ESP8266-01S mit Relais
Datenblatt
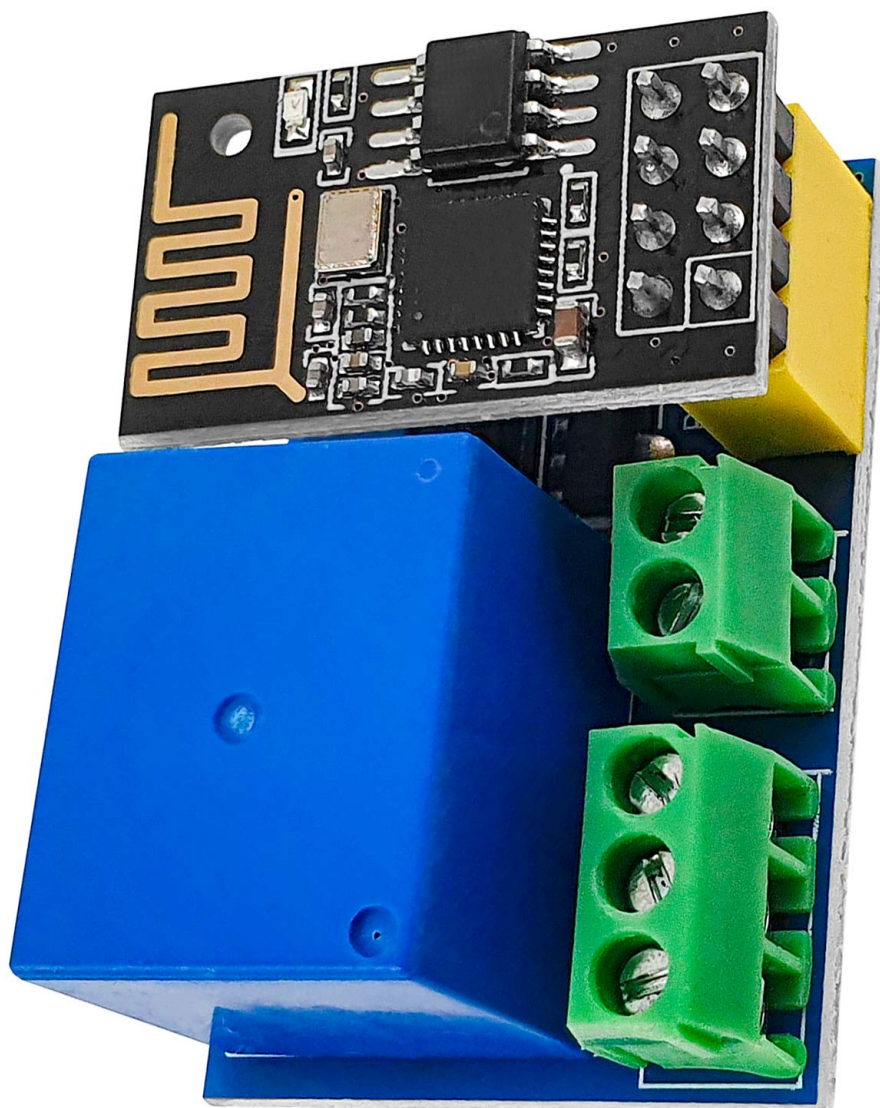
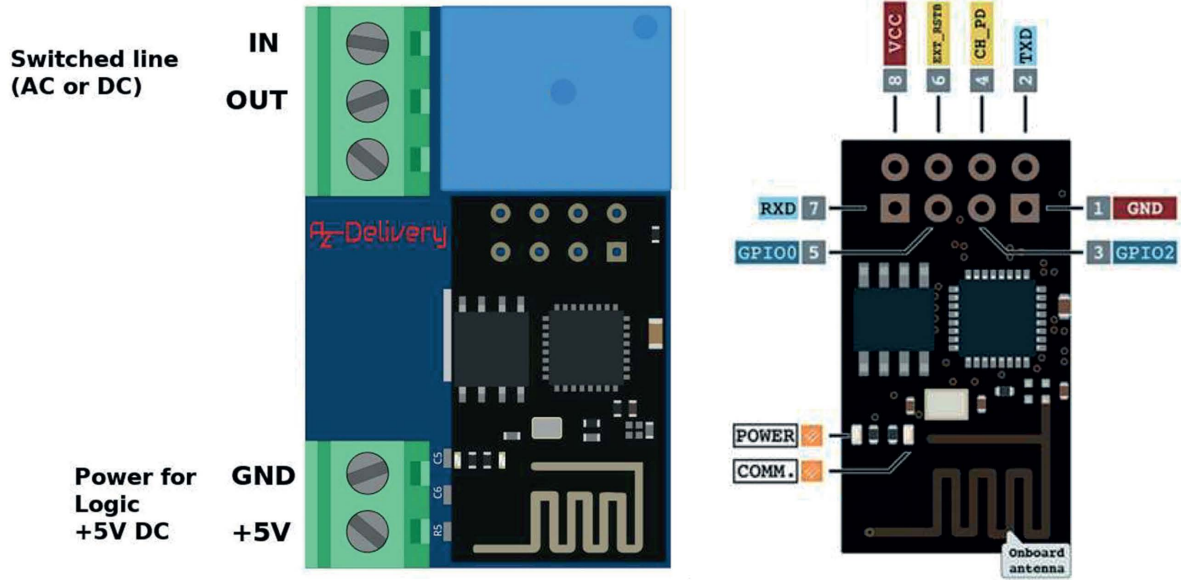## Content:

