Q2HB44MC Q2HB44MD

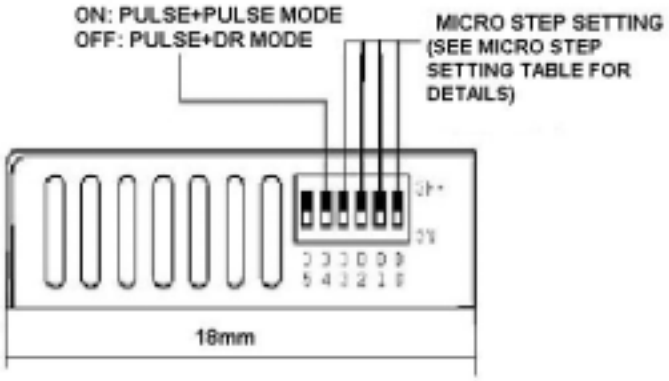
Introduction

Q2HB44MC(D) is constant angle and constant torque microstepping drives. This type supplies regulated phase current for supplies voltages between 12-40V. It is designed for the 2-phase hybrid step motor of all kinds with 42-86mm outside diameter, 6 or 8 lead and 4A current max. It is widely used in small numerical control equipment with high resolution such as carving machine, laser labeling, laser inner carving machine etc.

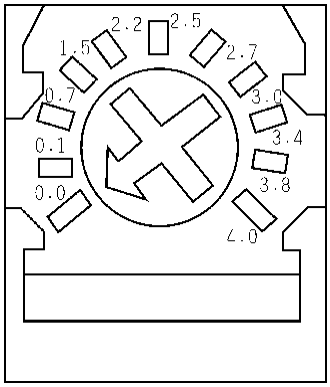
Features

- High reliability, Low price
- 12/8 channels constant angle and constant torque micro step, highest micro steps: 200
- Unique control circuitry
- Highest response frequency: 200Kpps
- Winding current will be reduced by 50% when no step pulse command is received for 0.1 second.
- Bipolar constant current chopping mode
- Optically isolated signals I/O
- Driving current is continually adjustable from 0.5A/phase to 4A/phase
- Single power supply (12-40Vdc)

