

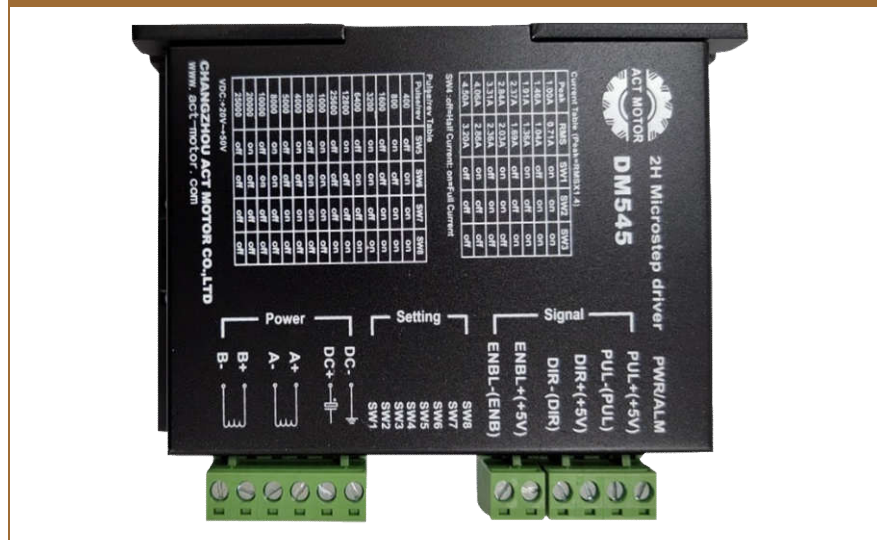
2PH

2-PH Microstepping Motor Driver

DM545

Microstep : 1~1/128 DC : +20~+50V Current : 1~4.5A(Peak)

Picture



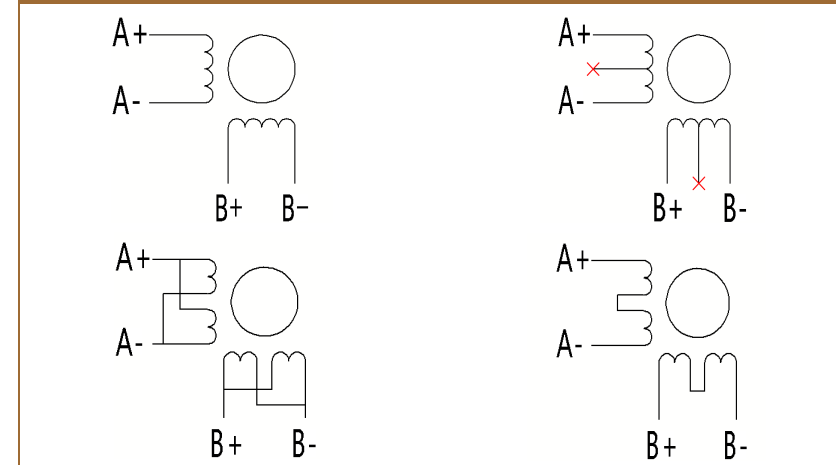
Description

- 32-bit DSP chip for motor control.
- SPWM current control.
- With good command function, running smoothly at lower speed.
- Optocoupler isolated differential signal input.
- Protection : under voltage, over voltage, over current.
- Matching Nema23,24 and part of 34 stepper motors.

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Wiring Diagram



Caution :

- As for 6&8 leading wires, the motor is labeled as single winding electric parameters.
- 6 wires' motor with full widding can obtain greater output torque, at the same time, it can also lead the highest speed to reduce.
- Higher speed can be obtained when the 8 leads motor is connected in parallel; Great output torque can be obtained in series connection.

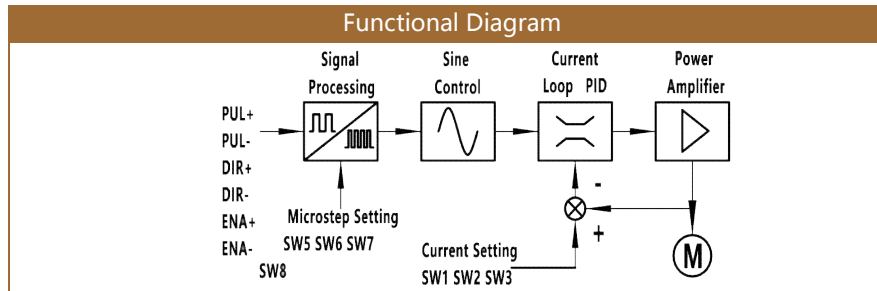
Recommmed Motor		
Mode	Body length	Rated Current
23HS1420	51mm	2A
23HS6620	56mm	2A
23HS8630	76mm	3A
23HS8430	76mm	3A
23HS9430	115mm	3A
23HS9840	115mm	4A
24HS9440D8	90mm	4A
34HS7840	78mm	4A

