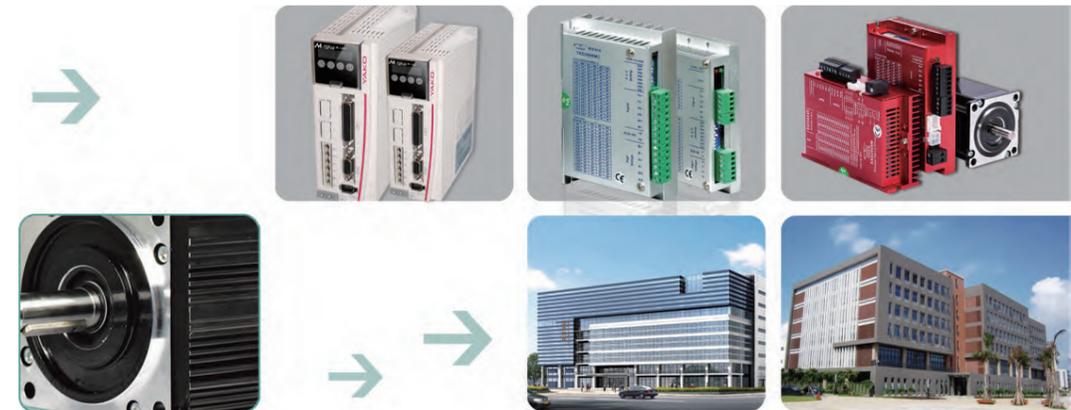# YAKOTEC

YAKOTEC

——Your Most Trustworthy
Motion Control Supplier

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Shenzhen YAKO Automation Technology Co., Ltd.

About **YAKO**

Company Profile

Shenzhen YAKO Automation Technology Co., Ltd. was found in 2006, located in High Technology Industry Zone of Shenzhen, China. Our technology can trace back to 1996, when we finished our first stepper driver prototype.

Now we have more than 200 employees and a factory of more than 5,000 square meters. YAKO's biggest shareholder is Shenzhen Topband Co., Ltd., which has a 273 million USD turnover in 2016 and listed in Shenzhen Stock Exchange with stock code 002139.

After 11 years of development, YAKO owns creative R&D center and well-experienced sales team. We keep on improving our management system, shortening response time and sticking with customers and market.

YAKO always keep innovating and providing high performance and reliable products as well as best service to customers. With "excellent performance and quality" for many years, YAKO successfully became one of the best known brand in Chinese market, developing into one of the fastest growing enterprises in motion control industry filed.

YAKO Shanghai

R&D Center

Headquarters

Content

Content

Model of Stepper Driver

Control Mode	Phase	Model	Current (A)	Voltage (V)	Microstep	Matchable Motor
DSP	2 phase	YKD2204M	0.2~1.6	DC18~36	1~32	39mm/42mm/57mm
		YKD2304M	0.7~2.3	DC18~40	1~128	42mm/57mm
		YKD2305M	0.7~3.0	DC20~50	1~200	42mm/57mm/60mm
		YKD2405M	1.2~4.0	DC20~50	1~200	42mm/57mm/60mm
		YKD2408M	1.2~4.0	DC20~80	1~200	57mm/60mm/86mm
		YKD2608MH	2.0~6.0	AC18~80	1~256	57mm/60mm/86mm
		YKD2811M	1.0~8.0	AC18~110	1~125	86mm/110mm/130mm
		YKD2822M	1.0~8.0	AC110~265	1~128	86mm/110mm/130mm
	3 phase	YKD3505M	1.6~5.5	DC20~50	1~200	42mm/57mm/60mm/86mm
		YKD3506M	2.3~5.9	DC20~60	1~200	42mm/57mm/60mm/86mm
		YKD3722M	0.7~7.0	AC110~220	400~60000	86mm/110mm/130mm
Analog	2 phase	YKA2204M	0.2~1.5	DC15~40	5~64	28mm/39mm/42mm
		YKA2304ME/F	0.1~3.0	DC12~40	8~64	42mm/57mm/60mm
		YKA2404MA/B/C/D	0.1~3.0	DC12~40	1~200	42mm/57mm/60mm
		YKC2405M	0.7~3.0	DC20~50	2~200	42mm/57mm/60mm
		YKB2608MG/H	0.5~6.0	DC24~80	1~200	57mm/60mm/86mm
		YKC2608MG/H	0.2~6.0	AC18~80	1~200	57mm/60mm/86mm
		YKA2811MA	0.5~8.0	AC60~110	1~200	86mm/110mm/130mm
	3 phase	YKB3606MA	0.2~5.8	DC16~60	400~60000	57mm/86mm
		YKA3422MA	0.6~4.2	AC110~220	400~60000	86mm/110mm
		YKC3722MA	0.7~7.0	AC110~220	400~60000	86mm/110mm/130mm
RS-485	2 phase	YKD2405PR	4.2	DC24~50	40000	42mm/57mm/60mm
		YKD2608PR	4.2	DC24~80	40000	57mm/60mm/86mm
		SSD2505PR	2.5~5.0	DC24~50	51200	42mm/57mm/60mm
CANBus	2 phase	YKD2405PC	4.2	DC24~50	40000	42mm/57mm/60mm
		YKD2608PC	4.2	DC24~80	40000	57mm/60mm/86mm
		SSD2505PC	2.5~5.0	DC24~50	51200	42mm/57mm/60mm

Model of Stepper Motor

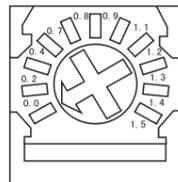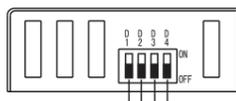| Phase No.	Flange Size	Model	Angle	Voltage (V)	Length (mm)	Torque (Nm)	Current (A)	Wires	Matchable Driver
2 phase	42mm NEMA17	YK42HB33-02A	1.8	3.0	41	0.4	2.0	4	YKD2204M
		YK42HB47-02A	1.8	3.0	49	0.48	2.0	4	YKD2304M
		YK42HB60-02A	1.8	3.6	61	0.72	2.0	4	YKD2305M
	57mm NEMA23	YK57HB56-03A	1.8	2.9	56	0.9	3.0	6	YKD2405MC
		YK57HB76-03A	1.8	3.0	76	1.35	3.0	6	
		YK57HB56-04A	1.8	2.22	56	1.2	3.0	4	YKD2305M YKD2405M
		YK57HB76-04A	1.8	2.15	78	1.35	4.0	4	
		YK57HB80-04A	1.8	2.0	80	2.2	5.0	4	
		YK57HB100-04A	1.8	2.4	101	3.0	5.0	4	
	60mm NEMA24	YK60HB65-03A	1.8	4.8	67	2.1	2.0	6	YKD2405M
		YK60HB86-04A	1.8	2.8	88	3.1	4.0	6	
		YK60HB65-05A	1.8	2.26	65	2.0	5.0	4	
		YK60HB86-05A	1.8	6.0	86	3.0	5.0	4	
	86mm NEMA34	YK86HB65-04A	1.8	3.9	65	3.4	2.8	8	YKD2608MH
		YK86HB80-04A	1.8	3.15	80	4.6	4.2	8	
		YK86HB118-06A	1.8	3.78	118	8.7	4.2	8	
		YK86HB156-06A	1.8	5.25	156	12.2	4.2	8	
	110mm NEMA42	YK110HB115-06A	1.8	2.64	115	12	6.0	4	For AC220V, please choose YKD2822M.
		YK110HB150-06A	1.8	5.2	150	21	6.5	4	
		YK110HB201-08A	1.8	5.36	201	28	8.0	4	
	130mm NEMA57	YK130HB197-06A	1.8	4.5	197	22	6.0	5	For AC110V, please choose YKD2811M.
		YK130HB225-06A	1.8	4.6	225	27	6.0	5	
		YK130HB280-07A	1.8	4.5	280	37	7.0	5	
3 phase	57mm NEMA23	YK364A	1.2	1.25	40.5	0.45	5.2	3	YKD3606M
		YK366A	1.2	3.1	56	0.9	5.6	3	
		YK368A	1.2	4.1	79	1.5	5.8	3	
		YK3610A	1.2	2.2	102	2.0	5.8	3	
	86mm NEMA34	YK397A-H	1.2	9.8	69	2.26	1.75	3	YKD3522M
		YK397A	1.2	2.9	69	2.0	5.8	3	YKD3608MH
		YK3910A-H	1.2	9.3	97	4.0	2.0	3	YKD3522M
		YK3910A	1.2	4.1	97	4.0	5.8	3	YKD3608MH
		YK3913A-H	1.2	2.1	127	6.78	3.0	3	YKD3522M
		YK3913A	1.2	6.1	127	6.78	5.8	3	YKD3608MH
	110mm NEMA42	YK31112A	1.2	3.1	124.5	8.0	2.5	4	YKD3722M
		YK31115A	1.2	6.6	148	12.0	3.5	4	
		YK31118A	1.2	6.9	182	16.0	3.7	4	
		YK31122A	1.2	7.4	216	20.0	4.0	4	
	130mm NEMA57	YK31317A	1.2	9.2	168	23.0	5.0	7	YKD3722M
		YK31320A	1.2	5.5	197	30.0	5.0	7	
		YK31323A	1.2	16.8	225	36.0	6.0	7	
		YK31328A	1.2	19.8	280	50.0	6.0	7	

YKA2204MA Hybrid Stepper Motor Driver

Feature

● High performance, low noise with excellent stability and low cost
● 10 constant-torque microstep settings, 64 microsteps the highest
● Unique control circuit, effectively reducing noise and increasing rotation smoothness
● 200Kpps response frequency
● After step pulse stops for 100ms, output current automatically halve to reduce motor heat
● Bipolar constant current wave chopping mode, improve motor speed and power
● Photoelectric isolated signal input/output
● Drive current adjustable from 0A/phase to 1.5A/phase
● Sole power input, voltage range: DC15~40V
● Fault protection: over current, low voltage protection
● Small size: 96*66.5*21mm, 0.13kg

YKA2204MA Microstep Setting

Microstep	5	10	20	40	40	40	40	40	2	4	8	16	32	64	64	64
D4	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON
D3	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON
D2	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON
D1	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON

Terminal Introduction

Mark	Function	Specification
POWER	Power indication	Indicator illuminates when power on
Im	Current setting adjuster	Clockwise: Current increase
+	Input signal positive side	It can be connected to +5V or 24V, but need add extra resistor for +24V
PU	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
DR	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
MF	Motor free signal	Once effects, it will cut off the motor current, the driver stops working and sets the motor free
+V	Power +	DC15-40V
-V	Power -	
+A,-A	Connect to the motor	
+ B,-B		

Running Current

Microstep Setting

Find details in microstep setting list

Installation Dimensions (mm)

56.5
10.1
80
96
4.5
28.2
21

Driver Connection

Power indication — POWER
Current setting — Im

Input com+ — +
Pulse — PU
Direction — DR
Motor free — MF
DC15-40V — +V
— -V
— +A
— -A
A Phase — +B
B Phase — -B

Motor

YKA2204MA

4.5
80
96
21

Input Signal Timing Diagram

PU：Pulse signal
DR：Direction Signal
MF：Motor free signal

<1US
>2.5US

Four leads   Six leads   Eight leads   Eight leads
(Suitable for low speed)   (Suitable for low speed)

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.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.

6. PWR is power indicator，it lights when power on.

YKA2304ME Hybrid Stepper Motor Driver

Feature

● High performance, big high speed output torque with excellent stability and low cost
● 4 constant-torque microstep settings, 64 microsteps the highest
● Unique six-wire control circuit, effectively increase high speed torque (double torque compared with four-wire drive)
● 200Kpps response frequency
● After step pulse stops for 100ms, output current automatically halve to reduce motor heat
● Bipolar constant current wave chopping mode, improve motor speed and power
● Photoelectric isolated signal input/output
● Drive current adjustable from 0A/phase to 3A/phase
● Sole power input, voltage range: DC12~40V
● Fault protection: over current, overheat, low voltage protection
● Small size: 136*92*25mm, 0.3kg
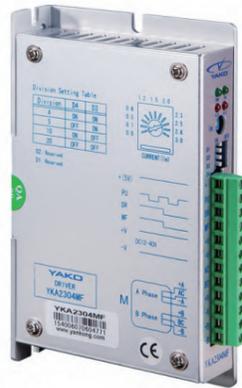
Description

YKA2304ME is identical-angle constant-torque microstep drive with working voltage DC12~40V. It's designed for various models of two phase 6/8 wire 42~57mm (NEMA 17~23) hybrid stepper motors which current are below 3A.
With the uses of the first advanced six-wire technology, the motor will proceed Automatic Gain Control at high speed and reducing reverse EMF, thus greatly improve the torque output (double torque compared with four-wire drive) in high speed.
In applications which running speeds are not high, with the use of 64 microsteps, stepper motor will be operated under high accuracy, and low vibration/noise.

Running Current

Installation Dimensions(mm)

Side   Front

Driver Connection

Origin indicator
Power indicator
Over current indicator
Overheat indicator
Current setting
Microstep setting switch
Pulse signal input +
Pulse signal input −
Direction signal
Motor free Signal
DC12~40V
Motor
A Phase
B Phase
YKA2304ME

DIP Switch Setting

	ON	OFF
D1		
D2		
D3		
D4		

Microstep Setting (details pls note the microstep setting)

Input Signal Timing Diagram

PU: Pulse signal
DR: Direction Signal
MF: Motor free signal
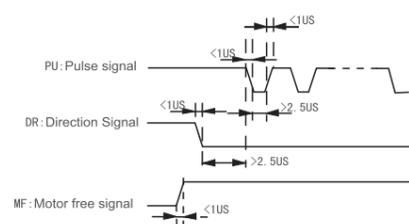
YKA2304ME Microstep Setting

Microstep	8	16	32	64
D4	ON	OFF	ON	OFF
D3	ON	ON	OFF	OFF
D2	NULL			
D1	NULL			

Terminal Introduction

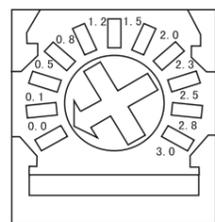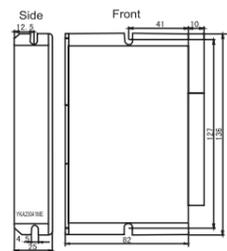| Mark	Function	Specification
POWER	Power indicator	When power on, the green LED lights
TM	Origin/Pulse output indicator	Passing the origin or there is pulse output, the green LED lights
O.H	Overheat indicator	When overheat occurs, the red LED lights
O.C	Overcurrent/Under voltage indicator	When current 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	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
DR	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
MF	Motor free signal	When effects, it cut off motor current, the driver stops working and sets the motor free
+V	Power+	DC12-40V
-V	Power-	
AC,BC	Connect to the motor	
+A,-A		
+B,-B		

Six Leads   Eight leads

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.

YKA2404MA/B Hybrid Stepper Motor Driver

Feature

● High performance, big high speed output torque with excellent stability and low cost
● 12/8 constant-torque microstep settings, 200 microsteps the highest
● Unique six-wire control circuit, effectively increase high speed torque (double torque compared with four-wire drive)
● 200Kpps response frequency
● After step pulse stops for 100ms, output current automatically halve to reduce motor heat
● Bipolar constant current wave chopping mode, improve motor speed and power
● Photoelectric isolated signal input/output
● Drive current adjustable from 0.1A/phase to 4A/phase
● Sole power input, voltage range: DC15~40V
● Fault protection: over current, overheat, low voltage protection
● Small size: 136*92*25mm, 0.3kg
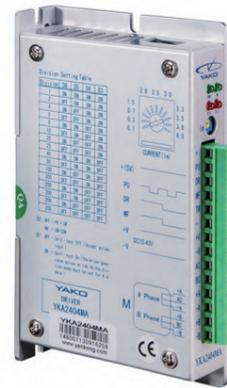
Description

YKA2404MA/B is identical-angle constant-torque microstep drive with working voltage DC15~40V. It's designed for various models of two phase 6/8 wire 42~86mm (NEMA 17~34) hybrid stepper motors which current are below 4A.

With the uses of the first advanced six-wire technology, the motor will proceed Automatic Gain Control at high speed and reducing reverse EMF, thus greatly improve the torque output (double torque compared with four-wire drive) in high speed.

