Pressure Calculation: P = p x g x h, where

p = Density = 1023.6 kg/m^3 for saltwater

g = Acceleration of Gravity = 9.80665 m/s^2

h = Depth of the fluid (between 0-65m)

Sensor Connection tries taking info from Real Sensor first. If it fails, it switches to fake sensor.

Using <bitset> to store and transmit sensor data. For 16-bit, we can have a maximum of 65536 distinct numbers, so 0xFFFF is 65535, therefore the pressure at 600m depth.

Int representing pressure in Bar/Atm

Output Console

Int representing pressure in Bar/Atm

Every

1 sec

16-int unsigned value

Main App

Data Processor

Takes unsigned int

Process data into atm/bar

16-bit unsigned value

16-bit unsigned value

Sensor

Connection

Real Sensor

Fake Sensor