

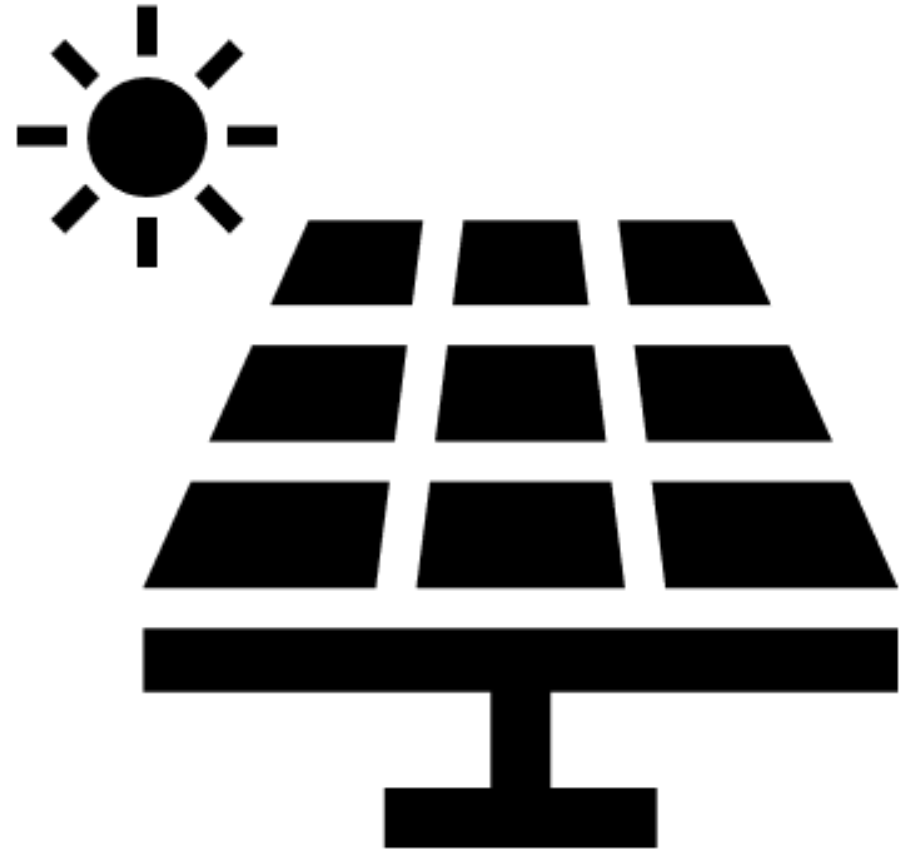
Solar team

Braňo Daráš

Matúš Krivošík

Matúš Nguyen Thanh

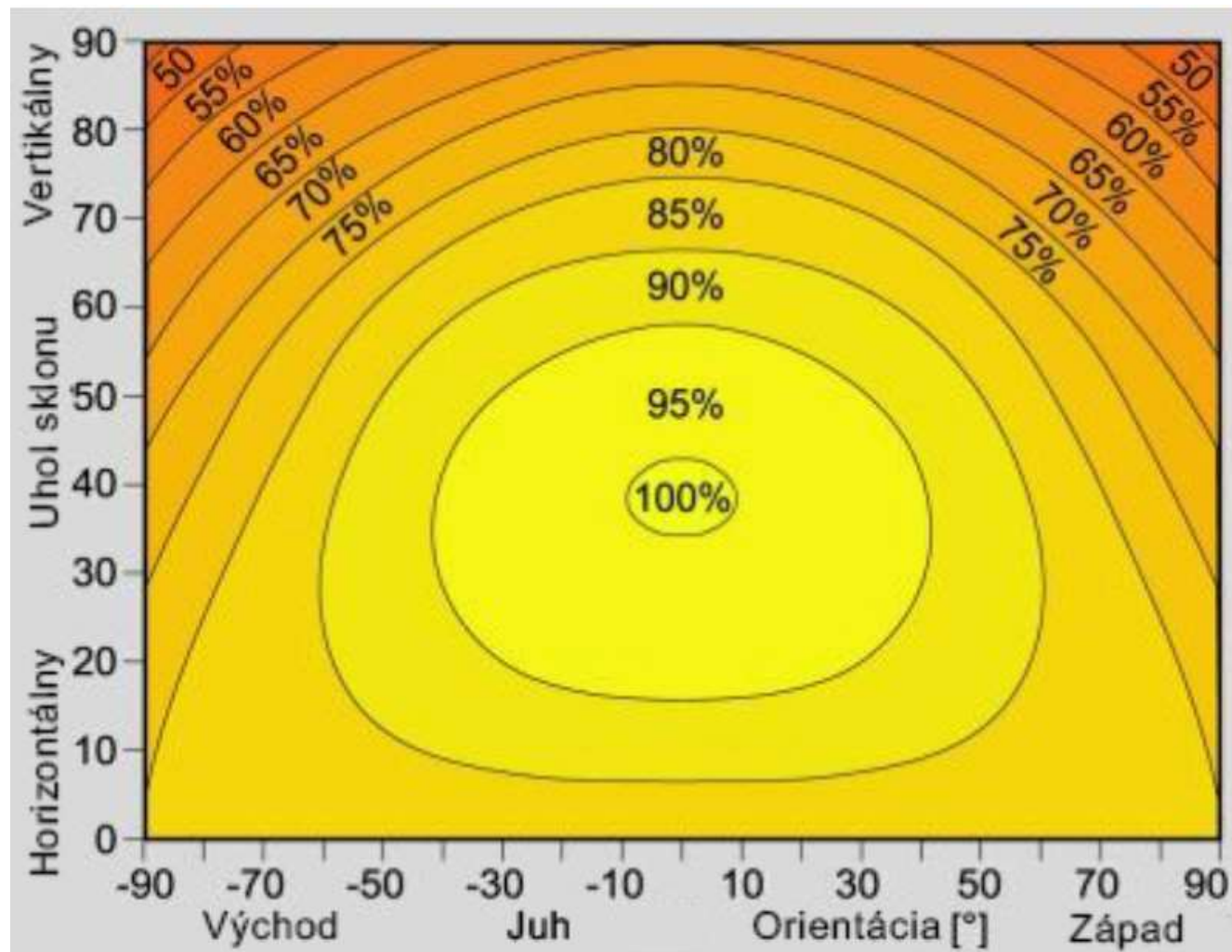
Michaela Belušková







Solar Panel Orientation





Battery Type

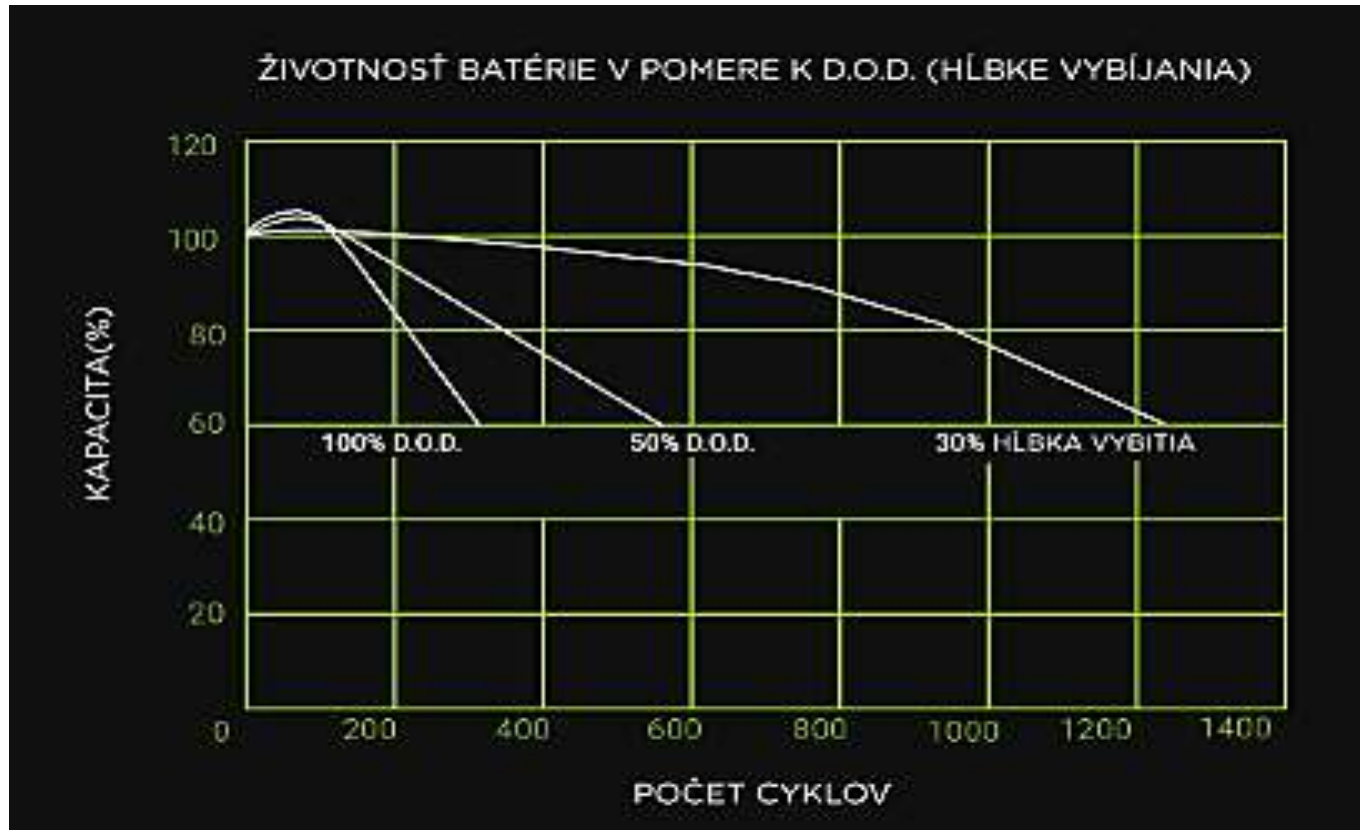
➤ Typ batérie



①SEL-Bezúdržbové (predvolené) ②Gel

③Flooded - údržbové

Study the Battery in Details to Find its Limits and Best Qualities



* Lifespan of 5 and more years depends on DOD

* Depth of discharge

Study the Battery in Details to Find its Limits and Best Qualities

⚡ Influence of temperature on battery capacity

⚡ 40°C: **102%**

⚡ 25°C: **100%**

⚡ 0°C: **85%**

⚡ -15°C: **65%**



Study the Battery in Details to Find its Limits and Best Qualities

- ⚡ **Spill-proof**
- ⚡ **Minimal internal resistance -> respond better to loading**
- ⚡ **Unlikely to build up sulfation**
- ⚡ **Keep a charge for longer time**

- ⚡ **High production costs**
- ⚡ **Sensitive to overcharging >>> we have a solution**
- ⚡ **Gel batteries don't decrease their capacity over time as much as AMG**