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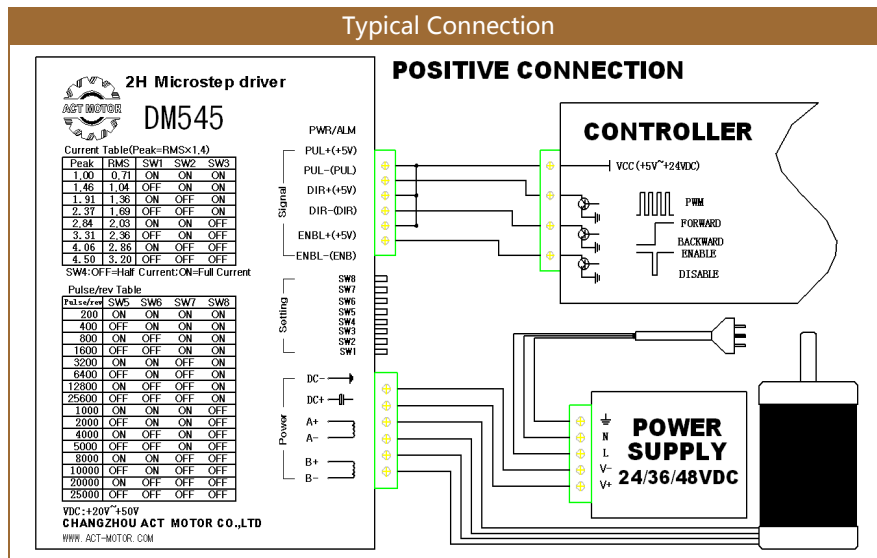
Feature	
Supply Voltage	+20~+50VDC(including ripple)
Current Setting	8 different sets
Microstep Setting	15 different sets
Control Mode	PUL+DIR
Driving Method	Constant Current Chopper Mothed
Idle Current	50% Of The Current Setting Value
Operating ENV.	0~40°C, Non condensing
Storage ENV.	-20~65°C , Avoid Direct Sunlight

Handelsregister Nr.:HRB 30138
HB Amtsgericht Bremen
Steuernummer:460 104 16815
Ust-IdNr:DE299 744 704

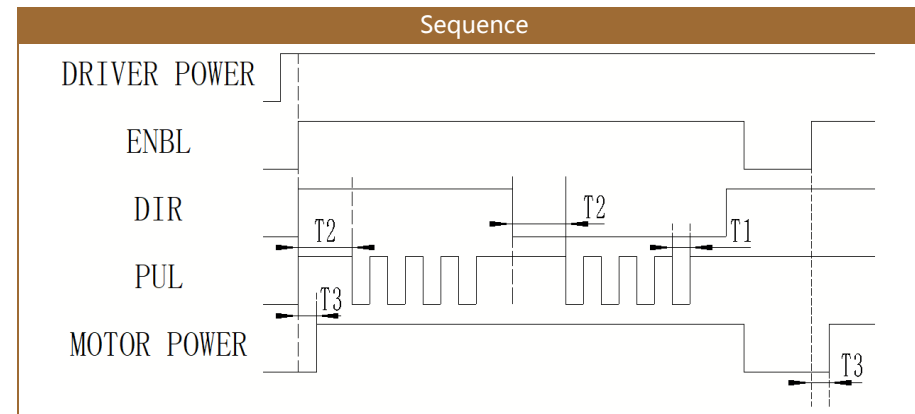
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Electrical Characteristics	Min.	Typ.	Max.	Unit
Supply Voltage	+20	----	+50	VDC
Output Current (Peak)	----	----	4.5	Amps
PUL Pulse Frequency	----	----	200K	Hz
PUL Pulse Width T1	2.5	----	----	us
PUL Response Time	----	0.5	----	Cycles
DIR Leading T2	50	----	----	us
EN Response Time T3	----	4	----	ms
Control Signal Voltage	+3.5	----	+24	VDC



- PUL&DIR signals are high-speed opto-isolation input ; Wide voltage's range is from :+5V~+24VDC.
- EN signal is offline signal, when the voltage between EN+&EN- is higher than +3.5V , motor do not have excitation.This signal can be used as the driver alarm reset.



