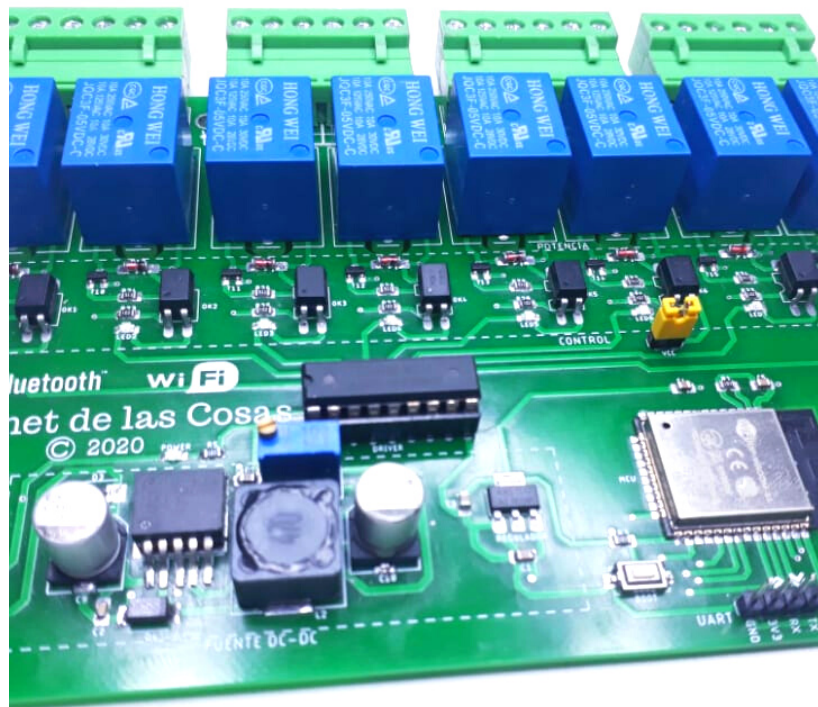


Echannel Relay

8 channel relay module

Esp Relay



WAREX

Product

Echannel Relay electronic device focused on the automation and IoT area that allows controlling the on / off of high power equipment (Appliances), works perfectly with Arduino language, esp IDF, micropython, Lua.

Within the wide variety of projects that we can carry out with Arduino, we may want to control high voltage or high amperage components, such as light bulbs or water pumps, which cannot be handled directly with Arduino. In these cases it is necessary to use Relays or Relays, these devices allow to control high voltage loads with a small signal.

The module has 8 high quality Relays, manufactured by Warex Engineering, capable of handling loads up to 250V / 10A. Each channel is electrically isolated by means of an optocoupler and a status indicator LED. Its design makes it easy to work with ESP32. This Relay module activates the normally open output (NO: Normally Open) upon receiving a logic "0" (0 Volts) and deactivates the output with a logic "1" (5 volts). For the programming of Arduino and Relays it is recommended to use timers with the "millis ()" function and thus not to use the "delay" function that prevents the system from continuing to work while a relay is activated / deactivated.

Among the loads that can be handled we have: light bulbs, luminaires, AC motors (220V), DC motors, solenoids, solenoid valves, water heaters and a great variety of other actuators. It is recommended to make and verify the connections before powering the circuit, it is also good practice to protect the circuit within a case.



NOTE: 220V AC VOLTAGE IS VERY DANGEROUS! HANDLED INCORRECTLY CAN CAUSE DEATH! THAT'S WHY WE MUST BE VERY CAREFUL WHEN MAKING THE CONNECTIONS. WAREX ENGINEERING IS NOT LIABLE FOR DAMAGES CAUSED BY THE MISUSE OF THIS MODULE.

