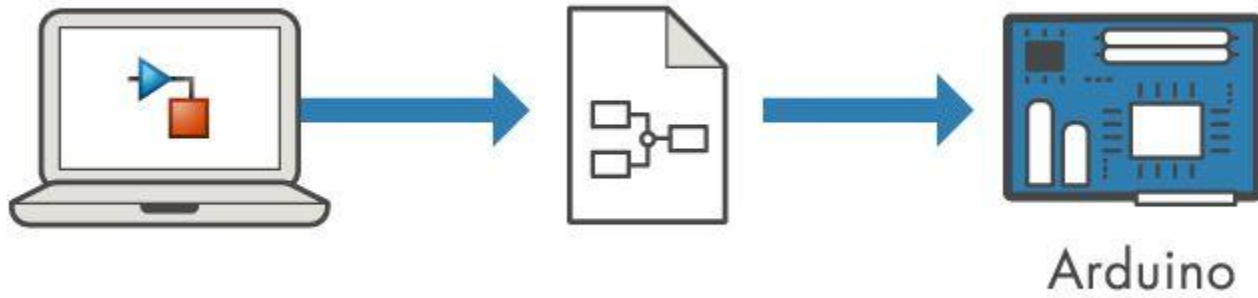


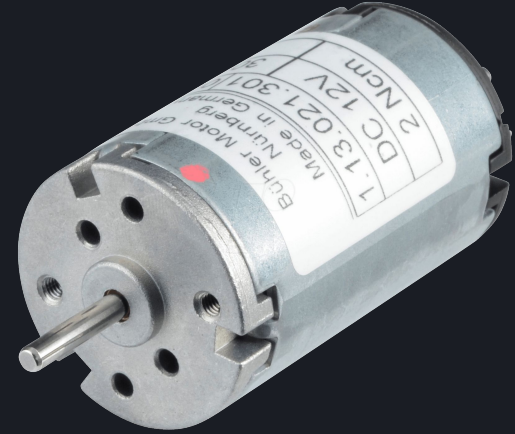
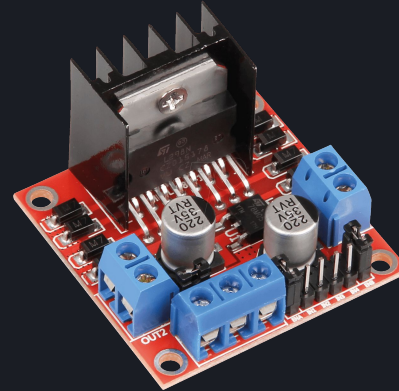
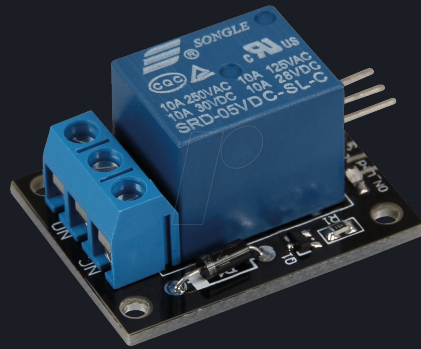
Arduino Simulink Interface Module