In applications which running speeds are not high, with the use of 200 microsteps, stepper motor will be operated under high accuracy, and low vibration/noise.
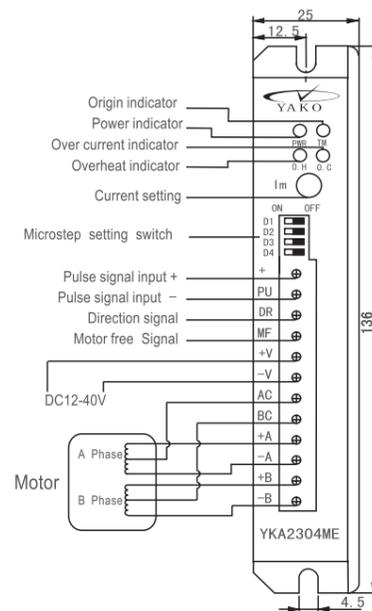
Running Current

Installation Dimensions (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 75kHz 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 75kHz pulse,then the microstep should be set as 16-64

Terminal Introduction

| Mark	Function	Specification
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		
+A,-A	Connect to the motor	
+B,-B		

Caution

1. Do not reverse the power input,input voltage should not exceed DC40.
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.
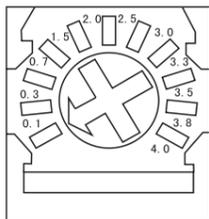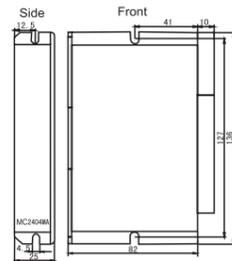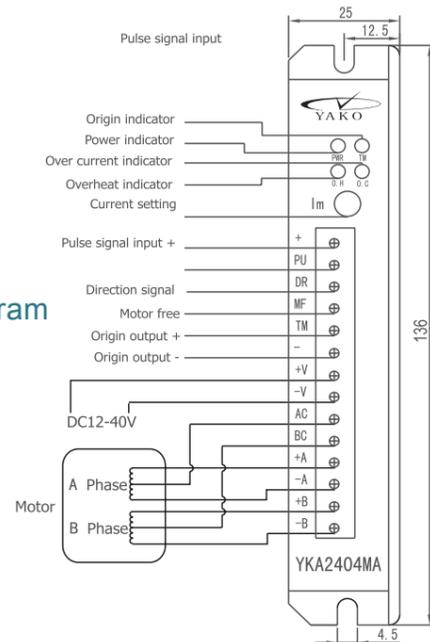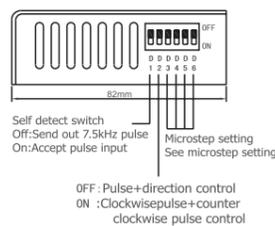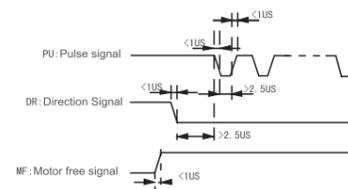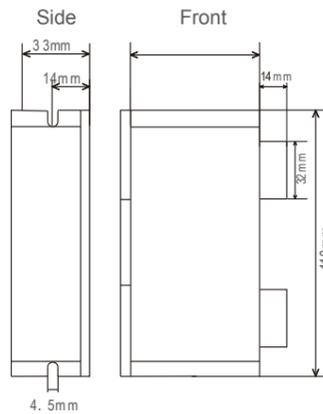
YKC2405M Hybrid Stepper Motor Driver

Feature

● High performance, big high speed output torque with excellent stability and low cost
● 15 constant-torque microstep settings, 200 microsteps the highest
● Unique control circuit, effectively reducing noise and increasing rotation smoothness
● 200Kpps response frequency
● After step pulse stops for 100ms, output current remain/halve adjustable
● Bipolar constant current wave chopping mode, improve motor speed and power
● Photoelectric isolated signal input/output
● Drive current adjustable from 0.71A/phase to 3A/phase
● Sole power input, voltage range: DC20~50V
● Fault protection: over current, overheat, low voltage protection
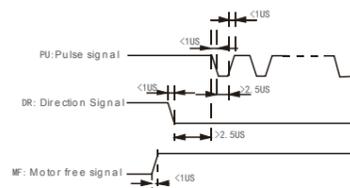● Small size: 118*72*33mm, 0.2kg

Description

YKC2405M is identical-angle constant-torque microstep drive with working voltage DC20~50V. It's designed for various models of two phase 42~86mm (NEMA 17~34) hybrid stepper motors which current are below 3A.
With bipolar constant current wave chopping drive technology, YKC2405M can reduce motor noise and improve its smoothness. The increase of drive voltage dramatically improved high speed performance and drive capability to motor. In applications which running speeds are not high, with the use of 200 microsteps, stepper motor will be operated under high accuracy, and low vibration/noise.

Installation Dimensions (mm)

Side   Front

3 3mm
14mm   14mm
32mm
118mm
4. 5mm

Input signal Timing Diagram

<1US
<1US
PU:Pulse signal
<1US
DR: Direction Signal
>2. 5US
>2. 5US
MF: Motor free signal   <1US

Driver Connection

33
19

Power indicator   PWR   Alarm
Over current indicator
Pulse signal input +   PU+
Pulse signal input -   PU-
Direction signal +   DR+
Direction signal -   DR-
Motor free signal -   MF+
Motor free signal +   MF-

Microstep setting   SW8
                         SW7
                         SW6
                         SW5
                         SW4
Current setting   SW3
                         SW2
                         SW1

                         -V
DC20-50V   +V
                         +A
                         -A
Motor   +B
                         -B

A Phase
B Phase
118
4. 5

YKC2405M Microstep Setting

Microstep	400	800	1600	3200	6400	12800	25600	1000	2000	4000	5000	8000	10000	20000	25000
SW8	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW7	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	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

SW4 : OFF=Half Current : ON=Full Current

YKC2405M Current Setting

current	0.71	1.04	1.36	1.69	2.03	2.36	2.69	3.00
SW3	ON	OFF	ON	OFF	ON	OFF	ON	OFF
SW2	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW1	ON	ON	ON	ON	OFF	OFF	OFF	OFF

Terminal Introduction

Mark	Function	Specification
PWR	Power indicator	When power on, the green LED lights
O.C	Overcurrent/Under voltage indicator	When current exceeds rated value or voltage lower rated value, the red LED lights.
PU+	pulse signal positive side	+5V is standard signal input voltage.But we can revise it according to clients' request.
PU-	pulse signal negative side	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
DR+	Direction signal positive side	+5V is standard signal input voltage.But we can revise it according to clients' request.
DR-	Direction signal negative side	Use it to change the direction. Input resistance is 220Ω. Requirement:low level:0-0.5V,high level:4-5V,pulse width>2.5μs
MF+	Motor free signa positive side	+5V is standard signal input voltage.But we can revise it according to clients' request.
MF-	Motor free signa negative side	When effects, it cut off motor current, the driver stops working and sets the motor free
+V	Power suppy positive side	DC20-50V
-V	Power suppy negative side	
+ A,-A	Connect to the motor	
+ B,-B		

-B   -B   -B   -B
M   M   M   M
+B   +B   +B   +B
N/A
Four leads   Six Leads   Eight leads   Eight leads
+A -A   +A N/A-A   For bw speed   For high speed
+A -A   +A -A

Caution

1. Do not reverse the power input,input voltage should not exceed DC50V.
2. Input logic should be 5V,otherwise it should connect a resistor.
3. O.H is malfunction indicator. Once the driver temperature exceeds 70℃,the current will be cut off automatically and the driver will resume working till the temperature drops to 50℃. If this happens,please install ventilation equipment.
4. Passing the origin or there is pulse output, TM LED lights.

YKB2608MG/H Hybrid Stepper Motor Driver

Feature

- High performance, low noise with excellent stability and low cost
- 12/8 constant-torque microstep settings, 200 microsteps the highest
- Unique control circuit, effectively reducing noise and increasing rotation smoothness
- 200Kpps response frequency
- After step pulse stops for 100ms, output current automatically halve to reduce motor heat
- Bipolar constant current wave chopping mode, improve motor speed and power
- Photoelectric isolated signal input/output
- Drive current adjustable from 0.5A/phase to 6A/phase
- Sole power input, voltage range: DC24~80V
- Fault protection: over current, overheat, low voltage protection
- Small size: 136*92*45mm, 0.5kg
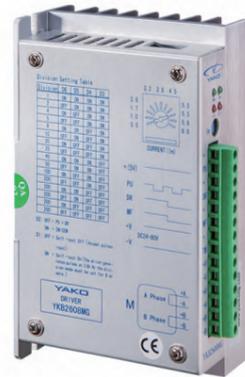
Description

YKB2608MG/H is identical-angle constant-torque microstep drive with working voltage DC24~80V. It's designed for various models of two phase 57~86mm (NEMA 23~34) hybrid stepper motors which current are below 6A.

With bipolar constant current wave chopping drive technology, YKB2608MG/H can reduce motor noise and improve its smoothness. The increase of drive voltage dramatically improved high speed performance and drive capability to motor.

In applications which running speeds are not high, with the use of 200 microsteps, stepper motor will be operated under high accuracy, and low vibration/noise.
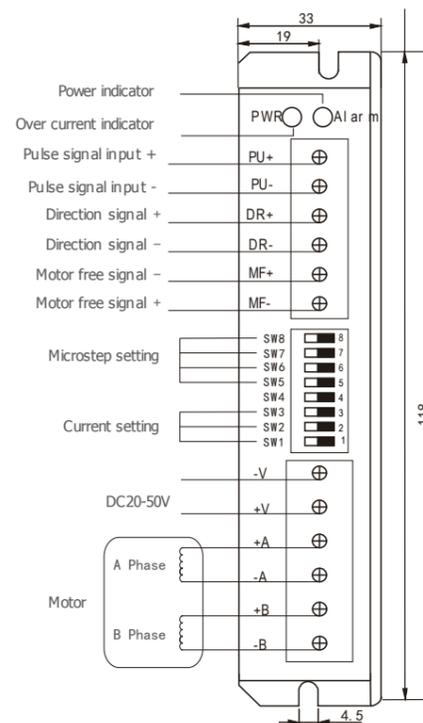
Current Setting

Dimensions (mm)

Driver Connection

Function Setting

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

OFF :Pulse+direction control
ON :Clockwise pulse+counter clockwise pulse control

Microstep setting
See microstep setting

Input Signal Timing Diagram

PU: Pulse signal

DR: Direction Signal

MF: Motor free signal

YKB2608MG 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	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
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.

YKB2608MH 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 Introduction

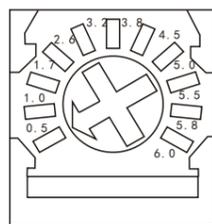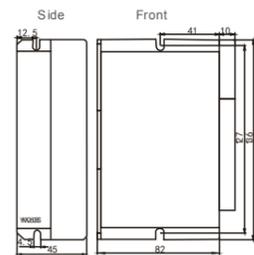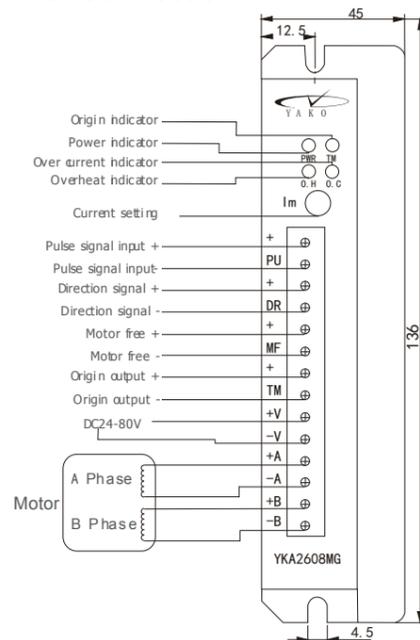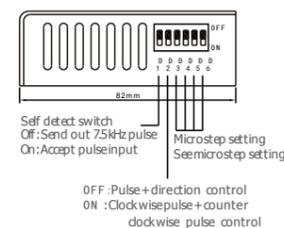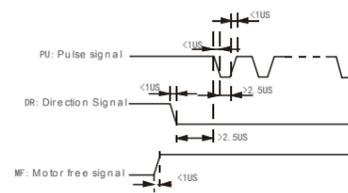| Mark	Function	Specification
POWER	Power indicator	When power on, the green LED lights
TM	Origin/Pulse output indicator	Passing the origin or there is pulse output, the green LED lights
O.H	Overheat indicator	When overheat occurs, the red LED lights
O.C	Overcurrent/Under voltage indicator	When current 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	
+	Input signal positive side	+5V is standard signal input voltage.But we can revise it according to clients' request.
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	
+	Input signal positive side	+5V is standard signal input voltage.But we can revise it according to clients' request.
MF	Motor free signal	When effects, it cut off motor current, the driver stops working and sets the motor free
+	Input signal positive side	+5V is standard signal input voltage.But we can revise it according to clients' request.
TM	Origin output signal negative side	TM+ connects to the resistor,TM- connects to GND. Max output current 50mA,max voltage 50V.
+V	Power+	DC24-48V
-V	Power-	
AC,BC +A,-A +B,-B	Connect to the motor	Four Leads Six Leads Eight leads Eight leads

Caution

1. Do not reverse the power input,input voltage should not exceed DC80V.
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.

YKC2608M Hybrid Stepper Motor Driver

Feature

● High performance, low noise with excellent stability and low cost
● 16 constant-torque microstep settings, 200 microsteps the highest
● Unique control circuit, effectively reducing noise and increasing rotation smoothness
● 200Kpps response frequency
● After step pulse stops for 100ms, output current remain/halve adjustable
● Bipolar constant current wave chopping mode, improve motor speed and power
● Photoelectric isolated signal input/output
● Drive current adjustable from 2A/phase to 6A/phase
● Sole power input, voltage range: AC18~60V
● Fault protection: over current, overheat, low voltage protection
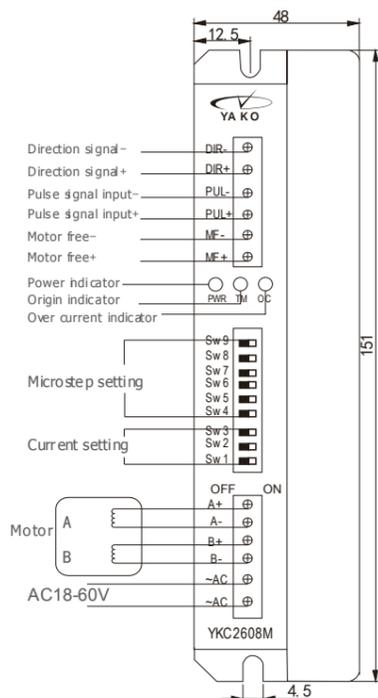● Small size: 151*107*48mm, 0.5kg

Description

YKC2608M is identical-angle constant-torque microstep drive with working voltage AC18~60V. It's designed for various models of two phase 57~86mm (NEMA 23~34) hybrid stepper motors which current are below 6A.
With bipolar constant current wave chopping drive technology, YKC2608M can reduce motor noise and improve its smoothness.
The increase of drive voltage dramatically improved high speed performance and drive capability to motor.
In applications which running speeds are not high, with the use of 200 microsteps, stepper motor will be operated under high accuracy, and low vibration/noise.

Current Setting

REF Current	PK Current	Sw1	Sw2	Sw3
2.00A	2.40A	OFF	OFF	OFF
2.57A	3.08A	ON	OFF	OFF
3.14A	3.77A	OFF	ON	OFF
3.71A	4.45A	ON	ON	OFF
4.28A	5.14A	OFF	OFF	ON
4.86A	5.83A	ON	OFF	ON
5.43A	6.52A	OFF	ON	ON
6.00A	7.20A	ON	ON	ON

Sw4: OFF=Half Current (Half current locked)
       ON=Full Current (Full current locked)

Installation Dimensions (mm)

Input Signal Timing Diagram

PU: Pulse signal

DR: Direction Signal

MF: Motor free signal

Driver Connection

48
12.5

YAKO

Direction signal— DIR-
Direction signal+ DIR+
Pulse signal input— PUL-
Pulse signal input+ PUL+
Motor free— MF-
Motor free+ MF+
Power indicator
Origin indicator   PWR TM OC
Over current indicator

Sw9
Sw8
Sw7
Sw6   Microstep setting
Sw5
Sw4

Sw3
Sw2   Current setting
Sw1

OFF   ON
A+
A-
B+
Motor B-
~AC
~AC

AC18-60V

YKC2608M

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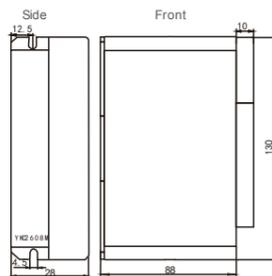
YKC2608M Microstep Setting

Microstep	2	4	8	16	32	64	128	256	5	10	20	25	40	50	100	200
Pu/rev	400	800	1600	3200	6400	12800	25600	51200	1000	2000	4000	5000	8000	10000	20000	40000
Sw5	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
Sw6	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF
Sw7	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF
Sw8	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

SW9:OFF=PU+DR
        ON=CW/CCW

Terminal Introduction

Mark	Function	Specification
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.C	Overcurrent/Under voltage indicator	When current exceeds rated value or voltage lower rated value, the red LED lights.
DIR-	D2=OFF,PU is pulse 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 clockwise pulse signal	
DIR+	Input signal positive side	+5V is standard signal input voltage.But we can revise it according to clients' request.
PUL-	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 counter clockwise pulse signal	
PUL+	Input signal positive side	+5V is standard signal input voltage.But we can revise it according to clients' request.
MF-	Motor free signal	When effects, it cut off motor current, the driver stops working and sets the motor free
MF+	Input signal positive side	+5V is standard signal input voltage.But we can revise it according to clients' request.
+V	Power+	AC18-60V
-V	Power-	
+A,-A	Connect to the motor	
+B,-B		

Caution

1. Do not reverse the power input,input voltage should not exceed AC60V.
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.

YKA2811MA Hybrid Stepper Motor Driver

Feature

- High performance, low noise with excellent stability and low cost
- 16 constant-torque microstep settings, 200 microsteps the highest
- Unique control circuit, effectively reducing noise and increasing rotation smoothness
- 200Kpps response frequency
- After step pulse stops for 100ms, output current change to 20%~80% (based STOP setting)
- Bipolar constant current wave chopping mode, improve motor speed and power
- Photoelectric isolated signal input/output
- Drive current adjustable from 0.5A/phase to 8A/phase
- Sole power input, voltage range: AC60~110V
- Fault protection: over current, overheat, low voltage protection
- Small size: 200*156*80mm, 2.3kg

Description

YKA2811MA is identical-angle constant-torque microstep drive with working voltage AC60~110V. It's designed for various models of two phase 86~130mm (NEMA 34~50) hybrid stepper motors which current are below 8A.

