

Preparación RealLabo

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16 de febrero de 2016

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1 Organización de grupos

2 Tareas

3 Recomendaciones

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3 Recomendaciones

- ▶ 2 turnos (Turno A y Turno B)

- ▶ **Próximas Fechas**
 - ▶ Martes 23 de febrero → Turno A
 - ▶ Martes 1 de marzo → Turno B
 - ▶ Jueves 10 de marzo → Turno A
 - ▶ Jueves 17 de marzo → Turno B

- ▶ **Lugar**
 - ▶ Laboratorio B-302

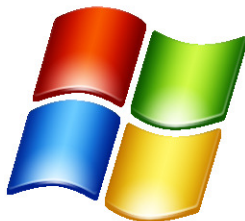
1 Organización de grupos

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- ▶ **Preparación de PCs (1 portátil por grupo)**
- ▶ **Instalación de Arduino IDE + Soporte Arduino DUE**
- ▶ Familiarización con el entorno y tarjeta
 - ▶ Test LED, Test IOs, Test Serial,...
- ▶ 2 PWMs → `AnalogWrite`
- ▶ 2 Señales encoder → `attachInterrupt`
- ▶ Extracción de datos → `Serial`
- ▶ Temporización (Timer) → `DueTimer`
- ▶ Modificación PWMs → Aumentar frecuencia de modulación
- ▶ Modelado motor DC → $G(s)$
- ▶ Diseño controlador P posición
- ▶ Implementación controlador P posición

- ▶ Requisitos
 - ▶ Independiente del Sistema Operativo
 - ▶ 1 USB



- Descargar e instalar la última versión del IDE
 - <https://www.arduino.cc/en/Main/Software>

Download the Arduino Software



ARDUINO 1.6.7

The open-source Arduino Software (IDE) makes it easy to write code and upload it to the board. It runs on Windows, Mac OS X, and Linux. The environment is written in Java and based on Processing and other open-source software.

This software can be used with any Arduino board. Refer to the [Getting Started](#) page for installation instructions.

Windows Installer

Windows ZIP file for non-admin install

Mac OS X 10.7 Lion or newer

Linux 32 bits

Linux 64 bits

Release Notes
Source Code
Checksums

ARDUINO SOFTWARE HOURLY BUILDS

LAST UPDATE
12 February 2016 12:15:9 GMT

Download a preview of the incoming release with the most updated features and bugfixes.

[Windows](#)

[Mac OS X](#) (Mac OS X Lion or later)

[Linux 32 bit](#), [Linux 64 bit](#)

ARDUINO 1.0.6 / 1.5.x / 1.6.x PREVIOUS RELEASES

Download the [previous version of the current release](#), the classic [Arduino 1.0.x](#), or the [Arduino 1.5.x Beta version](#).

All the [Arduino 00xx versions](#) are also available for download. The Arduino IDE can be used on Windows, Linux (both 32 and 64 bits), and Mac OS X.

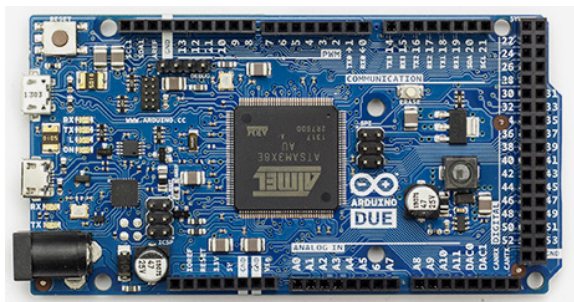
- Instalar el soporte para arduino DUE
 - Herramientas → Placa → Gestor de Tarjetas
 - Instalar Soperte para *SAM Boards* → Cortex-M3



1 Organización de grupos

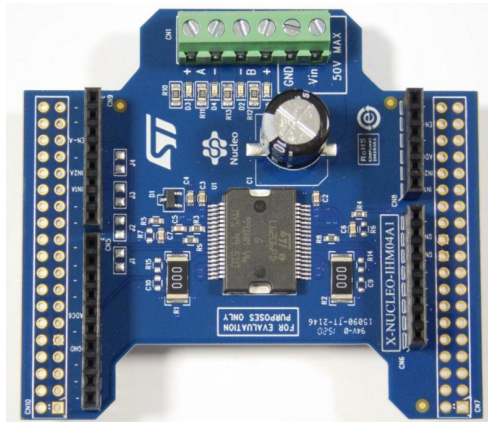
2 Tareas

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Cortex-M3 32 bits 3.3V

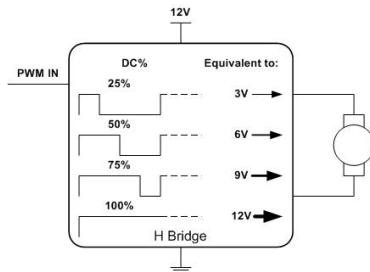
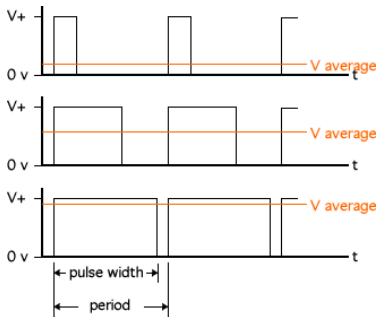
<https://www.arduino.cc/en/Main/ArduinoBoardDue>



