

Air Quality monitoring



PHASE -2 PROJECT

submitted by

M. Rekha

V. Arthi

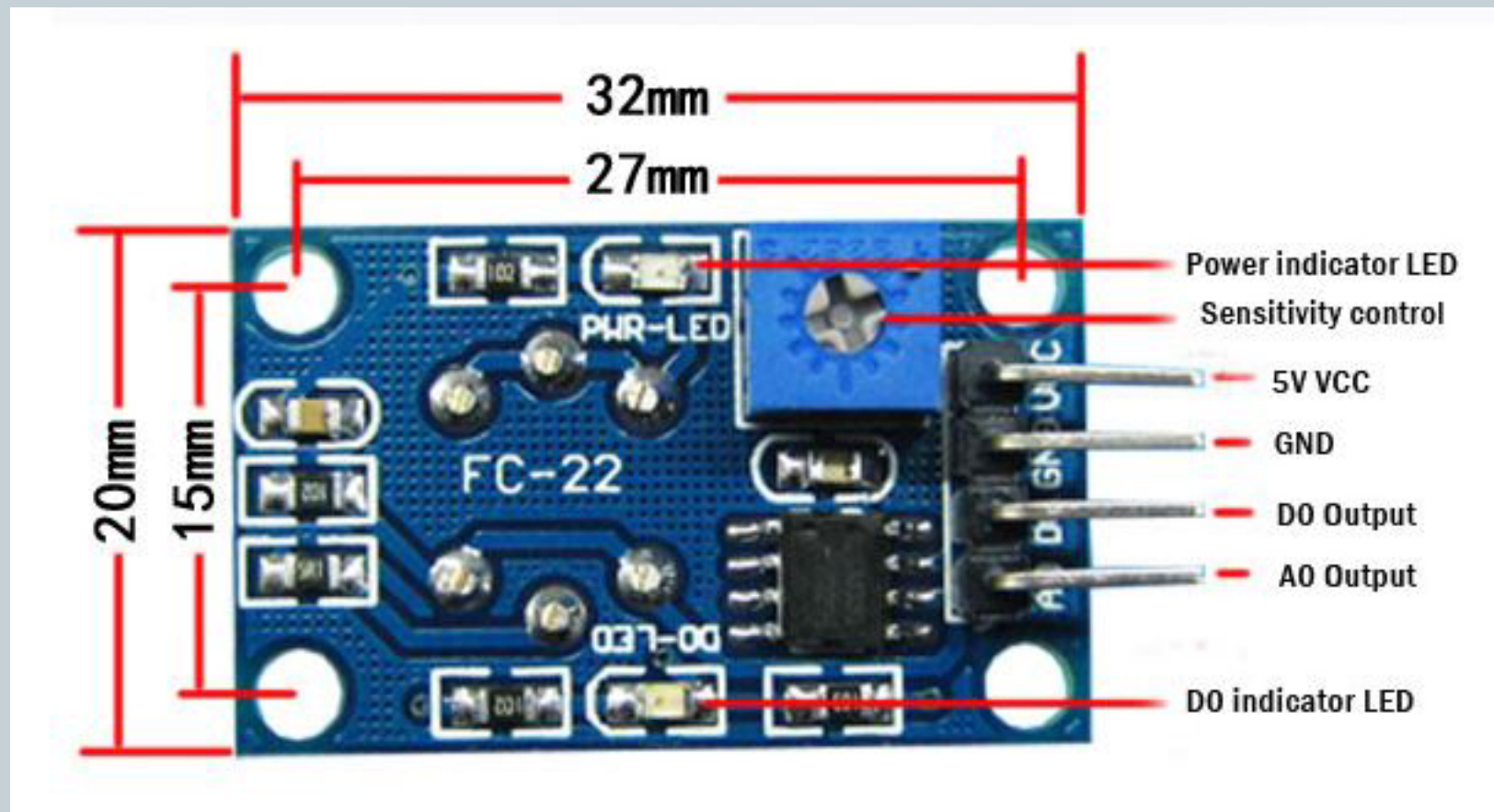
A Easwari

S. Sruthi

MQ135 gas sensor:



MQ135 sensor :



Definitions for MQ135 sensor:



Define MQ135 gas sensor :-

MQ-135 gas sensor module is a device that is used for sensing a range of gases, including ammonia (NH_3), sulfur dioxide (SO_2), and carbon monoxide (CO).

The MQ135 gas sensor has a high sensitivity to ammonia, sulfide, and benzene-based vapors, and is ideal for monitoring smoke and other harmful gases.

