

2DM2280

Stepper Motor Driver Specification

Features

1. Parameter auto-setup and motor self-test
2. Multi-Stepping inside
3. Small noise, low heating, smooth movement
4. Torque compensation in high speed
5. Variable current control technology, High current efficiency
6. Accelerate and decelerate control inside, great improvement in smoothness of starting or stopping the motor
7. Storage the position of motor
8. Optically isolated input and compatible with 5V or 24V
9. User-defined micro steps
10. Microstep resolutions and Output current programmable
11. Over current, over voltage and low voltage protection
12. Green light means running while red light means protection or off line

Overview

The 2DM2280 is a high-performance stepper motor driver which applies a brand new digital sine microstep technology. It is suitable for 2-phase and 4-phase hybrid stepper motor below 8.2A.. Due to the adoption of the advanced anti-noise sound control method, it can significantly reduce the noise and vibration during operation. It uses full current PWM control method, and shows stable operation, low noise, low vibration and low temperature rise of motor. Its weight is 1.63kg. There are 16 kinds of microstep of 2DM2280. The maximum step number of 2DM2280 is 25 600 steps/rev. Its current range 2.2A-8.2A, and its output current has 8 stalls. 2DM2280 has automatic semi-flow, over-voltage, under voltage and over-current protection function. The driver is the AC power supply, the operating voltage range should be 110VAC-220VAC.

Applications

It can be applied in a variety of small scale automation equipment and instruments, such as labeling machine, cutting machine, packing machine, drawing machine, engraving machine, CNC machine and so on. It always performs well when it is used in equipment which requires for low-vibration, low-noise, high-precision and high-velocity.

Driver functions descriptions

Driver function	Operating instructions
Output current setting	Users can set the driver output current by SW1 ÷ SW3 three switches. ► All the current settings are changed only when the Power is off. The setting of the specific output current, please refer to the instructions of the driver panel figure.
Microstep setting	Users can set the driver Microstep by the SW5 ÷ SW8 five switches. ► All the microstep settings are changed only when the Power is off. The setting of the specific Microstep subdivision, please refer to the instructions of the driver panel figure.
Automatic half current function	Users can set the driver half flow function by SW4. "OFF" indicates the quiescent current is set to half of the dynamic current, that is to say, 0.5 seconds after the cessation of the pulse, current reduce to about half automatically. "ON" indicates the quiescent current and the dynamic current are the same. User can set SW4 to "OFF", in order to reduce motor and driver heating and improve reliability. ► The setting has changed only when the Power is off
Signal interfaces	PUL+ and PUL- are the positive and negative side of control pulse signal; DIR+ and DIR- are the positive and negative side of direction signal; ENA+ and ENA- are the positive and negative side of enable signal.
Motor interfaces	A+ and A- are connected to a phase winding of motor; B+ and B- are connected to another phase winding of motor. If you need to backward, one of the phase windings can be reversed.
Power interfaces	It uses AC power supply. Recommended operating voltage is 110VAC-220VAC, and power consumption should be greater than 500W.
Indicator lights	There are two indicator lights. Power indicator is green. When the driver power on, the green light will always be lit. Fault indicator is red, when there is over-voltage or over-current fault, the red light will always be lit; after the driver fault is cleared, if re-power the red light will be off.
Installation instructions	Driver dimensions:192 ×127×85 mm, please refer to dimensions diagram. Please leave 10cm space for heat dissipation. During installation, it should be close to the metal cabinet for heat dissipation.

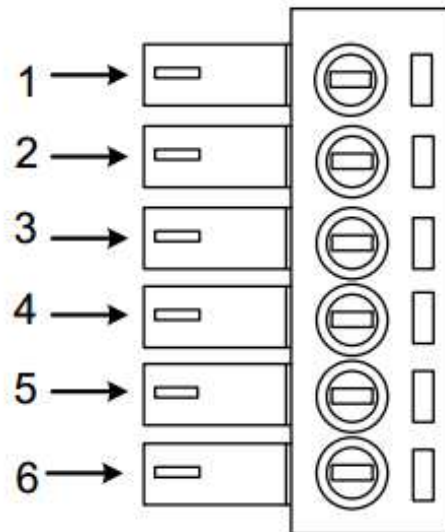
Current selection

Current , RMS	SW1	SW2	SW3
4.1A (Default)	OFF	OFF	OFF
2.2 A	ON	OFF	OFF
3.2 A	OFF	ON	OFF
4.5 A	ON	ON	OFF
5.2 A	OFF	OFF	ON
6.3 A	ON	OFF	ON
7.2 A	OFF	ON	ON
8.2 A	ON	ON	ON