Arduino Simulink Interface Module

Application

- DC Motor Control
 - ON/OFF Control
 - Direction Control
 - Speed Control

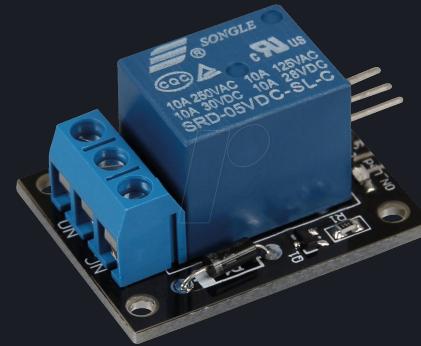


Arduino Simulink Interface Module

Application

- ON/OFF Control

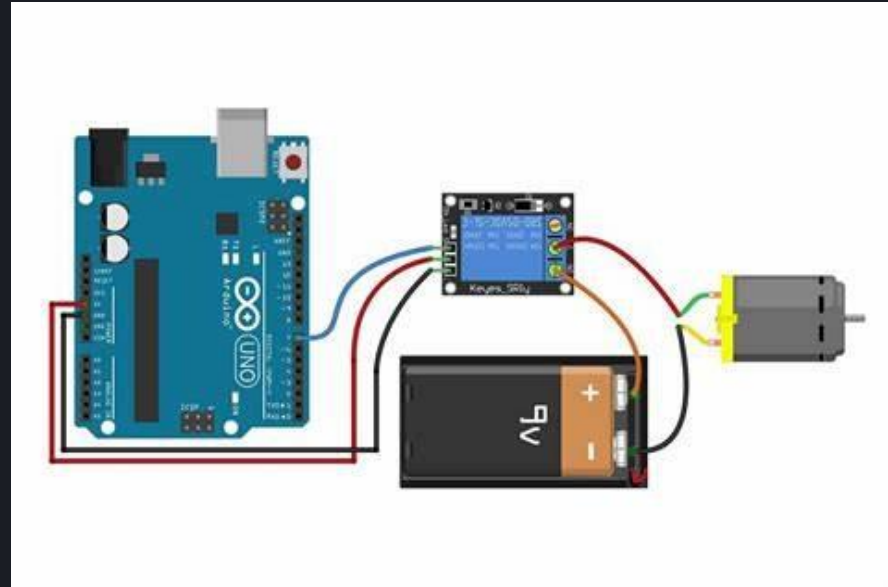
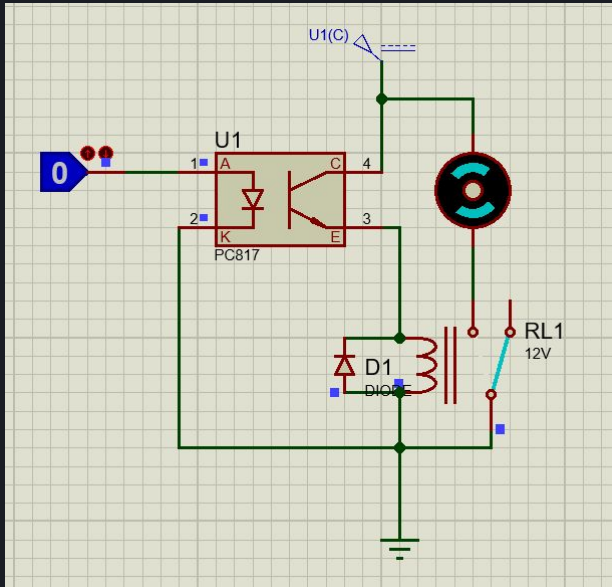
On/off control using a relay involves using the relay as a switch to turn a device or circuit on or off. When the relay is energized, the contacts close, allowing current to flow and turning the load on. Conversely, when the relay is de-energized, the contacts open, interrupting the current flow and turning the load off. Relays offer galvanic isolation, can switch high currents, and are reliable but may have mechanical wear and slower switching speeds compared to solid-state switches.



