

FMDT240A52NOM

FMDT240A52NOM is a new type of stepper driver successfully developed according to market demand and development trend.Using a new 32-bit motor control dedicated DSP chip, the motor runs more smoothly and is not easy to lose steps. take over Input signal pulse, direction and enable input. Pulse and direction interface available for sensor when using internal position signal input. Minimize the heat generation and vibration amplitude of the motor, so as to better improve the mechanical operation Machining speed and precision. The working voltage is AC200V~AC240V, suitable for high voltage 3-phase stepper with current below 5.2A motor.



Features

- New 32-bit motor control dedicated DSP chip.
- Equipped with 16-speed equal-angle constant torque subdivision, the highest resolution is 60000 steps/rev, and the internal support electronic gear ratio.
- The highest response frequency can reach 200Kpps.
- When the stepping pulse stops for more than 0.5s, the coil current is automatically reduced to half of the set current, and this parameter is adjustable.
- Dimension: 178 × 68 × 108.5mm³; Net weight: 0.83Kg.
- Phase memory function.
- Photoelectric isolation signal input.
- Single power supply, voltage range: AC200V~240V.
- With overcurrent, overvoltage, overheating and other protections.

Current setting

The working current of the driver is set by the DIP switches SW1~SW4, and the running current is the working effective output current. Peak current = operating current × 1.4.

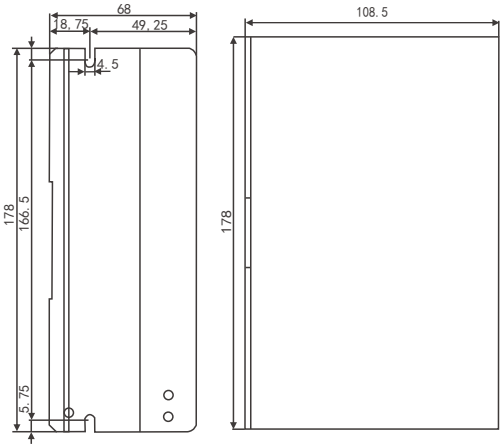
Running current (A)	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2	4.4	4.6	4.8	5.0	5.2
Peak current (A)	3.1	3.4	3.6	3.9	4.2	4.5	4.8	5.0	5.3	5.6	5.9	6.2	6.4	6.7	7.0	7.3
SW1	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
SW2	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON
SW3	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON
SW4	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON

Subdivision settings and I/O mode settings

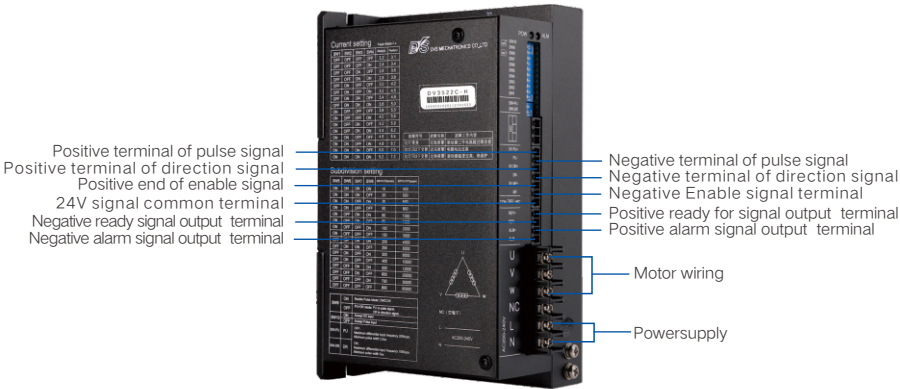
Subdivision setting and I/O mode setting are controlled by DIP switch SW10. When SW10=OFF, it is subdivision setting mode; when SW10=ON, it is I/O mode. Subdivisions and speed are controlled by the DIP switch SW5~SW8 setting, 16 channels in total.

Number of subdivisions (puls/r)	400	500	600	800	1000	1200	2000	3000	4000	5000	6000	10000	8000	20000	30000	60000
Speed value (rpm)	10	20	30	50	60	80	100	150	200	250	300	400	500	600	700	800
SW5	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW6	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF
SW7	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW8	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
SW9	ON	Double pulse mode: PU is the forward step pulse signal, DR is the reverse step pulse signal.														
	OFF	Single pulse mode: PU is the step pulse signal, DR is the direction control signal.														
SW10	ON	Accept I/O input signal.														
	OFF	Accept external pulse signal.														
SW-PU	PU	OFF: Maximum differential input frequency 200kpps The minimum pulse width is 2.5us. ON: maximum differential input frequency 100kpps, The minimum pulse width is 5us.														
SW-DR	DR															

Dimension



Signal Port Description



Terminal Function

Marker symbol	Function Description	Notes
5V PU+	Positive terminal of pulse signal	Connect to the positive terminal of the signal power supply, and the amplitude range is +5V.
PU-	Negative terminal of pulse signal	The falling edge is valid, the motor takes one step every time the pulse changes from high to low, the input resistance is 220Ω,Requirements: low level 0~0.5V, high level greater than 4V, pulse width>2.5 μ S.
5V DR+	Positive terminal of direction signal	Connect to the positive terminal of the signal power supply, and the amplitude range is +5V.
DR-	Negative terminal of direction signal	Used to change the direction of the motor. Input resistance 220Ω , requirements: low level 0~0.5V,The high level is greater than 4V, and the pulse width is >2.5 μ S.
5V MF+	Positive end of enable signal	Connect to the positive terminal of the signal power supply, and the amplitude range is +5V.
MF-	Negative Enable signal terminal	When it is valid (low level), the motor wiring current is turned off, the driver stops working, and the power he machine is in a free state.
COM24VHSC	24V signal common terminal	The pulse direction port is 5V signal input by default. If the internal position mode is used to return to zero,Connect 24V sensor signal, need to switch to COM24V interface.COM24V is the input terminal of 24V common cathode and common anode. If the common anode connection method is used to input 24V pulse signal No., only 24V+ is connected to COM24V, and 24V- is connected to PU-.For common cathode connection way, please connect 24V to PU+ terminal and 0V to COM24V terminal.
RDY+	Positive ready for signal output terminal	In-position signal output is isolated and output by optocoupler, the maximum withstand voltage is 30V, and the maximum conduction Stream 500mA.
RDY-	Negative ready signal output terminal	
ALM+	Positive alarm signal output terminal	The alarm signal output is isolated by optocoupler, the maximum withstand voltage is 30V, and the maximum conduction Stream 500mA.
ALM-	Negative alarm signal output terminal	

Alarm code

Error code	Alarm performance	Cause of issue
1	Steady red light	Overcurrent alarm
2	Red light flashes 2 times alternately	Overvoltage alarm
3	Red light flashes 3 times alternately	Overheating alarm



1. The input voltage cannot exceed AC220V;
2. In position mode, the default falling edge of the input pulse signal is valid, and the rising and falling edges are adjustable;
3. When the temperature of the drive exceeds 80 degrees, the drive stops working, and the fault indicator ALM is on. When the temperature of the drive drops to 50 degrees, the drive needs to be powered on again to resume work. If overheating protection occurs, please install a radiator;
4. The over-current (load short-circuit) fault indicator ALM is on, please check the motor wiring and other short-circuit faults, and you need to re-power on and restore after troubleshooting;
5. No motor fault indicator ALM is on. Please check the motor wiring. After troubleshooting, you need to power on again to restore.