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Specs

Operating voltage	7V - 20V
Control signal	TTL (3.3V)
Weight	0.1 Kg
Dimensions	115 x 150 x 20 mm
N. Relays	8 CH
Relay Model	SRD-05VDC-SL-C
Max Channel Capacity	10A/250VAC, 10A/30VDC
Max Channel Current	10A (NO), 5A (NC)
Action Time	10 ms / 5 ms
Output activation NO	0 Voltios
Optocoupled inputs	Sí
Activation Led Indicators	8
Programming languages	IDF, Arduino, Lua, Micropython, Simba
Communication	WiFi - Bluetooth
Programming	Serial Port (UART)
Current driver	500-mA

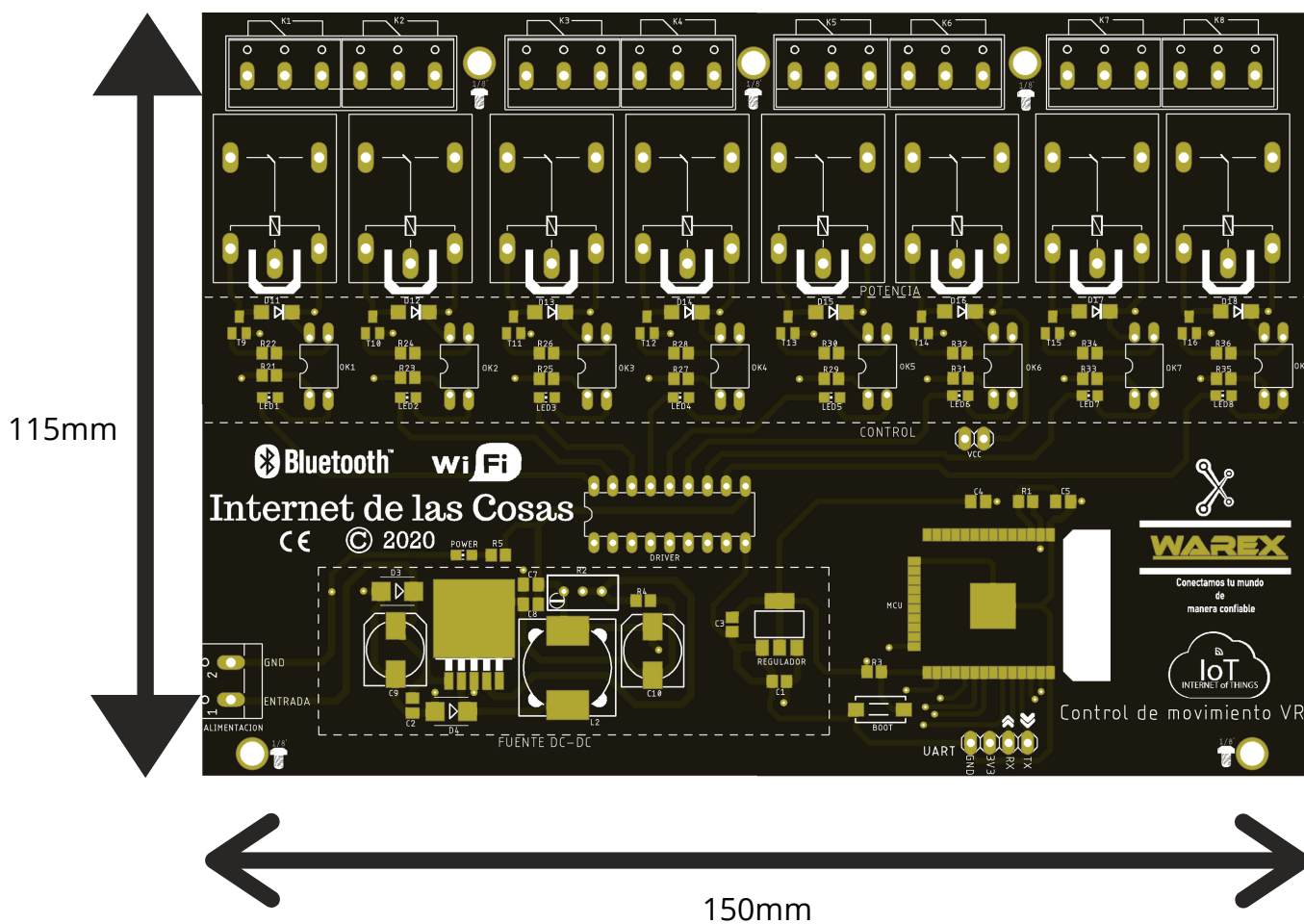
Pinout

Esp32	PIN	
GPIO23	RELAY 1	CHANNEL
GPIO22	RELAY 2	
GPIO21	RELAY 3	
GPIO19	RELAY 4	
GPIO18	RELAY 5	
GPIO5	RELAY 6	
GPIO4	RELAY 7	
GPIO2	RELAY 8	
GPIO35	TX	UART
GPIO34	RX	

