RELAY 1 KANAL WIFI v0.1 (CONTOH rancang.in)

ESP32-C3-MINI-1 · relay SRD-05VDC · HLK-PM01 · 230 VAC · 2 lapis

PERINGATAN: tegangan jaringan. Jarak rambat/isolasi UNVERIFIED, tidak diuji dan tidak bersertifikasi.

Contoh desain, belum diproduksi, belum diuji di perangkat keras.

Papan

AC masuk, fuse, varistor, HLK-PM01

relay SRD-05VDC + driver S8050

AP2112K 3,3 V, J3 UART/programmer

File: papan.kicad_sch

MCU

ESP32-C3-MINI-1-N4 + EN/BOOT

LED status

File: mcu.kicad_sch

rancang.in contoh: ESP32-C3 + relay + HLK-PM01 (230 VAC, UNVERIFIED)

rancang.in

Sheet: /

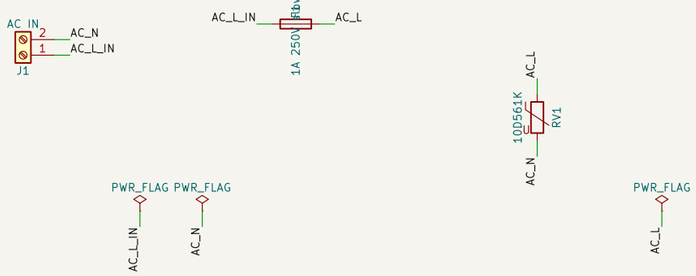
File: relay-1-wifi.kicad_sch

Title: Relay 1 kanal WiFi v0.1

Size: A3	Date: 2026-10-28	**Rev: 0.1**
KiCad E.D.A. 10.0.8		Id: 1/3

AC MASUK 230 V (BERBAHAYA)

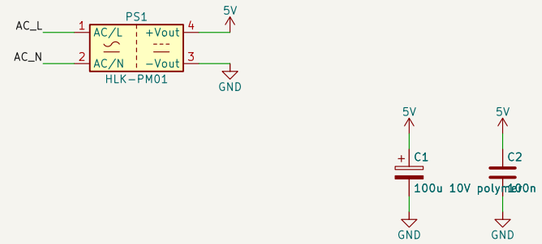
Terminal 5,08 mm · fuse 1 A slow-blow SEBELUM varistor dan modul · varistor 10D561K L–N



Hi-Link V2.8 bab 8.1: F1 1 A slow-blow, MOV1 10D561K (350 VAC). Jarak rambat tembaga AC UNVERIFIED (slot di PCB).

CATU 5 V — HLK-PM01

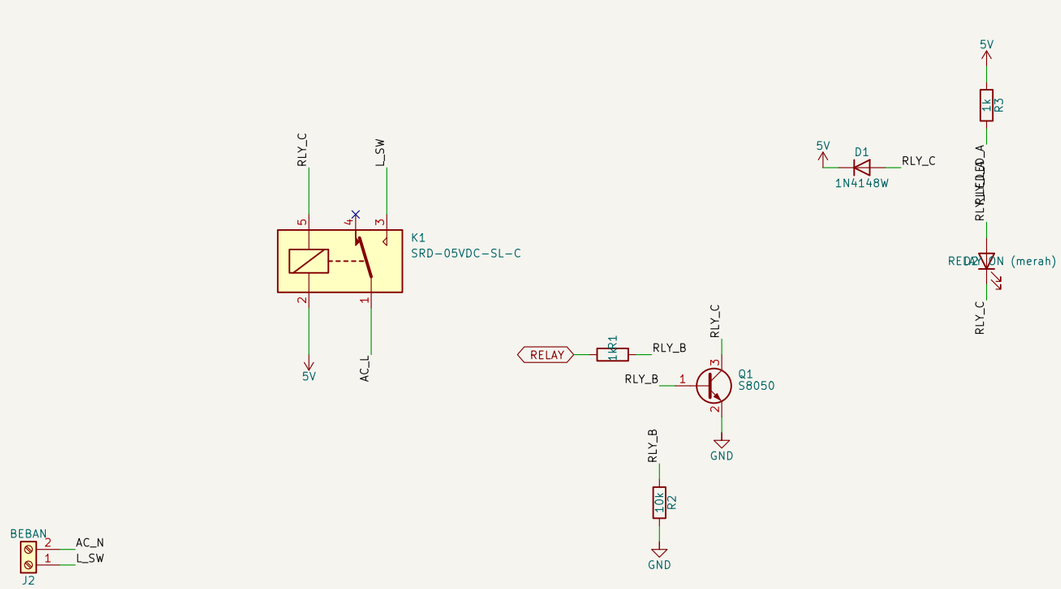
Modul AC–DC terisolasi 5 V / 600 mA kontinu · 100 uF polimer + 100 nF di keluaran



Anggaran arus: relay 71,4 mA + ESP32-C3 (< 350 mA puncak) + LED < 600 mA. Isolasi modul 2500 VAC (bab 9.2).