Arduino Simulink Interface Module

Application

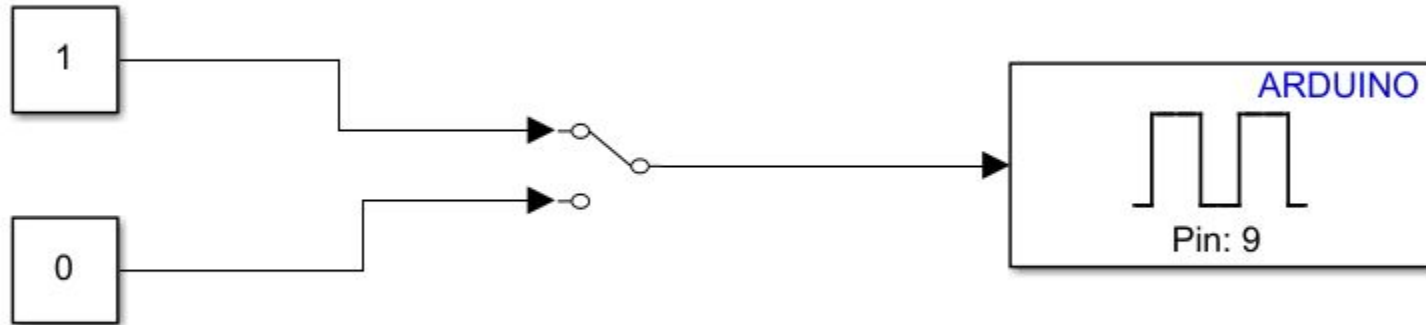
- ON/OFF Control



Arduino Simulink Interface Module

Application

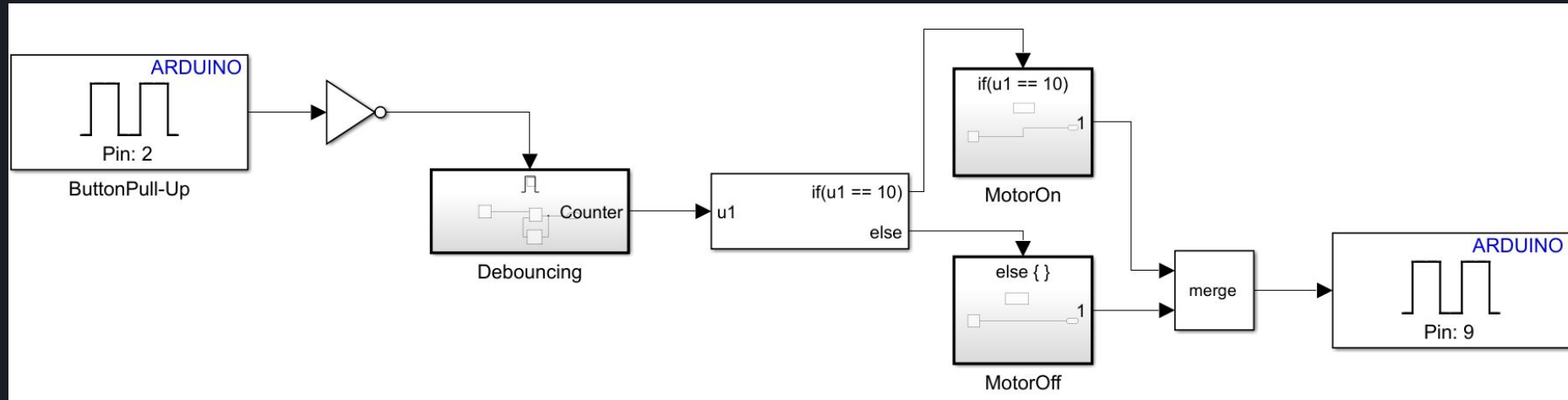
- ON/OFF Control



Arduino Simulink Interface Module

Application

- ON/OFF Control using Push Button

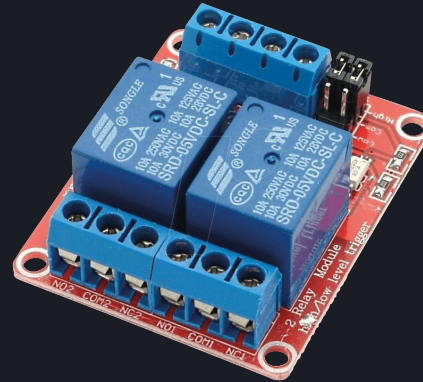


Arduino Simulink Interface Module

Application

- Direction Control

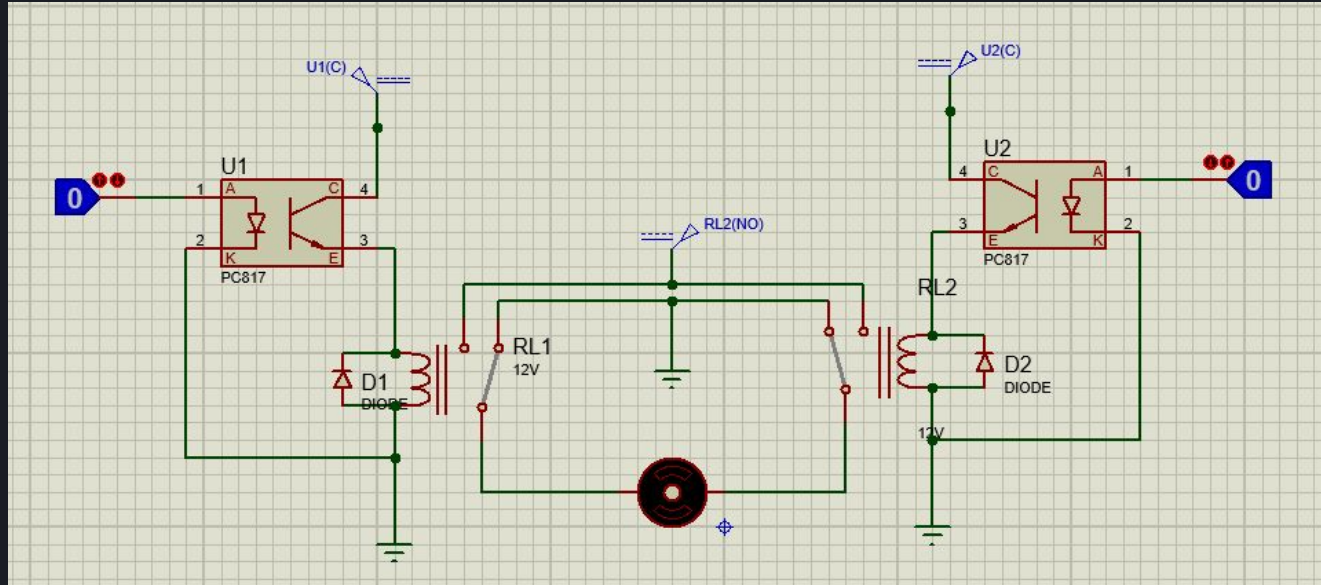
Direction control using a relay involves using the relay to reverse the polarity of a motor's power supply, changing its rotation direction. By energizing one relay coil to close one set of contacts and de-energizing the other coil to open the other set of contacts, the motor's direction can be easily controlled. Relays provide a simple and reliable method for direction control but may have mechanical wear and slower switching speeds compared to solid-state switches.



