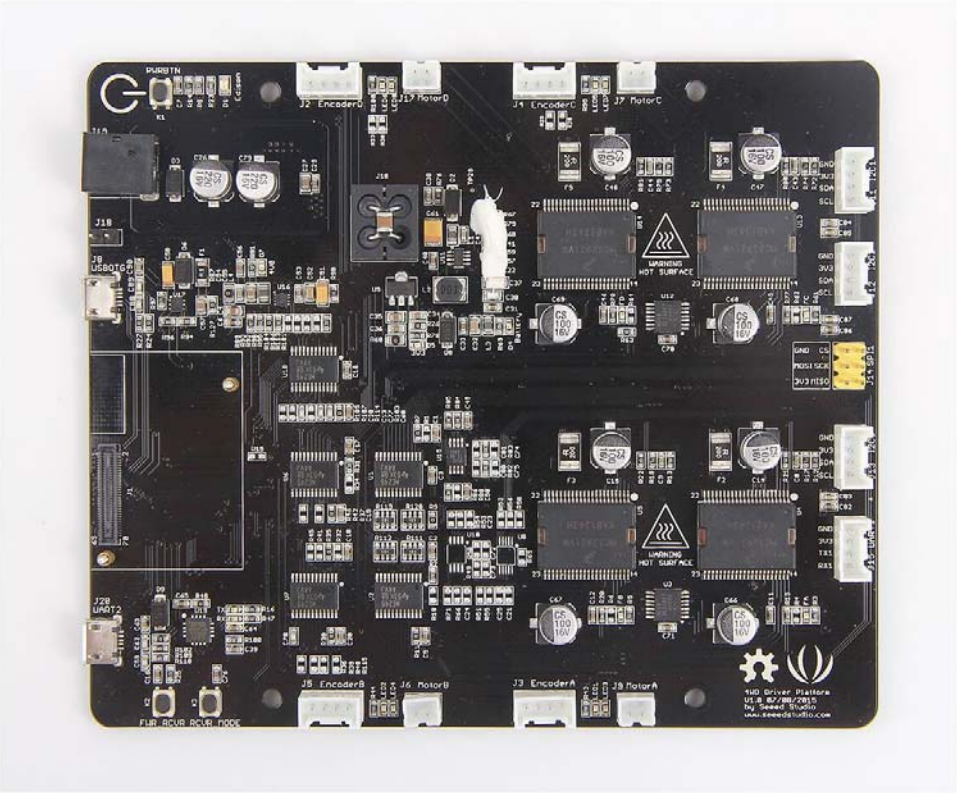
4WD Driver Platform V1.0



4WD Driver Platform V1.0 (No Intel Edison chip included) is a motor driver board which support 4-wheel driving with bidirectional and full control to each motor. The most important features of this drive board is it expandability achieved by grove interfaces which can enable your project more versatile. It also get detailed and simple SDK (software development kit) which will make you development process quicker and easier. With Edison installed, you can build a powerful system to satisfy your different needs.

Features

- Support USB to device UART bridge
- Support OTG(On The Go)
- Support SPI program port
- Support Grove Interface: UART port* 1, I2C port *3
- Support 4 wheel encoder motor driving with bidirectional(Peak Current: 3A)
- Support overcurrent, over loading and short circuit protection function.
- Detailed and simple SDK
- Designed for Intel Edison platform.

