| **parameters** | **role** | **value** | **Sensor used** | **Output format** | **Side Notes** |
| --- | --- | --- | --- | --- | --- |
| Temperature | tracks water temperature | Between 20° and 24° | Ds18b20 temperature sensor | Digital (1wire) | Min 4°  Max 34° |
| Ph | monitoring and maintaining optimal pH for healthy Spirulina growth | Between 9 and 11  Ideal : 9.5 | pH sensor | Analog | More HCO3 less PH  If PH is more than 11 we add bicarbonate |
| brightness | measure brightness fluctuations  (related to biomass density) | Between 2 cm and 10 cm  (the darker the more spirulina nb) | Endoscope camera | Video or images | We want the water to be dark  If more than 10 we add nitrate |
| Water level | water level measurement |  | Sen0205 fs-ir02 sensor | Analog |  |
| Nutrients : Salinity | Salinity | Between 15 and 40  (Salinity goes down if there’s rain ) | Conductivity sensor | Analog | We add water if salinity is up and salt if it’s down |