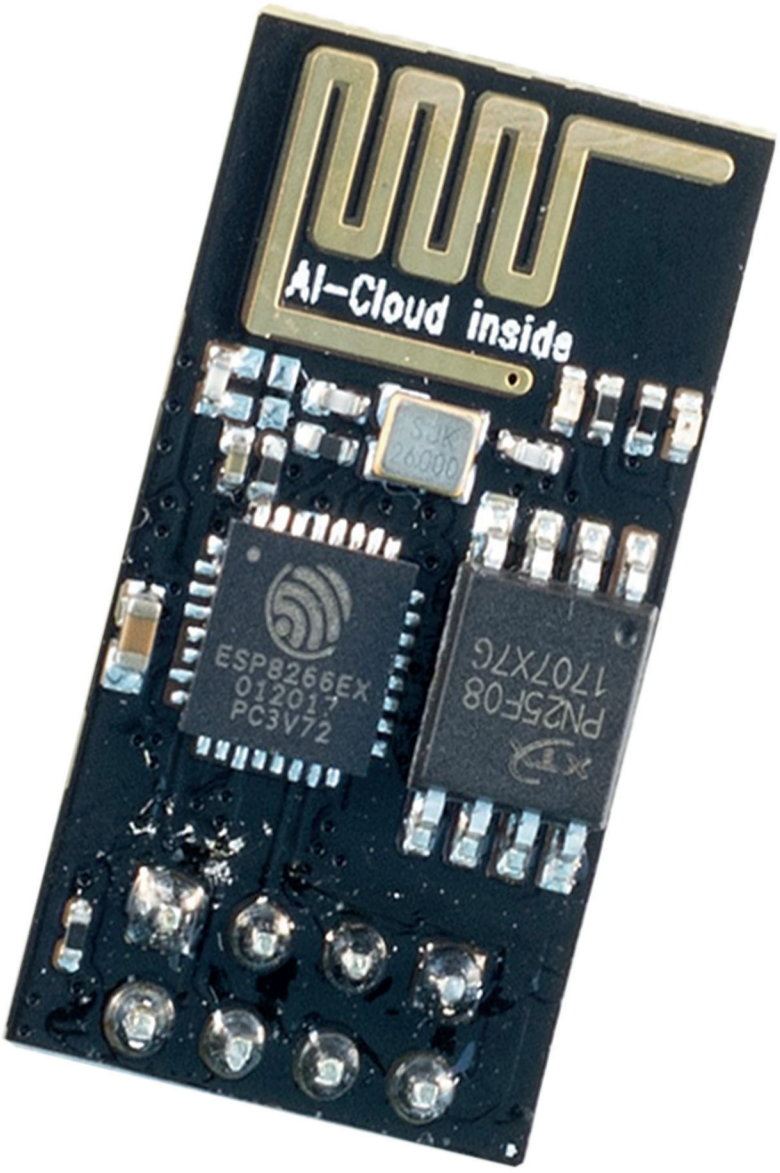
AZ-Delivery

Ihr Experte für Mikroelektronik!

# ESP8266-01S
# Datenblatt



## Contents:

## 2.Specifications

### Power

VCC-3.0-3.6V
Standby ~ 0.9uA
Running ~60-215mA,
Average ~ 80mA

### Wifi Features

802.11 b/g/n
2.4GHz
WPA/WPA2
Wifi Direct
+20dBm output power (802.11b)

### I/O Features

Integrated TCP/IP I
ntegrated TR switch, LNA,
balun

### Memory/Speed Features

80MHz
64KB instruction RAM
96KB data RAM
64K boot ROM
1MB* Flash Memory

### Basic Connection

VCC - 3.3V
GND - GND
TX - RX on Arduino or FTDI
RX - TX on ARduino or FTDI
Chip Enable - 3.3V

### Default Baud Rate

11520* 8N1

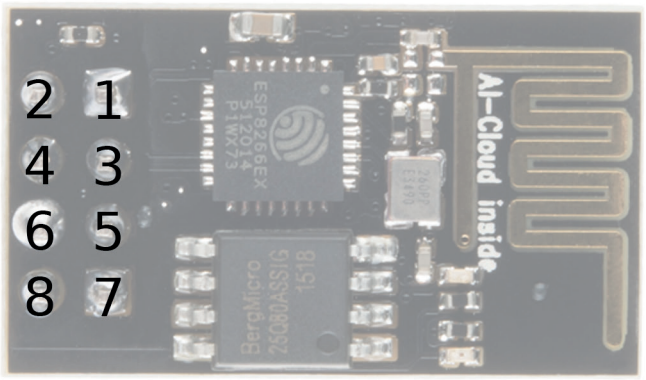
### LEDs

Red: Power
Blue: TX

*milage may vary on different version of the board

## 3. Pinout

| | | | |
|---|---|---|---|
| D7 | GPIO1 | TX | 2- TXO |
| | | Chip Enable | 4- CHPD |
| | | Reset | 6- RST |
| | | 3.3V | 8- 3V |
| | | GND | 1- GND |
| | D2/SDA | GPIO2 | 3- GPIO2 |
| | D0 | GPIO0 | 5- GPIO0 |
| D8 | GPIO3 | RX | 7- RXI |