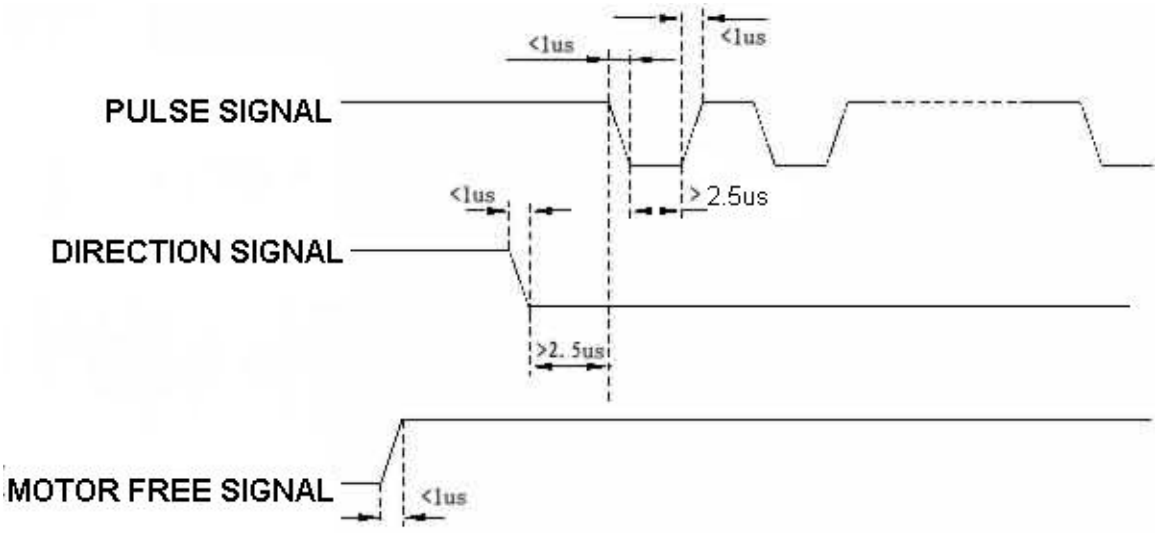
FUNCTION DIP SWITCHES



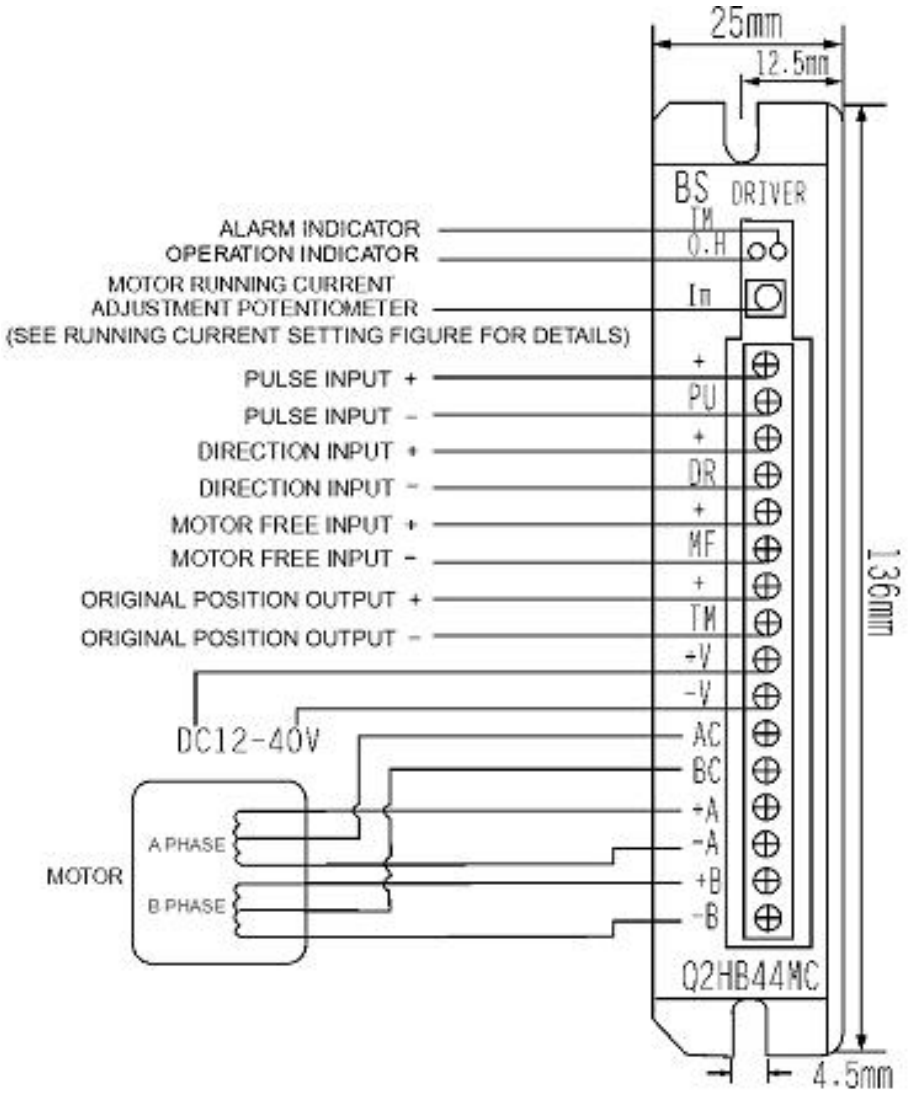
RUNNING CURRENT SETTING



input signal timing



FUNCTIONAL DESCRIPTION



Note

1. Do not connect the power reversely, the input voltage should not over 40Vdc.
2. The voltage of the input control signal is 5V, a series resistance is necessary to limit the current when the voltage level is over 5V.
3. When the temperature of drive is over $70C^{0}$,the overheat indicator will light, then the driver will stop working until the temperature falls down to $50C^{0}$. A radiator is needed then the overheat protection occurs
4. Because this type driver adopts special control circuit, the motor must be 6 or 8 lead motor.

