MD-2016 H-bridge Motor driver DataSheet

Keyword:

INHAOS , Arduino , Smart Car , UGV , MassDuino , Motor driver
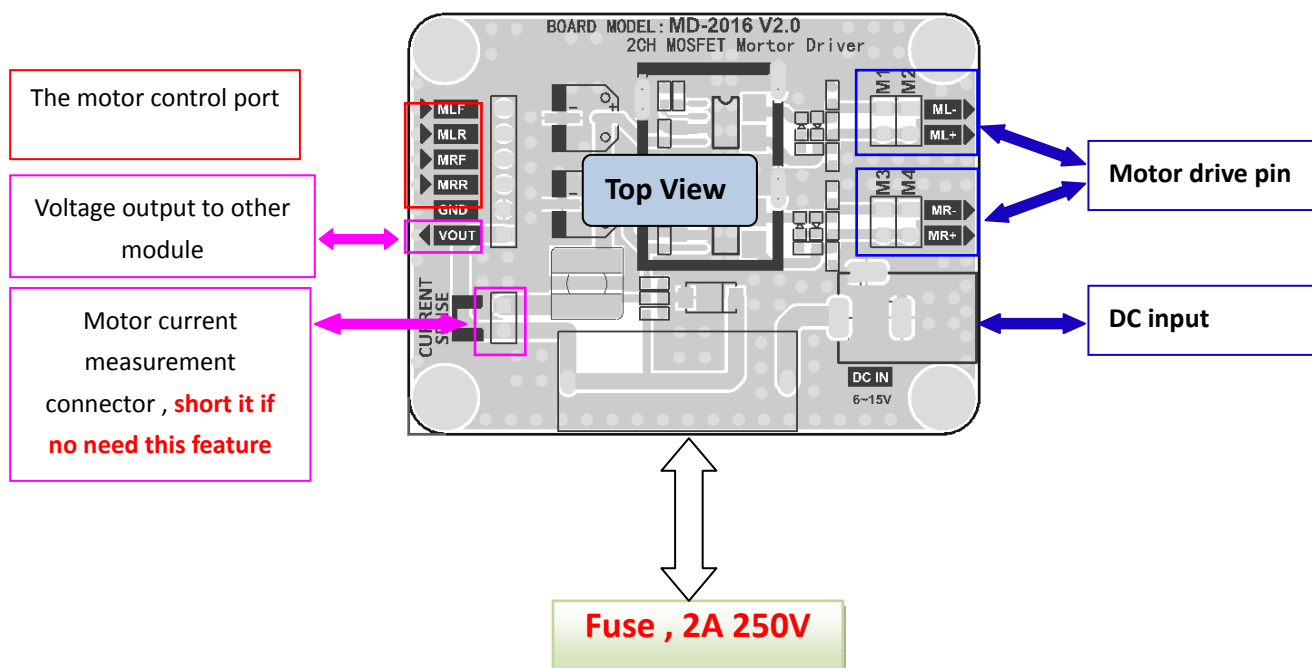
● **Introduce**