RELAY — SRD-05VDC-SL-C

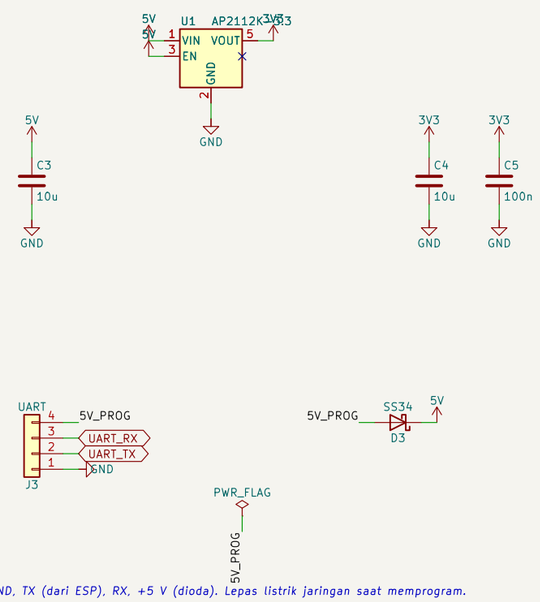
Koil 5 V 71,4 mA · driver S8050 dari IO3 · COM = fasa setelah fuse, NO ke beban



NC (pin 4) tidak dipakai. Flyback 1N4148W paralel koil. Beban uji >= kecil: jalur AC 2,5 mm (UNVERIFIED, lihat README).

3,3 V — AP2112K-3.3

LDO 600 mA dari rel 5 V · 5 V juga dari programmer lewat dioda (J3)



Programmer: GND, TX (dari ESP), RX, +5 V (dioda). Lepas listrik jaringan saat memprogram.

rancang.in contoh: ESP32-C3 + relay + HLK-PM01 (230 VAC, UNVERIFIED)

rancang.in

Sheet: /Papan/

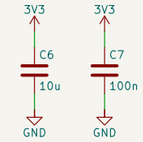
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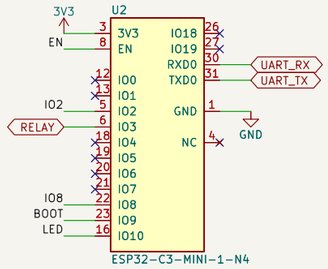
Title: Relay 1 kanal WiFi: AC–DC HLK–PM01, relay SRD–05VDC, ESP32–C3–

Size: A3	Date: 2026-10-28	**Rev: 0.1**
KiCad E.D.A. 10.0.8		Id: 2/3

ESP32-C3-MINI-1-N4

Datasheet v1.7 · IO3 relay · IO10 LED · UART0 (IO20/IO21) ke J3

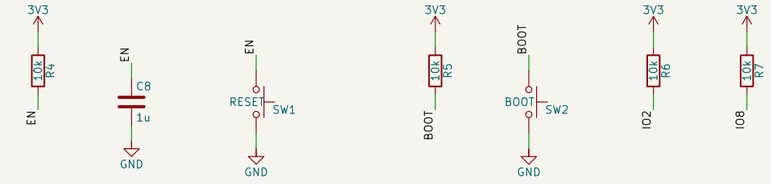


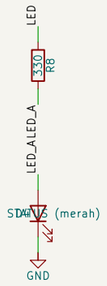


IO0, IO1, IO4–IO7, IO18, IO19 tidak dipakai (flag NC). IO2, IO8, IO9 = strapping (README).

RESET, BOOT, STRAPPING, LED

EN: RC 10k + 1 uF · BOOT = IO9 · pull-up 10k IO2/IO8





rancang.in contoh: ESP32-C3 + relay + HLK-PM01 (230 VAC, UNVERIFIED)

rancang.in

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File: mcu.kicad_sch

Title: ESP32-C3-MINI-1-N4: reset, boot, strapping, LED

Size: A3	Date: 2026-10-28	**Rev: 0.1**
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