Digisens Wiring Recommendations

AQUALABO
Smart water solutions

Sensor connection inside System

Never exceed **10V (abs. max rating) on RS485-A/B** and **6V (abs. max rating) on SDI12** relative to GND (all should be connected) : it would **irreversibly damaged the sensor.**
Ex. : accidental connection of PSU 12V V+ to A, B or SDI12 will result in sensor destruction.

Modbus RTU RS485 Interface (USB-485, PLC, ...)
- RS485-A
- RS485-B
- GND

DC PSU Power Supply 5..12V*
- V- GND
- V+
- Shield

RS485-A : White (10V abs. max.)

RS485-B : Green (10V abs. max.)

Always connect **both RS485/SDI12 Converter GND and PSU GND** to the **Sensor GND** or it can be damaged & always connect **sensor GND & Shield together**

GND : Black + Shield : Yellow/Green

V+ : Red (max 12V or max 26/28 V)

Digisens Sensor Cable
- SDI12
- RS485-A
- RS485-B
- GND
- V+
- Shield

It's strongly advised to connect **GND to system shielding** and **Ground Potential**
It should also be connected to Earth potential if the sensor is in a "non isolated" Water (such as river, ...). Consider uses of earth protective conductor (safety rules).

If parts of the system are at Earth Ground potential : it's recommended to add a proper connection from syst. ground to Earth locally & on all distant part of the system).
For example, if part of the system is in one building and another 100m away outdoor, it's advised to connect ground to both to "protective earth conductor" of the building and to "local earth" outdoor to ensure safety and Equipotentiality

System / Box Ground

*** Optod/C4E/NTU/PH**
min 5V / max 12V
*** MES/VB/CTZ**
min 5V / max 28V
*** StacSens UV**
min 5.4V / max 26V

Earth Ground Potential (recommended)

If sensor cable length is **more than 15m** multiple wires are used for **V+ (Red & Yellow & Orange & Purple & Pink)** and must all be connected together to ensure stable working.
V- uses both **GND (Black)** and **Shield (Yellow/Green)**.