Specifications for MQ135



Working voltage: Dc 5V

Working Current: 150mA

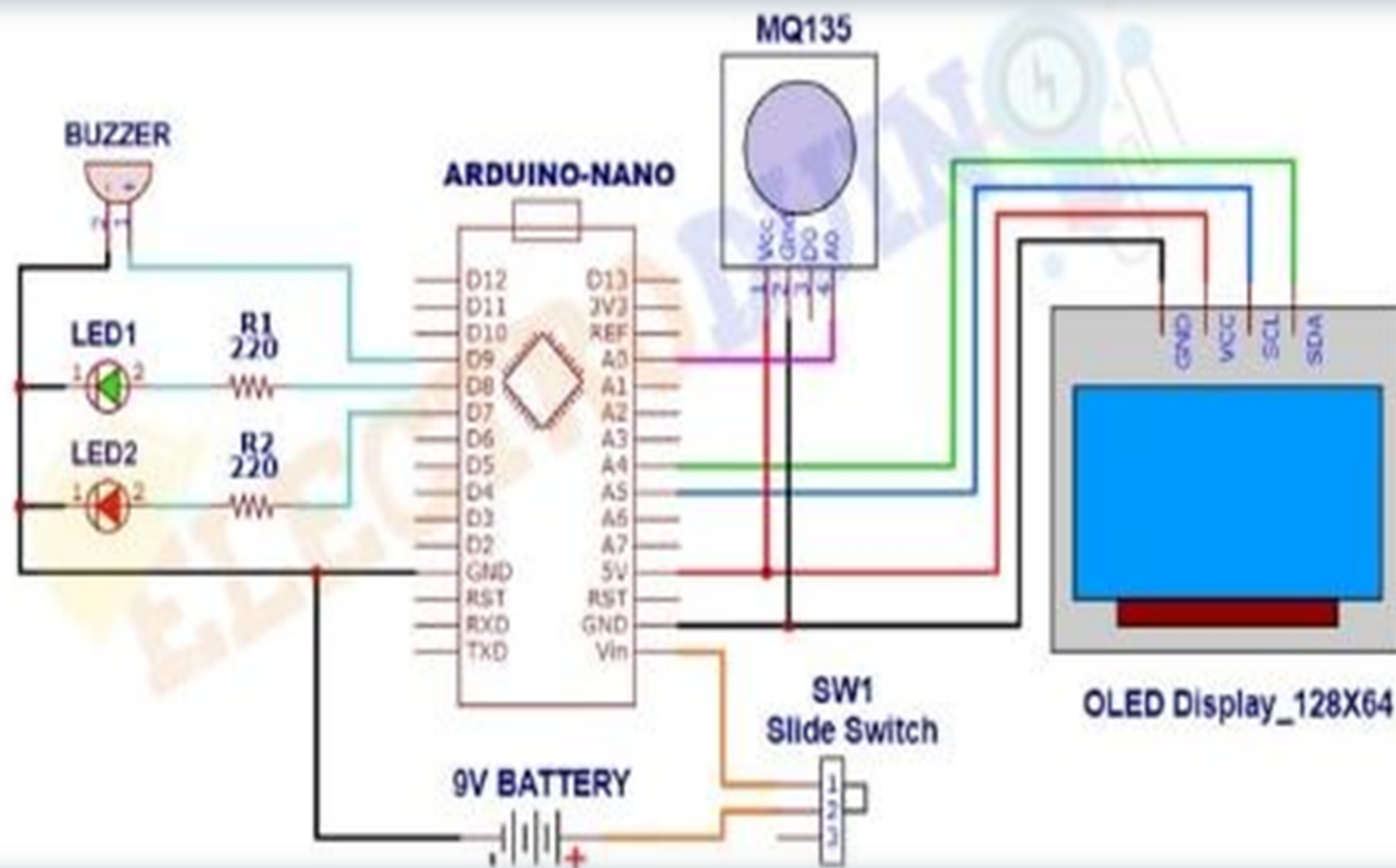
DOUT: TTL output

AOUT: Analog output

Preheat time: Over 20s

Dimension: 32mm x 22mm x 27mm(HIGH 27mm)

Circuit diagram



Applications



Pollution Monitoring:-

1. Deploy multiple MQ135 sensors around a city or urban area to monitor air pollution levels.
2. These sensors can detect harmful gases such as carbon monoxide (CO), nitrogen dioxide (NO₂), and sulfur dioxide (SO₂).

Air Quality Index (AQI) Monitor:-

1. Develop a device that calculates and displays the AQI based on the concentration of different gases measured by the MQ135 sensor.