Running Current Setting

1. STOP/Im is idle state current adjuster,it can be set to 20%-80% of the normal output current(Turning it clockwise will increase the current output,counter clockwise decrease)
2. RUN/Im is normal running current adjuster(The following table shows the information in detail)

RUNIm	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Im(A)	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0

DIP Switch Setting

DP1	OFF:Accept pulse input ON: Send out 7.5KHz pulse by the driver
DP2	OFF:pulse+direction control (PU is pulse signal,DR is direction signal) ON: clockwise pulse + counter clock pulse control (PU is clockwise pulse,DR is counter clockwise pulse)

Microstep Setting

SK	F	E	D	C	B	A	9	8	7	6	5	4	3	2	1	0
Microstep	1	2	4	5	8	10	16	20	25	32	40	50	64	80	100	200

Installation Dimensions
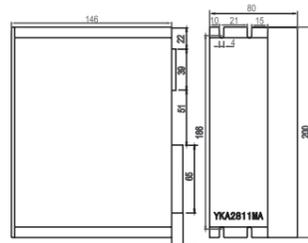
Input Signal Timing Diagram

Driver Connection

- PU+: Pulse+
- PU-: Pulse-
- DR+: Direction Signal(Second series pulse)+
- DR-: Direction Signal (Second series pulse)-
- MF+: Motor free+
- MF-: Motor free+
- FL+: Malfunction Output+
- FL-: Malfunction Output-

NOTE: " N " is no use on this driver
DP1:Self detect switch
OFF:Accept pulse input
ON:Send out 7.5KHz pulse by driver
DP2:Signal/double pulse input swich
OFF:pulse+direction control
ON:clockwise+counter clockwise control

SK:Microstep Setting
RUN/Im:Working current setting
STOP/Im : Idle State current setting (20%-80%)
PWR : Power indicator
TM : Orignal Pulse Output
O.H : Overheat indicator
O.C : Overcurrent/Under voltage indicator

Motor   A Phase
        B Phase

AC60-130V
GND

YKA2811MA

Terminal Introduction

Mark	Function	Specification
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.
PU+	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 D2=ON,PU is clockwise 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
DR+	Input signal positive side	+5V is standard signal input voltage.But we can revise it according to clients' request.
DR-	D2=OFF,DR is direction control signal D2=ON,PU is counter clockwise pulse 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
MF+	Input signal positive side	The signal efffects when the motor pass electrical origin.
MF-	Motor free signal	When effects, it cut off motor current, the driver stops working and sets the motor free
TM+	Origin Input signal positive side	The signal efffects when the motor pass electrical origin.
TM-	Origin output signal negative side	TM+ connects to resistor,TM- connects to GND. Max output current 50mA,max voltage 50V.
FL+	Overheat/Low voltage protection+	Once driver temperature exceeds 70°C,the current will be cut off automaticallyand the FL- signal begin to effect,driver will resume working and clear the FL signal till temperature drops to 50°C. FL+ connects output resister,FL- connects to GND;the max current is 50mA,max voltage is 50V.
FL-	Overheat/Low voltage Iprotection-	
AC	Power Supply	AC60-130V
+A,-A +B,-B	Connect to the motor	

Caution

1. Do not reverse the power input,input voltage should not exceed DC60V.
2. Input logic should be 5V, otherwise it should connect a resistor.
3. 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.
4. 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.
5. PWR is power indicator, it lights when power on.
6. Passing the origin or there is pulse output, TM LED lights.

YKB3606MA Hybrid Stepper Motor Driver
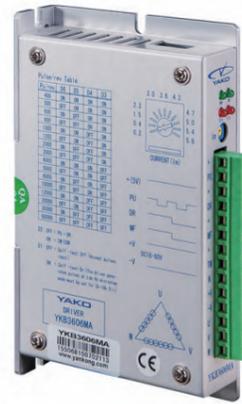
Feature

● High performance, low noise with excellent stability and low cost
● 16 constant-torque microstep settings, 60,000 steps per round the highest
● Unique control circuit, effectively reducing noise and increasing rotation smoothness
● 200Kpps response frequency
● After step pulse stops for 100ms, output current automatically halve to reduce motor heat
● Bipolar constant current wave chopping mode, improve motor speed and power
● Photoelectric isolated signal input/output
● Drive current adjustable from 0.2A/phase to 5.8A/phase
● Sole power input, voltage range: DC16~60V
● Fault protection: over current, overheat, low voltage protection
● Small size: 136*92*25mm, 0.3kg

Description

YKB3606MA is identical-angle constant-torque microstep drive with working voltage DC16~60V. It's designed for various models of three phase 42~86mm (NEMA 17~34) hybrid stepper motors which current are below 5.8A.
With bipolar constant current wave chopping drive technology, YKB3606MA can reduce motor noise and improve its smoothness.
The increase of drive voltage dramatically improved high speed performance and drive capability to motor.
In applications which running speeds are not high, with the use of 60,000 steps per round, stepper motor will be operated under high accuracy, and low vibration/noise.

Running Current

Installation Dimensions (mm)

Driver Connection

Function Setting

Self detect switch
ON:Send out 75KHz pulse
OFF:Accept pulse input

Microstep setting
Seemicrostep setting

OFF:Pulse+direction control
ON :Clockwise pulse+counter clockwise pulse control

Input Signal Timing Diagram

YKB3606MA Microstep Setting

YKB3606MA Pulse/Rev	400	500	600	800	1000	1200	2000	3000	4000	5000	6000	10000	12000	20000	30000	60000
YKB3606MB Pulse/Rev	400	800	1600	3200	6400	12800	25600	51200								
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: 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 Introduction

Mark	Function	Specification
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	
+	Input signal positive side	+5V is standard signal input voltage.But we can revise it according to clients' request.
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	
+	Input signal positive side	+5V is standard signal input voltage.But we can revise it according to clients' request.
MF	Motor free signal	When effects, it cut off motor current, the driver stops working and sets the motor free
+	Common signal output ground	The signal effects when the motor pass electrical origin.
TM	Common signal output ground	TM+ connects to resistor,TM- connects to GND. Max output current 50mA,max voltage 50V.
+V	Power+	DC16-60V
-V	Power-	
U		
V	Connect to the motor	
W		

Caution

1. Do not reverse the power input,input voltage should not exceed DC60V.
2. Input logic should be 5V, otherwise it should connect a resistor.
3. 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.
4. 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.
5. PWR is power indicator, it lights when power on.
6. Passing the origin or there is pulse output, TM LED lights.

YKC3722MA Hybrid Stepper Motor Driver

Feature

● High performance, low noise with excellent stability and low cost
● 16 constant-torque microstep settings, 60,000 steps per round the highest
● Unique control circuit, effectively reducing noise and increasing rotation smoothness
● 200Kpps response frequency
● After step pulse stops for 100ms, output current automatically change to 20~80% (based on STOP/Im setting)
● Bipolar constant current wave chopping mode, improve motor speed and power
● Photoelectric isolated signal input/output
● Drive current adjustable from 0.7A/phase to 7A/phase
● Sole power input, voltage range: AC110~220V
● Fault protection: over current, overheat, low voltage protection
● Small size: 200*156*90mm, 1.6kg
● Position memory function

Description

YKC3722MA is identical-angle constant-torque microstep drive with working voltage AC110~220V. It's designed for various models of three phase 86~130mm (NEMA 34~50) hybrid stepper motors which current are below 7A.
With a servo-similar control circuit, YKC3722MA can drive motors at low speed with almost no vibration or noise. Motor torque at high speed is much higher than two-phase or five-phase hybrid stepper motor.

Running Current Setting

1. STOP/Im is idle state current adjuster,it can be set to 20%-80% of the normal output current(Turning it clockwise will increase the current output,counter clockwise decrease)
2. RUN/Im is normal running current adjuster(The following table shows the information in detail)

RUNIm	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Im(A)	0.7	1.1	1.5	2.0	2.4	2.8	3.2	3.6	4.0	4.5	5.0	5.4	5.8	6.2	6.6	7.0

DIP Switch Setting

Dp1	ON = PU+DR OFF= CW/CCW
Dp2	ON = Self-test off(Accept pulse input) OFF = Self-test On(The driver generate pulse at 7.5Khz, microstep mode must be set for 2K-10K p/r)

YKC3722MA Microstep Setting

SK	F	E	D	C	B	A	9	8
Pu/Rev	400	500	600	800	1000	1200	2000	3000
SK	7	6	5	4	3	2	1	0
Pu/Rev	4000	5000	6000	10000	12000	20000	30000	60000

Driver Connection

① PU+ Pulse+
② PU- Pulse-
③ DR+ Direction Signal(Second series pulse) +
④ DR- Direction Signal(Second series pulse) -
⑤ MF+ Motor   free+
⑥ MF- Motor   free-
⑦ FL+ Malfunction Output+
⑧ FL- Malfunction Output-

TM:NO USE

DP2:Self detect switch
ON:Accept pulse input
OFF:Send out   7. 5Khz pulse by driver

DP1:Single/ double pulse input switch
ON:pulse+direction control
OFF:clockwise+counter clockwise control

NOTE: " N " is no use on this driver

SK   :Microstep Setting
RUN/Im   :Working current setting
STOP/Im   :Idle State current setting
PWR   Power indicator
TM   Orignal Pulse Output
O.H :   Overheat indicator
O.C :   Overcurrent/Under voltage indicator

MOTOR

AC110~220V
GND

YAKO   Driver

PWR TM
O.H O.C

U
V
W
N
GND
~AC
~AC
GND

YKC3722MA

10 4 21
80
200

Terminal Introduction

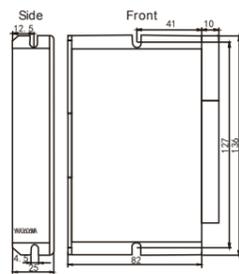| Mark	Function	Specification
POWER	Power indicator	When power on, the green LED lights
TM	Origin/Pulse output indicator	Passing the origin or there is pulse output, the green LED lights
O.H	Overheat indicator	When overheat occurs, the red LED lights
O.C	Overcurrent/Under voltage indicator	When current 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.
PU+	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+	Input signal positive side	+5V is standard signal input voltage.But we can revise it according to clients' request.
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+	Input signal positive side	+5V is standard signal input voltage.But we can revise it according to clients' request.
MF-	Motor free signal	When effects, it cut off motor current, the driver stops working and sets the motor free
TM+	Input signal positive side	The 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.
RDY+	Driver ready signal positive side	The driver at normal state and ready for accepting control signals from controller
RDY-	Driver ready signal negative side	
AC	Power Supply	AC110-220V
U		
V	Connect to the motor	
W		

Caution

1. Power should not exceed 250V.
2. Input logic should be 5V, otherwise it should connect a resistor.
3. 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.
4. Once over current (short circuit) occur, LED O.C lights, please shut off power and check the electricity circuit to solve the problem, then restore power supply.
5. If supply voltage lower AC110V, LED O.C also lights.
6. PWR is power indicator, it lights when power on.

YKD2204M DSP Stepper Driver

Feature

● 32 bit DSP control technology, low noise/vibration with excellent stability and low cost
● 4 constant-torque microstep settings, 32 microsteps the highest
● Smooth and accurate current control, effectively reduce motor heats
● 100Kpps 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 2.2A)
● Input voltage range: DC18~36V
● Fault protection: over voltage protection, low voltage protection, etc.
● Small size: 86*55*21mm, 0.12kg

Description

YKD2204M is high performance digital step driver based on YAKO's new 32-bit DSP technology. It's designed for various models of two phase 42mm (NEMA 17) hybrid stepper motors which current are below 2.2A.
With servo-similar control circuit and superior software algorithm, YKD2204M has superior performance in smoothness, noise and vibration. Smooth and accurate current control technology greatly reduces motor heat.

Installation Dimensions (mm)

Side   Front

21   55
12.25   8
16
86
24
4 2.5   27.5

Waveform Sequence Diagram of Input Signals

PU: Pulse signal
DR: Direction Signal
MF: Motor free signal

<1US
<1US
>2.5μs
>125μs
<1US

Driver Connection

21
10.25

PWR
ALARM

PU
DR
+(5V)
MF

Microstep setting
Locked current choice
Current setting

SW6 6
SW5 5
SW4 4
SW3 3
SW2 2
SW1 1

DC18~36V

-V
+V
+A
-A
+B
-B

A Phase
B Phase

M

86

4

YKD2204M Current Setting

RMS	Default (0.2)	0.4	0.5	0.7	0.9	1.1	1.4	1.6
Peak	Default (0.3)	0.5	0.7	1.0	1.3	1.6	1.9	2.2
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

YKD2204M Microstep Setting

Microstep	1	8	16	32
PU/Rev	Default (200)	1600	3200	6400
SW6	ON	ON	OFF	OFF
SW5	ON	OFF	ON	OFF

Terminal Introduction

Mark	Function	Specification
PWR	Power indicator	When power on, the green LED lights
ALARM	Error indicator	When over voltage, under voltage, or even over current, the red LED lights up.
PU	Connect with pulse photoelectric isolation negative head	Effects on falling edge, the motor moves one step as the pulse input change from high to low. Built-in resistance 384Ω. Requirements: low level 0-0.5V, high level is the same as PU+, the pulse width ＞2.5us.
DR	Connect with direction photoelectric isolation negative head	Used to change motor direction. Built-in resistance 384Ω. Requirements: Low level is 0-0.5V, the high level is the same as DR+, pulse width ＞2.5us.
+5V	Connect with Signal power positive head	+3.3V-24V can drive, must add resistance to control current if the voltage is higher than +5V. No need to connect with resistance if the voltage is 3.3V and 5V, but 24V connects resistance 2KΩ, 12V connects 820Ω.
MF	Connect with Signal power positive head	When effective(low level), motor is free. Built-in input resistance 384Ω. Requirements: low level 0-0.5V, the high level is the same as MF+, pulse width ＞ 2.5us.
-V	Power negative	DC18-36V, ＞100W
+V	Power positive	
+A,-A	Connect with motor	
+B,-B		

4 Leads   6 Leads   8 Leads (Suitable for low speed)   8 Leads (Suitable for high speed)

Caution

1.Do not reverse the power input, power input voltage should not exceed DC36V.
2.Input control signal level is 5V, otherwise it should connect a resistor.
3.When the ALARM light is on, please cut power and check.
  The power voltage is under 18VDC or exceed 36VDC.
  After checking the electricity circuit to solve the problem, then restart power supply.
4.The green PWR lights up when the driver is power on.

YKD2304M DSP Stepper Driver

Feature

● 32 bit DSP control technology, low noise/vibration with excellent stability and low cost
● 16 constant-torque microstep settings, 128 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 3.2A)
● Input voltage range: DC18~40V
● Fault protection: over voltage protection, low voltage protection, etc.
● Small size: 116*69.5*28mm, 0.25kg

Description

YKD2304M is high performance digital step driver based on YAKO's new 32-bit DSP technology. It's designed for various models of two phase 42~57mm (NEMA 17~23) hybrid stepper motors which current are below 3.2A.
With servo-similar control circuit and superior software algorithm, YKD2304M has superior performance in smoothness, noise and vibration. Smooth and accurate current control technology greatly reduces motor heat.
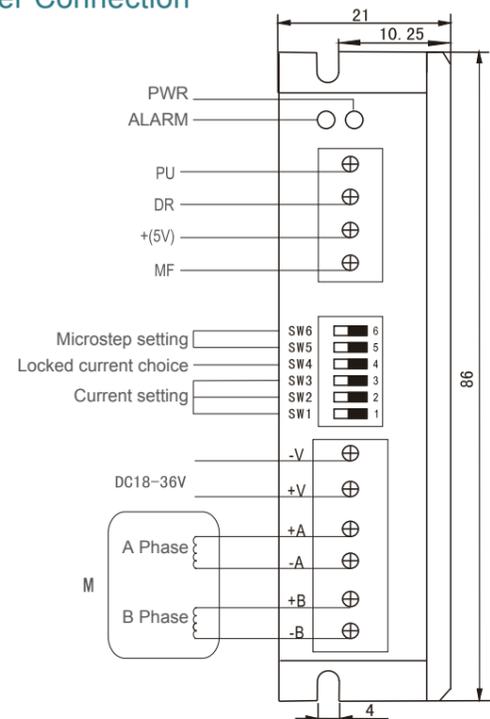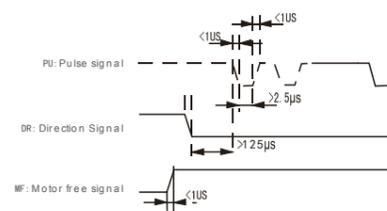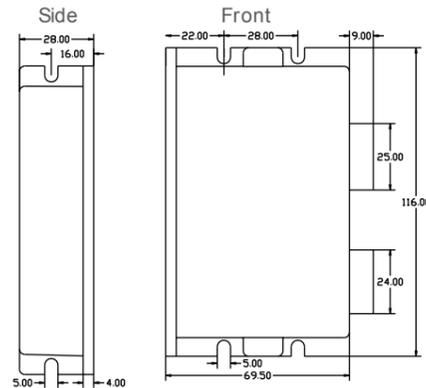
Installation Dimensions (mm)

Side   Front

Waveform Sequence Diagram of Input Signals

PU: Pulse signal

DR:Direction Signal

MF:Motor free signal

Driver Connection

PWR(green)
ALARM(red)
RS232
PU+   PU+
PU-   PU-
DR+   DR+
DR-   DR-
MF+   MF+
MF-   MF-

Microstep setting
Lock currrent choice

SW8 8
SW7 7
SW6 6
SW5 5
SW4 4
SW3 3
SW2 2
SW1 1

DC18-40V
-V
+V
+A
-A
+B
-B

M
A phase
B phase

28
16
116
5

YKD2304M Microstep Setting

Microstep	1	2	4	8	16	32	64	128	5	10	20	25	40	50	100	125
PU/Rev	Default (200)	400	800	1600	3200	6400	12800	25600	1000	2000	4000	5000	8000	10000	20000	25000
SW8	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW7	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF
SW6	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW5	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF

SW4 : OFF=Half Current
      ON=Full Current

YKD2304M Current Setting

RMS	Default (0.7)	0.9	1.2	1.4	1.6	1.8	2.1	2.3
Peak	Default (1.0)	1.3	1.6	1.9	2.2	2.5	2.9	3.2
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

Mark	Function	Specification
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.
RS232	Communication port	Used for software updation and on-line.
PU+	Pulse signal +	Connect with +24V or +5V signal power, it should connect with a resistor in PU- side if the voltage over 5V.
PU-	Pulse signal -	Effects on falling edge, the motor moves one step as the pulse input change from high to low. builtininput resistance 220Ω,Requirements: low level 0-0.5V,high level 4-5V,the pulse width>2.5us.
DR+	Direction signal+	Connect with +24V or +5V signal power, it should connect with a resistor in DR- side if the voltage over 5V.
DR-	Direction signal-	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+	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-	When effective(low level),motor is free.
-V	Power negative	DC18-40V
+V	Power positive	
+A,-A	Motor connection	
+B,-B		

Caution

1. Don't connect the power reservely, the input voltage should be lower than DC40V.
2. Input control signal level is 5V, otherwise it should be connect a resistor.
3. When the alarm light is on, please cut power and check as below:
(1)The power voltage is under 18VDC or exceed 40VDC;
(2)Check the motor connection and the electricity circuit , then restart power supply.
4. The green PWR lights up when the driver is power on.

