M3_WiperSystem

Introduction

Wiper system is automatically ON during the time of rainfall. The senor is fixed in the vehicle glass. The conductive (Touch) sensor is used in this project. It senses the rainfall and giving control signal to the control unit. The control unit activates the wiper motor automatically.

Components Used

Stm32

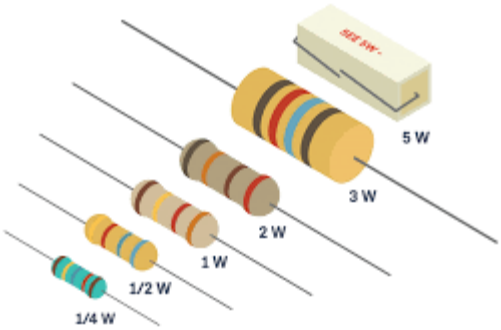
The STM32 family of 32-bit microcontrollers based on the Arm® Cortex®-M processor is designed to offer new degrees of freedom to MCU users. It offers products combining very high performance, real-time capabilities, digital signal processing, low-power / low-voltage operation, and connectivity, while maintaining full integration and ease of development.

Servo Motor

A servomotor is a rotary actuator or linear actuator that allows for precise control of angular or linear position, velocity and acceleration. It consists of a suitable motor coupled to a sensor for position feedback.

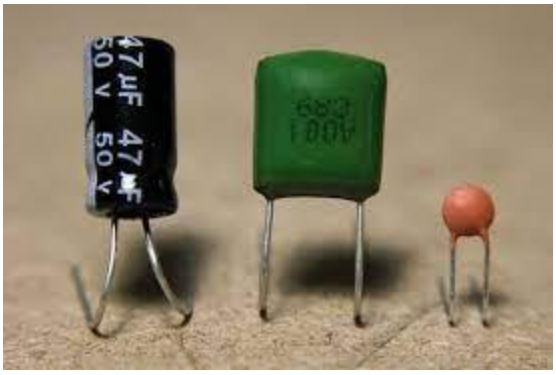
Resistors

A resistor is a passive two-terminal electrical component that implements electrical resistance as a circuit element. In electronic circuits, resistors are used to reduce current flow.



Capacitor

A capacitor is a device that stores electrical energy in an electric field. It is a passive electronic component with two terminals. The effect of a capacitor is known as capacitance.



LED's Blinker

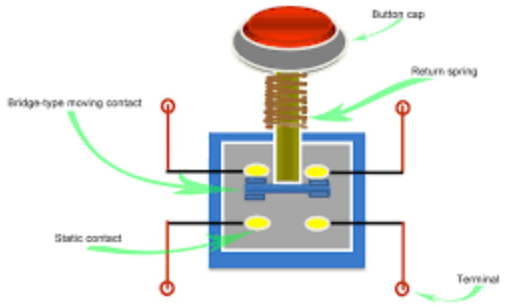
LED flashers are semiconductor integrated circuits used to turn on and off groups of light emitting diodes either sequentially or according to a programmed pattern. They are found in circuits used as indicators and controllers, as well as in home-built projects.

Cables and Connector

A cable, also known as a cord, plug, or connector transmits power or data between devices or positions, which is covered in plastic by one or more wires.

Push Button

A push-button or simply button is a simple switch mechanism to control some aspect of a machine or a process. Buttons are typically made out of hard material, usually plastic or metal.



High Level Requirements

| ID | Description | Status |

| HLR01 | Detecting rainfall and active automobile rain wiper | Implemented |

| HLR02 | It operate manually | Implemented |

| HLR03 | Displaying the information in led | Implemented |

Low Level Requirements

| ID | Description | Status |

| LLR01 | It work functionally according to outside water | Implemented |

| LLR02 | Consume less power | Implemented |

Application

It is used in four wheelers.

It is used in aircraft.

Low cost automation project.

Less power consumption