

Temperature sensor

The temperature sensor is suspended from the top of the tank. It is inside a plastic tube with hole in it to prevent the fish from bumping into the metal part of the sensor. Only the metal part of the sensor should be in the water as the rest of the sensor is not watertight.

The sensor gives a analog voltage signal between 0V and 5V which collaborates with the temperature. The sensor has been calibrated from which a formula to convert from a `analogRead` value to degrees Celsius was calculated, see Figure 1 for the calculated formula for every group. See the 'temperature_sensor_example.ino' code for an example on how to measure the temperature with a moving average. Please mind that the values for the formula need to be changed according to your group.

Group	Formula
Group 1	Deg C = $-0.0953 * \text{analogRead} + 73.4$
Group 2	Deg C = $-0.0966 * \text{analogRead} + 74$
Group 3	Deg C = $-0.0913 * \text{analogRead} + 72$
Group 4	Deg C = $-0.0879 * \text{analogRead} + 69.8$

Figure 1, formulas to convert from analogRead value to Degrees Celsius for every group's sensor