

Weather Station for our Friends in Africa

Current partners: Uganda, Benin, Ghana

Idea

We build our own data loggers based on ESP32. Data transmission is done via Wifi, Cellular Network or LoRaWAN.

Sensors

An initial set of sensors:

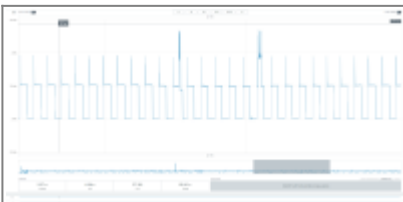
Tipping Bucket Rain Gauge

 Rain Sensor Comply with National Standard GB/T 21978.2-2014  Precise Measurement  304 Stainless Steel  Strong Anti-interference 
UICPAL Sensors
Data Sheet: rs-yl-n01-5.pdf

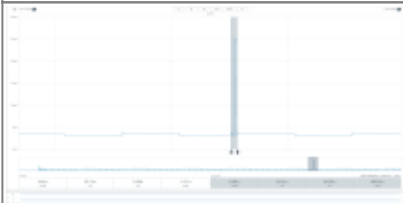


Inside of the Rain Gauge and PCB

Current Consumption



The current consumption of the rain gauge with 5V supply voltage is around 3.5mA on average. The two spikes in the screenshot are caused by the bucket tipping. The oscillation in the voltage is caused by a blinking LED on the PCB.



Reading data from it increases the current to around 25mA for 60ms.

Wind Velocity (Anemometer)

Wind Speed Transmitter

Output→

RS485

4-20mA

0-5V

0-10V

- Small Rotational Resistance
- Highly Sensitive
- Waterproof and Anti-corrosion
- Resolution: 0.1 m/s
- Range: 0-30m/s

