HB3722 is a three-phase hybrid stepping motor driver based on DSP control. It is the advanced DSP. A new generation of digital stepper motor driver is composed of control chip and three-phase inverter drive module IGBT. Various types of three-phase hybrid stepping motors with AC 110V~220 driver voltage, adapted current below 7.0A and outer diameter of 86-130MM. The driver adopts a circuit similar to servo control principle, which can make the motor run smoothly, almost no vibration and noise. At high speed, the torque of the motor is much higher than that of two-phase and five-phase hybrid stepping motor. The positioning accuracy can reach up to 60000 steps / turns. The product is widely used in engraving machine, medium-sized CNC machine tools, computer embroidery machine, packaging machinery and other high-resolution equipment.

Characteristic:

With 16 angles and constant torque subdivision, the maximum resolution is 60000 steps / turn.

The highest response frequency can reach 200KPPS

When the step pulse stops more than 1.5S, the coil current is automatically reduced to half of the set current.

Optoelectronic isolated signal input / output

Driving current 1.3A/ phase to 7.0A/ phase 16 adjustable

Single phase power input, voltage range: AC185V-300VC

Phase Memory Function (Note: After the input stops more than 3 seconds, the driver automatically remembers the motor phase at that time, re-energizes or the WF signal changes from low level to high level, and the driver automatically restores the motor phase)

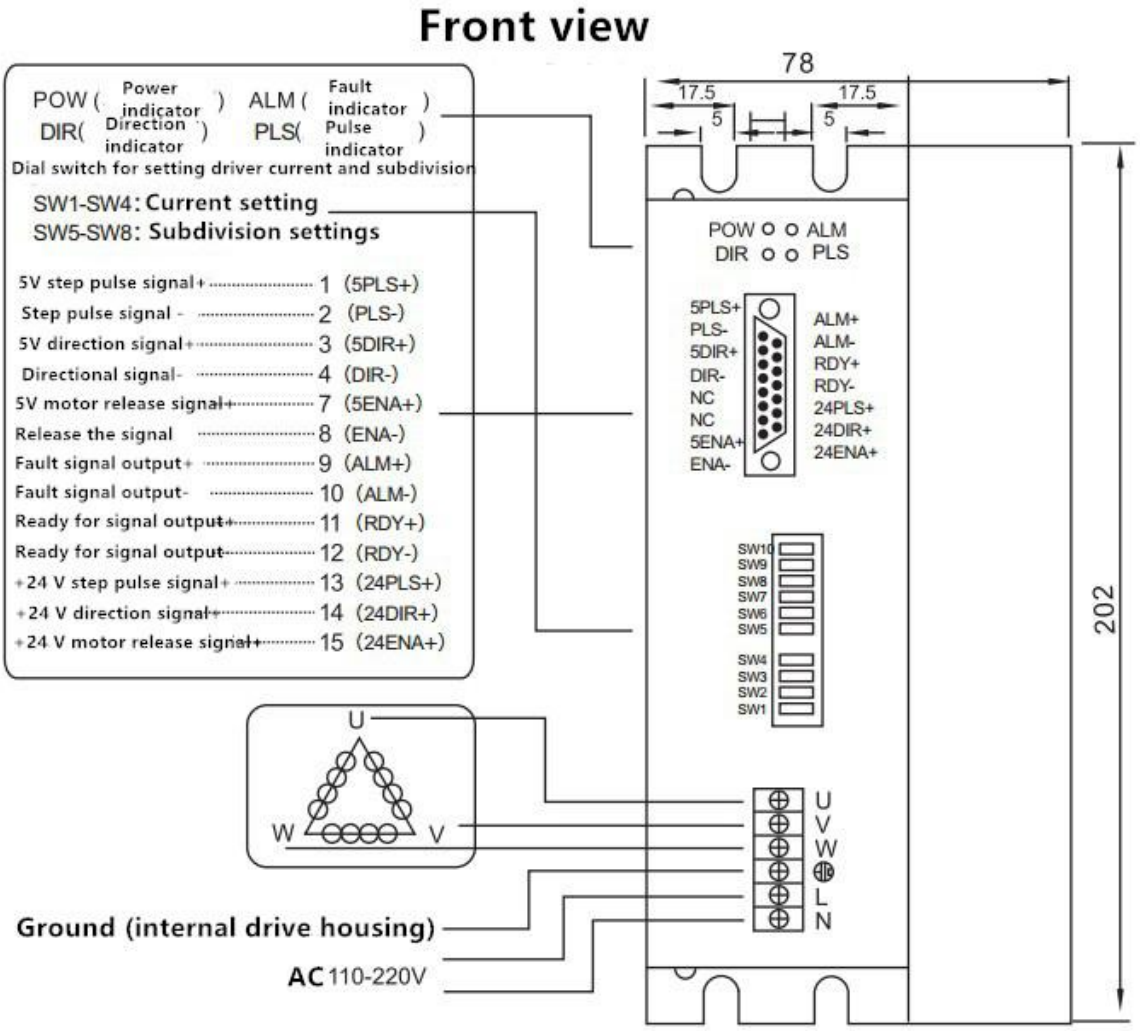
Subdivision settings:

