DM422

Stepper Motor Driver Specification

Overview

The DM422 is a new generation high-performance digital stepper driver based on DSP with advanced control algorithm. The motors driven by DM422 can run with much smaller noise and much less vibration than other drivers in the market. The DM422 possess the feature of lower noise, lower vibration, and lower heating. The DM422's voltage is DC 20V-40V. It is suitable for all the 2 phases hybrid stepper motor whose current is less than 2.2A. The maximum step number of DM422 is 6400 steps/rev (microstep is 1/32). Its current range 0.5A-2.2A. DM422 has automatic semi-flow, over-voltage, under voltage and over-current protection function.

Current selection

Peak	RMS	SW1	SW2	SW3
Default		ON	ON	ON
0.5A	0.35A	OFF	ON	ON
0.70A	0.50A	ON	OFF	ON
1.0A	0.70A	OFF	OFF	ON
1.30A	0.90A	ON	ON	OFF
1.60A	1.20A	OFF	ON	OFF
1.90A	1.40A	ON	OFF	OFF
2.20A	1.60A	OFF	OFF	OFF

Microstep selection

Pulse/Rev	SW6	SW8
Default	ON	ON
1600	OFF	ON
3200	ON	OFF
6400	OFF	OFF

Default: The pulse can be customized according to customers' requirements.

Common indicator

Phenomenon	Reason	Solution
The red indicator is on.	1.A short circuit of motor wires.	Inspect or change wires
	2.The external voltage is over or lower than the driver's working voltage.	Adjust the voltage to a reasonable rang
	3.Unknown reason	Return the goods

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. 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-SW6 switches. 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. Users should set SW4 to "OFF", in order to reduce motor and driver heating and improve reliability.
Signal interfaces	PUL is the setting pulse input; DIR is the stepper motor direction input; OPTO is the power supply for signal port + 5V; ENA is the motor free input.
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 DC power supply. Recommended operating voltage is 20VDC-40VDC, and power consumption should be greater than 100W.
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:86 $\times$ 55 $\times$ 20mm, 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.