YKD2305M DSP Stepper Driver

Feature

● 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.
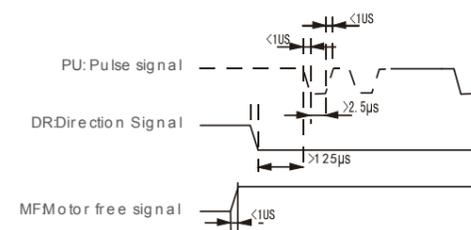● Small size: 118*76*33mm

Description

YKD2305M is high performance digital step driver 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.
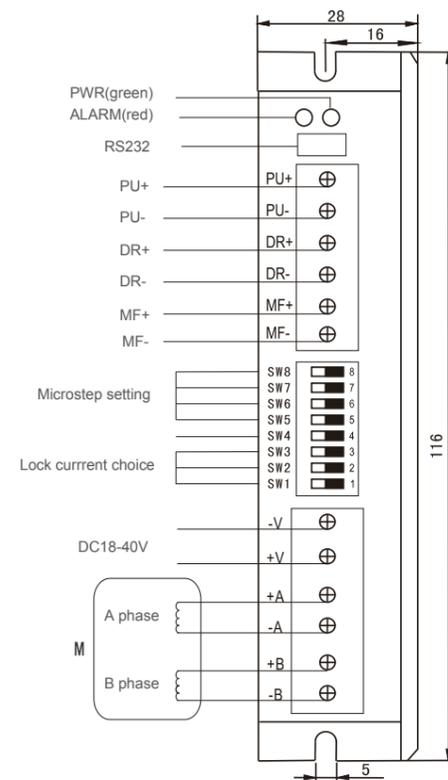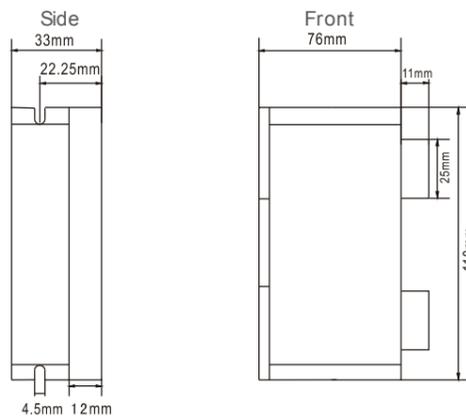
Installation Dimensions (mm)

Side
33mm
22.25mm
4.5mm 12mm

Front
76mm
11mm
25mm
118mm

Waveform Sequence Diagram of Input Signals

PU:Pulse signal
<1US
<1US
DR:Direction Signal
≥2.5μs
≥125μs
MFMotor free signal
<1US

Driver Connection

PWR(green)
ALARM(red)

PU+	PU+
PU-	PU-
DR+	DR+
DR-	DR-
MF+	MF+
MF-	MF-

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

DC20-50V — -V / +V

M — A phase — +A / −A
B phase — +B / −B

33
118
4.5

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

SW4：OFF=Half Current
　　　ON=Full Current

YKD2305M Current Setting

Peak	1.00A	1.46A	1.91A	2.37A	2.84A	3.31A	3.76A	4.20A
RMS	0.71A	1.04A	1.36A	1.69A	2.03A	2.36A	2.69A	3.00A
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

Mark	Function	Specification
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	DC20−50V
+V	Power positive	
A+		
A-	Motor connection	
B+		
B-		

-B / +B M 4 leads +A -A
-B / +B M 6 leads +A -A
-B / +B M 8 leads (for low speed) +A -A
-B / +B M 8 leads (for low speed) +A -A

Caution

1. Don't connect the power reservely, the input voltage should be lower than DC50V.
2. Input control signal level is 5V, otherwise it should be connect a resistor.
3. When the alarm light is on, please cut power and check as below:
(1)The power voltage is under 20VDC or exceed 50VDC;
(2)Check the motor connection and the electricity circuit , then restart power supply.
4. The green PWR lights up when the driver is power on.

YKD2405M/YKD2408M DSP Stepper Driver

Feature

● 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 4A)
● Input voltage range: DC20~50V/DC20~80V
● Fault protection: over current, over voltage, low voltage protection, etc.
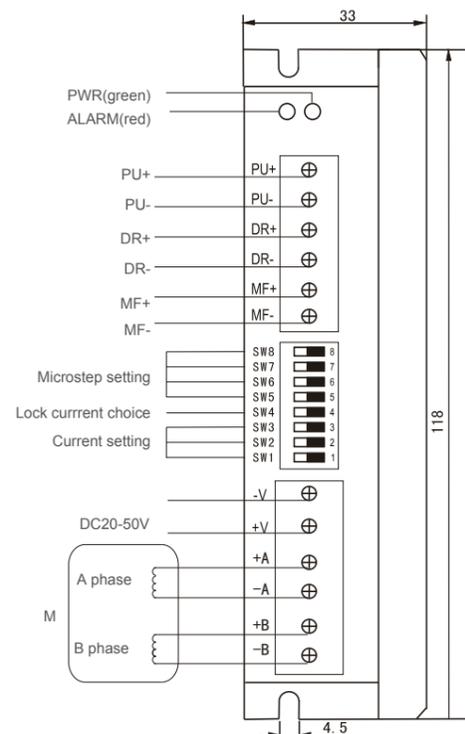● Small size: 118*76*33mm, 0.3kg

Description

YKD2405M/YKD2408M is high performance digital step driver based on YAKO's new 32-bit DSP technology. It's designed for various models of two phase 42~86mm (NEMA 17~34) hybrid stepper motors which current are below 4A.
With servo-similar control circuit and superior software algorithm, YKD2405M/YKD2408M has superior performance in smoothness, noise and vibration. Smooth and accurate current control technology greatly reduces motor heat.
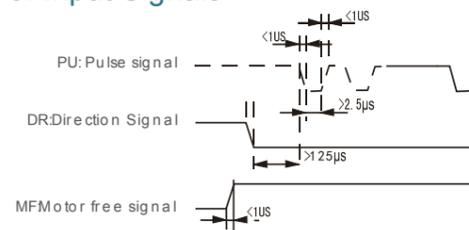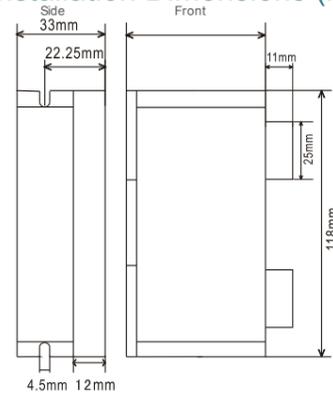
Installation Dimensions (mm)

Side　33mm　　Front
22.25mm　　11mm
25mm
118mm
4.5mm　12mm

Waveform Sequence Diagram of Input Signals

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

Driver Connection

28
16
PWR
ALARM
COM RS232
PU+
PU
DR+
DR
MF+
MF-
SW8　8
SW7　7
SW6　6
Microstep Setting　SW5　5
Locked current choice　SW4　4
SW3　3
Current setting　SW2　2
SW1　1
116
DC18~40V
-V
+V
+A
-A
+B
-B
M
A Phase
B Phase
5

YKD2405M/YKD2408M Microstep Setting

Microstep	1	2	4	8	16	32	64	128	5	10	20	25	40	50	100	200
PU/Rev	Default (200)	400	800	1600	3200	6400	12800	25600	1000	2000	4000	5000	8000	10000	20000	40000
SW8	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW7	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF
SW6	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW5	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF

SW4 : OFF=Half Current
　　　 ON=Full Current

YKD2405M/YKD2408M Current Setting

RMS	Default (1.2)	1.5	1.9	2.3	2.7	3.1	3.5	4.0
Peak	Default (1.7)	2.1	2.7	3.2	3.8	4.3	4.9	5.6
SW3	OFF	OFF	OFF	OFF	ON	ON	ON	ON
SW2	OFF	OFF	ON	ON	OFF	OFF	ON	ON
SW1	OFF	ON	OFF	ON	OFF	ON	OFF	ON

Terminal Introduction

Mark	Function	Specification
PWR	Power indicator	When power on, the green LED lights
ALARM	Error indicator	When over voltage, under voltage, or even over current, the red LED lights up.
RS232	Communication interface	Used for upgrading, debugging and online.
PU+	Pulse signal positive head	Connect with +24V or +5V, it should connect with a resistor if the voltage is over 5V.
PU-	Pulse signal 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 positive head	Connect with +24V or +5V, it should connect with a resistor if the voltage is over 5V.
DR-	Direction signal positive 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 positive side	Connect with +24V or +5V, it should connect with a resistor if the voltage is over 5V.
MF-	Motor free signal negative side	When effective(low level), motor is free.
-V	Power negative	DC20-50V\ DC20-80V
+V	Power positive	
+A,-A	Connect with motor	4 Leads　6 Leads　8 Leads (Suitable for low speed)　8 Leads (Suitable for high speed)
+B,-B		

Caution

1.Do not reverse the power input, power input voltage should not exceed DC50V\DC80V.
2.Input control signal level is 5V, otherwise it should connect a resistor.
3.When the ALARM light is on, please cut power and check:
　The power voltage is under 20VDC or exceed 50VDC\80VDC.
　After checking the electricity circuit to solve the problem, then restart power supply.
4.The green PWR lights up when the driver is power on.

YKD2608MH DSP Stepper Driver

Feature

● 32 bit DSP control technology, low noise/vibration with excellent stability and low cost
● 16 constant-torque microstep settings, 256 microsteps the highest
● Smooth and accurate current control, effectively reduce motor heats
● 350Kpps 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 6A)
● Input voltage range: AC18~80V
● Fault protection: over current, over voltage, low voltage protection, etc.
● Small size: 151*94*54mm, 0.5kg

Description
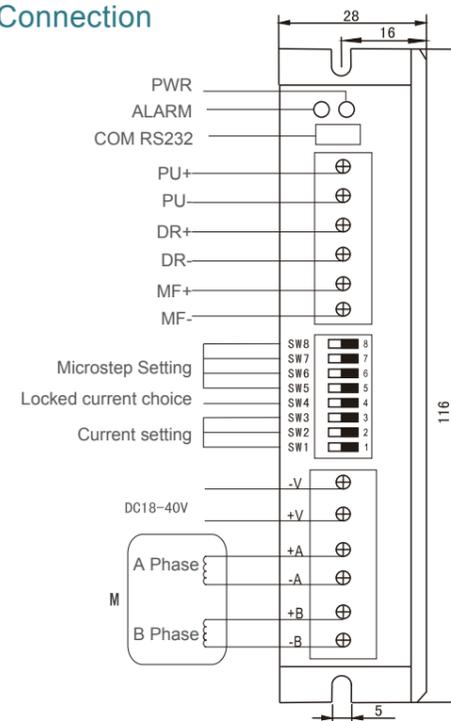
YKD2608MH is high performance digital step driver based on YAKO's new 32-bit DSP technology. It's designed for various models of two phase 57~86mm (NEMA 23~34) hybrid stepper motors which current are below 6A.
With servo-similar control circuit and superior software algorithm, YKD2608MH has superior performance in smoothness, noise and vibration. Smooth and accurate current control technology greatly reduces motor heat.
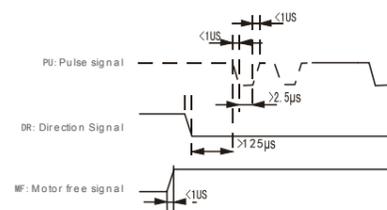
Installation Dimensions (mm)

Side   Front   54   10.43

138.70   151.20   94.30   4.5   12.28   54   25.75   33.66   30.48   25.76

Driver Connection

Stepper pulse signal-   DIR-
Stepper pulse signal+   DIR+
Direction control signal-   PUL-
Direction control signal+   PUL+
Motor free signal-   MF-
Motor free signal+   MF+
PWR
TM
OC
Reserved   SW9
Microstep Setting   SW8 SW7 SW6 SW5
Locked current choice   SW4
Current setting   SW3 SW2 SW1
+A
Motor   A Phase   -A
+B
B Phase   -B
AC1
AC2
AC 18V~80V   YKD2608MH
54   12.25   151.20   4.50

Waveform Sequence Diagram of Input Signals

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

YKD2608MH Microstep Setting

Microstep	1	2	4	8	16	32	64	128	5	10	20	25	40	50	100	200
PU/Rev	Default (200)	400	800	1600	3200	6400	12800	25600	1000	2000	4000	5000	8000	10000	20000	40000
SW8	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW7	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF
SW6	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW5	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF

SW9:Reserved

YKD2608MH Current Setting

RMS	2.00	2.57	3.14	3.71	4.28	4.86	5.43	6.00
Peak	2.40	3.08	3.77	4.45	5.14	5.83	6.52	7.20
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

SW4:OFF=Half Current (半流锁定)
ON=Full Current (全流锁定)

Terminal Introduction

Mark	Function	Specification
PWR	Power indicator	When power on, the green LED lights
TM	Original signal	Pulse signal indicator, the green LED will twinkle, otherwise the LED will on.
O.C	Over current/under voltage indicator	The red LED lights up when over current or under voltage.
PU+	Pulse signal positive head	Connect with +24V or +5V, it should connect with a resistor if the voltage is over 5V.
PU-	Pulse signal 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 positive head	Connect with +24V or +5V, it should connect with a resistor if the voltage is over 5V.
DR-	Direction signal 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 positive side	Connect with +24V or +5V, it should connect with a resistor if the voltage is over 5V.
MF-	Motor free signal negative side	When effective(low level), motor is free.
-V	Power negative	AC18-80V
+V	Power positive	
+A,-A	Connect with motor	4 Leads 6 Leads 8 Leads (Suitable for low speed) 8 Leads (Suitable for high speed)
+B,-B		

Caution

1.Do not reverse the power input, power input voltage should not exceed AC80V.

2.Input control signal level is 5V, otherwise it should connect a resistor.

3.When the ALARM light is on, please cut power and check: The power voltage is under 20VDC or exceed 50VDC\80VDC.
   After checking the electricity circuit to solve the problem, then restart power supply.

4.The green PWR lights up when the driver is power on.
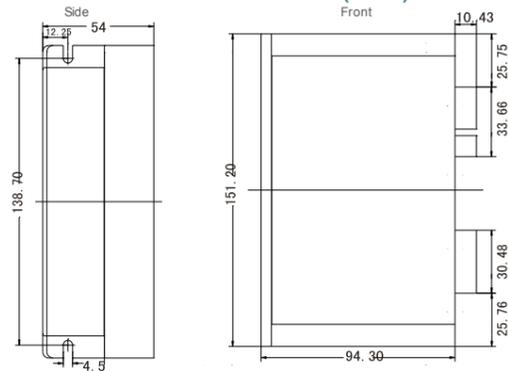
YKD2811M DSP Stepper Driver

Feature

- 32 bit DSP control technology, low noise/vibration with excellent stability and low cost
- 16 constant-torque microstep settings, 125 microsteps the highest
- Smooth and accurate current control, effectively reduce motor heats
- 400Kpps pulse response frequency
- After step pulse stops for 500ms, output current automatically change
- Excellent smoothness in low frequency high microstep applications
- Photoelectric isolated signal input/output, high anti-interference ability
- Drive current adjustable (under 8A)
- Input voltage range: AC80~110V
- Fault protection: over current, over voltage, low voltage protection, etc.
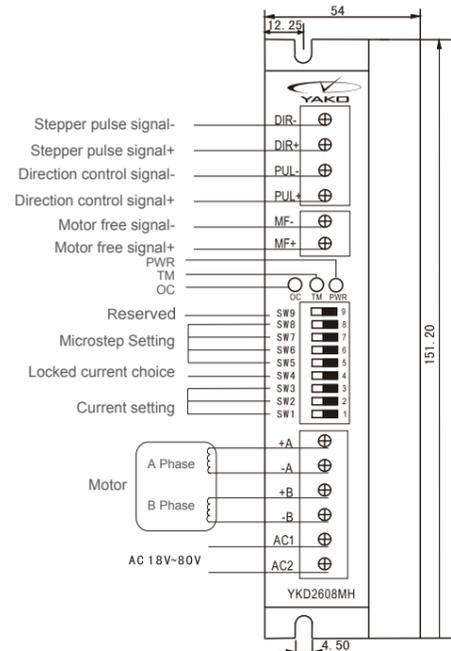- Small size: 200*148*71mm, 1.5kg

Description

YKD2811M is high performance digital step driver based on YAKO's new 32-bit DSP technology. It's designed for various models of two phase 86~130mm (NEMA 34~50) hybrid stepper motors which current are below 8A.

