

User Manual for DMDT506

(Manual Version 1.1)



Features:

- Input power up to 50VDC
- Up to 200KHz Pulse response frequency
- TTL compatible and optically isolated input
- Micro-steps up to 10000-pulse per revolution
- Output current up to 5.8A/phase
- Over-voltage, over-current protections

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1. Electrical Specifications

T_j=25°C

Parameters	Min.	Typical	Max.	Unit
Output Current (RMS)	1.8	-	5.8	A
Power Supply	12	36	50	VDC
Logical Current	6	10	30	mA
Pulse Frequency	0	-	200	KHz
Isolation Resistance	500	-	-	MΩ
Approx. Net Weight	-	0.35	-	Kg

2. Operation Environment

Condition	Caution	Avoid dust and corrosive gas/oil
	Temp.	0°C ~ +50°C
	Humidity	Under 90% RH
	Vibration	5.9m/s ² Max
Storage Temperature		-20°C ~ +70°C

3. Pins

Pin	Description
PUL+	One step ahead when the pulse rising edge is active. Step distance is subject to the micro-step.
PUL-	
DIR+	This Active-high/low signal is used for determining the rotate direction of motor. Please note that rotation direction is also related to the connection of motor wires.
DIR-	
ENA+	This signal is used for enabling/disabling the driver. Active-high for enabling the driver (optical-isolation is not through), Active-low for disabling the driver (optical-isolation is through).
ENA-	
DC-	Power Ground
DC+	Power Supply, +12~50VDC, including voltage fluctuation and EMF voltage.
A+	Motor Phase A
A-	
B+	Motor Phase B
B-	

4. Micro-step Setting

Micro-step	Step/rev. (1.2° Motor)	SW5	SW6	SW7	SW8
1	200	on	on	on	on
2	400	off	on	on	on
2.5	500	on	off	on	on
3	600	off	off	on	on
4	800	on	on	off	on
5	1000	off	on	off	on
6	1200	on	off	off	on
8	1600	off	off	off	on
10	2000	on	on	on	off
12.5	2500	off	on	on	off
15	3000	on	off	on	off
20	4000	off	off	on	off
25	5000	on	on	off	off
30	6000	off	on	off	off
40	8000	on	off	off	off
50	10000	off	off	off	off

NOTE:

Please shut down and re-apply power after micro-step setting is changed!

5. Output Current Setting

5.1 Dynamic Current

Peak Current (A)	SW1	SW2	SW3
1.8	off	off	off
2.4	on	off	off
2.9	off	on	off
3.5	on	on	off
4.0	off	off	on
4.6	on	off	on
5.2	off	on	on
5.8	on	on	on

5.2 Standstill Current

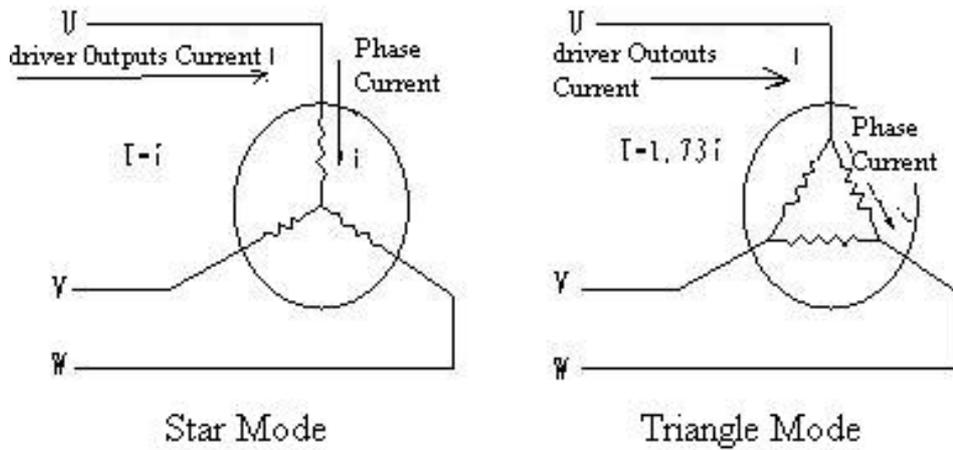
SW4 defines the standstill current.

Status “off” is to set the standstill current as 60% of dynamic current.

Status “on” is to set the standstill current as same as the dynamic current.

