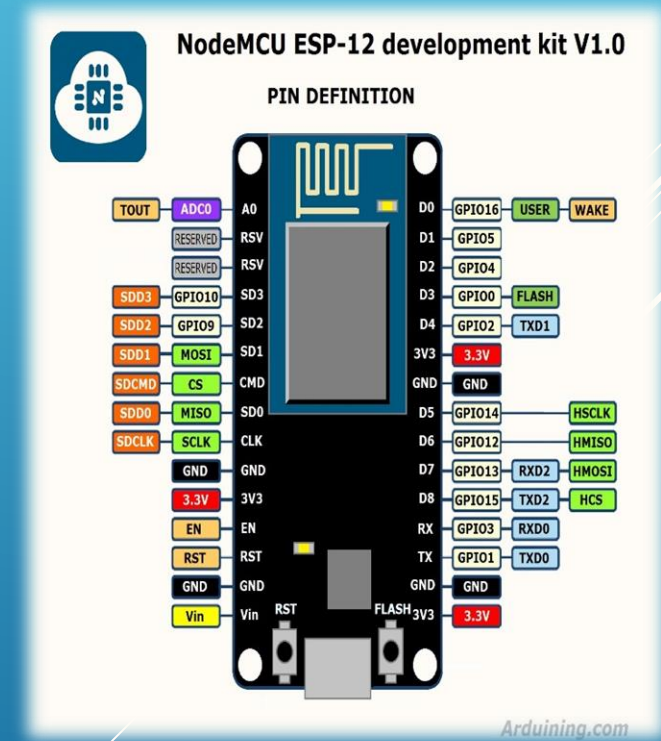


AUTOMATIC STEP-UP & STEP-DOWN WATER MOTOR CONTROLLER

• ESP8266

It's widely used in IoT (Internet of Things) applications due to its affordability and ease of use

- **Wi-Fi Connectivity:** The ESP8266 can connect to Wi-Fi networks and can act as a station or an access point.
- **Processing Power:** It features a 32-bit RISC CPU with a clock speed of up to 160 MHz, making it suitable for various applications.
- **Memory:** : The ESP8266 can be programmed using various platforms, including the Arduino IDE, PlatformIO, and MicroPython, making it accessible to many developers.
- **Low Power** Typically comes with 64 KB of instruction RAM and 96 KB of data RAM, with additional options for external flash memory.
- **GPIO Pins:** It has several General-Purpose Input/Output (GPIO) pins that can be used to interface with sensors, actuators, and other peripherals.
- **Programming Consumption:** It supports various power-saving modes, making it suitable for battery-operated devices.
- **Community Support:** A large community exists around the ESP8266, providing numerous libraries, tutorials, and projects to help beginners and advanced users.



GSM SENSOR

device that can communicate via the GSM (Global System for Mobile Communications) network. These modules are commonly used in IoT projects to enable wireless communication over cellular networks. Here are some key points about GSM sensors and modules:

- Communication:** GSM modules can send and receive SMS (Short Message Service), voice calls, and data over cellular networks.
- Common Modules:** Popular GSM modules include the SIM800, SIM900, and A6. These modules are used in various applications, from simple SMS alerts to complex IoT systems.
- Interface:** Most GSM modules can interface with microcontrollers (like Arduino, Raspberry Pi) using UART (serial communication), making integration straightforward.
- Power Supply:** GSM modules often require a stable power supply, as they can draw significant current during transmission.
- Antenna:** They typically come with an external antenna to improve signal reception and transmission.

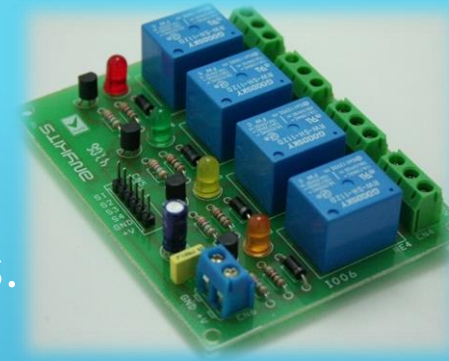


APPLICATIONS

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RELAY MODULE

It is a pre-assembled circuit board that contains one or more relays along with the necessary components for easy integration into electronic projects. These modules are commonly used in automation and control systems.



- **Integrated Circuit:** Relay modules come with relays, opto-isolators, and supporting circuitry on a single board, making them easy to use.
- **Control Interface:** Most relay modules have a simple control interface that allows them to be easily connected to microcontrollers (like Arduino or Raspberry Pi). They typically have input pins for control signals and output terminals for connecting the load.
- **Number of Channels:** Relay modules can have varying numbers of channels, commonly ranging from 1 to 16 relays on a single module.
- **Voltage Compatibility:** Relay modules are available for different control voltages (typically 5V, 12V, or 24V), which makes them suitable for a wide range of applications.
- **Isolation:** Many relay modules include opto-isolators, which provide electrical isolation between the control side and the load side, protecting the control circuit from high voltages.
- **LED Indicators:** Most modules include LED indicators that show the status of each relay (on or off), making it easier to monitor operation.

APPLICATION :

- **Home Automation:** Control lights, fans, and other appliances remotely.
- **Industrial Control:** Automate machines and equipment in manufacturing processes.
- **Remote Switching:** Turn devices on or off over long distances.
- **Safety Systems:** Implement fail-safe mechanisms for critical systems.

ADVANTEGES :

- **Easy Integration:** Simplifies the process of adding relay control to projects.
- **Multiple Channels:** Allows control of multiple devices from a single module.
- **Cost-Effective:** Generally more economical than purchasing relays and components separately.

THANK YOU

Three parallel white lines of varying lengths are positioned in the bottom right corner of the image, slanted diagonally upwards from left to right.