Arduino Simulink Interface Module

Application

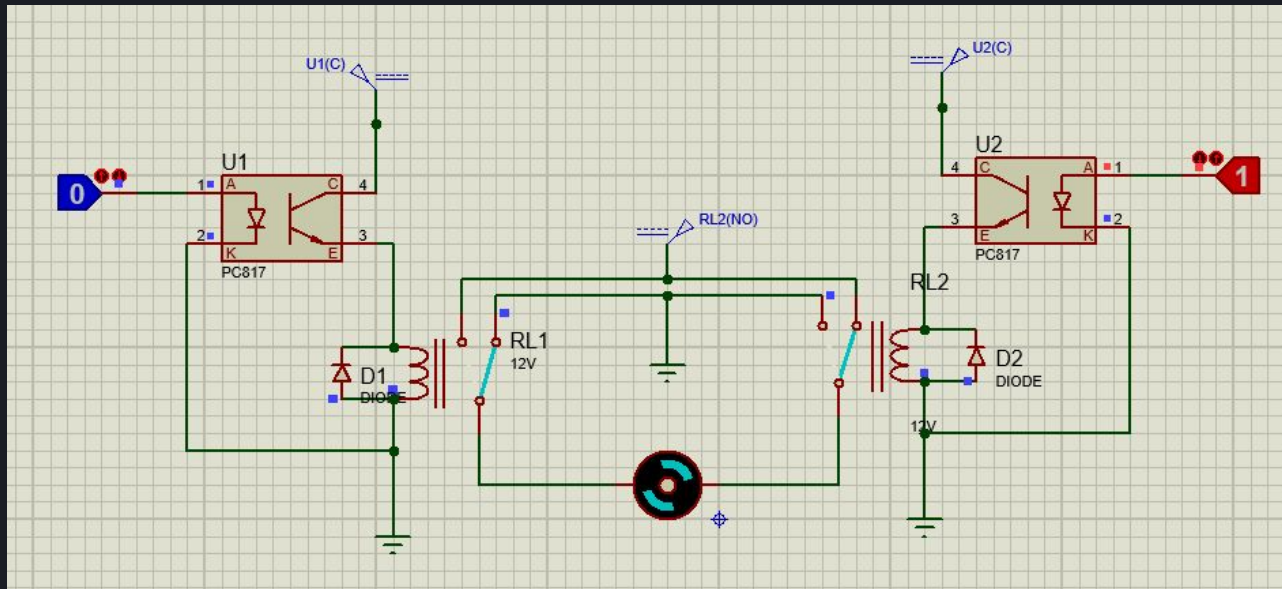
- Direction Control



Arduino Simulink Interface Module

Application

- Direction Control

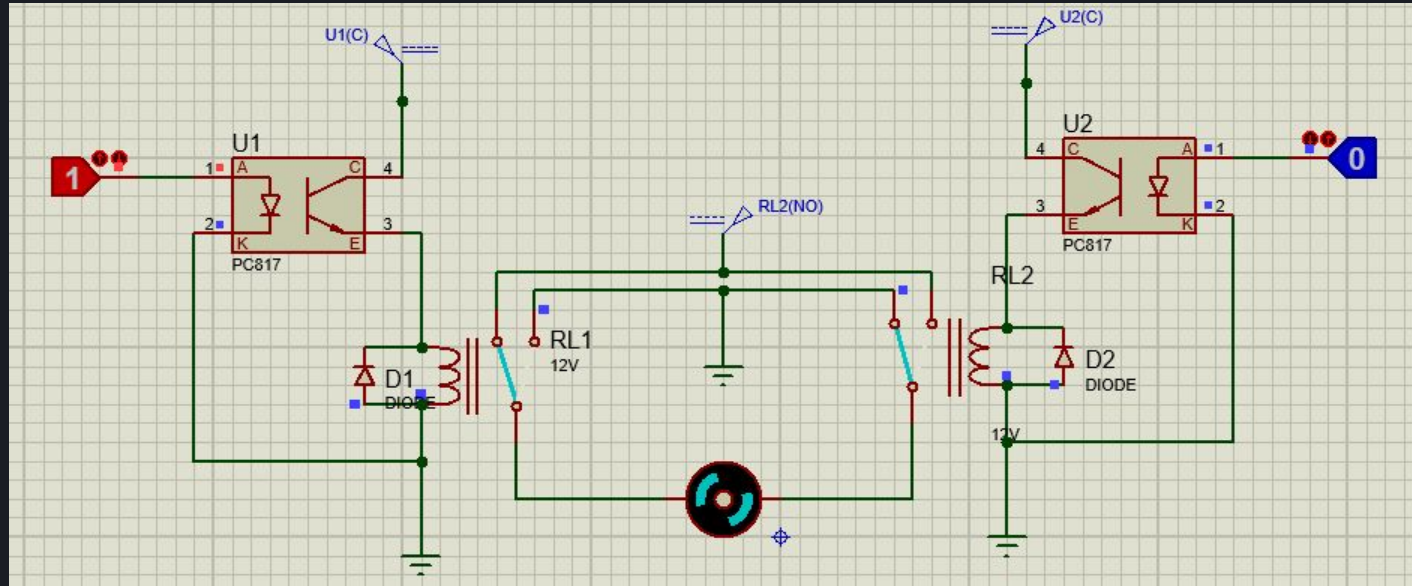