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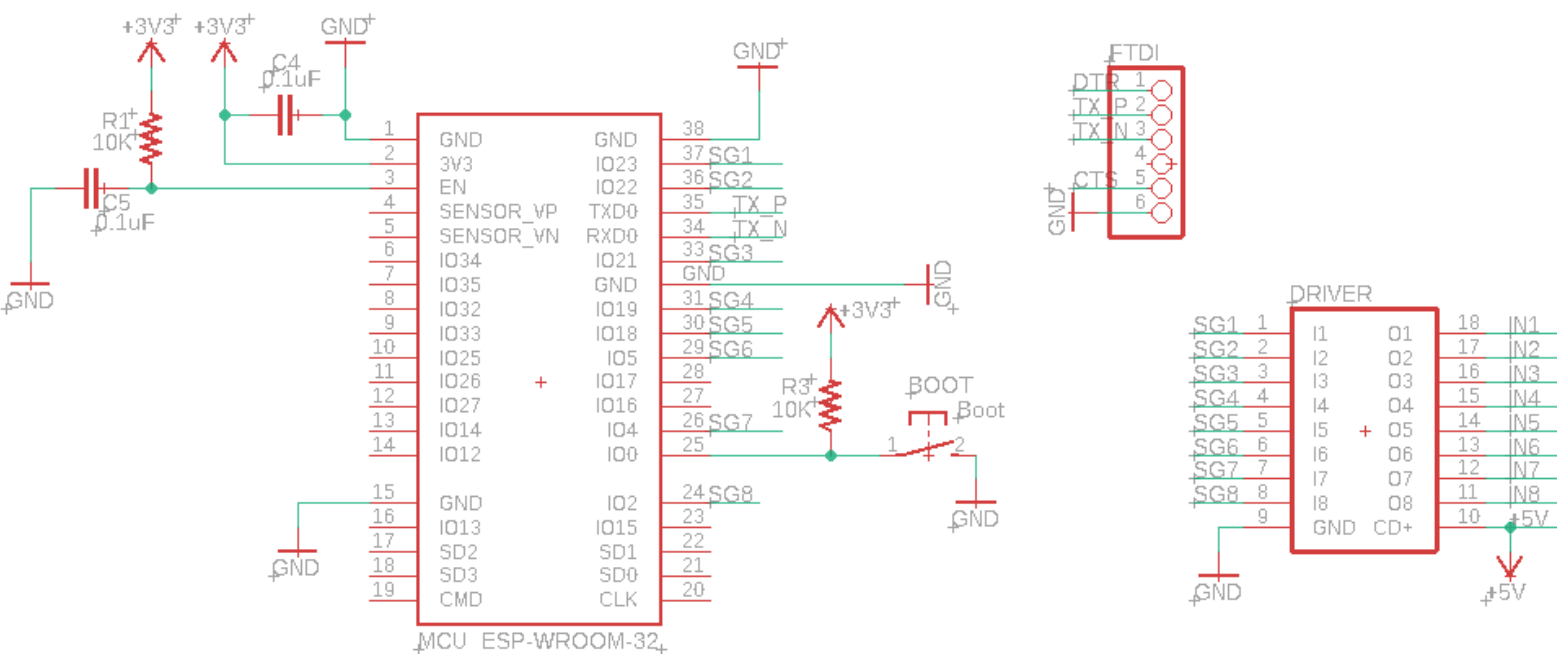
Dimensions



