pHMeter

0.1

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Chapter 1

pHMeter Documentation

1.1 Description

Ths project is develop to control and adquire pH and conductimetry in the principal project `Bioreactor`. The source code documentation was made with Doxygen.

1.2 Circuit

- Microcontroller ATMEGA32U4.
- Buck converter from 5V and 12 V to 3.3 V.
- I2C communication.
- USB connection.
- Adquistion for pH.
- Adquisition for conductimetry.
- 24 bits ADC for pH and conductimetry.
- 4 I/O connections to control pH and conductimetry.
- One-wire communication.
- Temperature sense and control.
- 64 Mbits SPI memory.
- LCD 16x2 display.
- Rotary push button.
- Momentary push button connected to pin D3.

1.3 Libraries

- nilRTOS (`https://github.com/greiman/NilRTOS-Arduino`)
  - RTOS create threads for every component in the board.

1.4 Notes

- Comments are Doxygen compatible.

1.5 TODO

- Don't use Doxygen style formatting inside the body of a function.

1.6 Author

- Created by Andres Camilo Vargas on 04/08/2021.
- Modified by Andres Camilo Vargas on 05/12/2021.

Chapter 2

File Index

2.1 File List

Here is a list of all documented files with brief descriptions:

main.cpp
This file is the firmware to run phMeter of Hackuarium 5

Chapter 3

File Documentation

3.1 main.cpp File Reference

This file is the firmware to run phMeter of Hackuarium.

```
#include <Arduino.h>
#include <NilRTOS.h>
```

Include dependency graph for main.cpp:

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