

# 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](#)

The image shows a cylindrical stainless steel tipping bucket rain gauge. To the left of the gauge are three icons: a scale for 'Precise Measurement', a pair of scissors for '304 Stainless Steel', and a lightning bolt for 'Strong Anti-interference'. The text 'Comply with National Standard GB/T 21978.2-2014' is at the top left. Below the gauge, the text 'UICPAL Sensors' and 'Data Sheet: rs-yl-n01-5.pdf' are displayed.

### 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](#)

The image shows a cup anemometer with three cups. To the left of the anemometer, the text 'Wind Speed Transmitter' is in a blue box. Below it, 'Output →' is followed by a list of output options: RS485, 4-20mA, 0-5V, and 0-10V. A list of features is shown in a grey box: Small Rotational Resistance, Highly Sensitive, Waterproof and Anti-corrosion, Resolution: 0.1 m/s, and Range: 0-30m/s. Below the anemometer, the text 'UICPAL Sensors' and 'Data Sheet: pr-3000-fsjt-n01.pdf' are displayed.

## 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](#)

## Air Temperature

- PT100 (best)
- DS18B20

## Air Humidity

## Air Pressure

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