MD-2016 is a motor driver module, the main chip is MD-2016. MD-2016 is a bidirectional DC motor drive circuit. It has two logic input terminals used to control the motor forward, reverse and brake. The circuit has a good anti-interference, small standby current , low output resistance. MD-2016 is different from conventional motor driving module, In the H -bridge , it innovative use of MOSFET replaced BJT , reducing the voltage loss. The design of on-board fuse provides the protection of over-current, it makes us more secure when using the motor drive. We also have set up a diode to prevent the input signal of reverse connection protect and a LC filter circuit to avoid the motor noise interference.
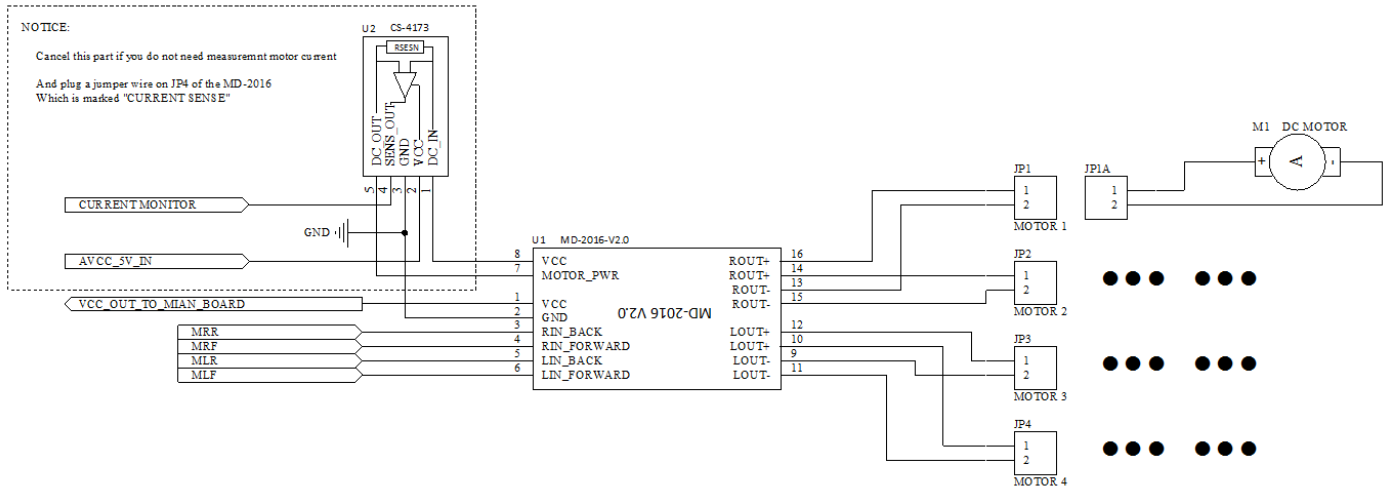
● **Features**

❖ Maximum operating voltage is 18V
❖ Maximum output current is 5A
❖ Small size and low power consumption
❖ Onboard fuse protect the circuit
❖ Set the diodes for input voltage reverse protection
❖ MOSFET output, low voltage drop , high output capability
❖ LC filter circuit to avoid the motor noise interference to other circuit module
❖ Motor running direction indicator LED clearly shows the operating conditions of the motor
❖ 2 Pin Motor current measurement connector

● **Pin Description**

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● Application Schematic

● Control Logic

No.	MLF/MRF	MLR/MRR	Motor Direction	Remark
1	H	L	Forward	Motor clockwise rotation
2	L	H	Back	Motor Counterclockwise rotation
3	H	H	Break	Short motor pin to the GND
4	L	L	Free	Left motor pin floating

* The control IO compatible TTL-3.3V level , for stable reason we suggest the IO use 5V logic level.

*Some Arduino mainboard system voltage have 3.3V to 5V option , please switch to 5V side.

● Electrical Characteristics (Vcc = 6V ,Ta = 25℃; Unless other specified)

Parameter	Symbol	Condiction	Min	Typical	Max	Unit
Supply Voltage	Vopr		3.0	---	15	V
Standby Current	Is	Vcc = 9V , Vi = 0			2	uA
Static Current	Icc	Vcc = 6V , Vi = 3V , No Load	2	4	7	mA
Output High Level	VHout	Vcc = 6V , Io = 3A	5.5	5.7	5.9	V
Output Low Level	VLout	Vcc = 6V , Io = 3A	0.05	0.12	0.3	V
Input High Level	ViH		2.2	3.5	6	V
Input Low Level	ViL			0.5	0.7	V
Input Current (2V)	Ii	Vcc = 6V , Vi = 2V		70	100	uA
Input Current (3V)	Ii	Vcc = 6V , Vi = 3V		100	150	uA
Output Current	Iout			3	4.2	A
Over Temp Protect	Totp			130		℃

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