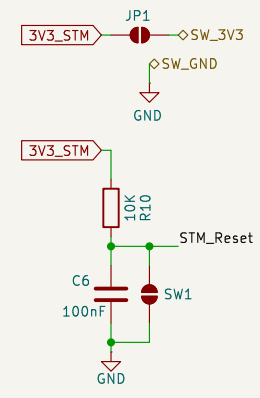
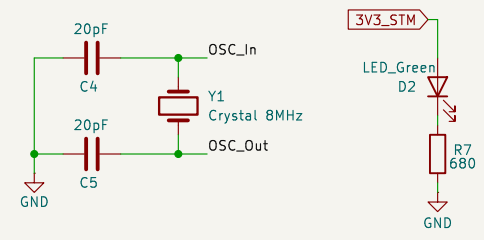
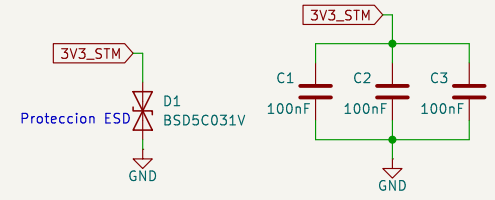
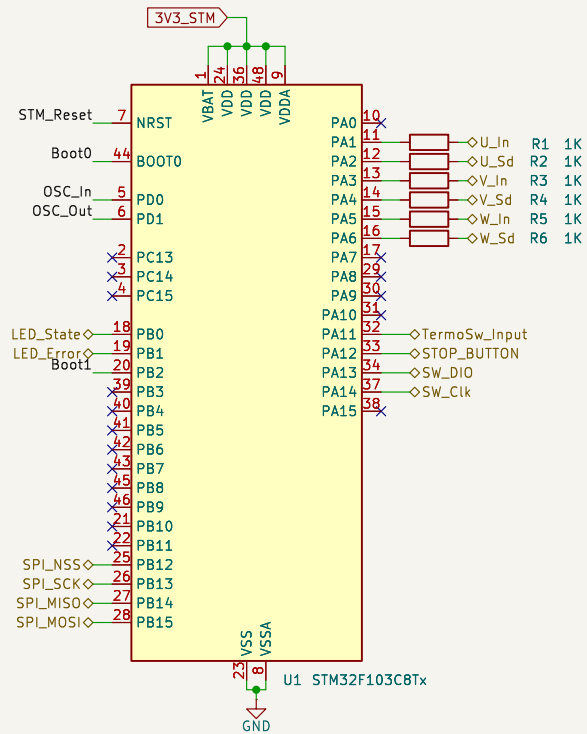


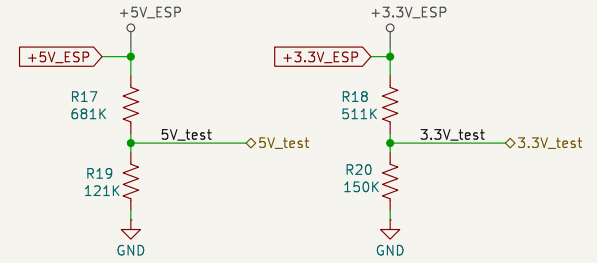
|   |                  |
|---|------------------|
| <b>Andrenacci – Carra</b>                 |                  |
| Sheet: /                                  |                  |
| File: HMI_LVDC-Inverter.kicad_sch         |                  |
| <b>Title: Variador de frecuencia LVDC</b> |                  |
| Size: A4                                  | Date: 2025-08-05 |
| KiCad E.D.A. 9.0.0                        | Rev: 0           |
|   | Id: 1/13         |



|   |                  |
|---|------------------|
| Andrenacci – Carra                        |                  |
| Sheet: /STM32/                            |                  |
| File: STM32.kicad_sch                     |                  |
| <b>Title: Variador de frecuencia LVDC</b> |                  |
| Size: A4                                  | Date: 2025-08-05 |
| KiCad E.D.A. 9.0.0                        | Rev: 0           |
|   | Id: 2/13         |



