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2M982 Stepping Drive

Main Features

* 24 to 80V DC Power Supply,to adapt the worst grid environment.
* H-bridge bipolar & constant-phase flow Subdivision drive.
* Original Speed adaptive circuit enables automatic optimization.
* Convenient subdivision current setting.
* 2~64 subdivisions & 16 run modes.
* Over-current, over-voltage, under-voltage, short-circuit protection.
* Offline(ENA) protection.

Performance Overview

2M656 is a model of 2-phase hybrid stepping motor. It has constance torque drive, drive voltage 24~80VDC,adapter current less than 6A and 57~86mm outside diameter. The internal drive adopts a similar principle of servo control circuit. This allows low-speed motor running smoothly with almost no vibration and noise. Therefore less heat. The stepper pulse stops over 100ms. The drive is automatic half-current. The max positioning accuracy exceeds 12800 steps/rev (When the motor has high torque, its high-speed performance will be affected.)

Electric Specifications

Parameters	Min	Typical	Max
Supply voltage(VDC)	24	48	80
Peak output current(A)	1.3	--	7.8
Logic input Current(mA)		10	
Pulse input frequency(KHZ)	--	--	200
Pulse low level time(US)	2.5	--	--

Environmental Specifications

Cooling method	Natural cooling or forced cooling	
Operating Environment	Environment	Avoid dust,oil mist and corrosive gases
	Storage temperature	-10°C - 80°C
	Max ambient temperature	65°C
	Environmental humidity	<80%RH,Non-condensing non-frost
Vibration	5.9m/s^2 MAX	
Weight	0.55kg	

Current,DIP Switch Settings Breakdown

8 DIP switch settings

Current selector switches:SW1,SW2,SW3;

Semi-static or full-flow streams to choose:
SW4,ON full-flow, OFF semi-flow;

Sub-select switches:SW5,SW6,SW7,SW8;

Specific reference to silk screen panels.

'0' means switch is open (OFF=0),
'1' means switch is closed (ON=1).

2M982 drive breakdown sheet:

The current choice				
Slide Switches			Current value(A)	
1	2	3	Peak	Average
0	0	0	1.8A	1.3A
1	0	0	2.5A	1.8A
0	1	0	3.5A	2.5A
1	1	0	4.3A	3.1A
0	0	1	5.2A	3.7A
1	0	1	6.0A	4.3A
0	1	1	7.0A	5.0A
1	1	1	7.8A	5.6A

2M982 Drive sub-table:

The current choice				
Slide Switches				Steps/rev
5	6	7	8	
0	0	0	0	200
1	0	0	0	400
0	1	0	0	500
1	1	0	0	800
0	0	1	0	1000
1	0	1	0	1200
0	1	1	0	1600
1	1	1	0	2000
0	0	0	1	2500
1	0	0	1	3200
0	1	0	1	4000
1	1	0	1	5000
0	0	1	1	6400
1	0	1	1	8000
0	1	1	1	10000
1	1	1	1	12800

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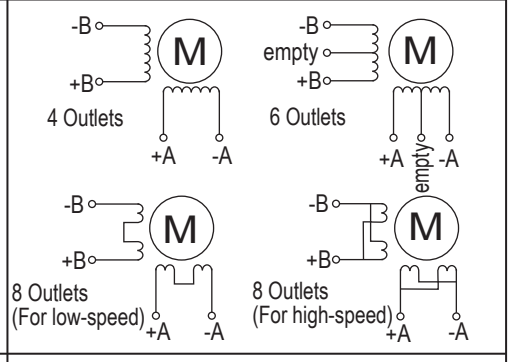
Drive Interface Assignment and Description

