

### YKD2305M

- 32 bit DSP control technology, low noise / vibration with excellent stability and low cost
- 16 constant-torque microstep settings, 200 microsteps the highest
- Smooth and accurate current control, effectively reduce motor heats
- 200Kpps pulse response frequency
- After step pulse stops for 200ms, output current automatically halve to reduce motor heat
- Excellent smoothness in low frequency high microstep applications
- Photoelectric isolated signal input / output, high anti-interference ability
- Drive current adjustable (under 3A)
- Input voltage range: DC20-50V
- Fault protection: over current, over voltage, low voltage protection, etc.
- Small size: 118\*76\*33mm

#### Typical Application:

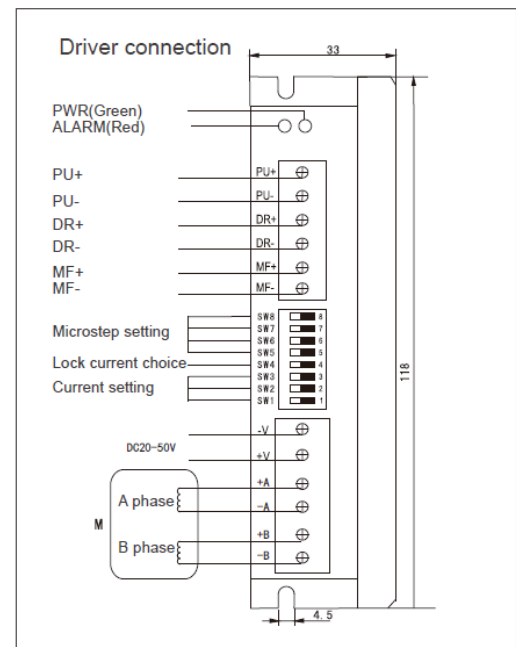
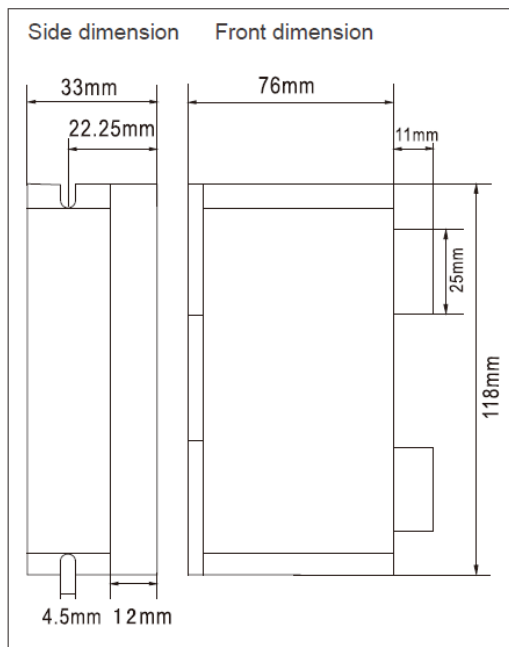
Mainly used in laser cutting machine, laser welding machine, laser marking machine, screw machine, medical equipment, robot, dispensing machine, electronic equipment and engraving machine.

#### Product Details

##### Description

YKD2305M is high performance digital step drive based on YAKO's new 32-bit DSP technology. It's designed for various models of two phase 42-60mm (NEMA 17-24) hybrid stepper motors which current are below 3A. With servo-similar control circuit and superior software algorithm, YKD2305M has superior performance in smoothness, noise and vibration. Smooth and accurate current control technology greatly reduces motor heat.

##### Product Diagram



#### Description

#### Product Diagram

#### Micro Setting


#### Current Setting

#### Terminal Assignment

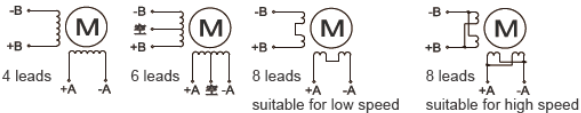
## Micro Setting

Pulse /rev	400	800	1600	3200	6400	12800	25600	1000	2000	4000	5000	8000	10000	20000	40000
SW5	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
SW6	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW7	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF
SW8	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

## Current Setting

Mark	Function	Instruction
PWR	Power indicator	When power on, the green LED lights up.
O.C	Over current/under voltage/over voltage indicator	The red LED lights up when it happens over current, over voltage or under voltage.
PU+	Input signal photoelectric isolation+	Connect with +5V or +24V
PU-	SW15=OFF, stepper pulse signal SW15=ON, positive pulse signal	Effective on falling edge, the motor moves one step as the pulse input change from high to low. Requirements: low level 0-0.5V, high level 4-5V, pulse width >2.5μs.
DR+	Input signal photoelectric isolation+	Connect with +5V or +24V
DR-	SW15=OFF, direction signal	Used to change the motor direction. Requirements: low level 0-0.5V, high level 4-5V.
	SW15=ON, negative direction signal	Effective on falling edge, the motor moves one step as the pulse input change from high to low. Requirements: low level 0-0.5V, high level 4-5V, pulse width >2.5μs.
MF+	Input signal photoelectric isolation+	Connect with +5V or +24V
MF-	Motor free signal	Cut off the motor current when in low level, then the motor is free.
FL+	Over current/voltage and under voltage photoelectric isolation positive side	FL+ connect with limited resistor
FL-	Over current/voltage and under voltage photoelectric isolation negative side	FL- connect with GND, max driving current is 50mA, max voltage is 50V.
TM+ / TM-	Original output photoelectric isolation +/-	TM + connects with output limited resistor, TM- connects with GND, the max current is 50mA, the max voltage is 50V.
AC	Power (AC)	AC110-220 V
U	Motor connection	
V		
W		

## Terminal Assignment

Mark	Function	Instruction
PWR	Power indicator	When power on, the green LED lights
ALARM	Fault indicator	When over voltage, low voltage, or even over current, the red LED lights up.
PU+	Pulse signal optoelectronic isolation positive head	Connect with +24V or +5V signal power, it should connect with a resistor in PU- side if the voltage over 5V.
PU-	Pulse signal optoelectronic isolation negative head	Effects on falling edge, the motor moves one step as the pulse input change from high to low. built-in input resistance 220Ω, Requirements: low level 0-0.5V, high level 4-5V, the pulse width >2.5us.
DR+	Direction signal optoelectronic isolation positive head	Connect with +24V or +5V signal power, it should connect with a resistor in DR- side if the voltage over 5V.
DR-	Direction signal optoelectronic isolation negative head	Used to change motor direction. Built-in resistance 220Ω. Requirements: low level is 0-0.5V, high level 4-5V, pulse width >2.5us.
MF+	Motor free signal optoelectronic isolation positive side	Connect with +24V or +5V signal power, it should connect with a resistor in MF- side if the voltage over 5V.
MF-	Motor free signal optoelectronic isolation negative side	When effective (low level), motor is free.
-V	Power negative	D C 20-50 V
+V	Power positive	
A+	Motor connection	Attach for motor connection diagram. 
A-		
B+		
B-		