Microstep selection

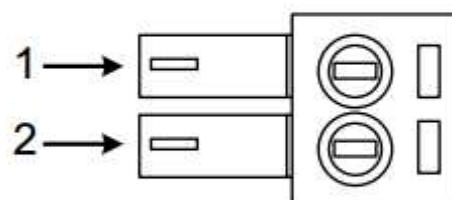
MicroStep	Pulse / Rev	SW5	SW6	SW7	SW8
Full Step	200	ON	ON	ON	ON
1 / 2 Step	400	OFF	ON	ON	ON
1 / 4 Step	800	ON	OFF	ON	ON
1 / 8 Step	1 600	OFF	OFF	ON	ON
1 / 16 Step	3 200	ON	ON	OFF	ON
1 / 32 Step	6 400	OFF	ON	OFF	ON
1 / 64 Step	12 800	ON	OFF	OFF	ON
1 / 128 Step	25 600	OFF	OFF	OFF	ON
1 / 5 Step	1 000	ON	ON	ON	OFF
1 / 10 Step	2 000	OFF	ON	ON	OFF
1 / 20 Step	4 000	ON	OFF	ON	OFF
1 / 25 Step	5 000	OFF	OFF	ON	OFF
1 / 40 Step	8 000	ON	ON	OFF	OFF
1 / 50 Step	10 000	OFF	ON	OFF	OFF
1 / 100 Step	20 000	ON	OFF	OFF	OFF
1 / 125 Step	25 000	OFF	OFF	OFF	OFF

Ports Introduction



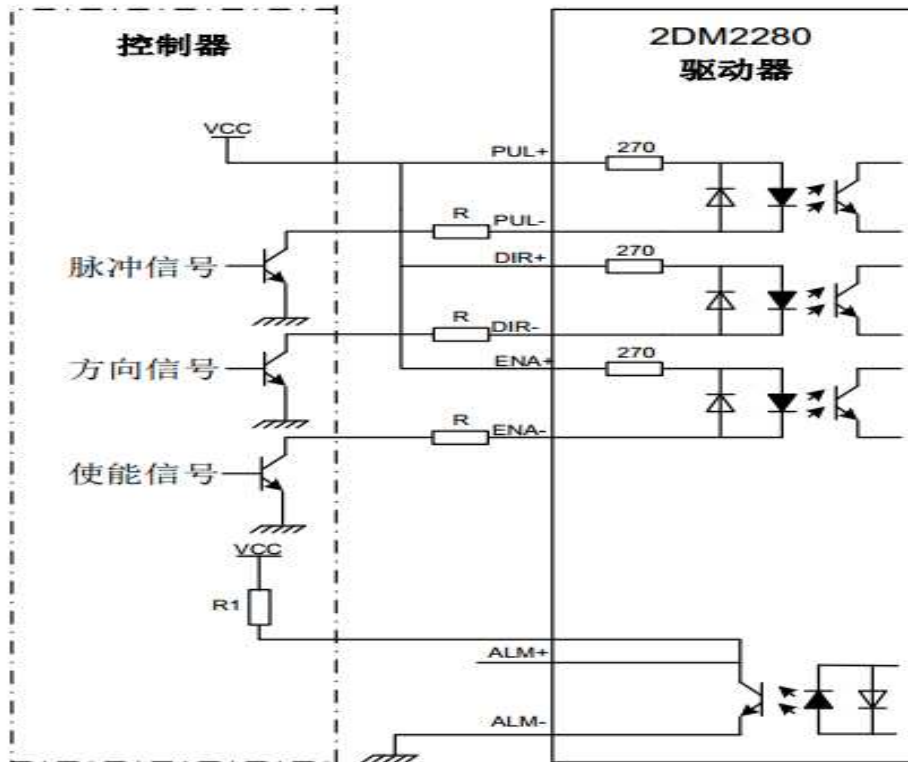
Port	Symbol	Name	Remark
1	DIR-	Direction signal-	Compatible with 5V or 24V
2	DIR+	Direction signal+	
3	PLS-	Pulse signal -	Compatible with 5V or 24V
4	PLS+	Pulse signal +	
5	ENA-	Enable signal -	Compatible with 5V or 24V
6	ENA+	Enable signal +	

3.2 ALM signal output ports



Port	Symbol	Name	Remark
1	ALM+	Alarm output +	
2	ALM-	Alarm output -	

Connections to Control Signal



Remark:

VCC is compatible with 5V or 24V;
R(3~5K) must be connected to control signal terminal.

The Driver Dimension