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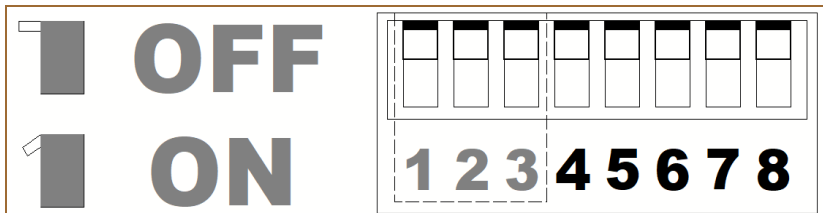
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Output Current Setting

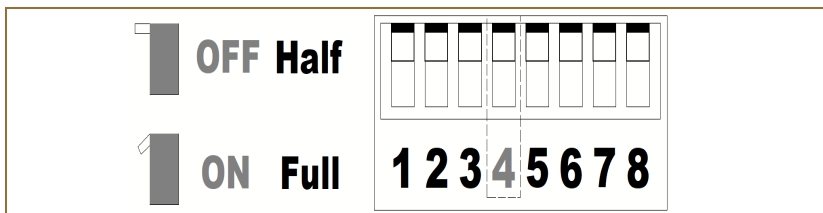
- To match different motors, driver's output current should be corresponded .It should be less than motor's RMS current.More current = greater torque and higher temperature for motor.
- Adjusting SW1,SW2,SW3 can change driver's output current.DOWN=ON,UP=OFF.



PEAK(A)	RMS(A)	SW1	SW2	SW3
1.00	0.71	on	on	on
1.46	1.04	off	on	on
1.91	1.36	on	off	on
2.37	1.69	off	off	on
2.84	2.03	on	on	off
3.31	2.36	off	on	off
4.06	2.86	on	off	off
4.50	3.20	off	off	off

Idle Current Setting

- When drivers do not work, Idle current can be used to reduce motors' heating.Idle Current is 50% of output current.SW4 OFF = Effective; ON = Invalid.

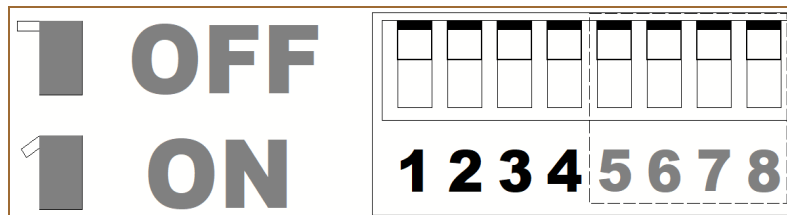


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Micro-step Setting

- Micro-step is a good choice to reduce the noise and vibration (Speed<300RPM)
setted by four bits : SW5、 SW6、 SW7、 SW8.