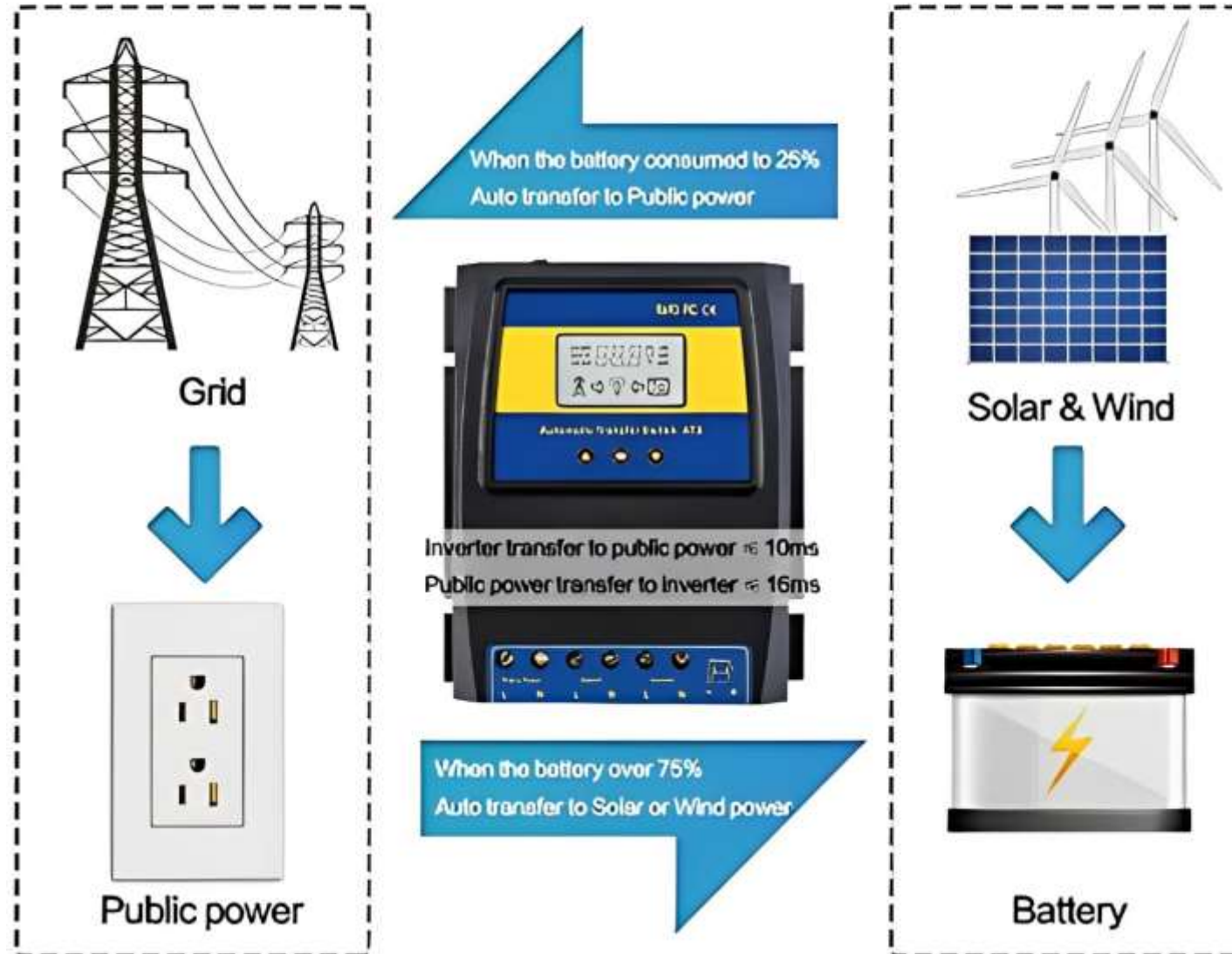
Solution to Sensitivity to Overcharge

- * 🏠 MOES Dual Power ATS
- * 🏠 -35°C to 55°C
- * 🏠 Transfer time to 16 ms



Product Function

Dual power transformer
AUTO transfer between Public power & battery.



Solution to Sensitivity to Overcharge

- * 🏠 Upper limit : 75% (12.7V)
- * 🏠 Lower limit : 25% (11.8V)