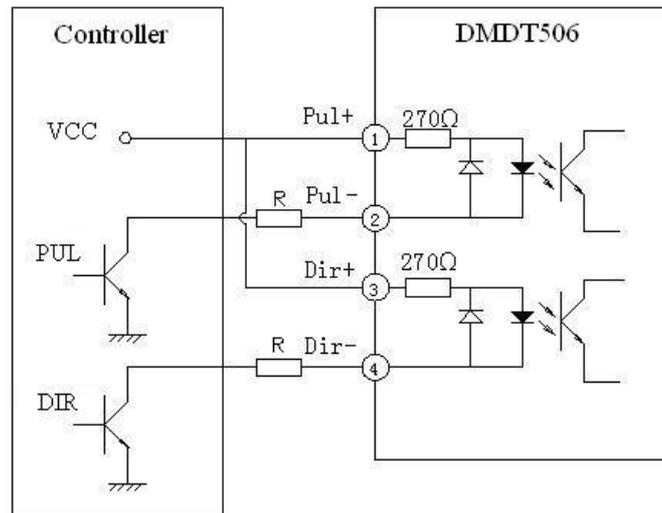
6. Wiring Connections

6.1 to the Stepping Motor



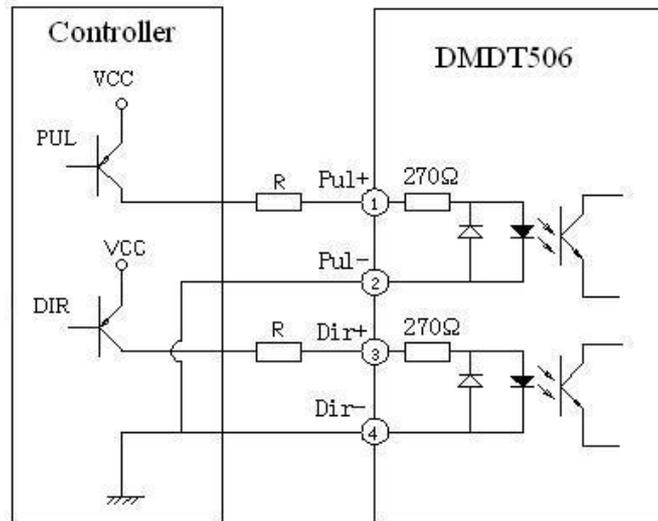
6.2 to the Controller

6.2.1 Common Anode



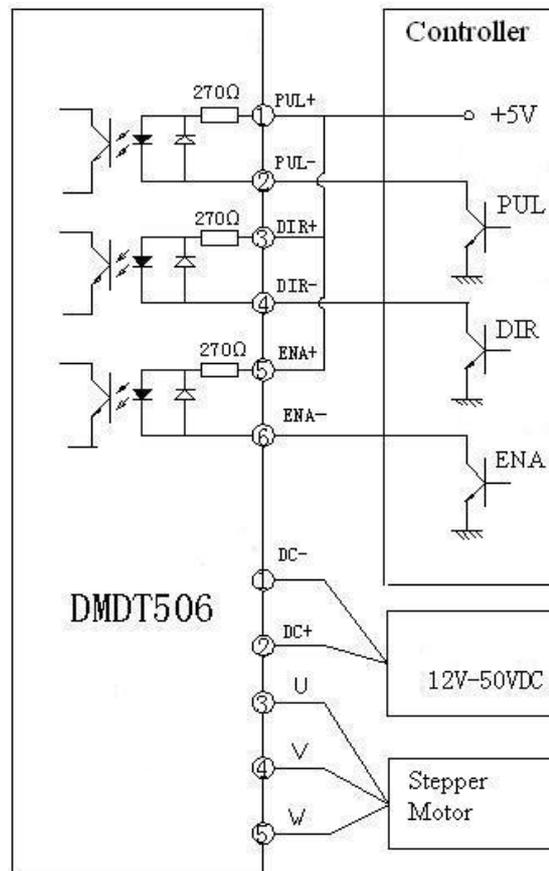
$VCC=5V \quad R=0$
 $VCC=12V, R=1K\Omega (\geq 1/8W)$
 $VCC=24V, R=2K\Omega (\geq 1/8W)$

6.2.2 Common Cathode

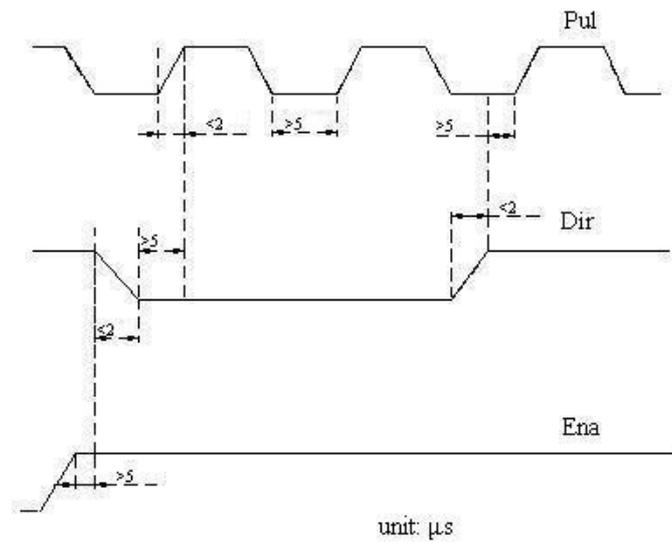


VCC=5V R=0
 VCC=12V, R=1K Ω ($\geq 1/8W$)
 VCC=24V, R=2K Ω ($\geq 1/8W$)

6.3 Typical System



7. Sequence Chart of Control Signal



8. Mechanical Structure (unit: mm)