PCB Antenna

## 4. AT Command Usage

Commands are case sensitive and should end with /r/n

Commands may use 1 or more of these types
Set = AT+<x>=<...> - Sets the value
Inquiry = AT+<x>? - See what the value is set at
Test = AT+<x>=? - See the possible options
Execute = AT+<x> - Execute a command

Commands with * have been depreciated in favor of COMMAND_CUR and COMMAND_DEF. CUR will not write the value to flash, DEF will write the valueto flash and be usedas the default in the future.

## 5. AT Command List

AT - Attention
AT+RST - Reset the board
AT+GMR - Firmware version
AT+CWMODE* - Operating Mode
  1. Client
  2. Access Point
  3. Client and Access Point
AT+CWJAP*=<ssid>,<pwd> - Join network
AT+CWLAP - View available networks
AT+CWQAP - Disconnect from network
AT+CWSAP*=<ssid>,<pwd><chl><ecn> - Set up access point
  0. Open. No security
  1. WEP
  2. WPA_PSK
  3. WPA2_PSK
  4. WPA_WPA2_PSK
AT+CWLIF - Show assigned IP addresses as access point
AT+CIPSTATUS - Show current status as socket client or server
AT+CIPSTART=<type>,<addr>,<port> - Connect to socket server
  IP is fixed at 192.168.4.1, mask is fixed at 255.255.255.0
  if CIPMUX is set to multichanel add <id> to beginning of string
AT+CIPCLOSE - Close socket connection
AT+CIFSR - Show assigned IP address when connected to network
AT+CIPMUX=<mode> - Set connection
  0.  Single Connection
  1. Multi-Channel Connection
AT+CIPSERVER=<mode>[,<port>](AT+CIPMUX=1) - Default port is 333
  0. Close the Socket Server
  1. Open the Socket Server
AT+CIPMODE=<mode> - Set transpartent mode
  Data received will be sent to serial port as
  0.  +IPD,<connection channel>,<length>format (AT+CIPMUX=[0,1])
  1. Data stream (AT+CIPMUX=0)

AT+CIPSTO=<time> - Set auto socket client disconnect timout from 1-28800s

Example commands

AT+CWMODE=? //View options for mode (test)
AT+CWMODE=3 //Set mode to client and access modes (set)
AT+CWLAP //View available networks (execute)
AT+CWJAP = "ssid","password" //Join network (set)
AT+CWJAP? //View the current network (inquiry)
AT+CIFSR //Show IP address (execute)
AT+CWQAP //Disconnect from network (execute)
AT+CWSAP="apoint","pass",11,0//Setup an open access point (set)
AT+CWLIF //Show devices connected to access point

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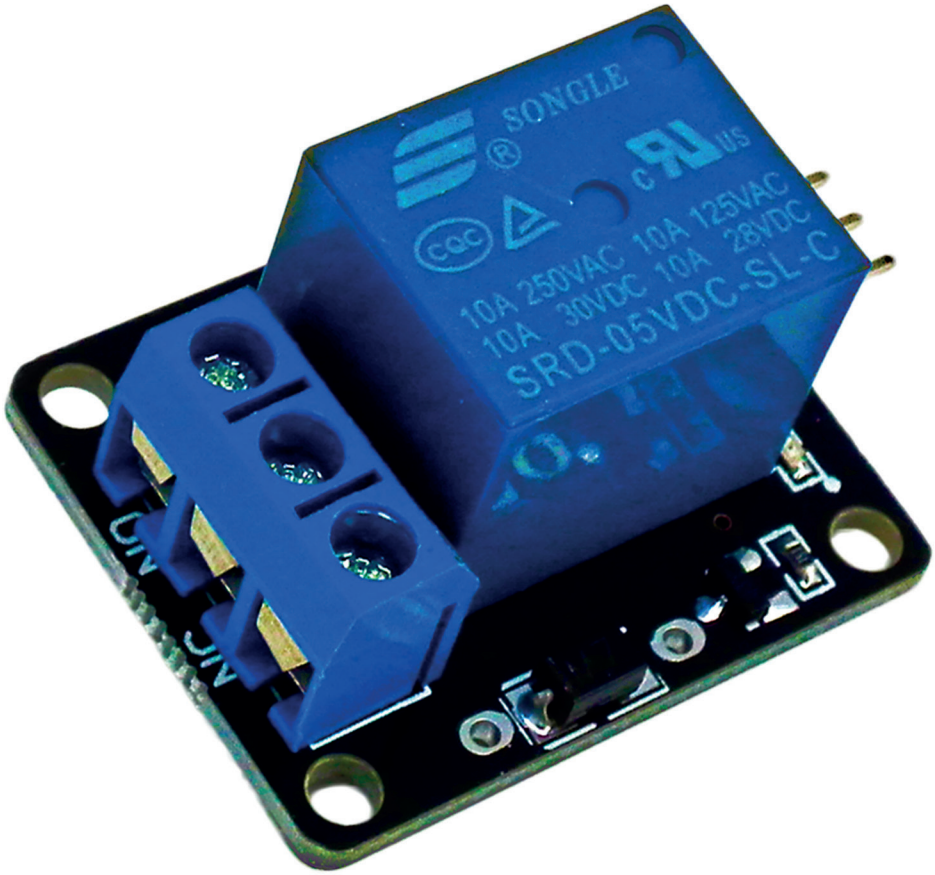
# Relais Modul Datenblatt