Model-Based Development Program

Arduino Simulink Interface Module

Application

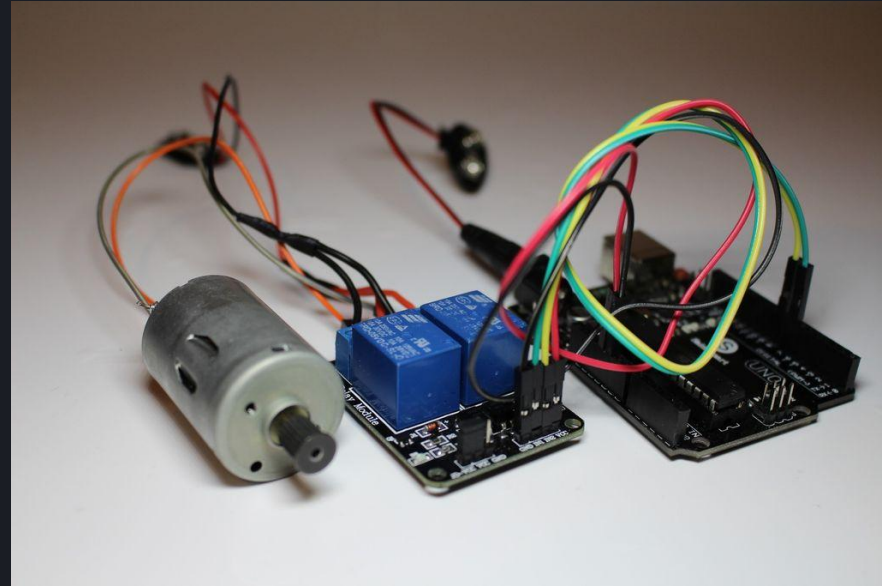
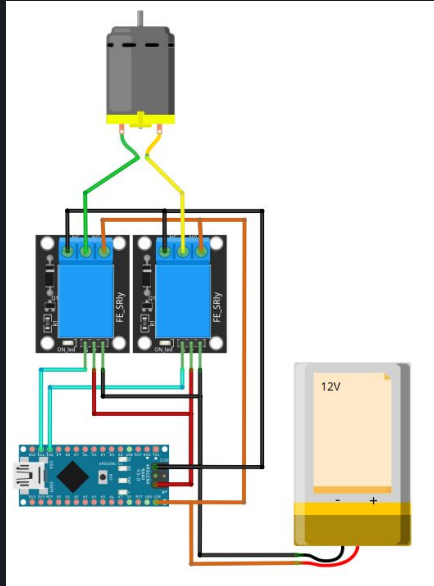
- Direction Control