temperature

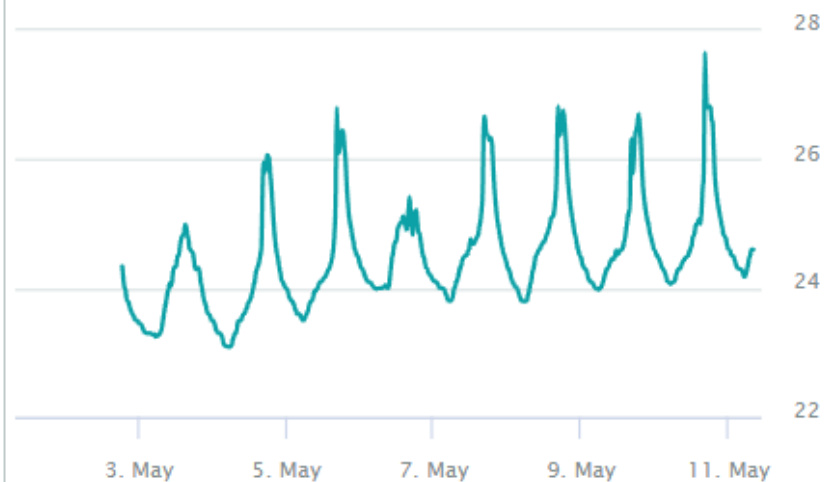
15 D

7 D

1 D

1 H

LIVE

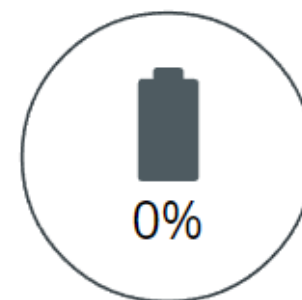


Temperature