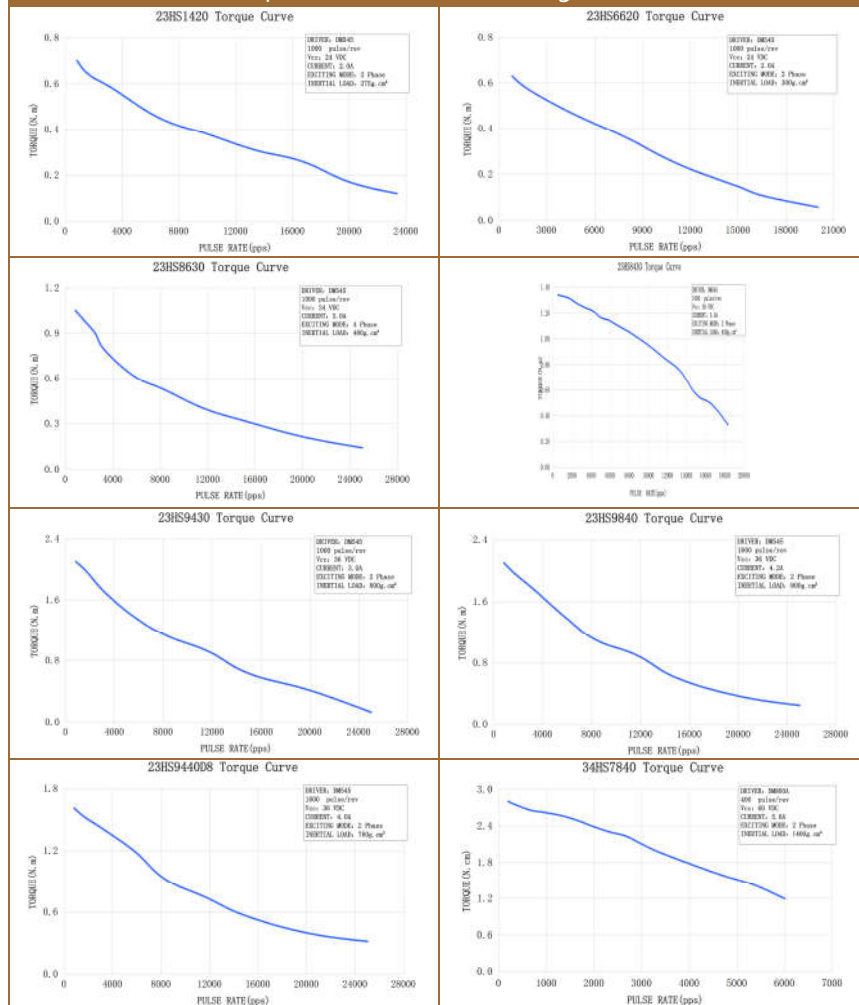


Pulse/Rev	Microstep	SW5	SW6	SW7	SW8
200	1	on	on	on	on
400	2	off	on	on	on
800	4	on	off	on	on
1600	8	off	off	on	on
3200	16	on	on	off	on
6400	32	off	on	off	on
12800	64	on	off	off	on
25600	128	off	off	off	on
1000	5	on	on	on	off
2000	10	off	on	on	off
4000	20	on	off	on	off
5000	25	off	off	on	off
8000	40	on	on	off	off
10000	50	off	on	off	off
20000	100	on	off	off	off
25000	125	off	off	off	off

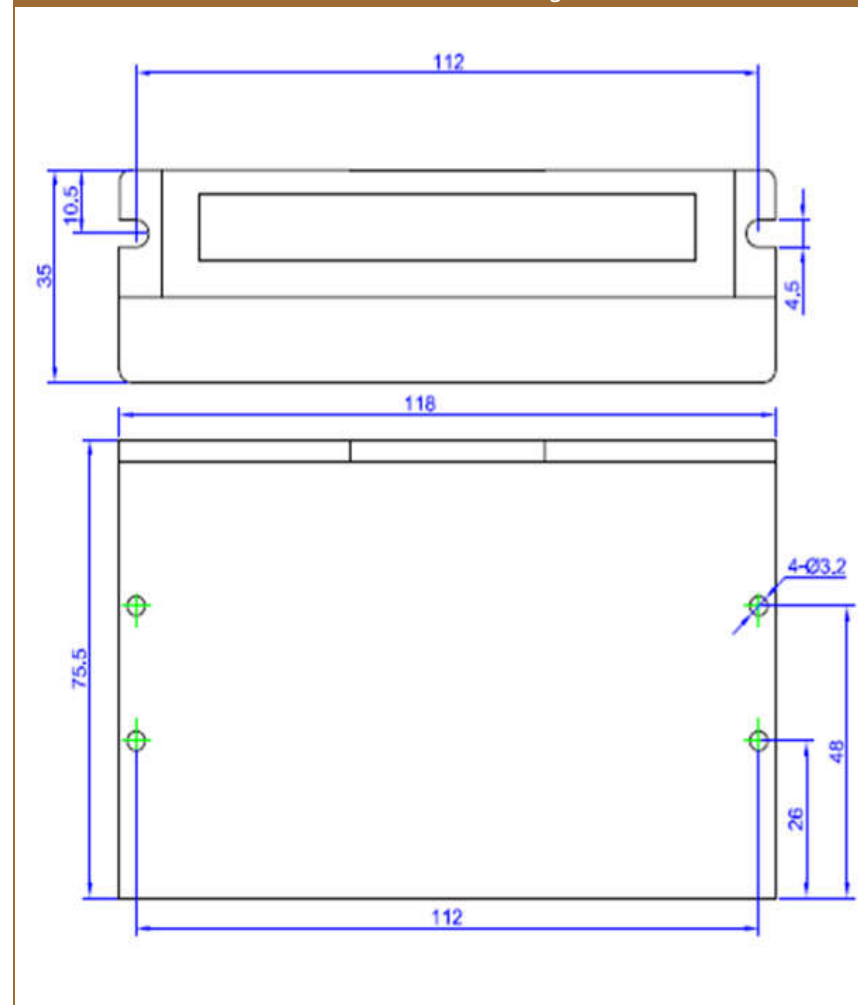
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Torque curve for Best Matching Motors



Dimensional Drawing



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