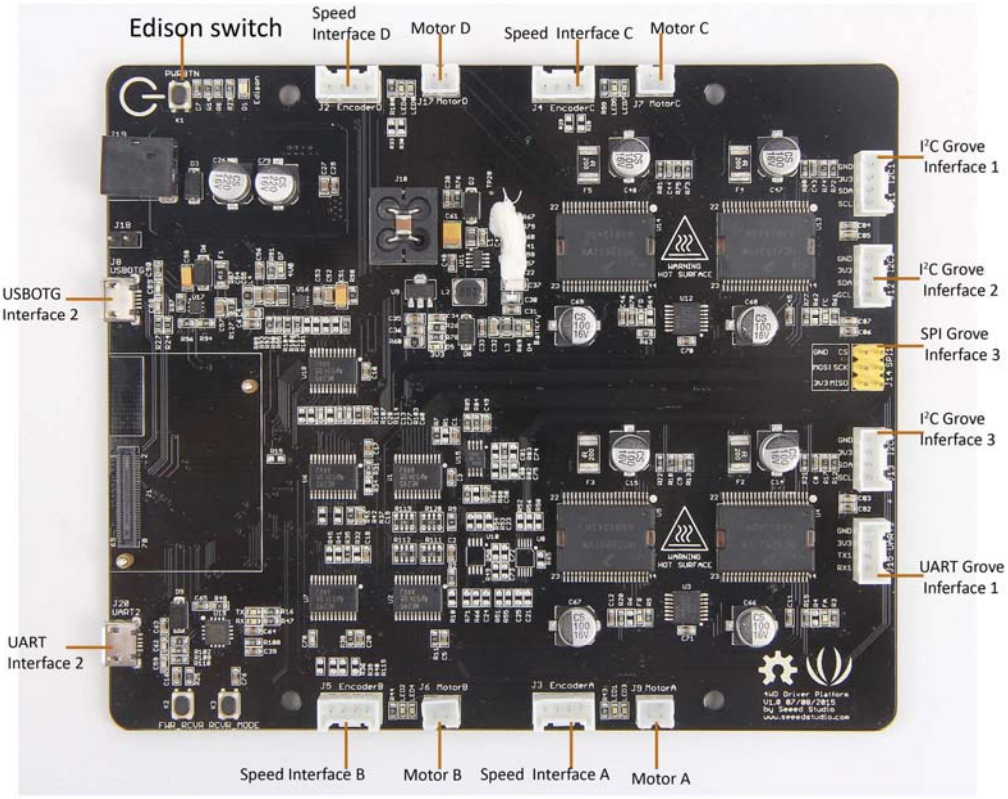
Specification

Basic parameters	
Input voltage	6-16V
Output voltage	5V/4V/3.3V/1.8V
Idle Current	Less than150mA
Dimensions	130*110mm
Motor Driver	
Driver chip	MC33931(Freescale) * 4, independent
Input voltage	5-30V
Output current	3A(MAX)
Protection	Auto-cutting output for over temperature, low-voltage and short circuit occurrences
Expandability	
I^2C interface	3
SPI interface	1
UART interface	2
USB OTG interface	1

Application ideas

- Various kinds of robots
- Motor driver
- Toy car
- Industrial Control

Hardware Overview



Note that only 3.3 V voltage is valid to apply on ALL motor interfaces and grove modules.

Get started

Note

This section only shows you how to build basic development environment.

You can build a development environment for your project with following guides:

Assemble Edison on 4WD Driver board

Material required - 4WD Driver Platform V1.0 *1

- Intel Edison *1
- 2 Micro B to Type A USB cables

Software work *

- Download Intel integrated tool pack(installed together with Driver)
- Download Arduino IDE if you develop your projects on Arduino board

Rule of thumb: We recommend you only select drivers and flash tool to be installed for the first if you connection speed to Intel server is not fast enough. Downloading other tools separately will be much quicker.

Note

4WD Driver Platform V1.0 is not supported for Windows 10 at the moment.

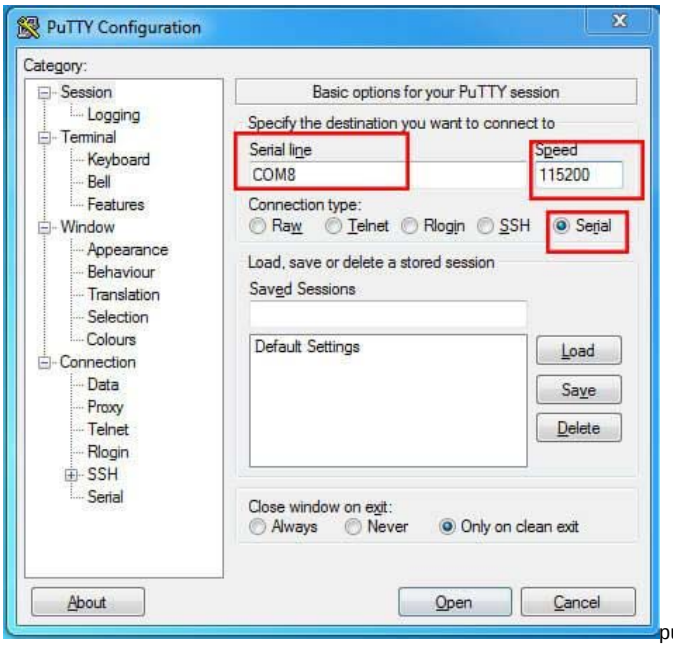
**Check your IDE **

Download a putty for serical communication

1.Open device manager.

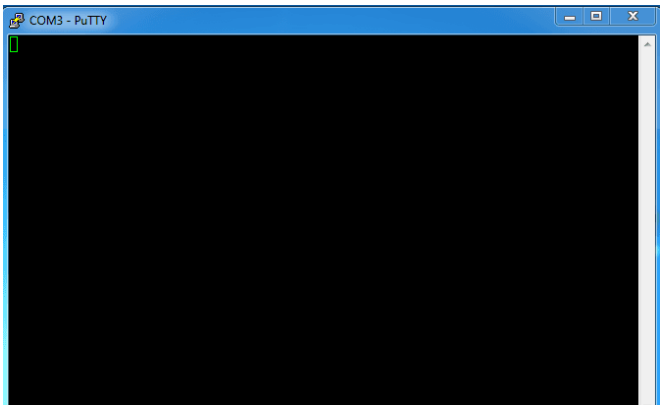
2.Find USB serial port. Under Ports(COM & LPT), find *USB Serial Port(COMx)*(Example: USB Serial Port(COM3))

3.Startup putty to and configure it as follow figure shows(marked with red rectangle)



putty configurations

4.Click Open to enter serial terminal



putty login

5.Press Enter key to input user name and password to login to system in Edison.

Note

- No password exist if it is the first time you use you Edison chip.
- You can flash the latest firmware image to Edison with Intel Flash Tool.

6.Now your IDE is well installed.

Note

- This section will show you a demo which implemented some simple functions.
- make sure you have built a development environment successful by former sections and we assume you have got basic knowledge for Arduino platform.

You can refer to Edison 4WD Auto Robotic Platform 2.0 for a practical application with 4WD Driver Platform V1.0.

Resources

- Schematic files
- Git library(SDK) files

Tech Support

Please submit any technical issue into our forum or drop mail to techsupport@seeed.cc.