YKA2404MA/B Microstep Stepping driver
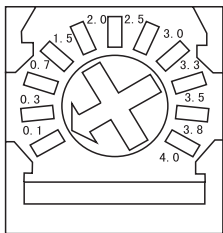
Feature

- Low noise and runs smoothly
- Provides 12/8 kinds microstep selection,upmost microstep can be set to 200x.
- Special control circuit,greatly reduce noise,increase steadiness.
- Upmost response frequence amounts to 200Kpps.
- Once the pulse stops for 100ms,phase current automatically cut by half.
- can match two phase hybrid step motors whose rated current under 4.0A.
- Photo coupler isolated input/output
- Drive current range from 0.1A/phase-4.0A/phase
- Single power input, voltage range from DC12-40V
- Protection circuit：
    - ————Overheat protection
    - ————Overcurrent, under voltage protection
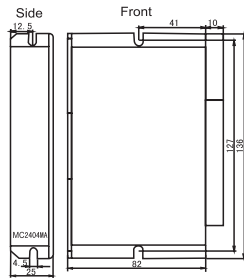- Dimension:25x136x92mm^3 ;Net Weight: 0.3kg

Description

YKA2404MA/B is a constant torque driver with microstep, voltage range from DC12-40V，single power input. It can match 6 leads or 8 leads two phase hybrid step motors whose rated current under 4.0A、flange size range from 42-86mm. Owe to bipolar constant current chopping circuit, the motor can run smoothly and hardly has any noise；Rising 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 upmost microstep can be set to 200X.
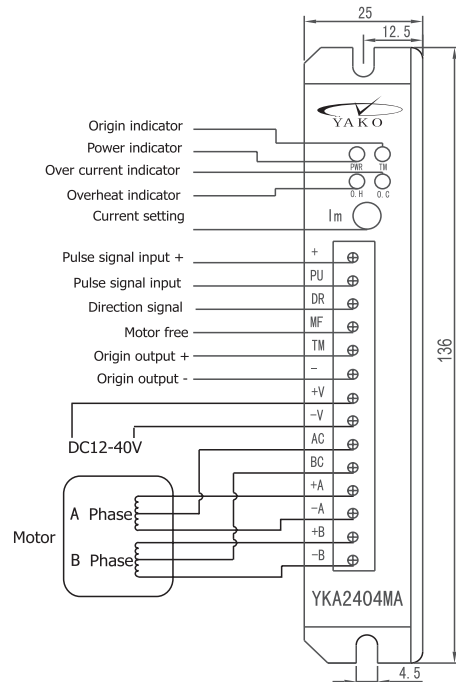
Running current setting

Installation dimensions(Unit:mm)

Driver Connection

Function setting

Self detect switch
Off:Send out 7.5kHz pulse
On:Accept pulse input

Microstep setting
See microstep setting

OFF：Pulse+direction control
ON ：Clockwisepulse+counter
       clockwise pulse control
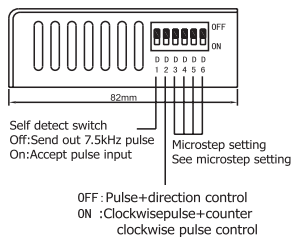
Input signal timing diagram

PU：Pulse signal

DR：Direction Signal

MF：Motor free signal
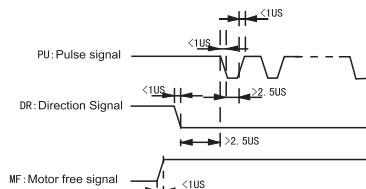
YKA2404MA microstep setting

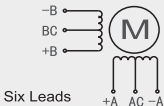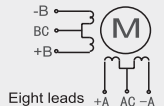| Microstep	1	2	4	5	8	10	20	25	40	50	100	200	200	200	200	200
D6	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
D5	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF
D4	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF
D3	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
D2	ON:Double Pulse.PU is Clockwise pulse Signal;DR is Counter Clockwise pulse Signal.															
	OFF:Single Pulse.PU is pulse Signal;DR is Position pulse Signal.															
D1	Self detect switch															

Note:D1,Self detect switch,when D1=OFF accept external signal;
when D1=ON driver internal send 7.5kHz pulse,then the microstep should be set as 10-50.

YKA2404MB 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	NULL							
D2	ON:Double Pulse.PU is Clockwise pulse Signal;DR is ...							
	OFF:Single Pulse.PU is pulse Signal;DR is Position pulse Signal.							
D1	Self detect switch							

Note:Self detect switch,when D1=OFF accept external signal;
when D1=ON driver internal send 7.5kHz pulse,then the microstep should be set as 16-64.

Terminal Assignment

Mark	Function	Instruction
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	Overheat 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.
Im	Phase current setting adjuster	Turning it clockwise will increase the current,clockwisely decrease current.
+	Input signal positive side	+5V is standard signal input voltage.But we can revise it according to clients' request.
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	
DR	D2=OFF,DR is direction control signal	Use it to change the direction. Input resistance is 220Ω. Requirement:low level:0-0.5V,high level:4-5V, pulse width>2.5μs
	D2=ON,PU is counter clockwise pulse signal	
MF	Motor free signal	When effects, it cut off motor current, the driver stops working and sets the motor free
TM	Original output signal	This signal effects when the motor pass orignal electrical postion.
-	Common signal output ground	
+V	Power+	DC12-40V
-V	Power-	
AC,BC	Connect to the motor	
+A,-A		
+B,-B		

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 only for 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