

YKB2404MG/H With microstep Driver



Features

- ◆ High performance, low price
- ◆ Provides 12/8 kinds of equal angle constant torque microstep selection, utmost microstep can be set to 200.
- ◆ Special circuit design, reduce noise, enhance steadiness.
- ◆ The utmost pulse response frequency amounts to 200Kpps
- ◆ Once the pulse stops for 100ms. the phase current will automatically cut by half, which can reduce chances of overheat.
- ◆ Bipolar constant current chopper control
- ◆ Photocoupler isolated input/output
- ◆ Adjustable drive current range from 0.2A/phase~4.0A/phase
- ◆ Single power input, voltage range from DC20-40V
- ◆ Protection circuit
 - —Overheat protection
 - —Overcurrent, under voltage protection
- ◆ Small in size
YKB2404MG/H is an economic, compact driver, its dimension is only 25x136x92mm

Typical application

Carve machine, laser labeling machine, laser internal carve machine

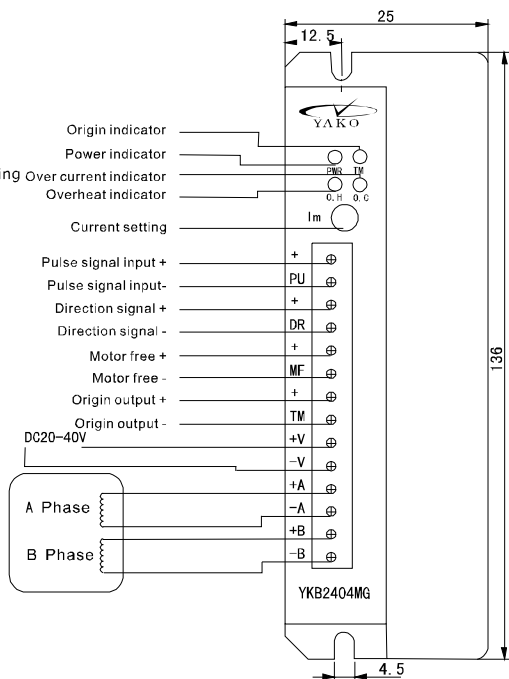
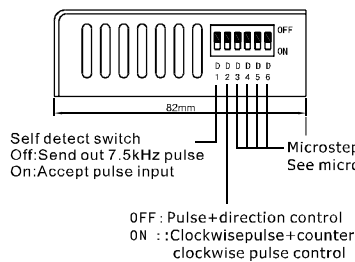
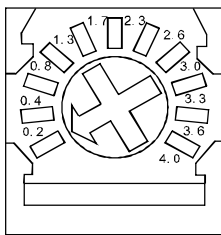
Description

YKB2404MG/H is a constant torque high performance driver with microstep, voltage range from DC20-40V, single power input. It can match two phase hybrid step motors whose rated current under 6.0A, flange size range from 42~57mm. Owe to bipolar constant current chopper control of the driver circuit, the motor can run smoothly and hardly has any noise. Raising the voltage can greatly improve high speed performance and output torque of the motor. Once the pulse stops for 100ms, the phase current will automatically cut by half, which can reduce chances of overheat. Users can operate the driver with microstep in low speed occasion. The utmost microstep can be set to 200.

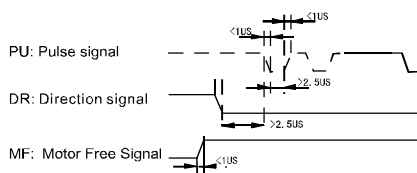
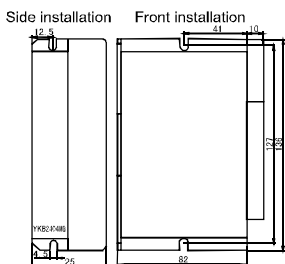
Running current setting

Function setting

Driver connection



Instal dimensions (unit: mm) Input signal timing diagram



Motor

YKB2404MG microstep setting

Microstep	1	2	4	5	8	10	20	25	40	50	100	200	200	200	200
D6	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON
D5	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF
D4	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF
D3	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
D2	ON: clockwise pulse(PU) + counter clockwise pulse(DR) control OFF: pulse + direction control (PU is pulse signal, DR is direction signal)														
D1	Self detect switch(When "off" receive outside pulse,on send 7.5Hz signal inside,then the microstep should be set to 10-50)														

YKB2404MH microstep setting

Microstep	1	2	4	8	16	32	64	128
D6	ON	OFF	ON	OFF	ON	OFF	ON	OFF
D5	ON	ON	OFF	OFF	ON	ON	OFF	OFF
D4	ON	ON	ON	ON	OFF	OFF	OFF	OFF
D3	Not use							
D2	ON: clockwise pulse(PU) + counter clockwise pulse(DR) control OFF: pulse + direction control (PU is pulse signal,DR is direction signal)							
D1	Self detect switch OFF: Accept pulse input. ON: Send out 7.5KHz pulse by the driver							

Terminal assignment

ITEM	FUNCTION	NOTES
POWER	Power indicator	When power on, the green LED lights
TM	Origin/Pulse output indicator	Passing the origin or there is pulse output, the green LED lights
O.H	Malfunction indicator	When overheat occurs, the red LED lights
O.C	Overcurrent/Under voltage indicator	When current exceeds rated value or voltage lower rated value, the red LED lights
+	Input signal positive side	The signal standard voltage is 5V.Can also change to 24V or others.
PU	D2=OFF, PU is pulse signal	Effects on falling edge ,the motor goes one step as the pulse input change from "high"to "low".Input resistance is 220Ω . Requirement: input low: 0~0.5V, input high:4~5V, pulse width>2.5μs
	D2=ON, PU is clockwise pulse signal	
+	Input signal positive side	It can connect +5V or +24V, but +24V should add an extra resistor
DR	D2=OFF, DR is direction control signal	Use to change the direction.Input resistance is 220Ω . Requirement: input low: 0~0.5V, input high:4~5V, pulse width>2.5μs,
	D2=ON, DR is counter clockwise pulse signal	
+	Input signal positive side	This signal effects when the motor pass electrical origin
MF	Origin output signal negative side	Once effects, it will cut off the motor current, the driver stops working and sets the motor free
+	Origin output signal positive side	This signal effects when the motor pass electrical origin
TM	Origin output signal negative side	TM+ connects to the resistor, TM- connects to GND. Max output current 50mA, max voltage 50V.
+V	Power+	DC20~40V
-V	Power-	
+A、-A +B、-B	Connect to the motor	

! Caution

1. Do not reverse the power input,input voltage should not exceed DC40V。
2. Input logic should be 5V, otherwise it should connect a resistor
3. Due to the special control circuit, this module for 4 leads or 6 leads or 8 leads step motors.
4. O.H is malfunction indicator. Once the driver temperature exceeds 70°C,the current will be cut off automatically and the driver will resume working till the temperature drops to 50°C. If this happens,please install ventilation equipment.
5. Once over current (short circuit)/under voltage occur, LED O.C lights, please shut off power and check the electricity circuit to solve the problem, then restore power supply
6. PWR is power indicator, it lights when power on
7. Passing the origin or there is pulse output, TM LED lights