With servo-similar control circuit and superior software algorithm, YKD2811M has superior performance in smoothness, noise and vibration. Smooth and accurate current control technology greatly reduces motor heat.
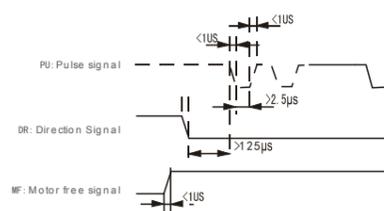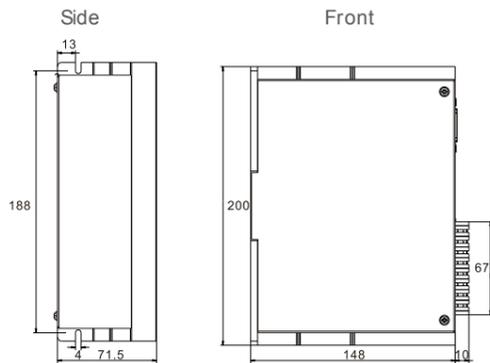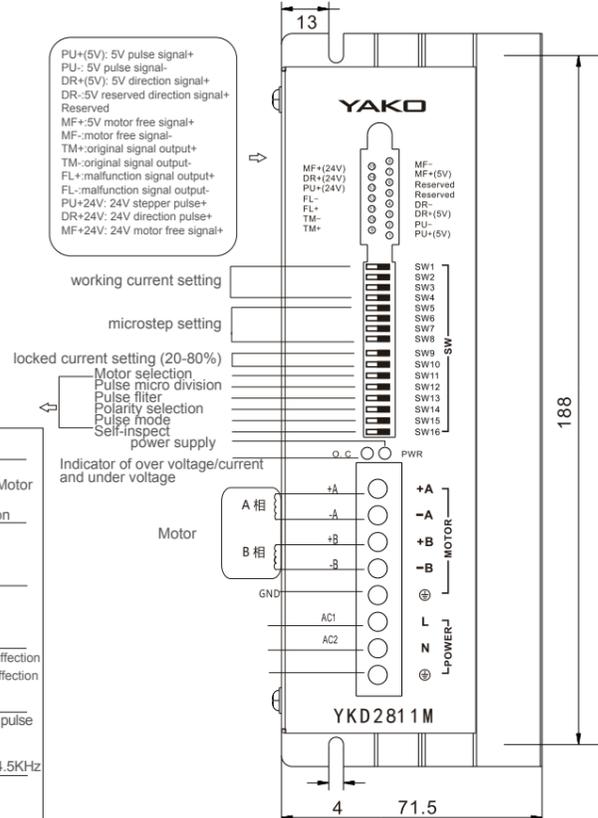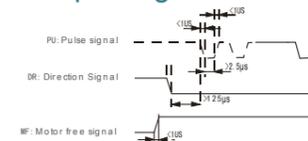
Installation Dimensions (mm)

Side   Front

13

188   200

67

4 71.5   148   10

Waveform Sequence Diagram of Input Signals

PU: Pulse signal
DR: Direction Signal
MF: Motor free signal

Locked current setting   Indicator setting

Idle	SW9	SW10
20%	ON	ON
40%	OFF	ON
60%	ON	OFF
80%	OFF	OFF

MF	green led on
motor enable	green led flicker
under voltage	red led flicker 2 times/3s
over voltage	red led flicker 3 times/3s
over current	red led flicker 4 times/3s

Driver Connection

13

PU+(5V): 5V pulse signal+
PU-: 5V pulse signal-
DR+(5V): 5V direction signal+
DR-:5V reserved direction signal+
Reserved
MF+:5V motor free signal+
MF-:motor free signal-
TM+:original signal output+
TM-:original signal output-
FL+:malfunction signal output+
FL-:malfunction signal output-
PU+24V: 24V stepper pulse+
DR+24V: 24V direction pulse+
MF+24V: 24V motor free signal+

MF+(24V)
DR+(24V)
PU+(24V)
FL-
FL+
TM-
TM+

MF-
MF+(5V)
Reserved
Reserved
DR-
DR+(5V)
PU-
PU+(5V)

working current setting
microstep setting
locked current setting (20-80%)
Motor selection
Pulse micro division
Pulse filter
Polarity selection
Pulse mode
Self-inspect
power supply

SW1
SW2
SW3
SW4
SW5
SW6
SW7
SW8
SW9
SW10
SW11
SW12
SW13
SW14
SW15
SW16

Indicator of over voltage/current and under voltage

Motor

A 相
B 相

O.C   PWR

+A
-A
+B
-B
GND
AC1
AC2

+A
-A
+B
-B
⊕
L
N
⊕

YKD2811M

4   71.5

SW11 Motor select
    ON   86 Motor
    OFF   110/130 Motor

SW12 Pulse micro division
    ON   Forbit
    OFF   Enable

SW13 Pulse filter
    ON   400k
    OFF   100k

SW14 Polarity select
    ON   Falling edge effection
    OFF   Rising edge effection

SW15 Pulse mode
    ON   CW/CCW pulse
    OFF   PU/DR

SW16 Self-inspect pulse 4.5KHz
    ON   Enable
    OFF   Forbit

YKD2811M Microstep Setting

Microstep	1	2	4	8	16	32	64	128	5	10	20	25	40	50	100	125
PU/Rev	Default (200)	400	800	1600	3200	6400	12800	25600	1000	2000	4000	5000	8000	10000	20000	25000
SW8	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW7	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF
SW6	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW5	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF

YKD2811M Current Setting

RMS	1.0	1.5	2.0	2.5	3.0	3.3	3.6	4.0	4.3	4.6	5.0	5.3	5.6	6.0	7.0	8.0
Peak	1.4	2.1	2.8	3.5	4.2	4.6	5.0	5.6	6.0	6.4	7.0	7.4	7.8	8.4	9.8	11.2
SW4	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW3	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF
SW2	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW1	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF

Terminal Introduction

Mark	Function	Specification
PWR	Power indicator	When power on, green LED lights up; when input pulse, green LED flickers.
O.C	Over voltage/current	When over voltage/current or under voltage, red LED llights up.
PU+24V/5V	Input signal photoelectric isolation +24/5V	Connect with +24V/5V
PU-	DP15=ON CW stepper pulse signal	Effects on falling edge ,the motor goes one step as the pulse input change from "high"to "low".. :when 5V PU+ input,low level is 0 0.5V,high level is 4-5V;When connect with 24V PU+,low level is 0-0.5V,high level is 20-24V.Pulse width>2.5us. We can choose the falling or rising edge by DP14.
	DP15=OFF Stepper pulse signal	
DR+24V/5V	Input signal photoelectric isolation +24/5V	Connect with +24V/5V
DR-	DP15=ON CW stepper pulse signal	Effects on falling edge ,the motor goes one step as the pulse input change from "high"to "low".. :when 5V PU+ input,low level is 0 0.5V,high level is 4-5V;When connect with 24V PU+,low level is 0-0.5V,high level is 20-24V.
	DP15=OFF Stepper pulse signal	To change the motor direction. :when 5V PU+ input,low level is 0 0.5V,high level is 4-5V;When connect with 24V PU+,low level is 0-0.5V,high level is 20-24V.
MF+24V/5V	Input signal photoelectric isolation +24/5V	Connect with +24V/5V
MF-	Motor free signal	When effective(Low voltage),motor is free.
FL+	Over& under voltage,over current photoeletric isolation+	FL+ connect with limited resistor.
FL-	Over& under voltage,over current photoeletric isolation-	FL- connect with GND,Max. Current is 50mA,max. voltage is 50V.
TM+/TM-	Original output photoelectric isolation+/-	TM+ Connect with limited resistor,TM- connect with GND,Max. Current is 50mA, Max. voltage is 50V.
AC	Power supply AC	AC80~110V
+A,-A	Motor connection	
+B,-B		

4 leads   6 leads   8 leads (for low speed)   8 leads (for low speed)

Caution

1. The input voltage shouldn't over AC220V;

2. When O.C lights flickers, please cut off power to chect motor connection if it's over/under voltage or short circuit;

3. Green PWR lights up when driver is power on;

4. When input pulse, PWR light flicker or it will be normally open.
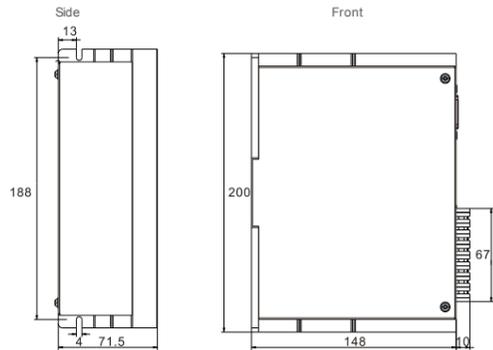
YKD2822M DSP Stepper Driver

Feature

● 32 bit DSP control technology, low noise/vibration with excellent stability and low cost
● 16 constant-torque microstep settings, 125 microsteps the highest
● Smooth and accurate current control, effectively reduce motor heats
● 400Kpps pulse response frequency
● After step pulse stops for 500ms, output current automatically change
● Excellent smoothness in low frequency high microstep applications
● Photoelectric isolated signal input/output, high anti-interference ability
● Drive current adjustable (under 8A)
● Input voltage range: AC110~220V
● Fault protection: over current, over voltage, low voltage protection, etc.
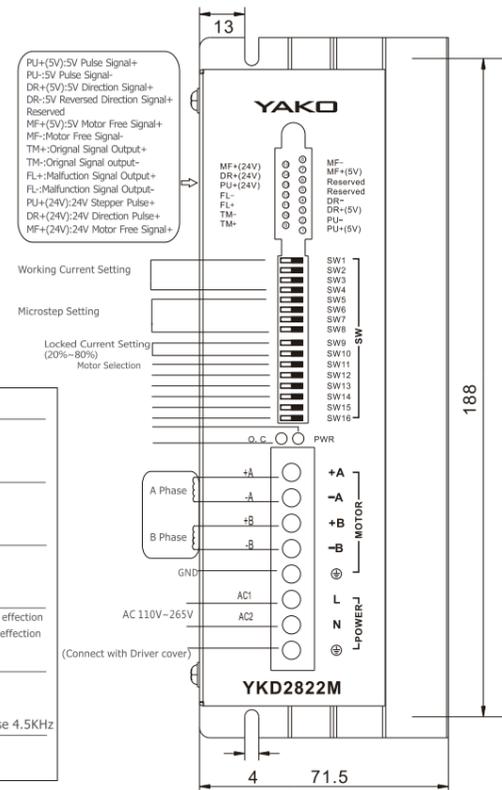● Small size: 200*148*71mm, 1.5kg

Description

YKD2822M is high performance digital step driver based on YAKO's new 32-bit DSP technology. It's designed for various models of two phase 86~130mm (NEMA 34~50) hybrid stepper motors which current are below 8A.
With servo-similar control circuit and superior software algorithm, YKD2822M has superior performance in smoothness, noise and vibration. Smooth and accurate current control technology greatly reduces motor heat.

Installation Dimensions (mm)

Side   Front
13
188   200   67
4 71.5   148   10

Waveform Sequence Diagram of Input Signals

PU: Pulse signal
DR: Direction signal
MF: Motor free signal

Locked Current Setting

Idle	SW9	SW10
20%	ON	ON
40%	OFF	ON
60%	ON	OFF
80%	OFF	OFF

Indicator Setting

Motor Free	Green Indicator lights up
Motor Enable	Green Indicator flicker
Under Voltage	Every 3 seconds flicker 3 times
Over Voltage	Every 3 seconds flicker 3 times
Over Current	Every 3 seconds flicker 3 times

Driver Connection

PU+(5V):5V Pulse Signal+
PU-:5V Pulse Signal-
DR+(5V):5V Direction Signal+
DR-:5V Reversed Direction Signal+
Reserved
MF+(5V):5V Motor Free Signal+
MF-:Motor Free Signal-
TM+:Orignal Signal Output+
TM-:Orignal Signal output-
FL+:Malfuction Signal Output+
FL-:Malfunction Signal Output-
PU+(24V):24V Stepper Pulse+
DR+(24V):24V Direction Pulse+
MF+(24V):24V Motor Free Signal+

Working Current Setting
Microstep Setting
Locked Current Setting (20%~80%)
Motor Selection

MF+(24V)   MF-(5V)
DR+(24V)   Reserved
PU+(24V)   Reserved
FL-   DR-(5V)
FL+   PU-
TM-   PU+(5V)
TM-

SW1 SW2 SW3 SW4 SW5 SW6 SW7 SW8 SW9 SW10 SW11 SW12 SW13 SW14 SW15 SW16

O.C   PWR

+A   +A
-A   -A
+B   +B
-B   -B
GND ⊕
AC1 L
AC2 N
     ⊕

AC 110V~265V

(Connect with Driver cover)

YKD2822M

13
188
4   71.5

SW11 Motor Selection
ON	86 Motor
OFF	110/130

SW12 Pulse Micro Division
ON	Forbit
OFF	Enable

SW13 Pulse Filter
ON	400k
OFF	100k

SW14 Polarity Selection
ON	Falling edge effection
OFF	Rising edge effection

SW15 Pulse Mode
ON	CW/CCW pulse
OFF	Pulse/Direction

SW16 Self-Inspect Pulse 4.5KHz
ON	Enable
OFF	Forbit

YKD2822M Microstep Setting

Microstep	1	2	4	8	16	32	64	128	5	10	20	25	40	50	100	125
PU/Rev	Default (200)	400	800	1600	3200	6400	12800	25600	1000	2000	4000	5000	8000	10000	20000	25000
SW8	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW7	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF
SW6	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW5	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF

YKD2822M Current Setting

RMS	1.0	1.5	2.0	2.5	3.0	3.3	3.6	4.0	4.3	4.6	5.0	5.3	5.6	6.0	7.0	8.0
Peak	1.4	2.1	2.8	3.5	4.2	4.6	5.0	5.6	6.0	6.4	7.0	7.4	7.8	8.4	9.8	11.2
SW4	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW3	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF
SW2	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW1	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF

Terminal Introduction

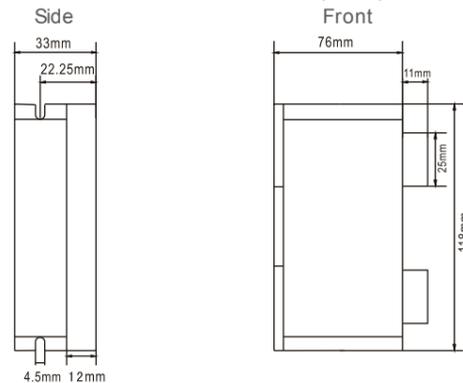| Mark	Function	Specification
PWR	Power indicator	When power on, the green LED lights up.
O.C	Over current/voltage/under voltage indicator	The red LED lights up when over current or under voltage.
PU+24v/5v	Input Signal photoelectric isolation +(24V/5V)	Connect with +24V or +5V power supply.
PU-	DP15=ON CW stepper pulse signal	Effective on falling edge, the motor moves one step as the pulse input change from high to low. Requirements: when 5V PU+ input, low level is 0-0.5V, high level is 4-5V; when connect with 24V PU+, low level is 0-0.5V, high level is 20-24V. Pulse width >2.5us. We can choose the falling or rising edge by DP14.
	DP15=OFF Stepper pulse signal	
DR+24v/5v	Input Signal photoelectric isolation +(24V/5V)	Connect with +24V or +5V
DR-	DP15=ON CCW stepper pulse signal	Effective on falling edge, the motor moves one step as the pulse input change from high to low. Requirements: when 5V PU+ input, low level is 0-0.5V, high level is 4-5V; when connect with 24V PU+, low level is 0-0.5V, high level is 20-24V. Pulse width >2.5us. We can choose the falling or rising edge by DP14.
	DP15=OFF direction control signal	Used to change the motor direction. Requirements: when 5V PU+ input, low level is 0-0.5V, high level is 4-5V; when connect with 24V PU+, low level is 0-0.5V, high level is 20-24V.
MF+24V/5V	Input Signal photoelectric isolation +(24V/5V)	Connect with +24V or +5V
MF-	Motor free signal negative side	When effective(low level), motor is free.
FL+	False signal positive side	FL+ connect with limited resistor
FL-	False signal negative side	FL- connect with GND, max current is 50Ma, max voltage is 50V.
TM+/TM-	Original output photoelectric isolation +/-	TM+ connect with limited resistor, TM-connect with GND, max current is 50mA, max voltage is 50V.
AC	Power supply (AC)	AC110-265V
+A,-A	Connect with motor	
+B,-B		4 Leads 6 Leads 8 Leads (Suitable for low speed) 8 Leads (Suitable for high speed)

