iMoto High Current Dual DC Motor Motion Controller
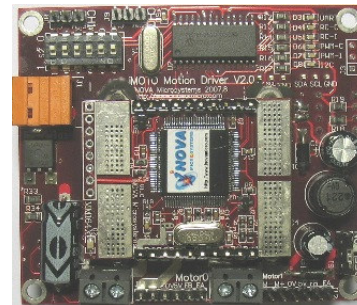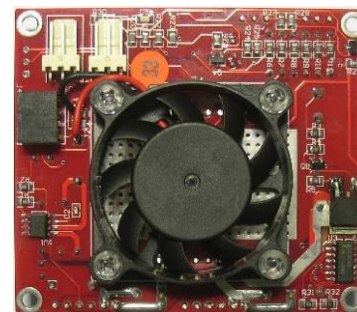
Key Features

- On-Board Motion Control for brushed DC Motor (Velocity Mode, Position Mode)
- On-Board MOSFET PWM driver.
- Able to drive **Two** DC motors in the same time. MAX DC Current Per Motor = **10A**.
- On-Board fan for efficient heat dissipation.
- Protection for Reverse Polarity, Over-Current, Over-Temperature.
- Controllable by RC Servo PWM pulse directly.
- Controllable by UART Interface.
- Controllable by I2C interface.
- Able to control the PWM output directly.
- **Switching power supply** for best battery power efficiency.
- **Compact** size of 75mmX65mm

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Bottom

Descriptions and Applications

iMoto is a multi-functional high current 2-axis Motor Driver with motion control. It features on-board over-current protection and over-temperature protection. Maximum DC current per motor channel is 10A.

For DC motor with incremental encoder feedback, the **iMoto** is able to drive the motor in velocity mode or position mode. For DC motor without encoder feedback, the **iMoto** is able to drive the motor by the output PWM. The on-board motion processor allows user to change motion control parameters like PID parameters, motor configuration etc. **iMoto** operates in 3 modes as follows.

UART Mode: In UART Mode, the **iMoto** is able to interface with host microcontroller via UART port. In this mode, the MHD164 will receive AT Command sent from the host microcontroller to change its speed, position, etc.

I2C Mode: In I2C Mode, the iMoto is able to interface with host microcontroller via I2C port. The I2C address is selectable from 0x70 to 0x7E. The host microcontroller is able to control the iMoto by I2C command.

Radio Control PWM mode: In this Mode, the MHD164 can be connected the RC receivers (Hitec/Futaba) directly so that the two motors' speed can be control by the RC remote controller. In this mode, user may choose to run the two motors under coordinated mode or independent mode. This mode is especially useful in **building RC remote robots like Sumo Wrestling robot**.

iMoto is fully compatible with iMicro robotic controller from iNOVA Microsystems.

Technical Specification

Item	Specification	iMoto
Power Supply Voltage	7V – 24V	yes
Power Supply type	Switching Regulator	yes
Power Consumption	2W (without motor)	yes
Processor Speed	40MHz	yes
DC Motor DC current	Max DC Current = 10Amp / Channel	yes
DC Motor Pulse current	Max Pulse Current = 20Amp	yes

Order Information

Our Part No.	Description	Price	**Farnell** Order Code
iMoto-X2	Dual High Current Motion Driver		1287353

Manufacturer:	**Authorized Sole Distributor:**
iNOVA Microsystems Pte Ltd #02-06, AMK Tech II Blk 5, AMK Industrial Park 2A Singapore 567760 Tel: (65)64841007 Fax: (65)62344235 Email: sales@inovamicro.com	Singapore: Farnell Components Pte Ltd Malaysia: Farnell Components Pte Ltd Thailand: Farnell Components Pte Ltd Worldwide: iNOVA Microsystems Pte Ltd

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