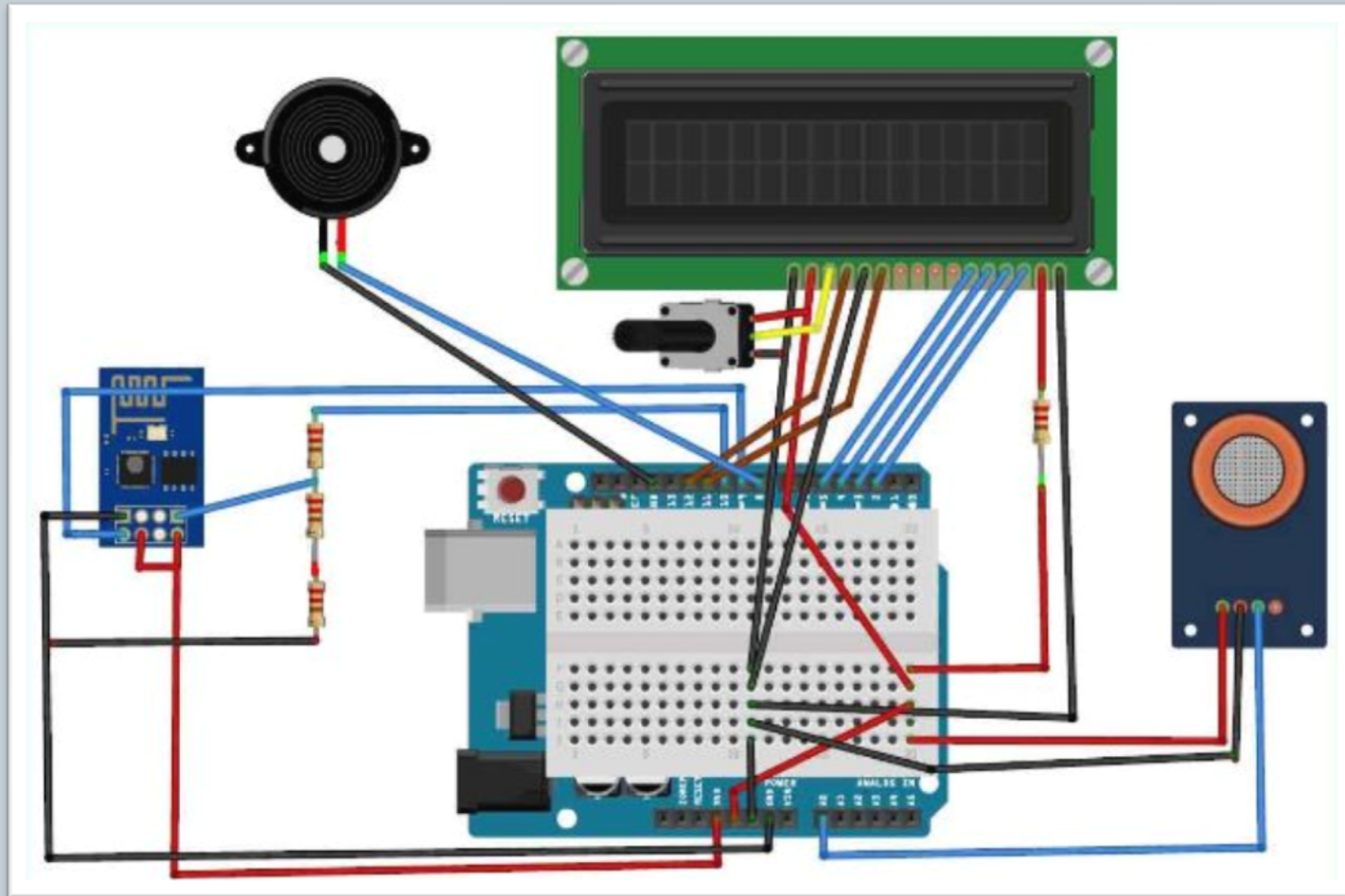
Quality & purification control



Build a wireless IOT air quality monitoring system using an Arduino and MQ135 sensor. The data can be sent to a cloud platform or a local server for real-time monitoring and analysis.

Connect the MQ135 sensor to an Arduino-controlled air purifier. When the sensor detects poor air quality, the purifier can be activated to clean the air.