YKD3505M DSP Stepper Driver

Feature

● 32 bit DSP control technology, low noise/vibration with excellent stability and low cost
● 8 constant-torque microstep settings, 50 microsteps the highest
● Smooth and accurate current control, effectively reduce motor heats
● 200Kpps pulse response frequency
● After step pulse stops for 400ms, 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 5.7A)
● Input voltage range: DC20~50V
● Fault protection: over current, over voltage, low voltage protection, etc.
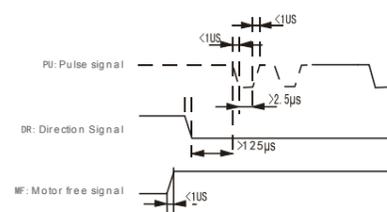● Small size: 118*76*33mm

Description

YKD3505M is high performance digital step driver based on YAKO's new 32-bit DSP technology. It's designed for various models of three phase 42~86mm (NEMA 17~34) hybrid stepper motors which current are below 5.7A.
With servo-similar control circuit and superior software algorithm, YKD3505M has superior performance in smoothness, noise and vibration. Smooth and accurate current control technology greatly reduces motor heat.
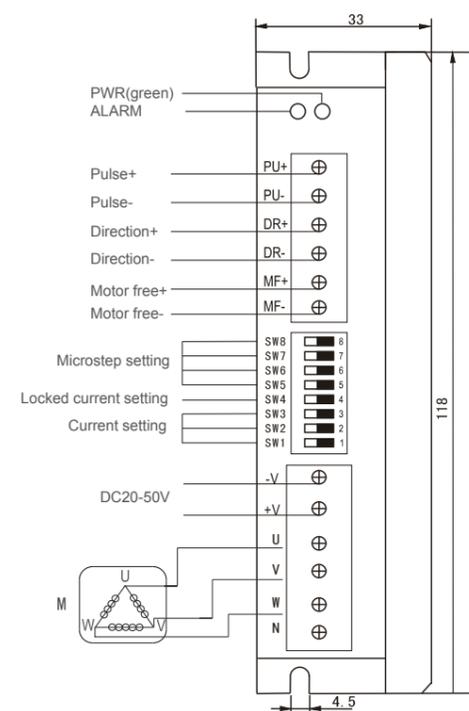
Installation Dimensions (mm)

Side   Front
33mm   76mm
22.25mm   11mm
25mm
118mm
4.5mm 12mm

Waveform Sequence Diagram of Input Signals

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

Driver Connection

33
PWR(green)
ALARM
Pulse+   PU+
Pulse-   PU-
Direction+   DR+
Direction-   DR-
Motor free+   MF+
Motor free-   MF-
SW8 8
SW7 7
Microstep setting   SW6 6
SW5 5
Locked current setting   SW4 4
SW3 3
Current setting   SW2 2
SW1 1
-V
DC20-50V   +V
U
V
M   W
N
4.5
118

YKD3505M Microstep Setting

PU/Rev	Default	6400	500	1000	2000	4000	5000	10000
SW8	ON	ON	ON	ON	OFF	OFF	OFF	OFF
SW7	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW6	ON	OFF	ON	OFF	ON	OFF	ON	OFF

SW5:OFF=Half Current
ON=Full Current

YKD3505M Current Setting

RMS	Default	1.8	2.1	2.3	2.6	2.9	3.2	3.5	3.8	4.1	4.4	4.6	4.9	5.2	5.5	5.7
Peak	Default	2.5	2.9	3.2	3.6	4.0	4.5	4.9	5.3	5.7	6.2	6.4	6.9	7.3	7.7	8.0
SW4	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
SW3	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON
SW2	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON
SW1	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON

Terminal Introduction

Mark	Function	Specification
PWR	Power indicator	When power on, the green lights up
ALARM	Fault indicator	When over voltage, over current, the red LED lights up.
PU+	Pulse signal+	Connect with +24V or +5V signal power,it should connect with a resistor in PU- side if the voltage over 5V.
PU-	Pulse signal-	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+	Connect with+24V or+5V signal power,it should connect with a resistor in DR- side if the voltage over 5V.
DR-	Direction signal-	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+	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-	When the motor under low level, turn off the current, the motor will be free.
-V	Power+	DC20~50V
+V	Power-	
U		
V	Motor connection	Motor wiring
W		
N	Reserved	

Caution

1.Do not reverse the power input, and the power input voltage shouldn't exceed DC50V.
2.Input control signal level is 5V, it needs to connect a resistor if the level is over 5V.
3.When the ALARM light is on, please cut power and check:
   (1) the power voltage is under DC20V or over DC50V;
   (2)after checking the electricity circuit to solve the problem, then restart power supply.
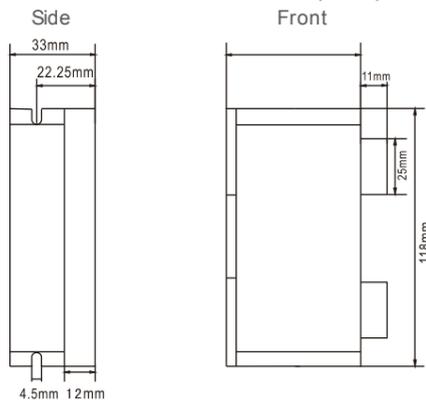4. The green PWR lights up when the driver is power on.

YKD3506M DSP Stepper Driver

Feature
● 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 5.5A)
● Input voltage range: DC20~50V
● Fault protection: over current, over voltage, low voltage protection, etc.
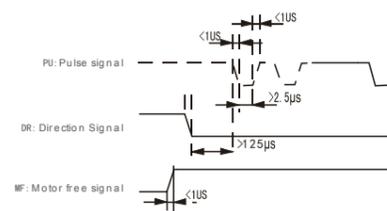● Small size: 118*76*33mm

Description
YKD3506M is high performance digital step driver based on YAKO's new 32-bit DSP technology. It's designed for various models of three phase 42~86mm (NEMA 17~34) hybrid stepper motors which current are below 5.5A.
With servo-similar control circuit and superior software algorithm, YKD3506M has superior performance in smoothness, noise and vibration. Smooth and accurate current control technology greatly reduces motor heat.
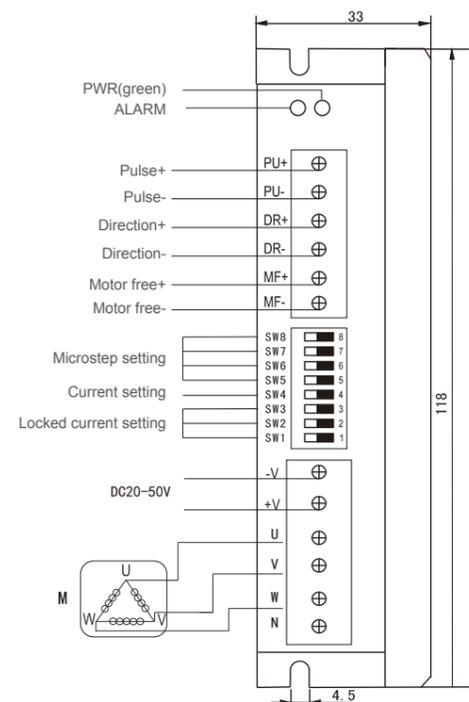
Installation Dimensions (mm)

Side   Front

33mm
22.25mm
11mm
25mm
118mm
4.5mm 12mm

Driver Connection

PWR(green)
ALARM

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

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

DC20~50V   -V
             +V
             U
             V
             W
             N

M

33
118
4.5

Waveform Sequence Diagram of Input Signals

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

YKD3506M Microstep Setting

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

SW4 :OFF=Half Current
       ON=Full Current

YKD3506M Current Setting

RMS	1.6	2.3	2.6	3.2	3.9	4.5	4.9	5.5
Peak	2.3	3.2	3.6	4.5	5.5	6.4	6.8	7.7
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

Mark	Function	Specification
PWR	Power indicator	When power on, the green lights up
ALARM	Fault indicator	When over voltage,over voltage,or even over current, the red LED lights up.
PU+	Pulse sginal+	Connect with +5V~24V; if the power is over 5V, it needs to connect a resistor.
PU-	Pulse sginal-	Effects on falling edge, the motor moves one step as the pulse input change from high to low. built-in inputresistance 220Ω, Requirements: low level 0-0.5V,high level 4-5V,the pulse width>2.5us.
DR+	Direction signal +	Connect with +5V~24V; if the power is over 5V, it needs to connect a resistor.
DR-	Direction signal -	Used to change motor direction. Built-in resistance 220Ω.Requirements: low level is 0-0.5V,high level 4-5V,pulsewidth>2.5us.
MF+	Motor free signal+	Connect with +5V~24V; if the power is over 5V, it needs to connect a resistor.
MF-	Motor free signal-	When the motor under low level, turn off the current, the motor will be free.
-V	Power+	DC20~50V
+V	Power-	
U		
V	Motor connection	Motor wiring
W		
N	Reserved	

Caution
1.Do not reverse the power input, and the power input voltage shouldn't exceed DC50V.
2.Input control signal level is 5V, it needs to connect a resistor if the level is over 5V.
3.When the ALARM light is on, please cut power and check:
  (1) the power voltage is under DC20V or over DC50V;
  (2)after checking the electricity circuit to solve the problem, then restart power supply.
4. The green PWR lights up when the driver is power on.
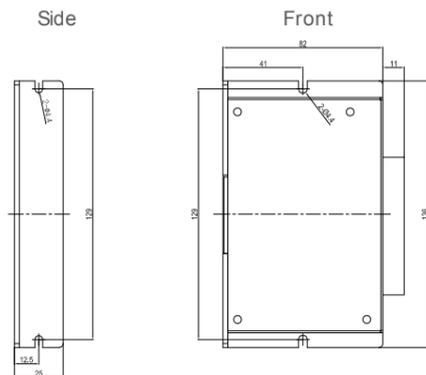
YKD3606M DSP Stepper Driver

Feature

● 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
● 400Kpps pulse response frequency
● After step pulse stops for 400ms, 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 5.9A)
● Input voltage range: DC20~60V
● Fault protection: over current, over voltage, low voltage protection, etc.
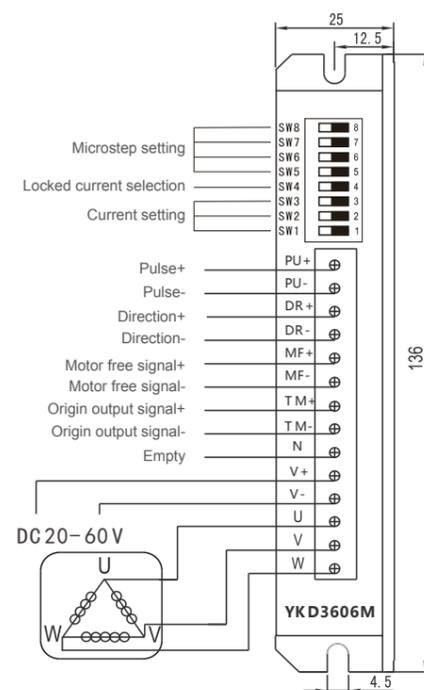● Small size: 118*76*33mm

Description

YKD3606M is high performance digital step driver based on YAKO's new 32-bit DSP technology. It's designed for various models of three phase 42~86mm (NEMA 17~34) hybrid stepper motors which current are below 5.9A.
With servo-similar control circuit and superior software algorithm, YKD3606M has superior performance in smoothness, noise and vibration. Smooth and accurate current control technology greatly reduces motor heat.
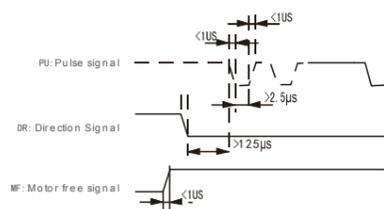
Installation Dimensions (mm)

Side　　　Front

Waveform Sequence Diagram of Input Signals

PU: Pulse signal
DR: Direction Signal
MF: Motor free signal

SW9	Motor selection	
	ON	86 Motor
	OFF	57 Motor
SW10	Pulse micro division	
	ON	
	OFF	
SW11	Pulse filter	
	ON	400k
	OFF	100k
SW12	Pulse mode	
	ON	CW/CCW
	OFF	PU/DR

Driver Connection

Microstep setting
Locked current selection
Current setting

SW8 8
SW7 7
SW6 6
SW5 5
SW4 4
SW3 3
SW2 2
SW1 1

Pulse+　　PU+
Pulse-　　PU-
Direction+　DR+
Direction-　DR-
Motor free signal+　MF+
Motor free signal-　MF-
Origin output signal+　TM+
Origin output signal-　TM-
Empty　　N
　　V+
　　V-
　　U
　　V
　　W

DC20−60V

YKD3606M

YKD3606M Microstep Setting

PU/Rev	400	500	600	800	1000	1200	2000	3000	4000	5000	6000	10000	12000	20000	30000	60000
SW8	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW7	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	OFF	OFF	OFF	OFF
SW6	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW5	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF

SW4 :OFF=Half Current　　ON=Full Current

YKD3606M Current Setting

Peak	Default	3.2A	4.0A	4.9A	5.7A	6.4A	7.3A	8.3A
RMS	Default	2.3A	2.9A	3.5A	4.1A	4.6A	5.2A	5.9A
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

Mark	Function	Specification
PWR	Power indicator	When power on, the LED lights up.
ALM	Fault alarm	If it happens over-voltage/current or under voltage, the LED lights up.
PU+	Pulse signal+	Connect with +5V~24V, if the power is over 5V, it needs to connect with a resistor.
PU-	Pulse signal-	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+	Connect with +5V~24V; if the power is over 5V, it needs to connect a resistor with DR.
DR-	SW12=OFF, it's direction signal	Used to change motor direction. Built-in resistance 220Ω.Requirements: low level is 0-0.5V,high level 4-5V
	SW12=ON, it's direction signal-	Effects on falling edge, the motor moves one step as the pulse input change from high to low.resistance 220Ω, Requirements: low level 0-0.5V,high level 4-5V,the pulse width>2.5us.
MF+	Motor free signal+	Connect with +5V~24V; if the power is over 5V, it needs to connect a resistor
MF-	Motor free signal-	When the motor under low level, turn off the current, the motor will be free
TM+	Origin output signal+	The signal effects when the motor pass electrical origin.
TM-	Origin output signal-	TM+ connects with resistor, TM- connects with GND. Max output current 50mA, max voltage 50V.
+V	Power+	DC20-60V
-V	Power-	
U		
V	Motor connection	
W		

Caution

1.Do not reverse the power input, and the power input voltage shouldn't exceed DC60V.

2.Input control signal level is 5V, it needs to connect a resistor if the level is over 5V.

3.When the O.C light is on, it means over/under current,please cut power and check the electricity circuit to solve the problem, then restart power supply.