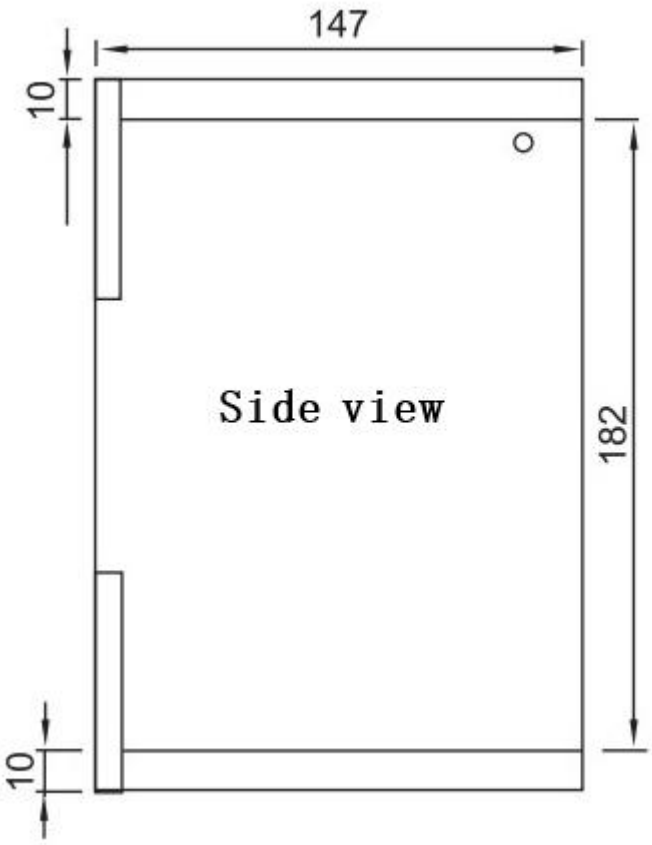
Driver subdivision is set by SW 5-SW 8 terminal, a total of 16 gears, SW 9 and SW 10 for functional settings.

Fine fraction	400	500	600	800	1000	1200	2000	3000
SW5	ON	ON	ON	ON	ON	ON	ON	ON
SW6	ON	ON	ON	ON	OFF	OFF	OFF	OFF
SW7	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW8	ON	OFF	ON	OFF	ON	OFF	ON	OFF
Fine fraction	4000	5000	6000	10000	8000	20000	30000	60000
SW5	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW6	ON	ON	ON	ON	OFF	OFF	OFF	OFF
SW7	ON	ON	OFF	OFF	ON	ON	OFF	OFF

SW8	ON	OFF	ON	OFF	ON	OFF	ON	OFF
SW9	ON, double pulse: PU is a forward step pulse signal, and DR is a reverse stepping pulse signal.							
	OFF, monopulse: PU is stepping pulse signal, DR is directional control signal.							
SW10	Automatic Detection Switch (receives external pulses in OFF and operates at 30 RPM in ON)							

Schematic diagram of drive wiring and size





be careful:

1. The input voltage should not exceed the current of 220 v;

2. The input control signal level is 5V and 24V. The two terminals are selected separately. Pay attention to the control signal voltage when wiring

3. The descent delay of input pulse signal is effective;

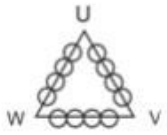
4. When the temperature of the drive exceeds 80 ℃, the driver stops working, and the fault indicator lamp ALM lights up. Until the temperature of the drive drops to 50 ℃, the driver needs to be powered on again to resume working. In case of overheating protection, please install radiator.

5. The over current (load short circuit) fault indicator lamp ALM is on. Please check the motor wiring and other short circuit faults, and power on again after troubleshooting.

No motor fault indicator lamp ALM is on, please check the motor wiring, and power on again after troubleshooting

Pin function description:

Port definition	Joint pin number	Mark symbol	function	Notes
DB 15	1	5PU+	Input signal photoelectric isolation positive end	+5V power supply can be driven by +5V-24V, and current limiting resistor is higher than +5V.
	2	PU-	DP9=OFF, PU is stepping pulse signal.	The descending edge is valid. Each time the pulse is changed from high to low, the input resistance is 220Ω. Requirements: low level 0-0.5V, high level 4-5V, pulse width > 2. 5μs
			DP9=ON, PU is a forward step pulse signal.	
	3	5DR+	Input signal photoelectric isolation positive end	+5V power supply can be driven by +5V-+24V, and current limiting resistor is higher than +5V.
	4	DR-	DP9=OFF and DR are directional control signals.	It is used to change motor steering. Input resistance 220 ohms, low level 0-0.5V, high level 4-5V, pulse width > 2.5μs
			DP9=ON, DR is abackward stepping pulse signal.	
	7	5MF+	Input signal photoelectric isolation positive end	+5V power supply can be driven by +5V-+24V, and current limiting resistor is higher than +5V.
	8	MF-	Motor release signal	When effective (low level), turn off the motor wiring current, the driver stops working, and the motor is in free state.
	9	ALM+	Driver failure output signal photoelectric isolation positive end	When overcurrent and overheat failures occur in the driver, the driver outputs a fault signal which is valid (high level)
	10	ALM-	Driver failure output signal photoelectric isolation negative end	

	11	RDY+	The driver is ready to output the photoelectric isolator.	The state of the driver is normal, ready to accept the controller signal when the signal is valid (low level).
	12	RDY-	Drive ready for output signal photoelectric isolation negative end	
	13	24PU+	Input pulse signal photoelectric isolation positive end	+24V can be driven
	14	24PU+	Input pulse signal photoelectric isolation positive end	+24V can be driven
	15	24PU+	Input pulse signal photoelectric isolation positive end	+24V can be driven
Motor, Power terminal	1、2	L、N	Power Supply	Power Supply :AC110-220V
	3	PE	Baseline	Earth (enclosing drive housing)
	4	U		
	5	V	Electrical wiring	
	6	W		