental awareness.

THANK YOU!