DV556C

DV556C is a new type of stepper drive developed by DVS company according to the market demand.It adopts the advanced 32-bit DSP chip which is special for motor controlling and supports RS485 communication. DV556C can make a stepper motor run more smoothly and it is not easy to lose steps. Moreover, it can receive input signal pulses, direction signal and enable input signal. When internal position is used, the pulse and direction interface can be used for sensor signal input. DV556C can make the motor create smallest heat and vibration, while the machining speed and precision of the mechanical operation are better improved. The drive voltage ranges from 20V to 50VDC.It is designed for using with 2-phase hybrid stepper motors of all kinds with 42mm to 60mm outside diameter, regulated phase current under 4.0A.

Feature

- With 2 sports modes: position mode and speed mode, controlled by SW4 DIP switch.
- Equipped with 16 equal-angle constant torque subdivisions, the highest resolution is 40000 steps/rev.
- I Highest response frequency: 200Kpps.
- I Current of winding will be reduced by approximately 50% when no step pulse command is received for 1.5 seconds.
- Opto-isolated signal I/O.
- I Drive current is adjustable in 8 channels from 1.0A/phase to 4.0A/phase.
- Single power supply from 20V to 50VDC.
- Dimension : 118 × 24.3 × 75.5mm^3; Net Weight : 0.2Kg.

Current Setting

The working current of the driver is set by the DIP switches SW1~SW3, and the running current is the working effective output current. Peak current = operating current × 1.4.

Max current(A)	1.0	1.2	1.5	2.0	2.5	3.0	3.5	4.0
Rated current(A)	1.4	1.7	2.1	2.8	3.5	4.2	4.9	5.6
SW1	ON	OFF	ON	OFF	ON	OFF	ON	OFF
SW2	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW3	ON	ON	ON	ON	OFF	OFF	OFF	OFF

Subdivision settings and I/O mode settings

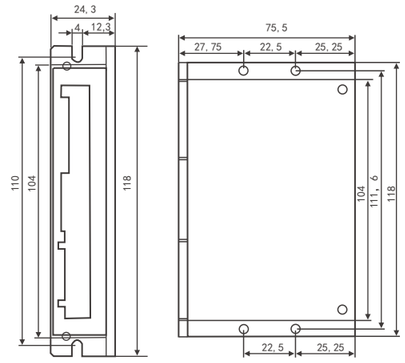
Subdivision setting and I/O mode setting are controlled by DIP switch SW4. When SW4=OFF, it is the subdivision setting mode; when SW4=ON, it is the I/O mode. Subdivisions and speed are controlled by the DIP switchSW5~SW8 setting, 16 channels in total.

Number of subdivisions (puls/r)	200	400	800	1600	3200	6400	12800	25600
Speed value (rpm)	10	20	30	50	60	80	100	150
SW5	ON	OFF	ON	OFF	ON	OFF	ON	OFF
SW6	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW7	ON	ON	ON	ON	OFF	OFF	OFF	OFF
SW8	ON	ON	ON	ON	ON	ON	ON	ON
Number of subdivisions (puls/r)	1000	2000	4000	5000	8000	10000	20000	40000
Speed Value (rpm)	200	250	300	400	500	600	700	800
SW5	ON	OFF	ON	OFF	ON	OFF	ON	OFF
SW6	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW7	ON	ON	ON	ON	OFF	OFF	OFF	OFF
SW8	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

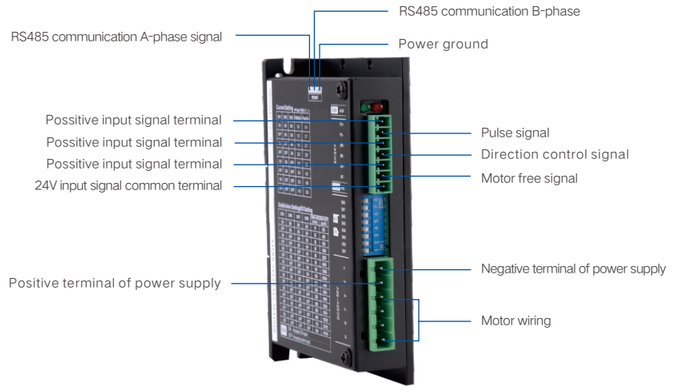
CAUTION

1. The input voltage cannot exceed DC50V;
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 need to be powered on again after removal;
5. No motor fault indicator ALM is on. Please check the motor wiring. After troubleshooting, you need to power on again to restore.

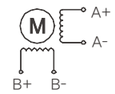
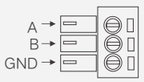
Dimension



Signal Port Description



Terminal Function

marker symbol	Function Description	Notes
PU+	Possitive input signal terminal	Connect to the 5V positive terminal of the signal power supply, and switch to the COM24V interface when it is higher than +5V.
PU-	Step pulse signal	The falling edge is valid. Whenever the pulse changes from high to low, the motor takes one step, and the input resistance 220Ω, low level 0~0.5V, high level greater than 4V, pulse width>2.5μS.
DR+	Possitive input signal terminal	Connect to the 5V positive terminal of the signal power supply, and switch to the COM24V interface when it is higher than +5V.
DR-	Direction control 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 >2.5μS.
MF+	Possitive input signal terminal	Connect to the 5V positive terminal of the signal power supply, and switch to the COM24V interface when it is higher than +5V.
MF-	Motor free signal	When it is valid (low level), the motor wiring current is turned off, the driver stops working, and the power The machine is in a free state.
COM24V HSC	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.
V-	Positive terminal of power supply	DC20V ~ 50V
V+	Negative terminal of power supply	
A+	Motor wiring	
A-		
B+		
B-		
A	485 communication A-phase signal	
B	485 communication B-phase signal	
GND	power ground	

Alarm Code

Error code	Alarm Performance	Cause of issue
1	Red light always on	Overcurrent alarm
2	Red light flashes 2 times alternately	Overvoltage alarm
3	Red light flashes 3 times alternately	Overvoltage alarm