YAKOTEC

Review and
Model
Selection

Stepper
Drive
2 Phase

Stepper
Drive
3 Phase

Close-Loop
Stepper
Drive

Close-Loop
Stepper
Motor
2 Phase

Servo-
Stepper
Drive

Close-Loop
Stepper
Motor
3 Phase

EtherCAT
Drive

Bus-Type
Drive
2 Phase

Integrated
Motor
Open-Loop

Integrated
Motor
Close-Loop

Stepper
Motor
2 Phase

Stepper
Motor
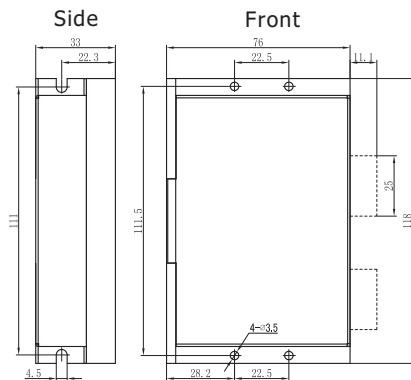3 Phase

Speed-
Torque
Curve

Accessories

YKD2305M 2 Phase DSP Stepper Drive

▶ Features

- 32-bit DSP control, low noise and superior vibration performance
- 16 constant torque microstep setting, up to 200 microsteps
- Smooth and accurate current control, effectively reduce motor heating
- The highest pulse response frequency is 200KHZ
- When the pulse stops over 200ms, the motor current is halved
- Excellent smoothness in low frequency microsteps
- Optically isolated differential signal input, strong anti-interference ability
- Drive current is adjustable below 3.0A
- Voltage input range: DC20~50V
- With over voltage, under voltage etc. fault protection
- Small size, volume 118*76*33 (mm³), weight 0.3kg
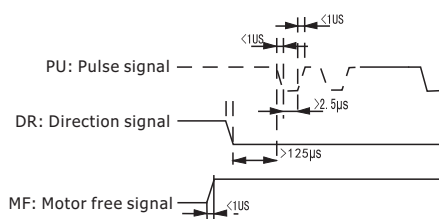- Suitable for 42~60mm(NEMA17~24) 2 phase open-loop stepper motors.

Application: Mainly used in laser cutting machine, laser welding machine, laser marking machine, lock screw machine, medical equipment, robot, dispenser, electronic equipment and engraving machine
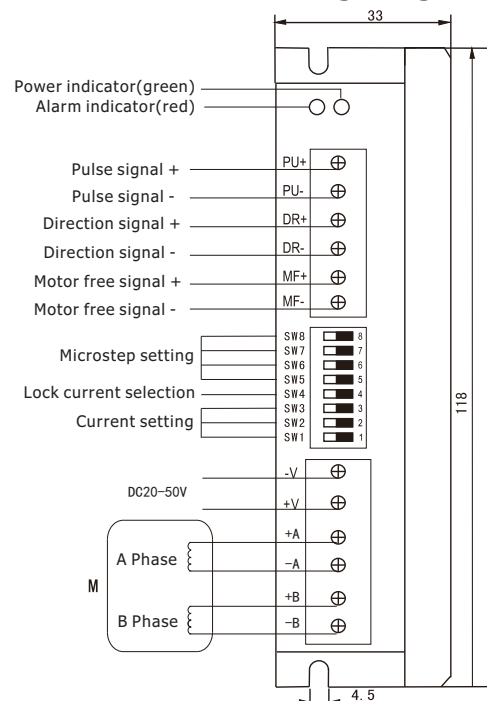
▶ Dimensions

Dimensions (mm)

Side
Front

33
22.3
76
22.5
11.1
111.5
25
118
4.5
28.2
22.5
4~3.5

Input Signal Timing Diagram

PU: Pulse signal
<1US
<1US
DR: Direction signal
>2.5µs
>125µs
MF: Motor free signal
<1US

Drive Wiring Diagram

33

Power indicator(green)
Alarm indicator(red)

Pulse signal + — PU+
Pulse signal - — PU-
Direction signal + — DR+
Direction signal - — DR-
Motor free signal + — MF+
Motor free signal - — MF-

Microstep setting — SW8 8 / SW7 7 / SW6 6 / SW5 5
Lock current selection — SW4 4 / SW3 3
Current setting — SW2 2 / SW1 1

DC20~50V
-V
+V
+A
A Phase
-A
+B
B Phase
-B
M

118
4.5

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▶ YKD2305M Microstep Setting

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

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SW4:OFF=Half Current
    ON=Full Current
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▶ YKD2305M Current Setting

RMS	0.71A	1.04A	1.36A	1.69A	2.03A	2.36A	2.69A	3.00A
Peak	1.00A	1.46A	1.91A	2.37A	2.84A	3.31A	3.76A	4.20A
SW3	ON	ON	ON	ON	OFF	OFF	OFF	OFF
SW2	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW1	ON	OFF	ON	OFF	ON	OFF	ON	OFF

▶ Terminal Introduction

Symbol	Function	Specification
PWR	Power indicator	When power on, the green indicator lights up.
ALARM	Fault indicator	When over current, under voltage or over voltage, the red indicator lights up.
PU+	Pulse signal +	Connect with the signal power supply, 5V~24V can drive, need to connect a current limiting resistor with PU- when >5V
PU-	Pulse signal -	Effects on falling edge, the motor moves a step when the pulse goes from high to low. The input resistance is 220Ω. It requires: low level 0~0.5V, high level 4~5V, pulse width>2.5us.
DR+	Direction signal +	Connect with the signal power supply, 5V~24V can drive, need to connect a current limiting resistor with DR- when >5V
DR-	Direction signal -	Used to change motor direction. Input resistance 220Ω, requirements: low level 0~0.5V, high level 4~5V, pulse width >2.5us
MF+	Motor free signal +	Connect with the signal power supply, 5V~24V can drive, need to connect a current limiting resistor with MF- when >5V
MF-	Motor free signal -	When effective (low level), the motor coil current is turned off, the driver stops working and the motor is free.
-V	Power supply -	DC20-50V
+V	Power supply +	
A+	Motor connection	
A-		
B+		
B-		

⚠ Notice 1. Do not reverse the power supply, input voltage should not exceed DC50V.
2. The input control signal level is 5V. The current limiting resistor needs to be connected when > 5V.
(Please refer to page 4 for connection)
3. When the ALARM light is on, please check after power off:
    (1) The power supply voltage < DC20V or > DC50V
    (2) Restart the power supply after eliminating motor connection and other short-circuit faults.
4. The green PWR indicator lights up when the drive is powered on.