24.6

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Percentage



0%

voltage

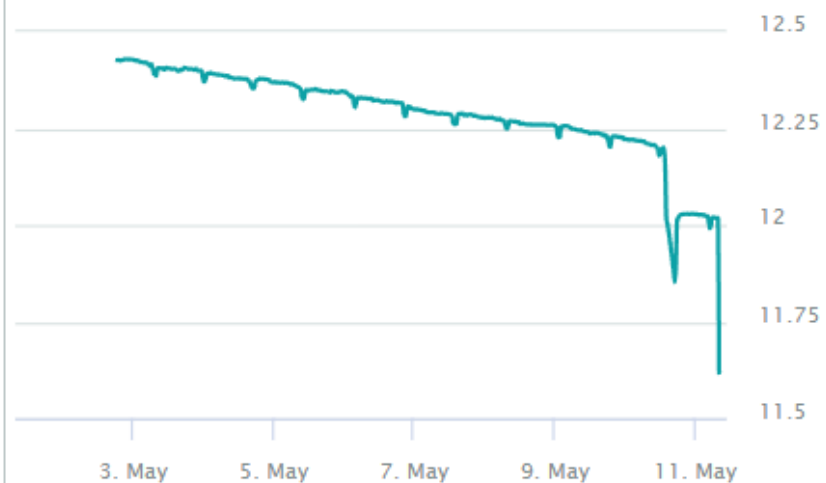