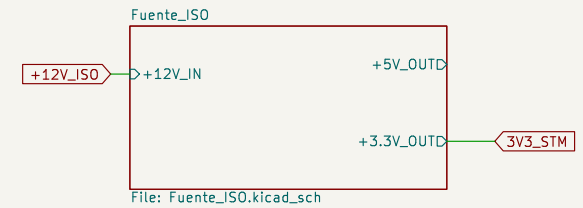
## SELF-TROUBLESHOOTING



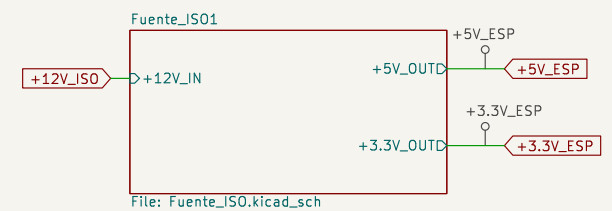
La tensión de referencia interna del ESP32 es de 1100mV.  
Llevo todas las referencias 750mV, un 70% de Vref

|                  |                     |                  |
|------------------|---------------------|------------------|
| V <sub>in</sub>  | 5                   | 3,3              |
| V <sub>ref</sub> | 0.750               | 0.750            |
| I                | 6.25e <sup>-6</sup> | 5e <sup>-6</sup> |
| R <sub>1</sub>   | 680K                | 510K             |
| R <sub>2</sub>   | 120K                | 150K             |