L6206 8-52V 2.8A

<http://www.st.com/web/catalog/tools/FM116/CL1620/SC1971/PF261981>

Etapa de Potencia: PWM



Etapa de Potencia: PWM

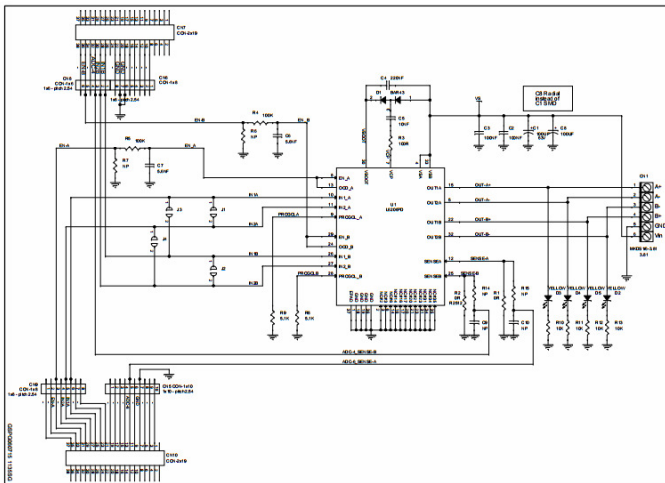
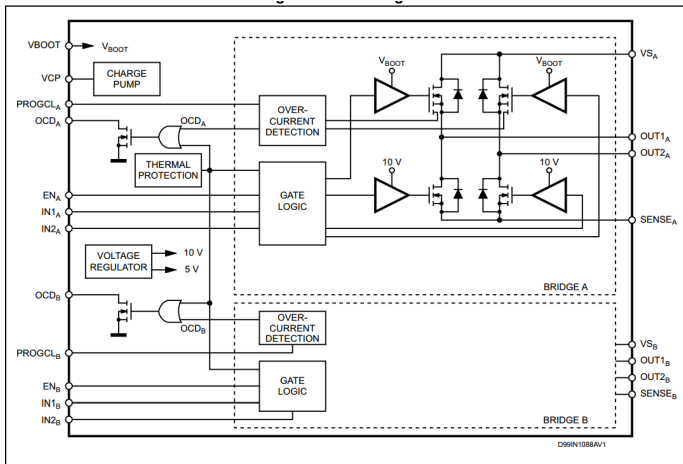
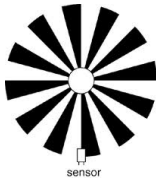


Figure 1: X-NUCLEO-IHM04A1 circuit schematic

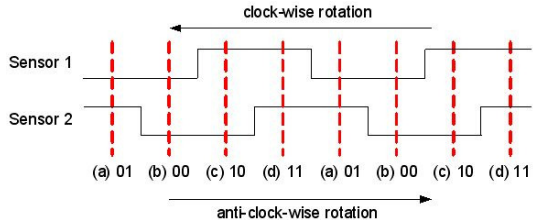
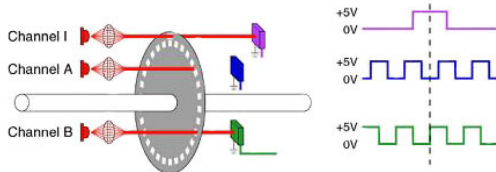
Etapas de Potencia: PWM



Encoder



Relative



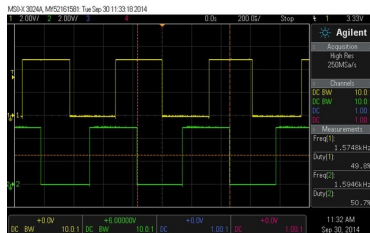
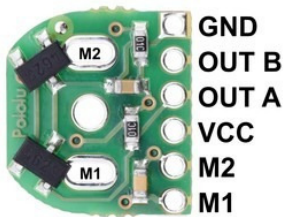


Pololu

9V 150:1 200rpm 120mA 2.9 kg-cm

<https://www.pololu.com/product/2386>

Encoder Pololu



Magnetic 3 CPR 2.7-18V

<https://www.pololu.com/product/3081>

GRACIAS!!

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