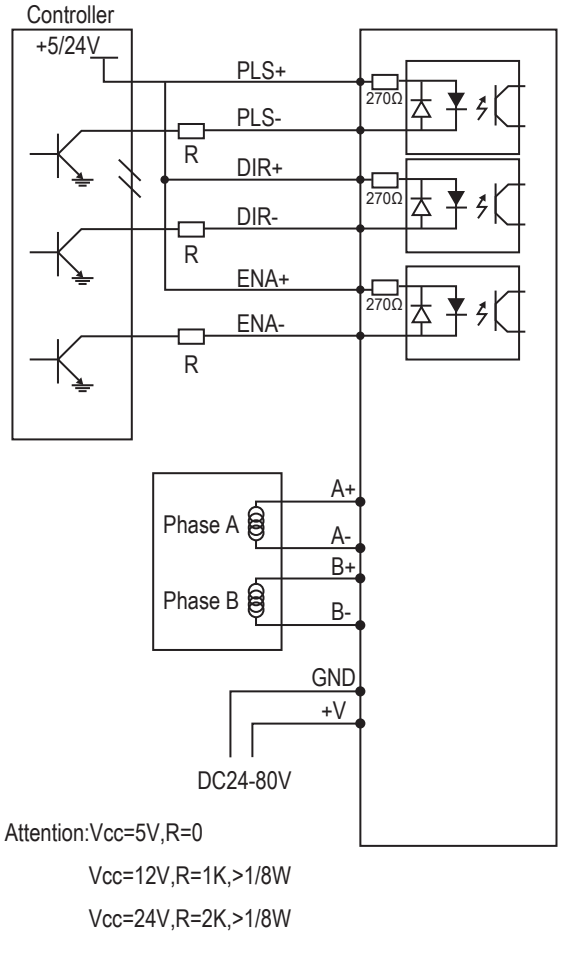
Input Signal Interface P1 Configuration

Signal	Function	Details
PLS+	Input signal to the optoelectronic isolated positive side	Connected to the +5V power source. Drive over the range of +5V~+24V. Current-limiting resistor should be connected when higher than +5V.
PLS-	Stepping pulse signal	Falling edge active. The step motor shifts when the pulse falls from high to low. Input resistance is 270Ω. Requirements: 0~0.5V at low level; 4~5V at high level; pulse width>2.5μs.
DIR+	Input signal to the optoelectronic isolated positive side	Connected to the +5V power source. Drive over the range of +5V~+24V. Current-limiting resistor should be connected when higher than +5V.
DIR-	Direction control signal	For changing the spin direction of the step motor. Input resistance=270Ω. Requirements: 0~0.5V at low level; 4~5V at high level; pulse width>2.5μs.
ENA+	Input signal to the optoelectronic isolated positive side	Connected to the +5V power source. Drive over the range of +5V~+24V. Current-limiting resistor should be connected when higher than +5V.
ENA-	Electrical release signal	Cut the coil current of the motor when active (low level). The drive stops and the motor stays in a free state.

Output Strong Power and Interface P2 Configuration

Name	Function	Details
A^+、A^- B^+、B^-	Electrical Wiring	
+V GND	DC current input	Between DC 24-58V.Specific parameters to electrical parameters

Typical Wiring Diagram

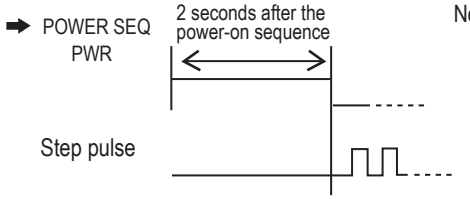


Attention:Vcc=5V,R=0

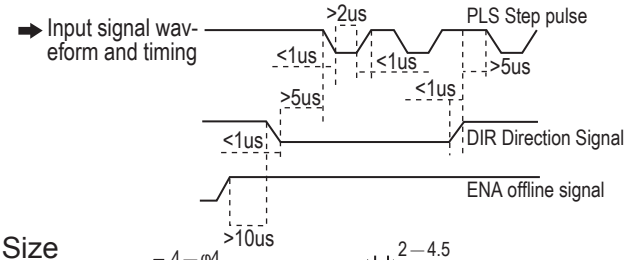
Vcc=12V,R=1K,>1/8W

Vcc=24V,R=2K,>1/8W

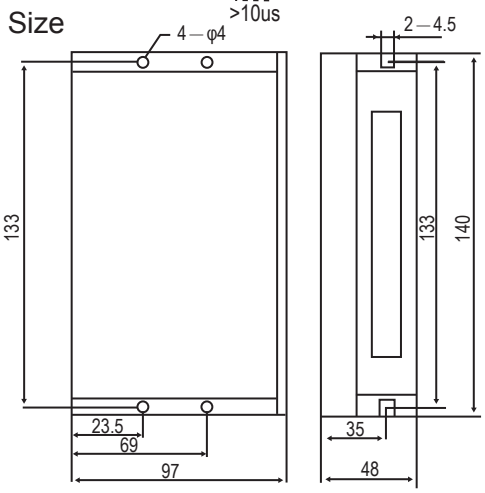
Signal Waveforms and Timing



Note:The power-time of the drive depends on the size of the Plus AC voltage, When in DC48V Typical power-time is 2 seconds



Size



Attention

Make sure the whole equipment is well-ventilated when the drive is installed in the cabinets. When there are more thanone drive used alongside each other, make sure that the distance between the drives is not less than 5cm. Be sure that the ground protection and equipment protection are fully functioning and all the connections are well connected.

Notes

1. As the drive does not have over-heat protection, please install cooling component when the temperature of the drive exceeds 70°C.
2. Malfunction light is lit up when it's over-current (current is too large or voltage is too small). Check the electrical wiring and other short-circuited faults or check whether the voltage is too low. Re-power after restoration.
3. The green indicator light (PWR light) is lit up when the power is on.
4. When the protection starts, the motor shaft loses its self-locking force and the green PWR light turns red. Eliminate all the possible faults described above and re-power on the drive. When the PWR light turns green and the motor shaft is locked, the drive will resume working normally.