4. The green PWR lights up when the driver is power on.
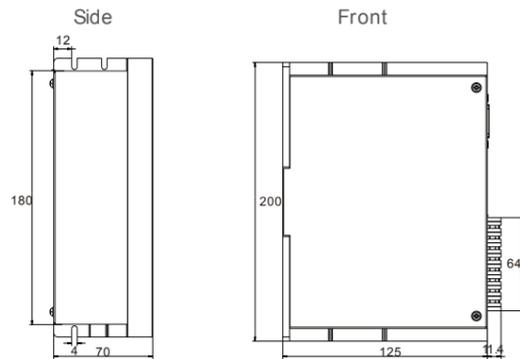
YKD3522M DSP Stepper Driver

Feature

● 32 bit DSP control technology, low noise/vibration with excellent stability and low cost
● 16 constant-torque microstep settings, 60,000 pulse per round the highest
● Smooth and accurate current control, effectively reduce motor heats
● 400Kpps pulse response frequency
● After step pulse stops for 400ms, output current automatically change
● Excellent smoothness in low frequency high microstep applications
● Photoelectric isolated signal input/output, high anti-interference ability
● Drive current adjustable (under 5A)
● Input voltage range: AC110~220V
● Fault protection: over current, over voltage, low voltage protection, etc.
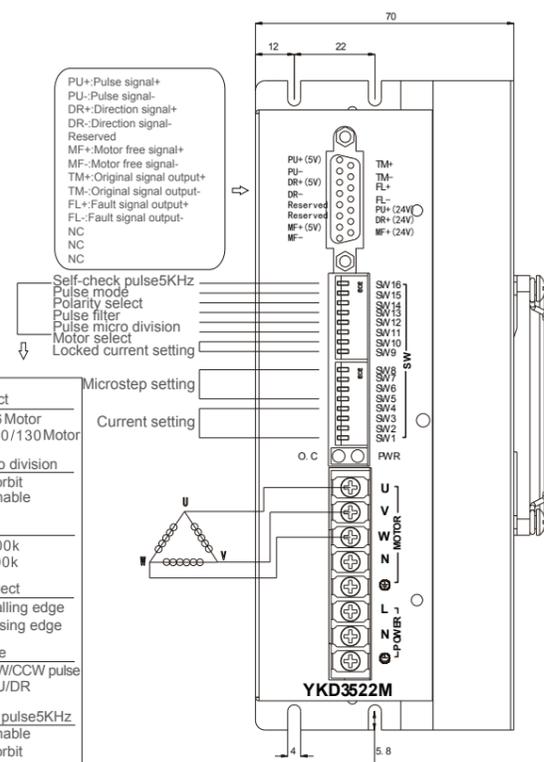● Small size: 200*125*70mm

Description

YKD3522M is high performance digital step driver based on YAKO's new 32-bit DSP technology. It's designed for various models of three phase 86~130mm (NEMA 34~50) hybrid stepper motors which current are below 5A.
With servo-similar control circuit and superior software algorithm, YKD3522M has superior performance in smoothness, noise and vibration. Smooth and accurate current control technology greatly reduces motor heat.
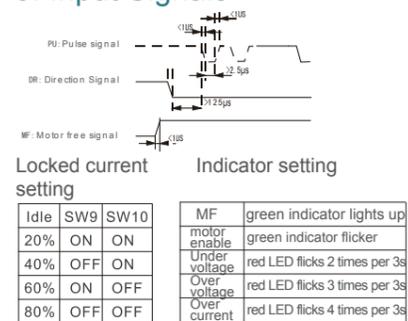
Installation Dimensions (mm)

Side   Front

12
180   200   64
70   125   114

Driver Connection

PU+:Pulse signal+
PU-:Pulse signal-
DR+:Direction signal+
DR-:Direction signal-
Reserved
MF+:Motor free signal+
MF-:Motor free signal-
TM+:Original signal output+
TM-:Original signal output-
FL+:Fault signal output+
FL-:Fault signal output-
NC
NC
NC

Self-check pulse5KHz
Pulse mode
Polarity select
Pulse filter
Pulse micro division
Motor select
Locked current setting

Microstep setting
Current setting

PU+ (5V)   TM+
PU-   TM-
DR+ (5V)   FL+
DR-   FL-
Reserved   PU+ (24V)
Reserved   DR+ (24V)
MF+ (5V)   MF+ (24V)
MF-

12   22   70

SW16
SW15
SW14
SW13
SW12
SW11
SW10
SW9
SW8
SW7
SW6
SW5
SW4
SW3
SW2
SW1

O.C   PWR
U
V
W
N
L
N
POWER

4   5.8

YKD3522M

Waveform Sequence Diagram of Input Signals

PU: Pulse signal
DR: Direction Signal
MF: Motor free signal

Locked current setting

Idle	SW9	SW10
20%	ON	ON
40%	OFF	ON
60%	ON	OFF
80%	OFF	OFF

SW11 Motor select
ON   86 Motor
OFF   110/130Motor

SW12 Pulse micro division
ON   Forbit
OFF   Enable

SW13 Pulse filter
ON   400k
OFF   100k

SW14 Polarity select
ON   Falling edge
OFF   Rising edge

SW15 Pulse mode
ON   CW/CCW pulse
OFF   PU/DR

SW16 Self-check pulse5KHz
ON   Enable
OFF   Forbit

Indicator setting

MF	green indicator lights up
motor enable	green indicator flicker
Under voltage	red LED flicks 2 times per 3s
Over voltage	red LED flicks 3 times per 3s
Over current	red LED flicks 4 times per 3s

YKD3722M Microstep Setting

PU/Rev	400	500	600	800	1000	1200	2000	3000	4000	5000	6000	10000	12000	20000	30000	60000
SW8	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
SW7	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON
SW6	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON
SW5	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON

YKD3722M Current Setting

电流RMS	1.0	1.3	1.6	2.0	2.3	2.5	2.8	3.0	3.2	3.5	3.8	4.0	4.2	4.5	4.8	5.0
SW4	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW3	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF
SW2	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW1	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF

Terminal Introduction

Mark	Function	Specification
PWR	Power indicator	Power indicator
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	Effective on falling edge, the motor moves one step as the pulse input change from high to low. Requirements:low level0-0.5V, high level 4-5V,pulse width >2. 5µs.
	SW15=ON, positive pulse signal	
DR+	Input signal photoelectric isolation+	Connect with +5V or +24V
DR-	SW15=OFF,direction signal	Used to change the motor direction. Requirements: low level0-0.5V, 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 level0-0.5V, 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 photoelectricisolation positive side	FL+ connect with limited resistor
FL-	Over current/voltage and under voltage photoelectricisolation 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)	AC110-220V
U		
V	Motor connection	
W		

Caution

1.AC220V Do not reverse the power input which should not exceed 220V.

2.I/O control signal level is 5V/24V.

3.Once over current(over/under voltage) occur, LED O.C lights, please shut off power and check the electricity circuit to solve the problem, then restart power supply.

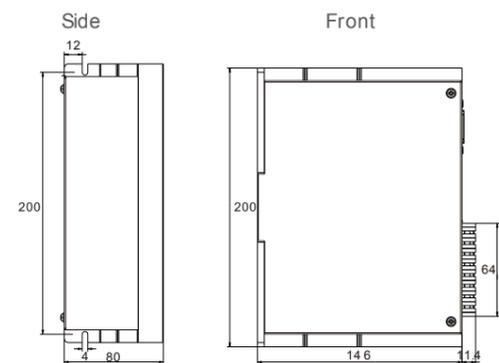4.PWR is power indicator, it lights when power on.

YKD3722M DSP Stepper Driver

Feature

● 32 bit DSP control technology, low noise/vibration with excellent stability and low cost
● 16 constant-torque microstep settings, 60,000 pulse per round the highest
● Smooth and accurate current control, effectively reduce motor heats
● 400Kpps pulse response frequency
● After step pulse stops for 400ms, output current automatically change
● Excellent smoothness in low frequency high microstep applications
● Photoelectric isolated signal input/output, high anti-interference ability
● Drive current adjustable (under 7A)
● Input voltage range: AC110~220V
● Fault protection: over current, over voltage, low voltage protection, etc.
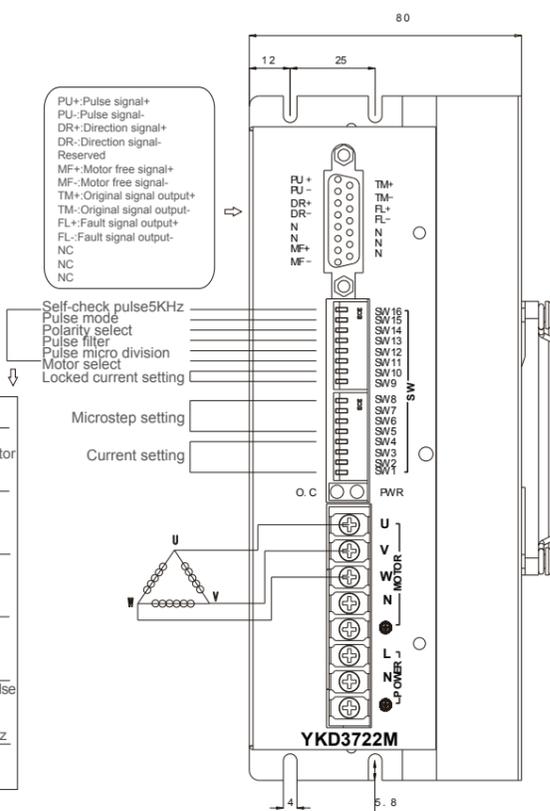● Small size: 200*125*70mm

Description

YKD3722M is high performance digital step driver based on YAKO's new 32-bit DSP technology. It's designed for various models of three phase 86~130mm (NEMA 34~50) hybrid stepper motors which current are below 7A.

With servo-similar control circuit and superior software algorithm, YKD3722M has superior performance in smoothness, noise and vibration. Smooth and accurate current control technology greatly reduces motor heat.
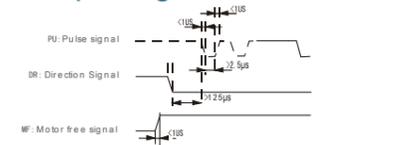
Installation Dimensions (mm)

Side   Front

12
200   200
64
4   80   146   114

Waveform Sequence Diagram of Input Signals

PU: Pulse signal
DR: Direction Signal
MF: Motor free signal

Locked current setting   Indicator setting

Idle	SW9	SW10
20%	ON	ON
40%	OFF	ON
60%	ON	OFF
80%	OFF	OFF

MF	green indicator lights up
motor enable	green indicator flicker
Under voltage	red LED flicks 2 times per 3s
Over voltage	red LED flicks 3 times per 3s
Over current	red LED flicks 4 times per 3s

Driver Connection

PU+:Pulse signal+
PU-:Pulse signal-
DR+:Direction signal+
DR-:Direction signal-
Reserved
MF+:Motor free signal+
MF-:Motor free signal-
TM+:Original signal output+
TM-:Original signal output-
FL+:Fault signal output+
FL-:Fault signal output-
NC
NC
NC

Self-check pulse5KHz
Pulse mode
Polarity select
Pulse filter
Pulse micro division
Motor select
Locked current setting

Microstep setting

Current setting

YKD3722M

SW11 Motor select
  ON   86 Motor
  OFF   110/130 Motor
SW12 Pulse micro division
  ON   Forbit
  OFF   Enable
SW13 Pulse filter
  ON   400k
  OFF   100k
SW14 Polarity select
  ON   Falling edge
  OFF   Rising edge
SW15 Pulse mode
  ON   CW/CCW pulse
  OFF   PU/DR
SW16 Self-check pulse5KHz
  ON   Enable
  OFF   Forbit

YKD3722M Microstep Setting

PU/Rev	400	500	600	800	1000	1200	2000	3000	4000	5000	6000	10000	12000	20000	30000	60000
SW8	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
SW7	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON
SW6	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON
SW5	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON

YKD3722M Current Setting

RMS	0.7	1.1	1.6	2.0	2.4	2.8	3.2	3.6	4.0	4.5	5.0	5.4	5.8	6.2	6.6	7.0
SW4	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW3	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF
SW2	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW1	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF

Terminal Introduction

Mark	Function	Specification
PWR	Power indicator	Power indicator
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	Effective on falling edge, the motor moves one step as the pulse input change from high to low. Requirements:low level0-0.5V, high level 4-5V,pulse width >2. 5μs.
	SW15=ON, positive pulse signal	
DR+	Input signal photoelectric isolation+	Connect with +5V or +24V
DR-	SW15=OFF,direction signal	Used to change the motor direction. Requirements: low level0-0.5V, 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 level0-0.5V, 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 photoelectricisolation positive side	FL+ connect with limited resistor
FL-	Over current/voltage and under voltage photoelectricisolation 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)	AC110-220V
U		
V	Motor connection	
W		

Caution

1.AC220V Do not reverse the power input which should not exceed 220V.

2.I/O control signal level is 5V/24V.

3.Once over current(over/under voltage) occur, LED O.C lights, please shut off power and check the electricity circuit to solve the problem, then restart power supply.

4.PWR is power indicator, it lights when power on.

YKD2405PR ModBus Stepper Driver

Feature

● 32 bit DSP control technology, low noise/vibration with excellent stability and low cost
● Built-in single-axis controller and digital drive function, supporting position control, speed control and multi-position control mode
● RS-485 bus, support standard ModBus-RTU protocol, mounting 30 devices the most
● 16 constant-torque microstep settings, 200 microsteps the highest
● Excellent smoothness in low frequency high microstep applications
● Photoelectric isolated signal input/output, high anti-interference ability
● Drive current adjustable (under 4.2A)
● Input voltage range: DC24~50V
● Fault protection: over voltage protection, low voltage protection, etc.

Description

YKD2405PR ModBus stepper driver is based on YKD2405M. It has bus communication and uniaxial controller. YKD2405PR uses RS-485 interface, supporting standard ModBus-RTU protocol.
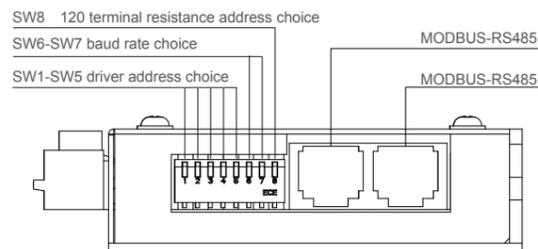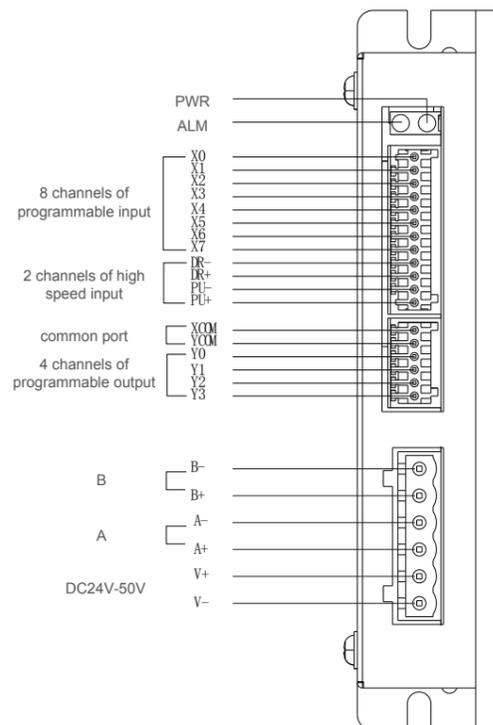
It has 2 photoelectric isolated programmable high-speed differential input terminals, 8 photoelectric isolated programmable input terminals and 4 photoelectric isolated output terminals. With those multiple input/output terminals, it's used to carry out current setting, position control, speed control, home position return and other uniaxial motion control.

YKD2405PR is particularly suitable for long distance, strong interference environment, and multiple motor control applications. Since it has uniaxial control function, users don't need to purchase controller anymore, thus greatly reduce costs.

Installation Dimensions (mm)

Side   Front

25.0   82.0   13.7

120   136.0

8.2

SW8   120 terminal resistance address choice
SW6-SW7 baud rate choice
SW1-SW5 driver address choice

MODBUS-RS485
MODBUS-RS485

Driver Connection

PWR
ALM

8 channels of programmable input
X0
X1
X2
X3
X4
X5
X6
X7

2 channels of high speed input
DR–
DR+
PU–
PU+

common port
XCOM
YCOM
Y0

4 channels of programmable output
Y1
Y2
Y3

B   B–
     B+
A   A–
     A+
     V+
DC24V-50V   V–
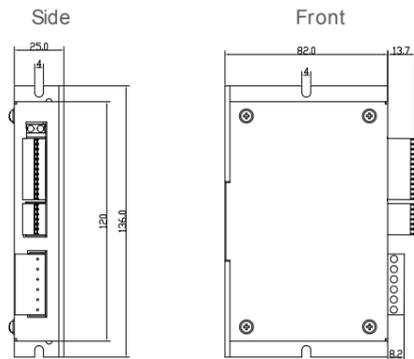
Terminal Resistance Setting

120 terminal resistance choice	SW8
invalid	OFF
valid	ON

COM Baud Rate Setting

baud rate	SW7	SW6
9600 (default)	ON	ON
19200	ON	OFF
38400	OFF	ON
115200	OFF	OFF

COM Address Setting

add.	custom	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SW5	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW4	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
SW3	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON
SW2	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON
SW1	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON

add.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
SW5	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
SW4	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
SW3	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON
SW2	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON
SW1	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON

Terminal Introduction

Mark	Function	Specification
PWR	power light	Light on once power on
ALM	alarm light	Over-current, flash one time;Over-voltage, flash twice; Undervoltage, flash three times; EEPROMEEPROM error, flash four times;
X0-X7	8 channels of programmable input	Support NPN & PNP wiring modes, requires the pulse width is bigger than 10ms10ms.
DR–		Effects on falling edge. Input resistance 220Ω. Requirements：low level 0-0.5V，high level 4-5V，pulse width>2.5μs
DR+		+5V~+24V can drive, must add resistance on PU- to control current if the voltage is higher than +5V.
PU–		Effects on falling edge. Input resistance 220Ω. Requirements：low level 0-0.5V，high level 4-5V，pulse width>2.5μs
PU+		+5V~+24V can drive, must add resistance on PU- to control current if the voltage is higher than +5V.
XCOM	common input port	Support NPN & PNP wiring modes.
YCOM	common output port	Support NPN & PNP wiring modes.
Y0-Y3	4 channels of programmable output	
V+		DC 24-50V
V–		
A+ A–	Motor connection	
B+ B-		