Q2HB44MC micro step setting table

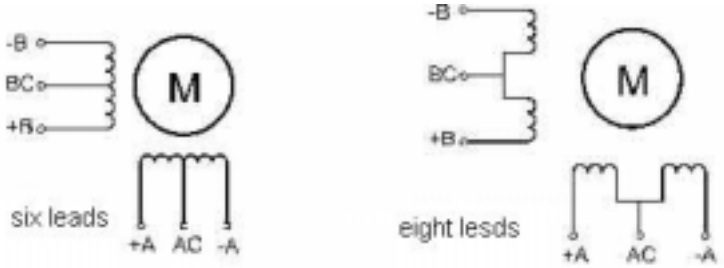
Micro step	1	2	4	5	8	10	20	25	40	50	100	200	200	200	200	200
D0	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
D1	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF
D2	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF
D3	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
D4	ON=Two-Pulse Mode : PU=CW Mode ; DR=CCW Mode															
	OFF=One-Pulse Mode : PU=Pulse ; DR=Direction															

Q2HB44MD micro step setting table

Micro step	1	2	4	8	16	32	64	128
D0	ON	OFF	ON	OFF	ON	OFF	ON	OFF
D1	ON	ON	OFF	OFF	ON	ON	OFF	OFF
D2	ON	ON	ON	ON	OFF	OFF	OFF	OFF
D3	NO USE							
D4	ON=Two-Pulse Mode : PU=CW Mode ; DR=CCW Mode							
	OFF=One-Pulse Mode : PU=Pulse ; DR=Direction							

Q2HB44MC signals table

Mark Symbol	Function	Note
TM	Running indicator light	When the TM is enabled, the green LED will light
O.H	Failure indicator light	The red LED will light when overheat protection effects
Im	Potentiometer for setting the winding current	Adjust the motor's phase current. Decrease with the CCW rotation, increase with the CW rotation.
+	Anode of optical isolated inputs	Connected to +5V power. Driven voltage:+5V～+24V, a R is needed when the voltage is over +5V, please refer to page 5 input signal for detail.
PU	D4=OFF, PU: step pulse D4=ON, PU:CW step pulse	Each negative pulse edge triggers one motor step. Input resistance is 220Ω. Requiring low voltage level: 0～0.5V, high voltage level: 4～5V, pulse width>2.5us.
+	Anode of optical isolated inputs	Connected to +5V power. Driven voltage:+5V～+24V, a R is needed when the voltage is over +5V, please refer to page 4 input signal for detail.
DR	D4=OFF, DR: set pulse D4=ON, DR: CW set pulse	Used to change the motor's running direction. Input resistance is 430Ω. Requiring low voltage level: 0～0.5V, high voltage level: 4～5V, pulse width>2.5us.

+	**Anode of optical isolated inputs**	**Connected to +5V power. Driven voltage:+5V～+24V, a R is needed when the voltage is over +5V, please refer to page 5 input signal for detail.**
MF	**Motor free signal**	**The current of the winding is cut off. The driver stops working, the motor is in a free status.**
+	**Anode of origin's optical isolated output**	**Enabled when the energized motor's winding are on the origin (B, -A energized); optical isolated outputs (high voltage level).**
TM	**Cathode of origin's optical isolated output**	**Connected + to the resistance to limited the current of output signals. TM to the ground of outputs maximum driving current 50mA, highest voltage 50V.**
+V	**Anode of power**	**DC12～40V**
-V	**Anode of cathode**	
AC, BC	**Motor's connection**	
+A, -A		
+B, -B		