15 D

7 D

1 D

1 H

LIVE



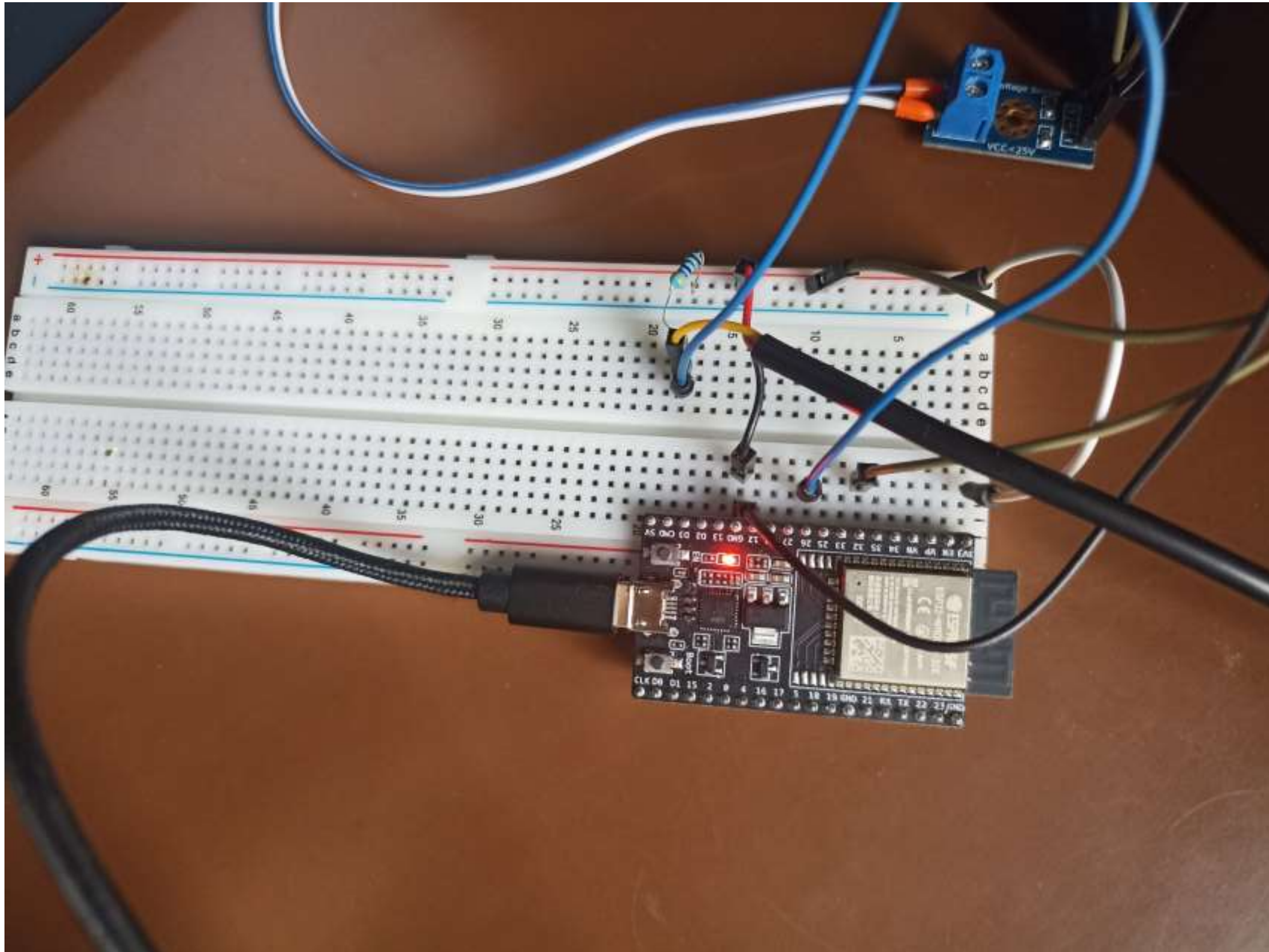
Voltage

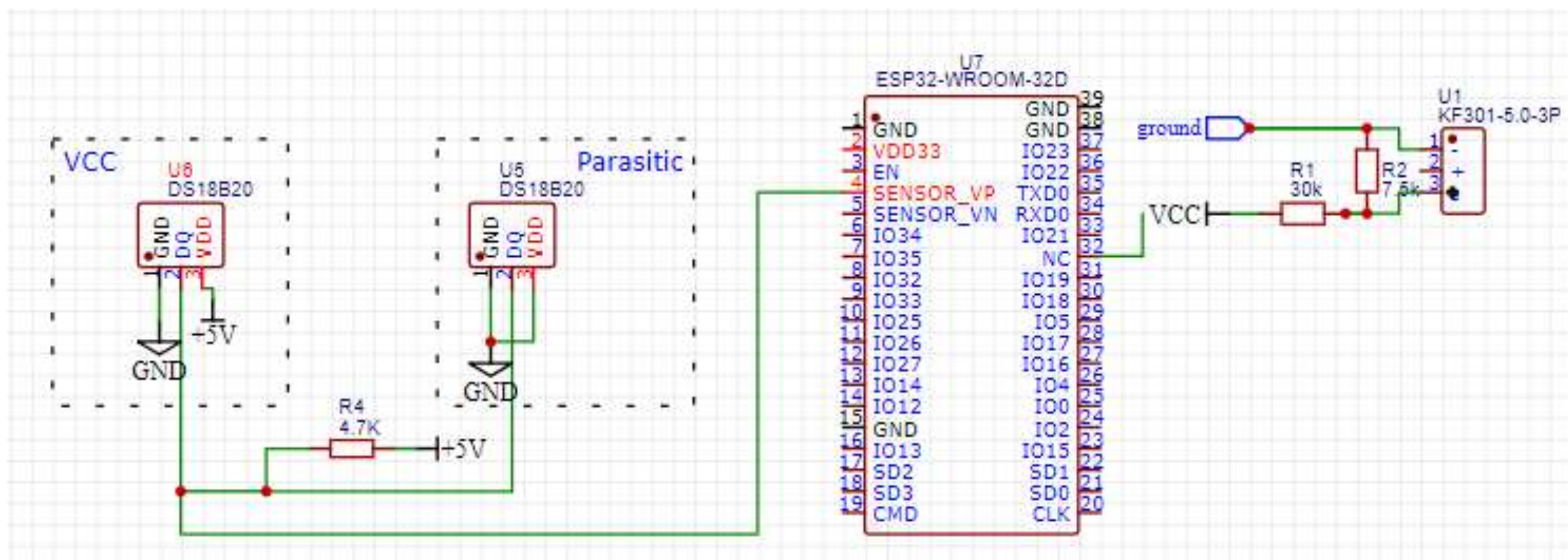
1.56