Arduino Simulink Interface Module

Application

- Direction Control

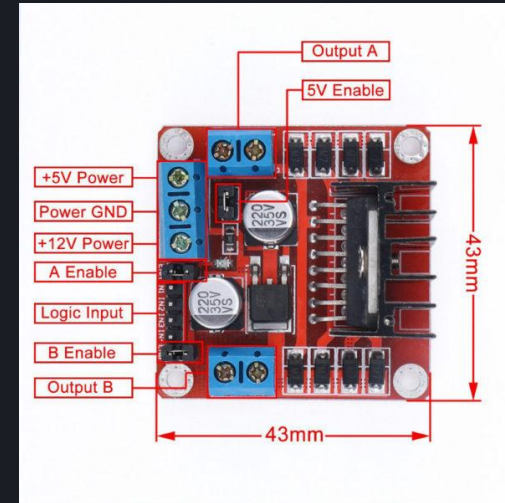


Arduino Simulink Interface Module

Application

- Speed Control

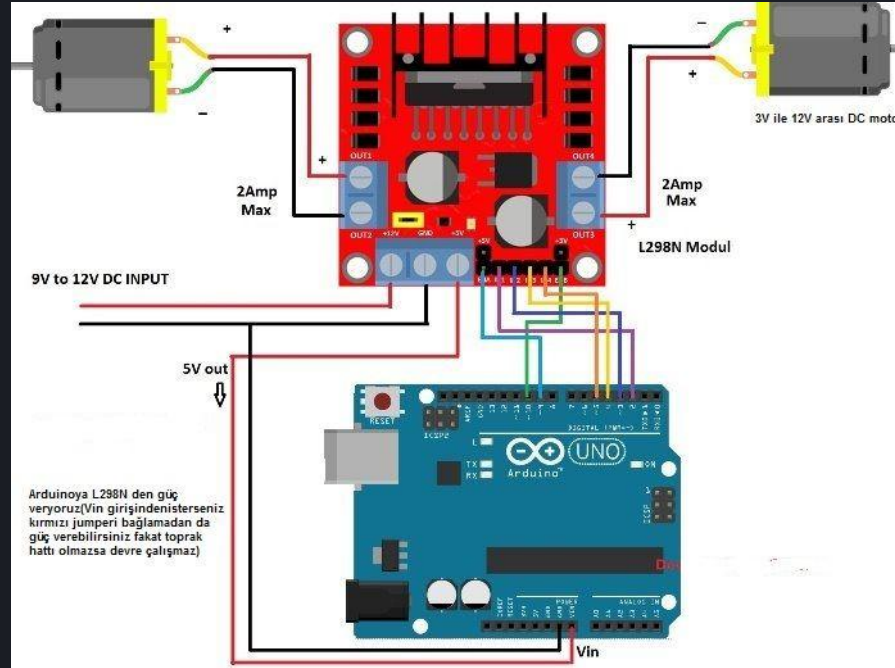
Speed control using the L298 motor driver involves regulating the voltage supplied to a DC motor using pulse width modulation (PWM) signals. By adjusting the duty cycle of the PWM signal sent to the L298 motor driver's enable pins, the motor's speed can be controlled. This method offers precise speed regulation and is commonly used in robotics, automation, and motorized vehicles.