## FUENTE STM



## FUENTE ESP



Andrenacci - Carra

Sheet: /Fuentes/  
File: Fuentes.kicad\_sch

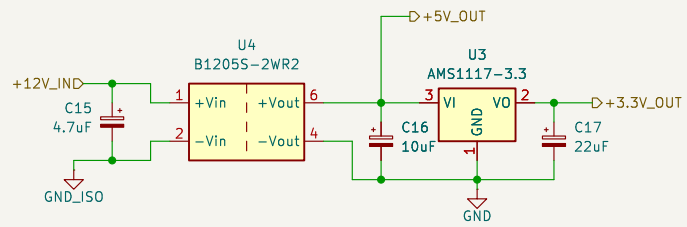
**Title: Variador de frecuencia LVDC**

Size: A4 Date: 2025-08-05

KiCad E.D.A. 9.0.0

Rev: 0

Id: 4/13



**Andrenacci – Carra**

Sheet: /Fuentes/Fuente\_ISO/

File: Fuente\_ISO.kicad\_sch

**Title: Variador de frecuencia LVDC**

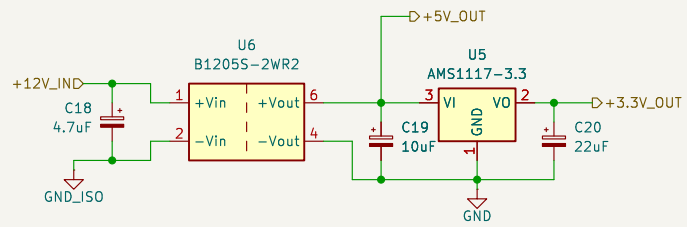
Size: A4

Date: 2025-08-05

Rev: 0

KiCad E.D.A. 9.0.0

Id: 5/13



Andrenacci – Carra

Sheet: /Fuentes/Fuente\_IS01/

File: Fuente\_IS0.kicad\_sch

**Title: Variador de frecuencia LVDC**

Size: A4

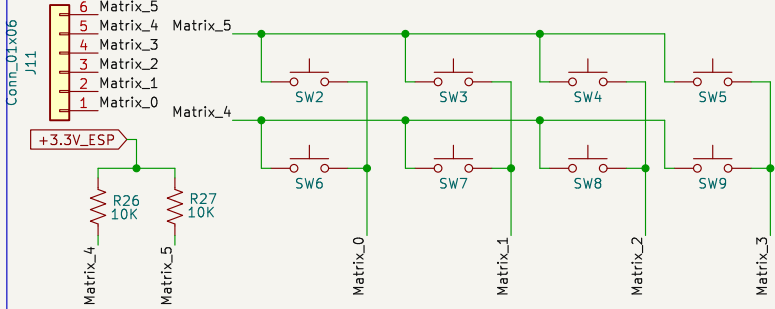
Date: 2025-08-05

Rev: 0

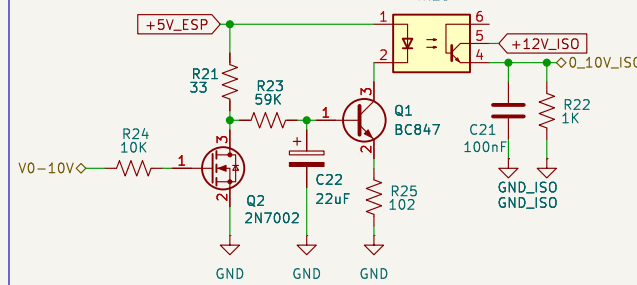
KiCad E.D.A. 9.0.0

Id: 6/13

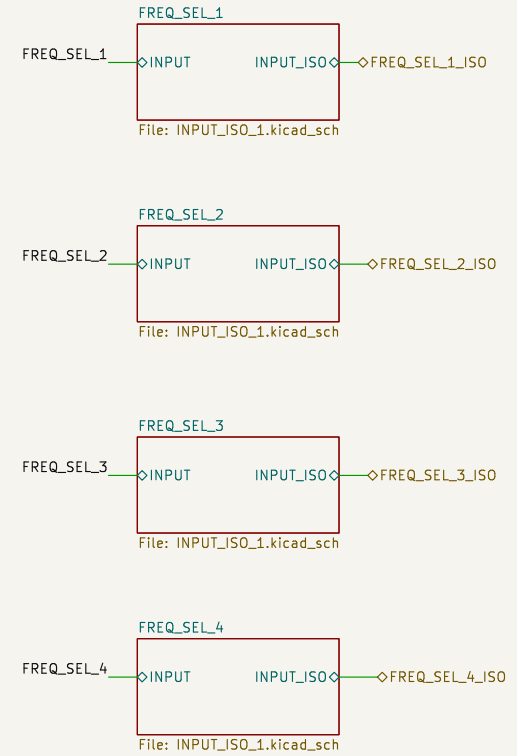
### MATRIZ DE PULSADORES



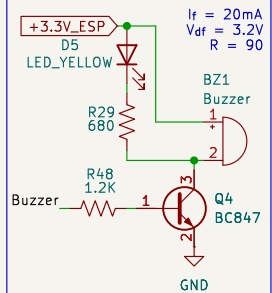
### CONVERSOR 0-10V



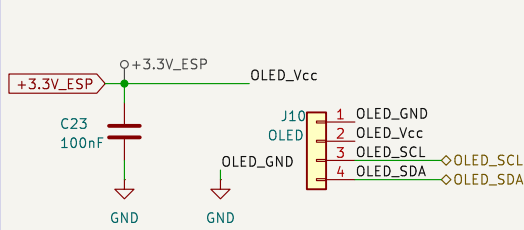
### SELECTORES DIGITALES DE VELOCIDAD



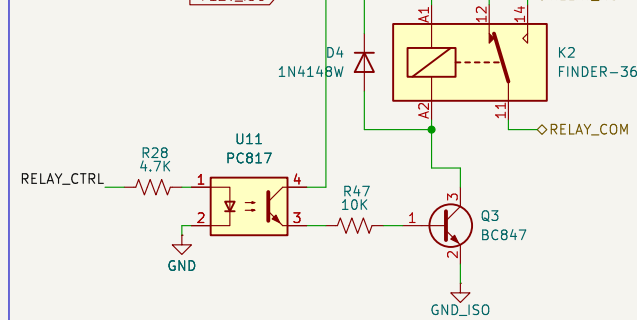
### INDICADORES ESP



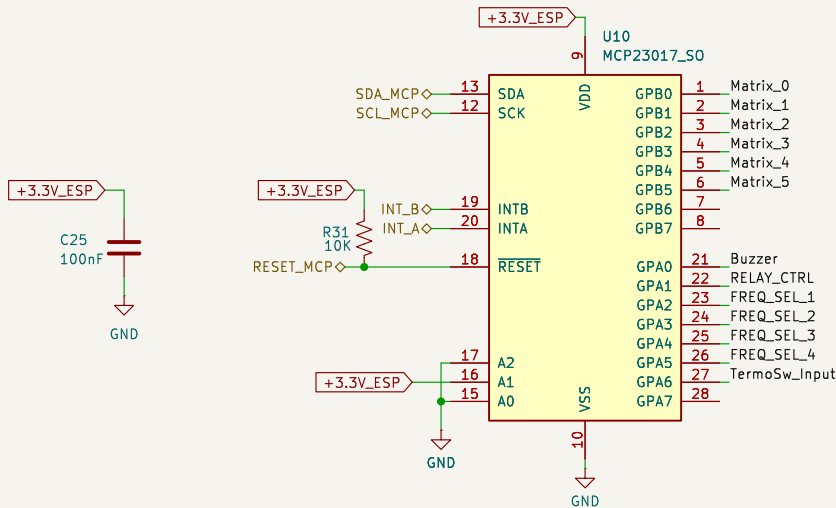
### DISPLAY OLED



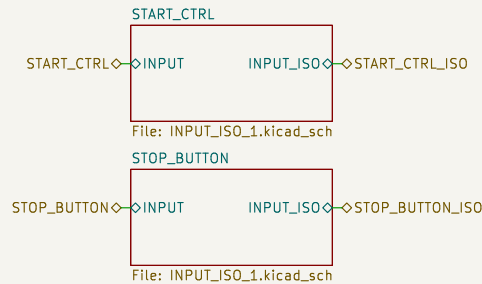
### RELAY



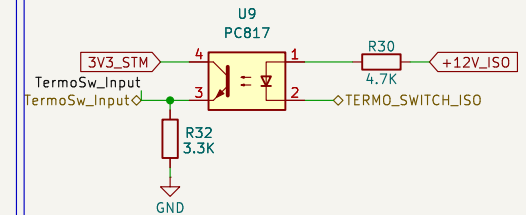
### I/O EXPANDER



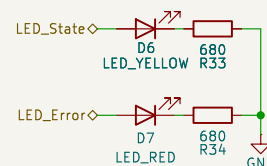
### ARRANQUE Y PARADA



### TERMO SWITCH



### INDICADORES STM



Andrenacci - Carra

Sheet: /Perifericos/  
File: Perifericos.kicad\_sch

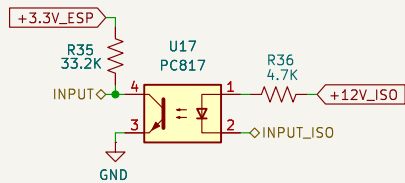