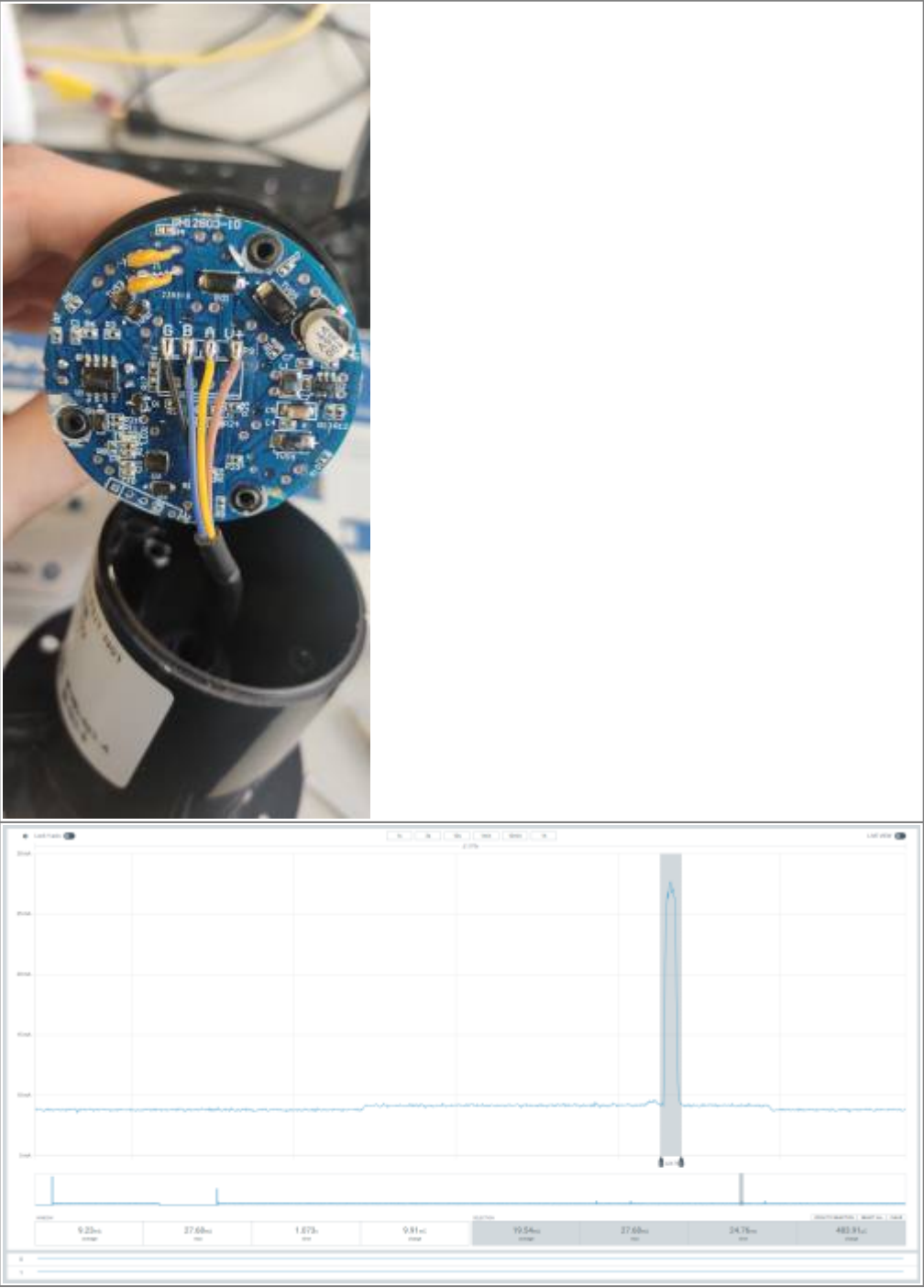


UICPAL Sensors

Data Sheet: [pr-3000-fsjt-n01.pdf](#)



HSRW EOLab Wiki - <https://wiki.eolab.de/>



Wind Direction

Wind Direction Sensor

Output RS485 / 4-20mA / 0-5V / 0-10V

- Anti-corrosion and rust prevention
- Accurate measurement
- Strong anti-interference ability
- The range is wide
- Range: 8 directions

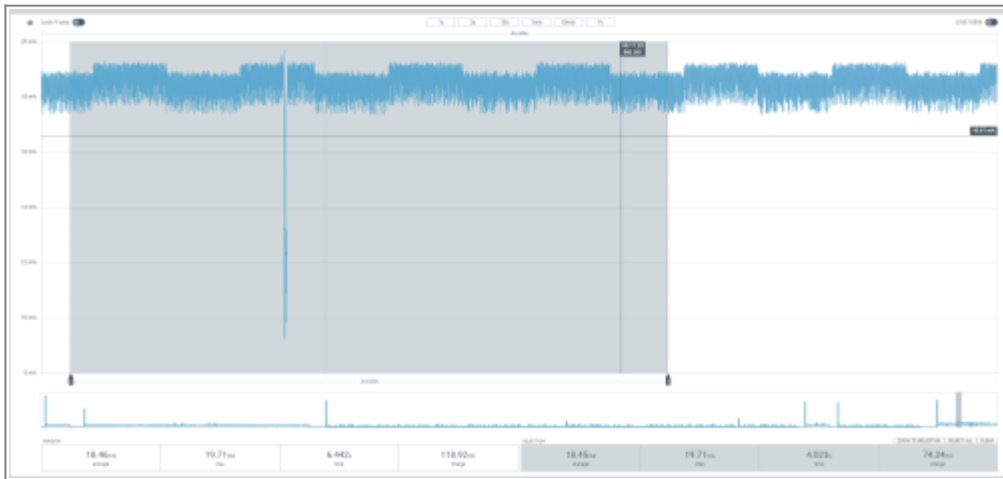
UICPAL Sensors

Data Sheet: [pr-3000-fxjt-n01.pdf](#)



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2024/04/18 11:26

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Air Temperature

- PT100 (best)
- DS18B20

Air Humidity

Air Pressure

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