Echannel Relay

8 channel relay module

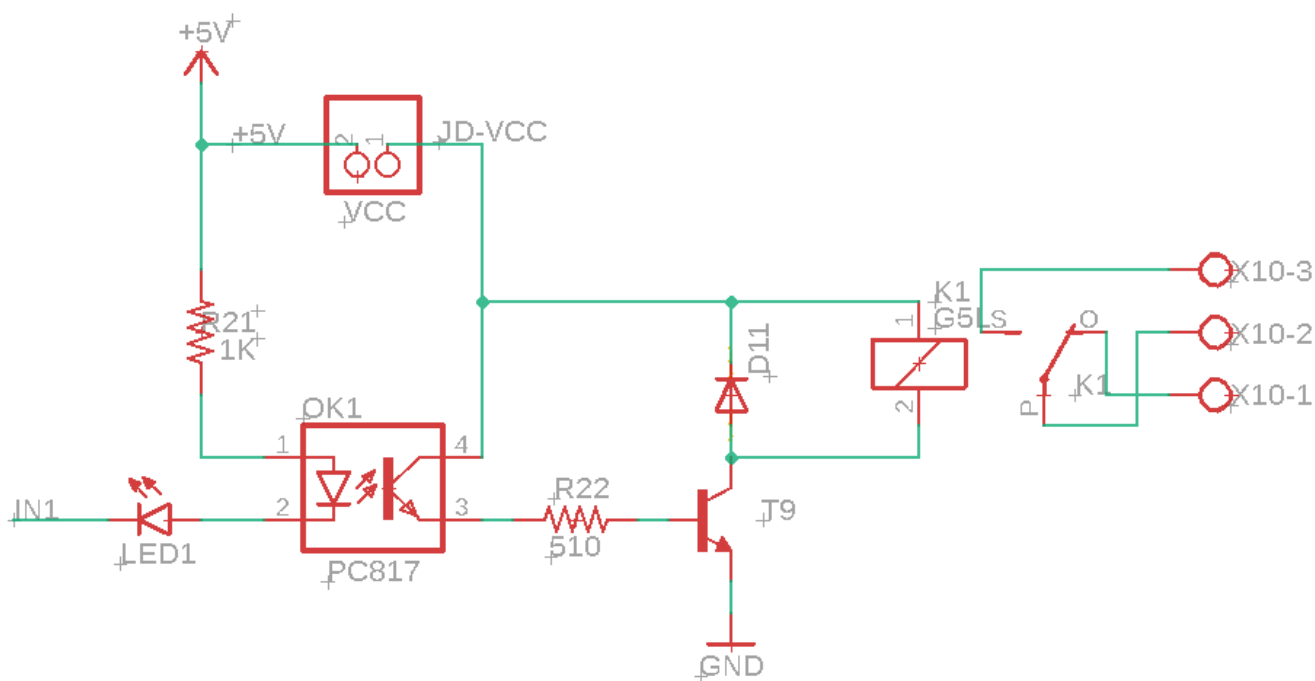
Schematic Control



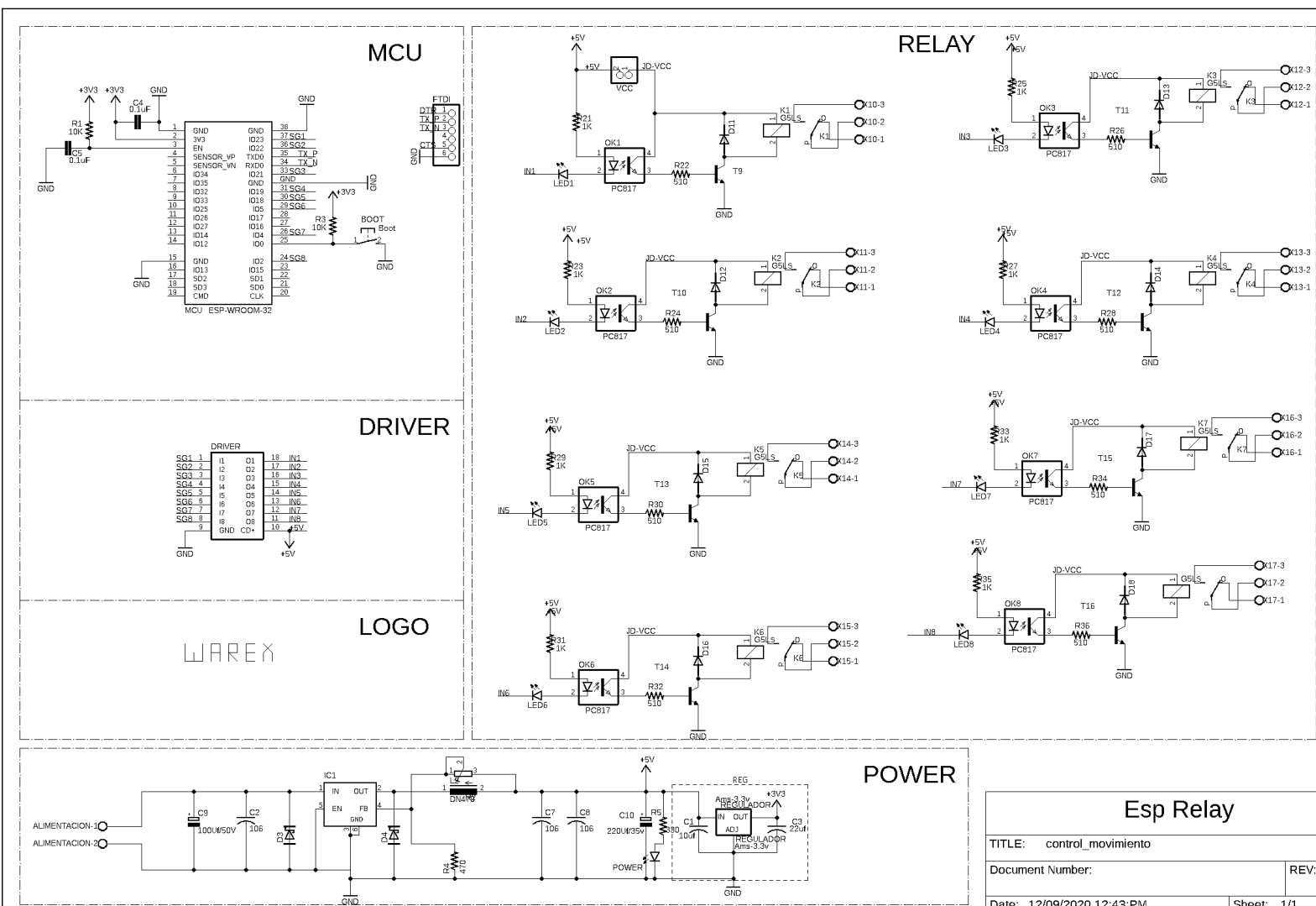
8 channel relay module

The circuit diagram shows a 5V input connected to a 100uF/50V capacitor (C9). The input then passes through a 106 ohm resistor (C2) and a diode (D3) to the input of an LM7805 voltage regulator (IC1). The regulator's output (pin 2) is connected to a 106 ohm resistor (C7) and a 106 ohm capacitor (C8). The output then passes through a 220uF/35V capacitor (C10) and a 5V Zener diode (D4) to the input of an AMS-3.3V voltage regulator (REG). The AMS-3.3V regulator's output (pin 2) is connected to a 106 ohm resistor (C3) and a 106 ohm capacitor (C4). The output then passes through a 106 ohm resistor (C5) and a 106 ohm capacitor (C6) to the final 3V output. The circuit is powered by a 5V input and grounded to GND.

Schematic Power



8 channel relay module



Links

Relay data sheet

- <https://pdf1.alldatasheet.es/datasheet-pdf/view/1132639/SONGLERELAY/SRD-05VDC-SL-C.html>

Driver data sheet

- <https://pdf1.alldatasheet.es/datasheet-df/view/182615/TOSHIBA/ULN2803A.html>

Data sheet Esp32

- https://www.espressif.com/sites/default/files/documentation/esp32-wroom-32e_esp32-wroom-32ue_datasheet_en.pdf