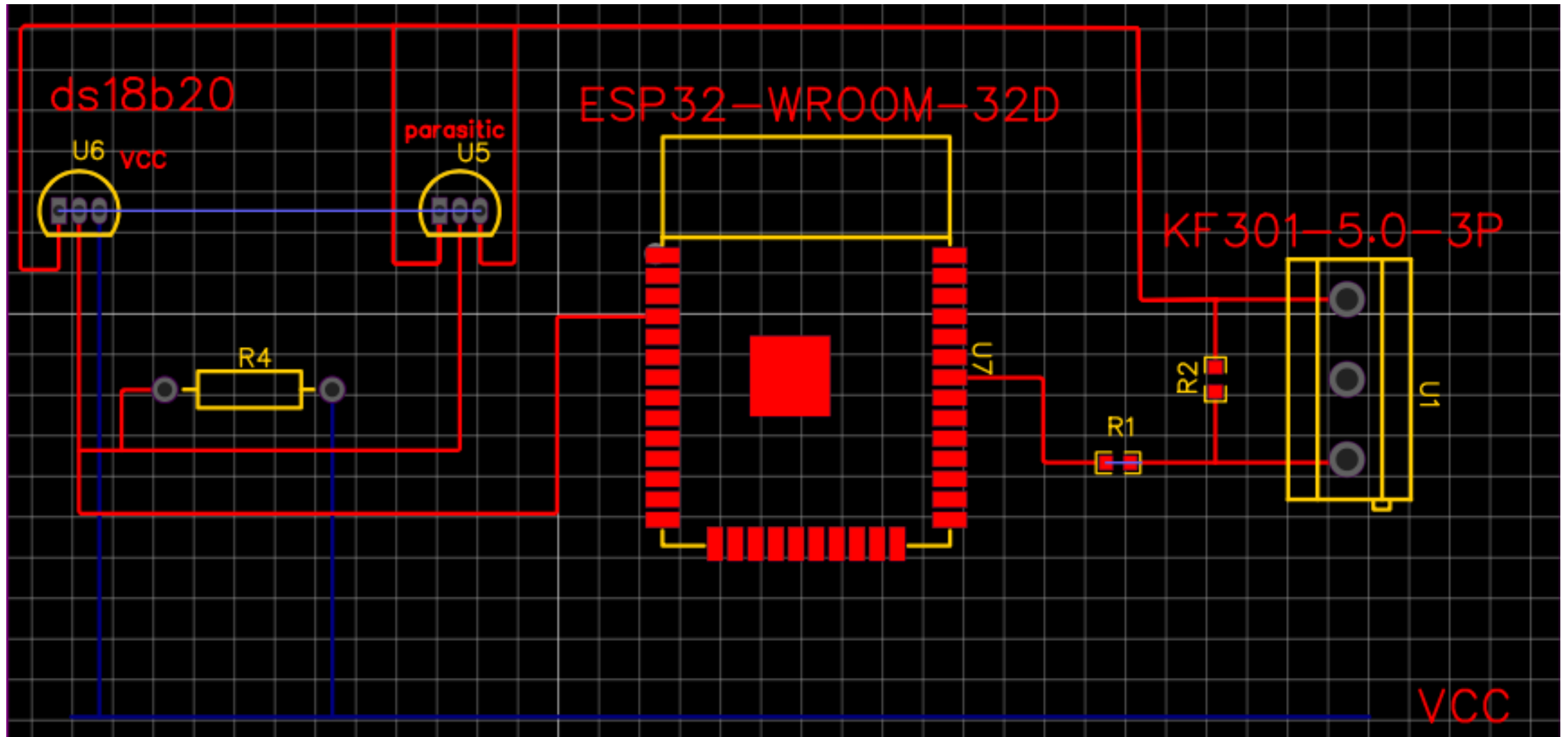
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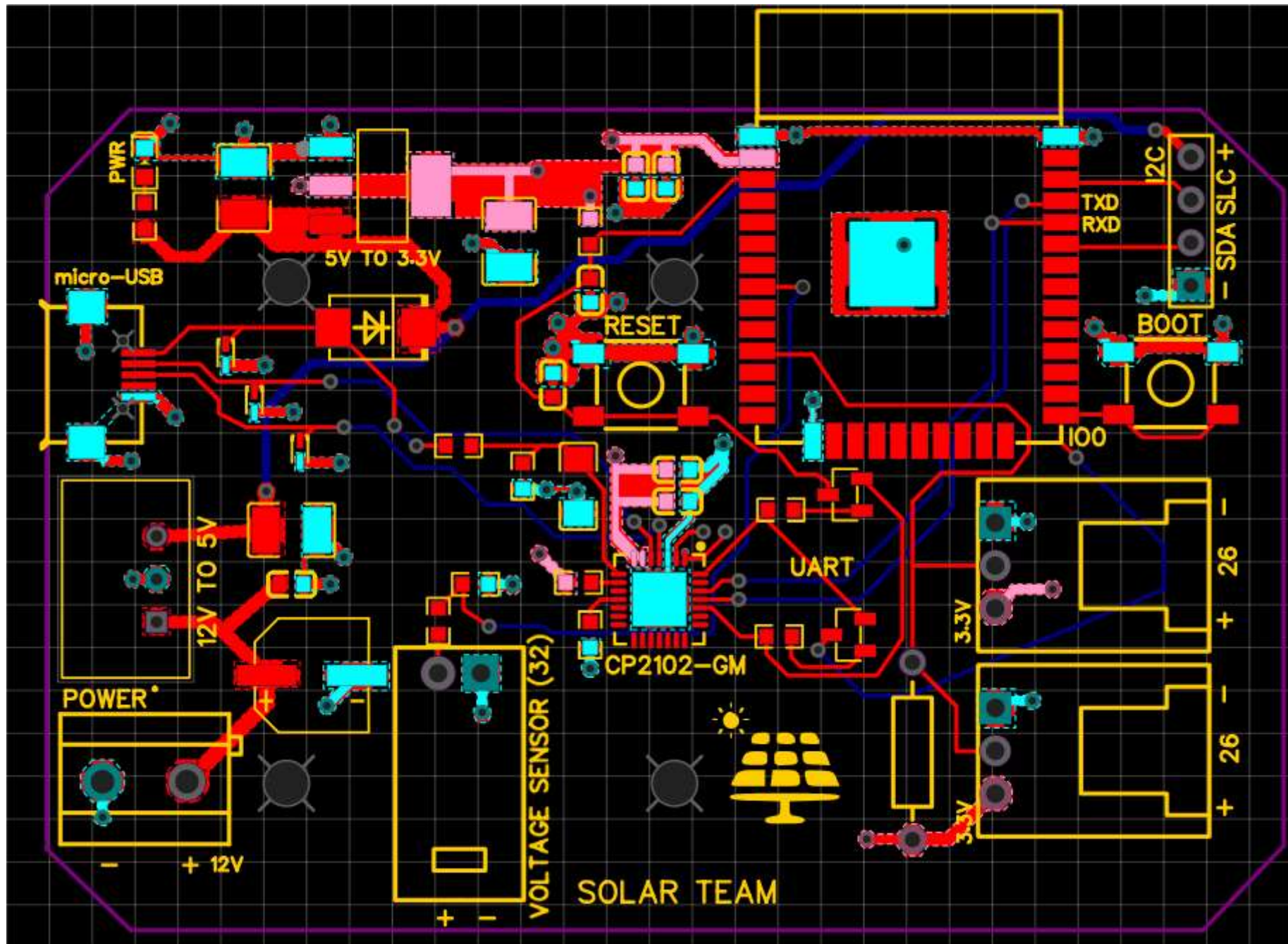
Status