## Contents:

## 1. Description

This Relay Module is perfectly made for Arduino application. It has three pins, the VCC, GND and Signal. It can act as switch if the circuit and the load circuit have different supply voltage. It is commonly use if the load circuit is AC. It is a switch used to connect isolated connection from the circuit using a circuit signal. It has red LED that turns on every time the coil is energized or the signal pin has a high input.

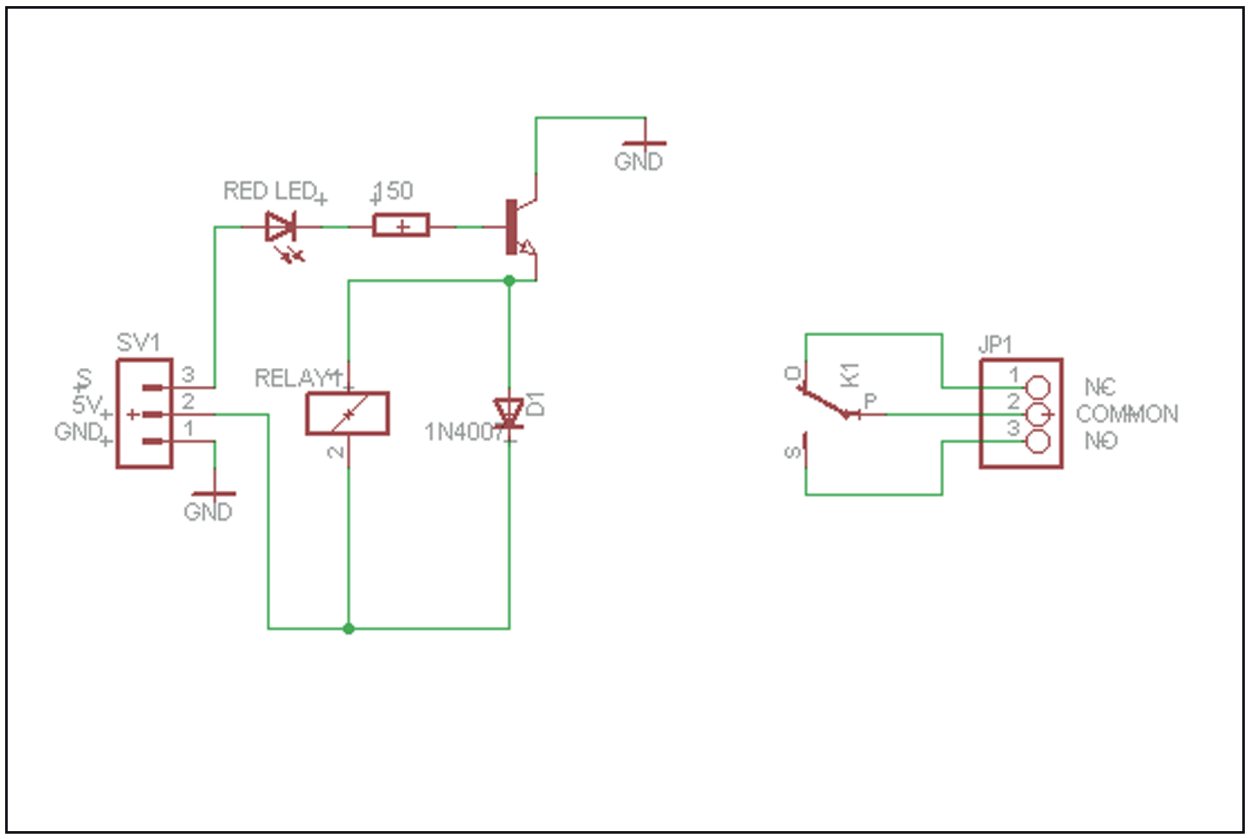
## 2. Specifications

- 5V – 12 V TTL control signal
- Maximum AC current and voltage : 10A 250VAC
- Maximum DC current and voltage : 10A 30VDC
- The control signal DC or AC, 220V AC load can be controlled
- There is a normally open and one normally closed contact
- To make the coil of relay energized you must need to have an input of 1 in the signal pin.

