12V DC 1/2” Electric Solenoid Water & Air Valve Switch – Normally Closed

The **12V DC 1/2” Electric Solenoid Valve (Normally Closed)** is a reliable and efficient flow-control solution designed for a wide range of **water and air applications**. Built for precision, durability, and ease of integration, this solenoid valve is ideal for automation systems, irrigation projects, industrial equipment, HVAC systems, and DIY control setups.

Operating on **12V DC**, this valve is especially suitable for low-voltage systems such as battery-powered devices, solar installations, automotive applications, and embedded control systems using microcontrollers like Arduino, PLCs, or smart relays. Its **normally closed (NC)** configuration ensures that the valve remains shut when no power is applied, providing enhanced safety and preventing unintended flow.

Reliable Normally Closed Operation

In its default state, the valve remains **closed without power**, allowing fluid or air to pass only when the solenoid coil is energized. This behavior makes it an excellent choice for systems where **fail-safe operation** is required. In the event of a power loss, the valve automatically closes, helping prevent leaks, flooding, or pressure loss.

The fast response time of the solenoid ensures accurate flow control, making it suitable for both continuous operation and intermittent switching applications.

Designed for Water and Air Applications

This electric solenoid valve is compatible with **clean water, air, and non-corrosive fluids**. It is commonly used in:

- Automatic water control systems
- Air flow control and pneumatic projects
- Irrigation and drip watering systems
- Smart home and automation systems
- Industrial machinery and equipment
- Medical and laboratory devices
- Vending machines and water dispensers

Its internal components are engineered to maintain consistent performance while minimizing pressure loss.

Standard 1/2” Port Size for Easy Integration

Featuring a **1/2 inch threaded port**, this solenoid valve is easy to install into standard plumbing or pneumatic systems. The universal port size allows seamless integration with commonly available fittings, hoses, and pipes, reducing installation time and complexity.

The valve body is constructed from **durable materials** that resist wear, pressure, and temperature variations, ensuring long service life even in demanding environments.

Low Power Consumption – 12V DC Operation

The **12V DC power requirement** makes this solenoid valve energy-efficient and compatible with low-voltage power sources. It can be powered using:

- DC power adapters
- Batteries
- Solar charge systems
- Embedded power supplies

This makes it especially useful for mobile systems, off-grid setups, and electronics-based automation projects.

Easy Control & Automation Friendly

The valve can be easily controlled using:

- Switches and relays
- Timers
- PLC controllers
- Microcontrollers (Arduino, Raspberry Pi, ESP32, etc.)

Its simple ON/OFF control logic allows developers and technicians to integrate it into complex systems without additional circuitry.

Durable Construction & Long Service Life

The solenoid coil is designed for stable operation under continuous use, while the valve body and seals are made to withstand pressure and frequent switching cycles. This combination ensures **high reliability**, reduced maintenance, and long operational lifespan.

Proper installation and use with clean fluids help extend valve life and maintain consistent performance.

Key Features – 12V DC Electric Solenoid Valve

- Operating voltage: **12V DC**
- Valve type: **Normally Closed (NC)**
- Port size: **1/2 inch**
- Suitable for **water and air**
- Fast response and precise flow control
- Low power consumption
- Easy installation with standard fittings
- Compatible with automation and control systems
- Durable construction for long-term use
- Fail-safe operation (closes when power is off)
- Ideal for industrial, commercial, and DIY projects

Why Choose This Solenoid Valve?

The **12V DC 1/2" Normally Closed Solenoid Valve** offers an excellent balance between performance, safety, and versatility. Its low-voltage operation, standard port size, and dependable design make it a preferred choice for professionals and hobbyists alike.

Whether you are building an automated irrigation system, controlling air flow in a machine, or designing a smart control solution, this solenoid valve provides dependable and accurate flow control.

Learn More About Solenoid Valves

For a deeper technical understanding of how solenoid valves work, you can refer to this external resource:

👉 **https://en.wikipedia.org/wiki/Solenoid_valve**