Arduino Simulink Interface Module

Application

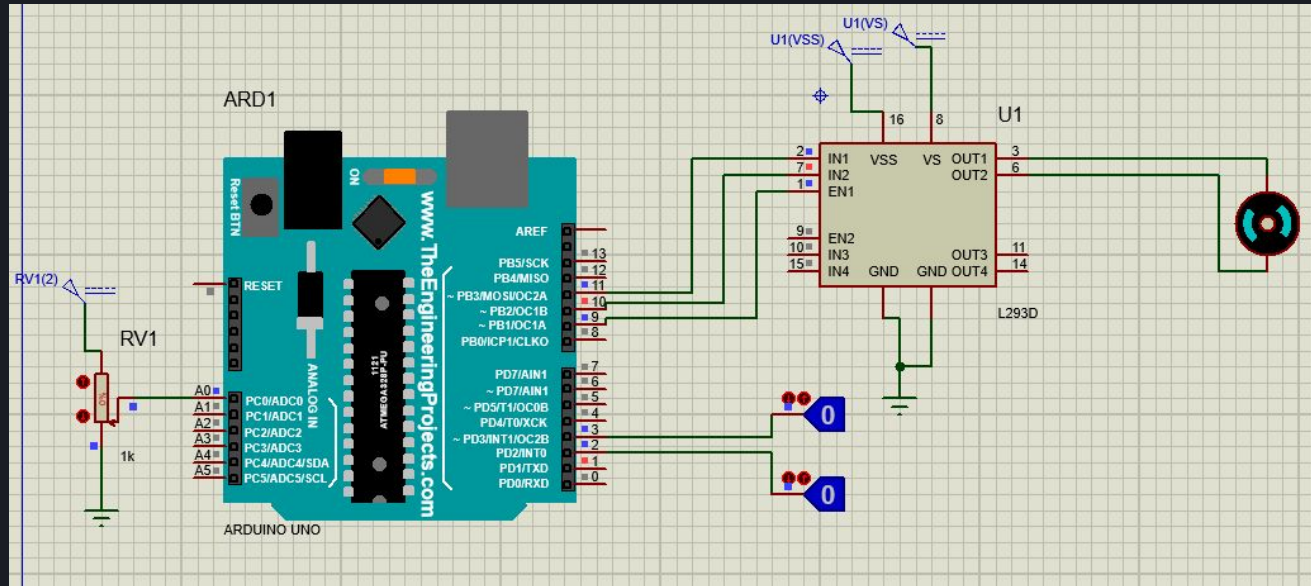
- Speed Control



Arduino Simulink Interface Module

Application

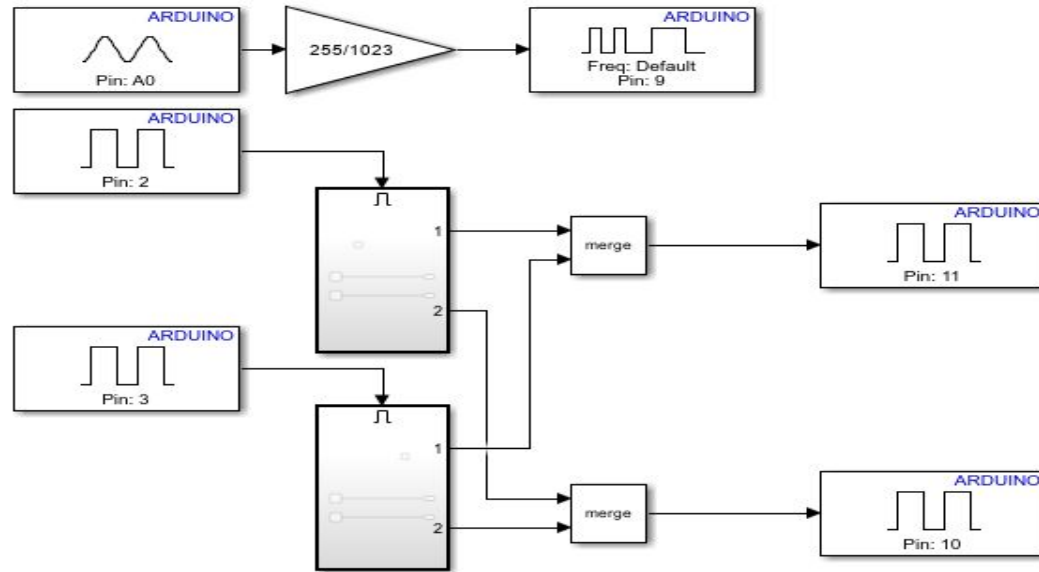
- Speed Control



Arduino Simulink Interface Module

Application

- Speed Control



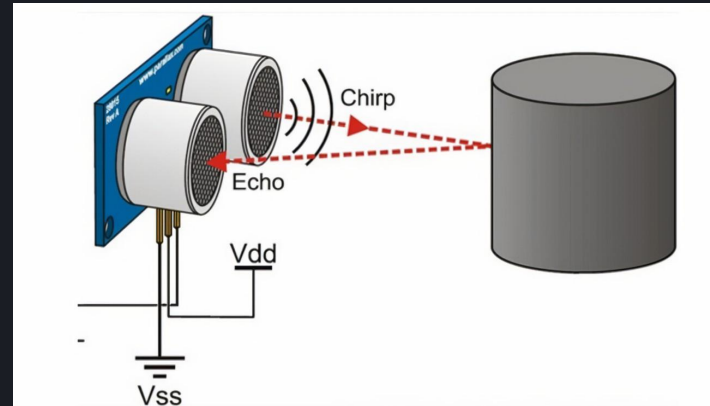
Model-Based Development Program

Arduino Simulink Interface Module

Application

- Ultrasonic Sensor

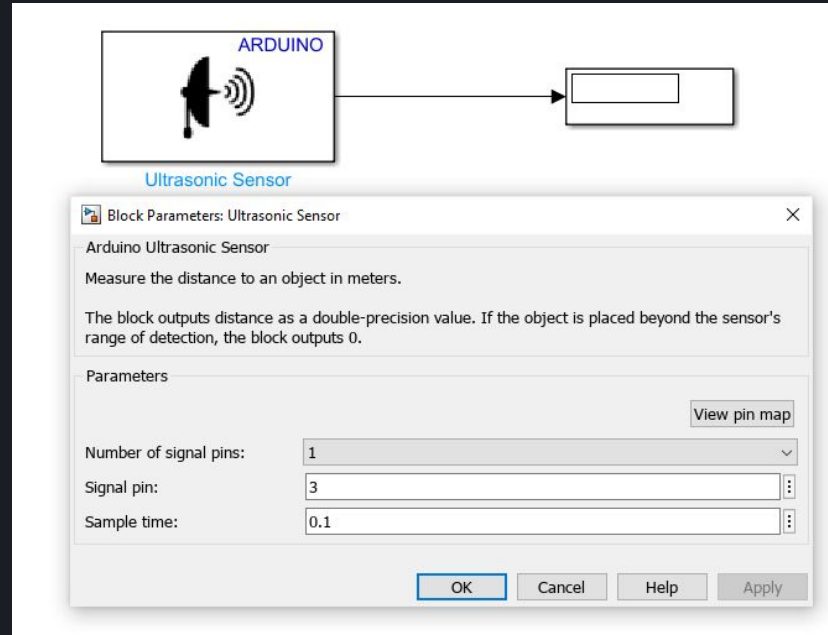
The Ultrasonic Sensor block in Arduino Support Package for Simulink facilitates interfacing with ultrasonic distance sensors. It measures distances by emitting ultrasonic pulses and detecting their reflections. Configuration involves specifying trigger and echo pins. Output provides distance measurements in centimeters or inches. Applications include obstacle avoidance in robotics. Test and validation can be done in simulation mode and real-time deployment.