Developed device for AQM



Requirement for AQM innovation



COMPONENTS REQUIRED:-

MQ135 Gas sensor

Arduino NANO

Wi-Fi module ESP8266

16X2 LCD

Breadboard

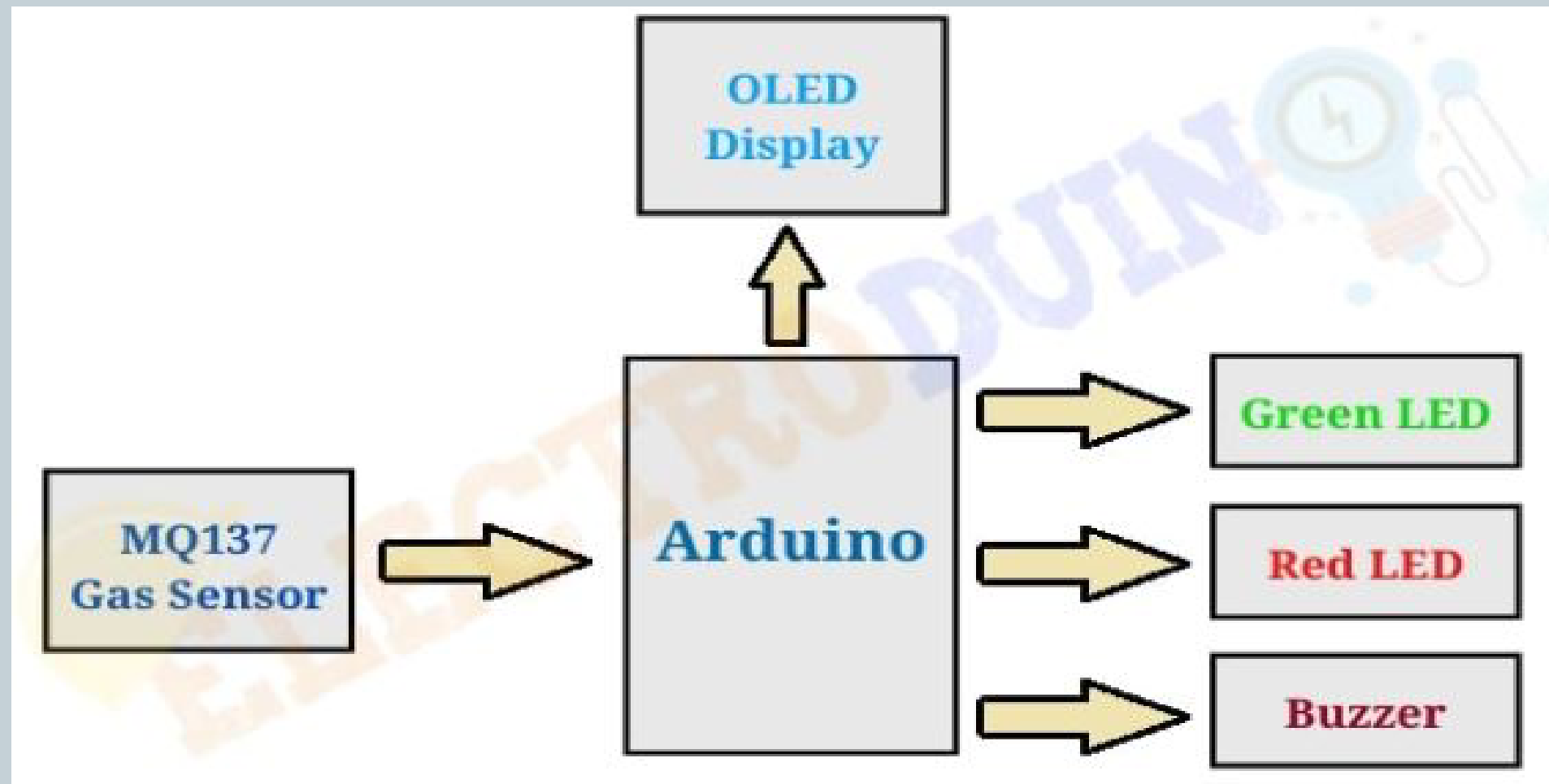
10K potentiometer

1K ohm resistors

220 ohm resistor

Buzzer

Block diagram



Air pollution monitoring system using arduino and MQ135 block diagram.

Explanation for block diagram



Arduino Board:

The Arduino board block represents the microcontroller (e.g., Arduino Uno, Arduino Nano) that interfaces with the MQ135 sensor. The Arduino reads analog signals from the sensor and processes the data.

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Resources for display and power supply



Power Supply:

This block represents the power source for the system. Typically, an Arduino can be powered via USB, battery, or an external power supply.

Display Unit:

The display unit block represents an output device (e.g., an LCD display or OLED screen) that provides real-time feedback to users.



THANK YOU!