OFF









Shelly[®] PLUG^S



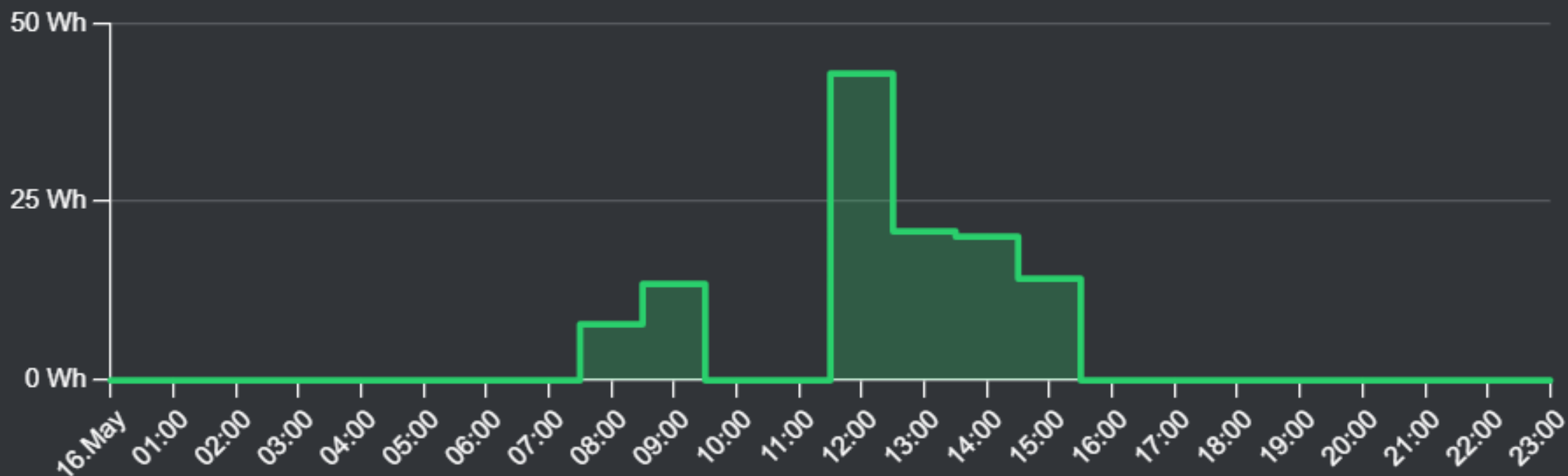
🕒 Day



2023-05-16



2023-05-16



120.16Wh

Consumption

Goals

- ✓ Integrate the solar system to supply the greenhouse with a renewable energy resources
- ✓ Integrate the solar system in a modular way suitable for various greenhouse devices
- ✓ ~~Analyze the abilities of the alternative energy resource to minimize the energy demands of the greenhouse device~~
- ✓ Establish the data exchange between the solar panel and the cloud service of the smart eco greenhouse
- ✓ Elaborating documentation for each task

Time for questions