Arduino Simulink Interface Module

Application

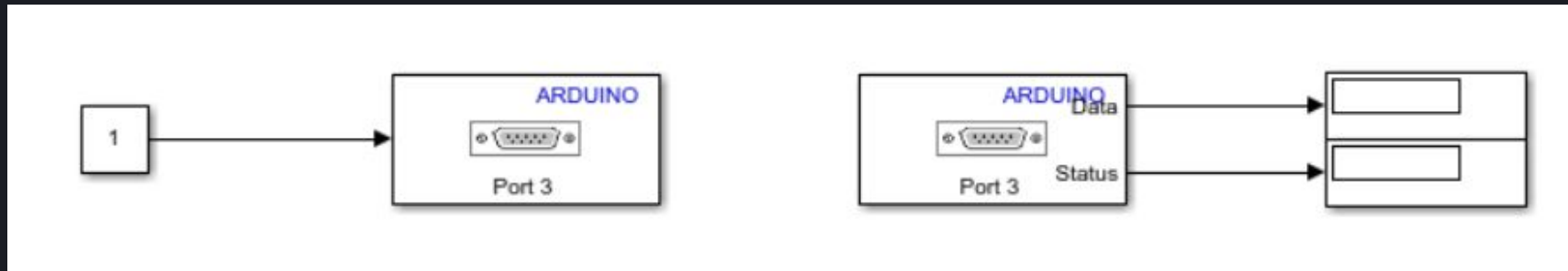
- Ultrasonic Sensor



Arduino Simulink Interface Module

Application

- Serial Transmit & Receive



Arduino Simulink Interface Module

Application

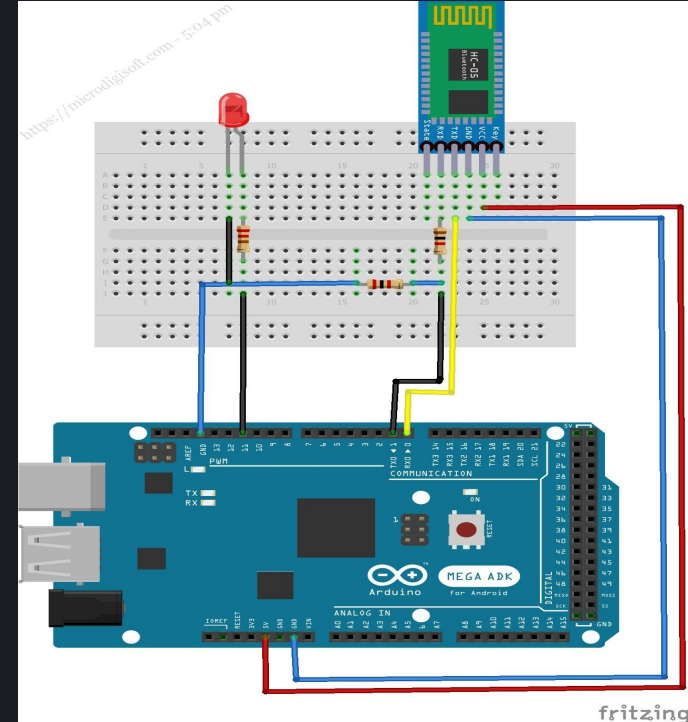
- Serial Transmit & Receive



Arduino Simulink Interface Module

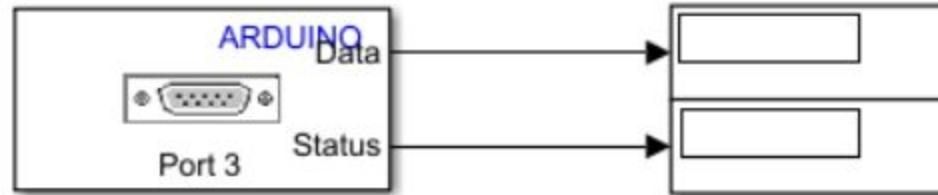
Application

- Bluetooth Module
To interface a Bluetooth module with an Arduino Mega in Simulink, connect the module's TX and RX pins to Arduino's RX and TX pins respectively. Use Serial Transmit and Receive blocks in Simulink to establish communication. Configure baud rate and parameters accordingly. Test and validate wireless data transmission in simulation and real-time deployment modes. This allows for wireless communication between Arduino Mega and external devices, facilitating various applications like remote control and IoT projects.



Arduino Simulink Interface Module

Application



Thank You!