**Title: Variador de frecuencia LVDC**

Size: A4 Date: 2025-08-05

KiCad E.D.A. 9.0.0

Rev: 0

Id: 7/13



Andrenacci – Carra

Sheet: /Perifericos/FREQ\_SEL\_1/  
File: INPUT\_ISO\_1.kicad\_sch

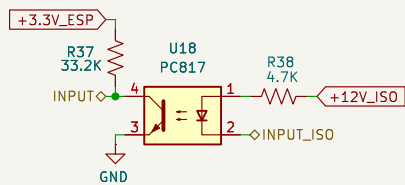
**Title: Variador de frecuencia LVDC**

Size: A4 Date: 2025-08-05

KiCad E.D.A. 9.0.0

Rev: 0

Id: 8/13



Andrenacci – Carra

Sheet: /Perifericos/FREQ\_SEL\_2/  
File: INPUT\_ISO\_1.kicad\_sch

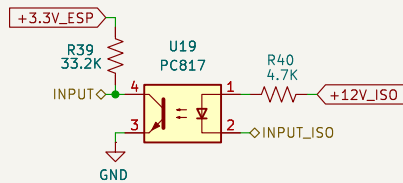
**Title: Variador de frecuencia LVDC**

Size: A4 Date: 2025-08-05

KiCad E.D.A. 9.0.0

Rev: 0

Id: 9/13



Andrenacci – Carra

Sheet: /Perifericos/FREQ\_SEL\_3/

File: INPUT\_ISO\_1.kicad\_sch

**Title: Variador de frecuencia LVDC**

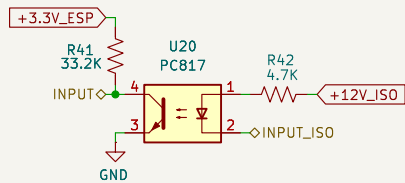
Size: A4

Date: 2025-08-05

Rev: 0

KiCad E.D.A. 9.0.0

Id: 10/13



Andrenacci – Carra

Sheet: /Perifericos/FREQ\_SEL\_4/  
File: INPUT\_ISO\_1.kicad\_sch

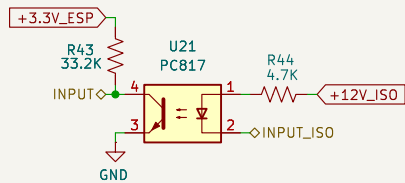
**Title: Variador de frecuencia LVDC**

Size: A4 Date: 2025-08-05

Rev: 0

KiCad E.D.A. 9.0.0

Id: 11/13



Andrenacci – Carra

Sheet: /Perifericos/START\_CTRL/  
File: INPUT\_ISO\_1.kicad\_sch

**Title: Variador de frecuencia LVDC**

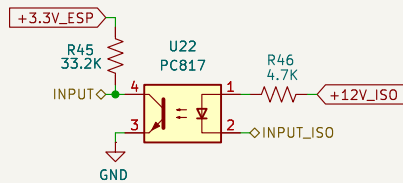
Size: A4

Date: 2025-08-05

Rev: 0

KiCad E.D.A. 9.0.0

Id: 12/13



Andrenacci – Carra

Sheet: /Perifericos/STOP\_BUTTON/  
File: INPUT\_ISO\_1.kicad\_sch

**Title: Variador de frecuencia LVDC**

Size: A4 Date: 2025-08-05

Rev: 0

KiCad E.D.A. 9.0.0

Id: 13/13