1. Specifications

- 802.11 b/g/n
- Integrated low power 32-bit MCU
- Integrated 10-bit ADC
- Integrated TCP/IP protocol stack
- Integrated TR switch, balun, LNA, power amplifier and matching network
- Integrated PLL, regulators, and power management units
- Supports antenna diversity
- Wi-Fi 2.4 GHz, support WPA/WPA2
- Support STA/AP/STA+AP operation modes
- Support Smart Link Function for both Android and iOS devices
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- SDIO 2.0, (H) SPI, UART, I2C, I2S, IRDA, PWM, GPIO
- STBC, 1x1 MIMO, 2x1 MIMO
- A-MPDU & A-MSDU aggregation and 0.4s guard interval
- Deep sleep power <10µA, Power down leakage current < 5uA
- Wake up and transmit packets in <2ms
- Standby power consumption of <1.0mW (DTIM3)
- +20dBm output power in 802.11b mode
- Operating temperature range -40°C ~ 125°C
- Relay Module Maximum AC: 5A 50V
- Relay Module Maximum DC: 5A 30V
- Relay Module Contact Type: Both: Normally Closed – NC, Normally Opened - NO

A relay is an electromagnetic switch operated by a relatively small electric current that can turn on or off a much larger electric current. The heart of a relay is an electromagnet, a coil of wire that becomes a temporary magnet when electricity flows through it. You can think of a relay as a kind of electric lever: switch it on with a tiny current and it switches on ("leverages") another appliance using a much bigger current.

Switched line (AC or DC)

IN

OUT

Power for Logic +5V DC

GND

+5V

8	VCC
6	EXT_RSTB
4	CH_PD
2	TXD

| RXD | 7 |
| GPIO0 | 5 |

| 1 | GND |
| 3 | GPIO2 |

POWER

COMM.

Onboard antenna

3. Relay Operating Principle

There are two fixed contacts, a normally closed one and a normally open one.
When the coil is not energized, the normally open contact is the one that is off, while the normally closed one is the other that is on.
Supply voltage to the coil and some currents will pass through the coil thus generating the electromagnetic effect. So the armature overcomes the tension of the spring and is attracted to the core, thus closing the moving contact of the armature and the normally open (NO) contact or you may say releasing the former and the normally closed (NC) contact. After the coil is de-energized, the electromagnetic force disappears and the armature moves back to the original position, releasing the moving contact and normally closed contact. The closing and releasing of the contacts results in power on and off of the circuit.

According to Current regulations, working with mains voltage is reserved for qualified electricians only!

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