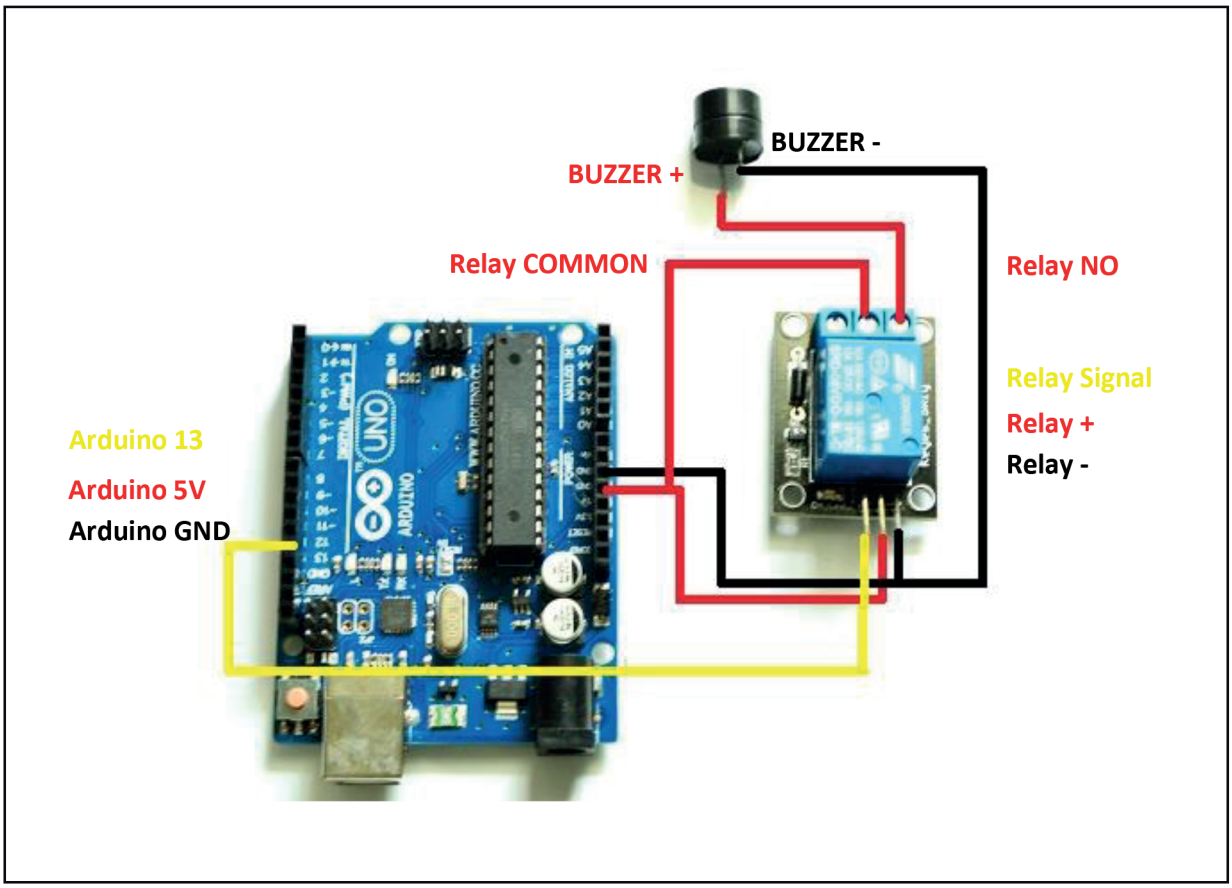
## 3. Pin Configuration

- + : 5V power supply
- - : Ground
- S : Signal from the Arduino
- NC : normally closed
- NO : normally open
- COMMON : common

## 4. Schematic Diagram



## 5. Wiring Diagram



## 6. Testing

1. Please check all the connections from the given wiring diagram.

2. Type the sample program in your Arduino sketch then upload.

3. The buzzer will turn on every two seconds.

* You can also hear the tick of relay every two seconds.

**SAFETY WARNING!**

When you are making projects that are connected to mains voltage, you really need to know what you are doing otherwise you may shock yourself. This is as serious topic and we want you to be safe. If you are not 100% sure what you are doing, do yourself a favor and don't touch anything. Ask someone who knows!