-B   -B   -B   -B
空
+B   +B   +B   +B
M   M   M   M
4 leads   6 leads   8 leads   8 leads
          (for low speed)   (for high speed)
+A -A   +A 空 -A   +A -A   +A -A
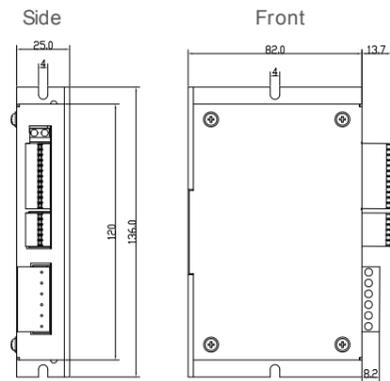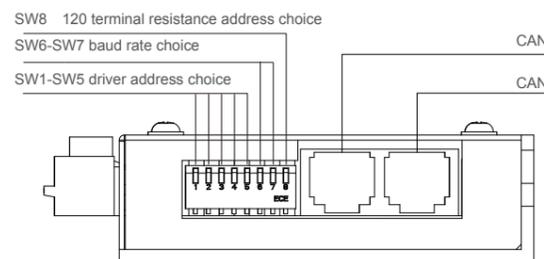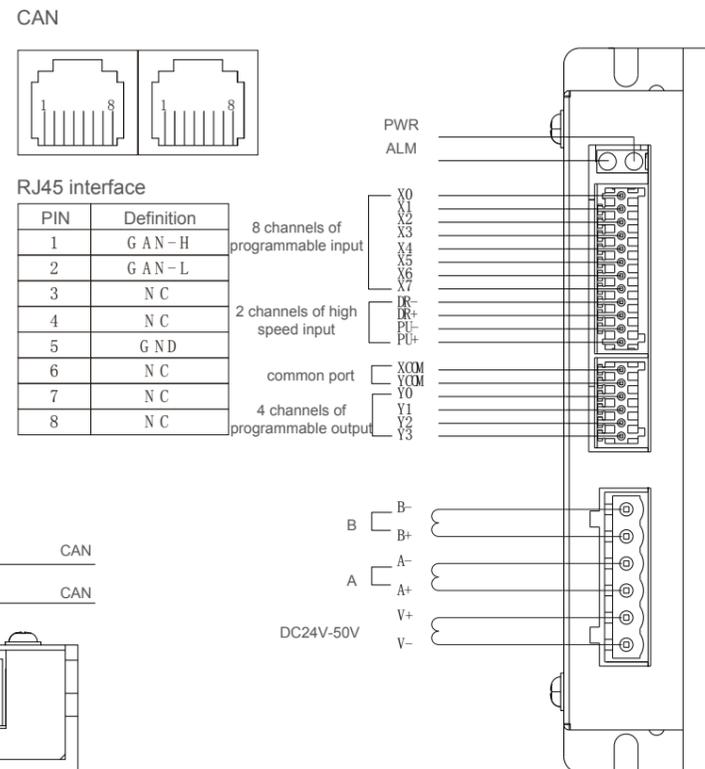
YKD2405PC CANBus Stepper Driver

Feature

● 32 bit DSP control technology, low noise/vibration with excellent stability and low cost
● Built-in single-axis controller and digital drive function, supporting position control, speed control and multi-position control mode
● CAN-Bus, support standard CANopen protocol, mounting 127 devices the most
● 16 constant-torque microstep settings, 200 microsteps the highest
● Excellent smoothness in low frequency high microstep applications
● Photoelectric isolated signal input/output, high anti-interference ability
● Drive current adjustable (under 4.2A)
● Input voltage range: DC24~50V
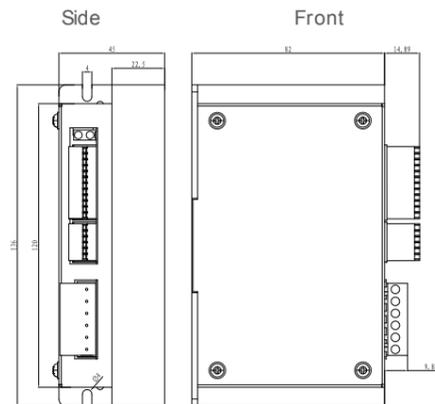● Fault protection: over voltage protection, low voltage protection, etc.

Description

YKD2405PC CAN-Bus stepper driver is based on YKD2405M. It has bus communication and uniaxial controller. YKD2405PC uses CAN-Bus interface, and support standard CANopen CiA301 and CiA402 protocol.

It has 2 photoelectric isolated programmable high-speed differential input terminals, 8 photoelectric isolated programmable input terminals and 4 photoelectric isolated output terminals. With those multiple input/output terminals, it's used to carry out current setting, position control, speed control, home position return and other uniaxial motion control.
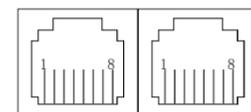
YKD2405PC is particularly suitable for long distance, strong interference environment, and multiple motor control applications. Since it has uniaxial control function, users don't need to purchase controller anymore, thus greatly reduce costs.

Installation Dimensions (mm)

Side   Front

Driver Connection

CAN

RJ45 interface

PIN	Definition
1	G AN-H
2	G AN-L
3	N C
4	N C
5	G N D
6	N C
7	N C
8	N C

8 channels of programmable input

2 channels of high speed input

common port

4 channels of programmable output

PWR
ALM
X0 X1 X2 X3 X4 X5 X6 X7
DR- DR+ PU- PU+
XCOM YCOM Y0 Y1 Y2 Y3

B B- B+
A A- A+
   V+
DC24V-50V V-

SW8   120 terminal resistance address choice
SW6-SW7 baud rate choice
SW1-SW5 driver address choice

CAN
CAN

Terminal Resistance Setting

120 choice of terminal resistance	SW8
invalid	OFF
valid	ON

COM Baud Rate Setting

baud rate	SW7	SW6
125k bit/s/5000(m)(default)	ON	ON
250kbit/s/250(m)	ON	OFF
500kb it/s/100(m)	OFF	ON
1M b it/s/25(m)	OFF	OFF

COM Address Setting

add.	custom	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SW5	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW4	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
SW3	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON
SW2	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON
SW1	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON

add.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
SW5	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
SW4	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
SW3	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON
SW2	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON
SW1	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON

Terminal Introduce

Mark	Function	Specification
PWR	power light	Light on once power on
ALM	alarm light	Over-current, flash one time;Over-voltage, flash twice; Under-voltage, flash three times; EEPROMEEPROM error, flash four times;
X0-X7	8 channels of programmable input	Support NPN & PNP wiring modes, requires the pulse width is bigger than 10ms10ms.
DR-		Effects on falling edge. Input resistance 220Ω. Requirements: low level 0-0.5V, high level 4-5V, pulse width>2.5µs
DR+		+5V~+24V can drive, must add resistance on PU- to control current if the voltage is higher than +5V.
PU-		Effects on falling edge. Input resistance 220Ω. Requirements: low level 0-0.5V, high level 4-5V, pulse width>2.5µs
PU+		+5V~+24V can drive, must add resistance on PU- to control current if the voltage is higher than +5V.
XCOM	common input port	Support NPN & PNP wiring modes.
YCOM	common output port	Support NPN & PNP wiring modes.
Y0-Y3	4 channels of programmable output	
V+	power+	DC 24-50V
V-	power-	
A+ A-	Motor connection	
B+ B-		

YKD2608PR ModBus Stepper Driver

Feature

● 32 bit DSP control technology, low noise/vibration with excellent stability and low cost
● Built-in single-axis controller and digital drive function, supporting position control, speed control and multi-position control mode
● RS-485 bus, support standard ModBus-RTU protocol, mounting 30 devices the most
● 16 constant-torque microstep settings, 200 microsteps the highest
● Excellent smoothness in low frequency high microstep applications
● Photoelectric isolated signal input/output, high anti-interference ability
● Drive current adjustable (under 6A)
● Input voltage range: DC24~80V
● Fault protection: over voltage protection, low voltage protection, etc.

Description

YKD2608PR ModBus stepper driver is based on YKD2608MH. It has bus communication and uniaxial controller. YKD2608PR uses RS-485 interface, supporting standard ModBus-RTU protocol.
It has 2 photoelectric isolated programmable high-speed differential input terminals, 8 photoelectric isolated programmable input terminals and 4 photoelectric isolated output terminals. With those multiple input/output terminals, it's used to carry out current setting, position control, speed control, home position return and other uniaxial motion control.
YKD2608PR is particularly suitable for long distance, strong interference environment, and multiple motor control applications. Since it has uniaxial control function, users don't need to purchase controller anymore, thus greatly reduce costs.
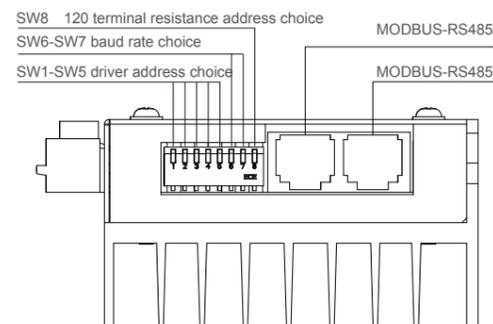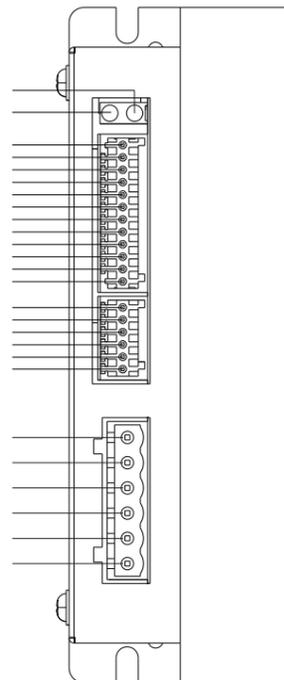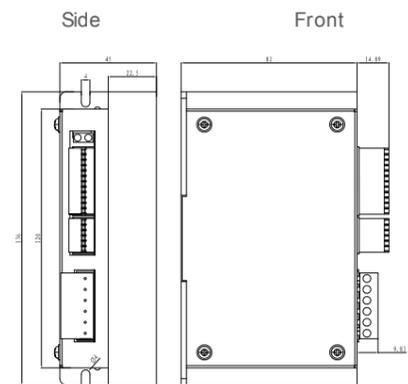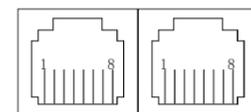
Installation Dimensions (mm)

Side   Front

SW8   120 terminal resistance address choice
SW6-SW7 baud rate choice
SW1-SW5 driver address choice

MODBUS-RS485
MODBUS-RS485

Driver Connection

RS-485interface

RJ45 interface

PIN	Definition
1	RS−485−A
2	RS−485−B
3	N C
4	N C
5	RS−485−GND
6	N C
7	N C
8	N C

8channels of programmable input interface
X0 X1 X2 X3 X4 X5 X6 X7

2channels of high speed input interface
DR− DR+ PU− PU+

common port
XCOM YCOM

4channels of programmable output interface
Y0 Y1 Y2 Y3

B   B− B+
A   A− A+
V+ V−

DC24V-80V

Terminal Resistance Setting

120 choice of terminal resistance	SW8
invalid	OFF
valid	ON

COM Baud Rate Setting

baud rate	SW7	SW6
9600(default)	ON	ON
19200	ON	OFF
38400	OFF	ON
115200	OFF	OFF

COM Address Setting

add.	custom	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SW5	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW4	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
SW3	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON
SW2	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON
SW1	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON

add.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
SW5	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
SW4	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
SW3	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON
SW2	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON
SW1	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON

Terminal Introduction

Mark	Function	Specification
PWR	power light	Light on once power on
ALM	alarm light	Over-current, flash one time;Over-voltage, flash twice; Undervoltage, flash three times; EEPROMEEPROM error, flash four times;
X0−X7	8 channels of programmable input	Support NPN & PNP wiring modes, requires the pulse width is bigger than 10ms10ms.
DR−		Effects on falling edge. Input resistance 220Ω. Requirements：low level 0-0.5V，high level 4-5V，pulse width>2.5μs
DR+		+5V~+24V can drive, must add resistance on PU- to control current if the voltage is higher than +5V.
PU−		Effects on falling edge. Input resistance 220Ω. Requirements：low level 0-0.5V，high level 4-5V，pulse width>2.5μs
PU+		+5V~+24V can drive, must add resistance on PU- to control current if the voltage is higher than +5V.
XCOM	common input port	Support NPN & PNP wiring modes.
YCOM	common output port	Support NPN & PNP wiring modes.
Y0−Y3	4 channels of programmable output	
V+		DC 24−50V
V−		
A+ A−	Motor connection	
B+ B−		

4 leads   6 leads   8 leads (for low speed)   8 leads (for high speed)

YKD2608PC CANBus Stepper Driver

Feature

● 32 bit DSP control technology, low noise/vibration with excellent stability and low cost
● Built-in single-axis controller and digital drive function, supporting position control, speed control and multi-position control mode
● CAN-Bus, support standard CANopen protocol, mounting 127 devices the most
● 16 constant-torque microstep settings, 200 microsteps the highest
● Excellent smoothness in low frequency high microstep applications
● Photoelectric isolated signal input/output, high anti-interference ability
● Drive current adjustable (under 6A)
● Input voltage range: DC24~80V
● Fault protection: over voltage protection, low voltage protection, etc.

Description

YKD2608PC CAN-Bus stepper driver is based on YKD2608MH. It has bus communication and uniaxial controller. YKD2608PC uses CAN-Bus interface, and support standard CANopen CiA301 and CiA402 protocol.

It has 2 photoelectric isolated programmable high-speed differential input terminals, 8 photoelectric isolated programmable input terminals and 4 photoelectric isolated output terminals. With those multiple input/output terminals, it's used to carry out current setting, position control, speed control, home position return and other uniaxial motion control.

YKD2608PC is particularly suitable for long distance, strong interference environment, and multiple motor control applications. Since it has uniaxial control function, users don't need to purchase controller anymore, thus greatly reduce costs.
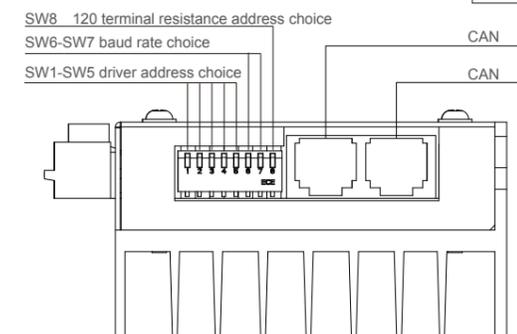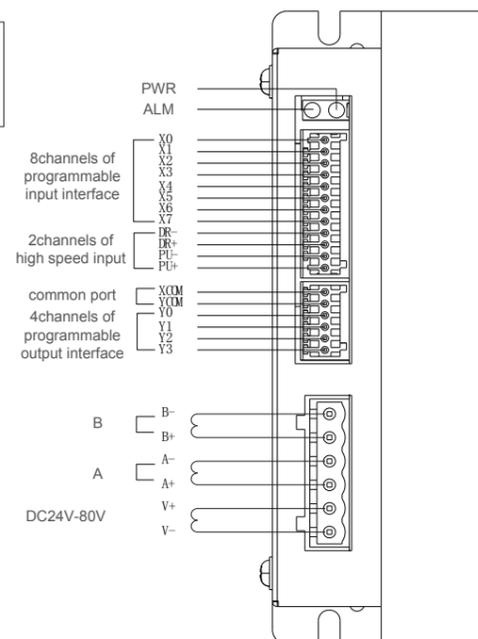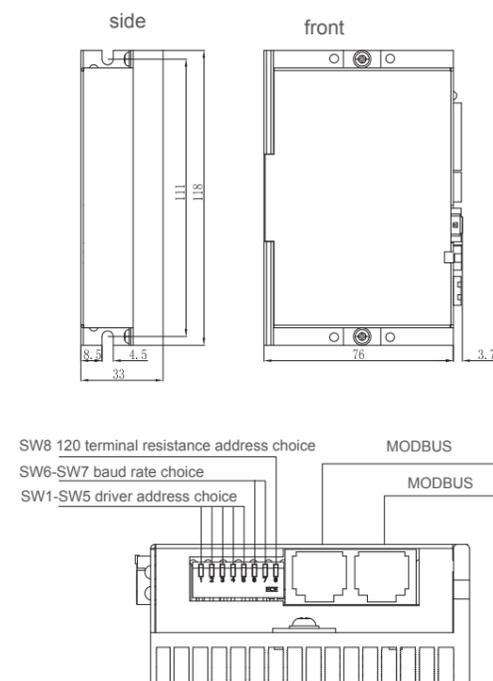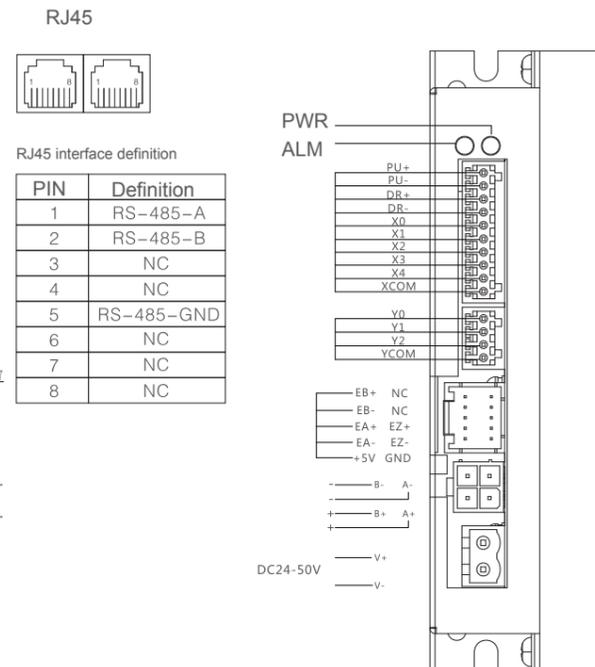
Installation Dimensions (mm)

Side   Front

Driver Connection

CAN

RJ45 interface

PIN	Definition
1	GAN-H
2	GAN-L
3	NC
4	NC
5	GND
6	NC
7	NC
8	NC

SW8   120 terminal resistance address choice
SW6-SW7 baud rate choice
SW1-SW5 driver address choice

CAN
CAN

8channels of programmable input interface
X0
X1
X2
X3
X4
X5
X6
X7

2channels of high speed input
DR-
DR+
PU-
PU+

common port
4channels of programmable output interface
XCOM
YCOM
Y0
Y1
Y2
Y3

PWR
ALM

B   B-
     B+
A   A-
     A+
     V+
     V-

DC24V-80V

Terminal Resistance Setting

120 choice of terminal resistance	SW8
invalid	OFF
valid	ON

COM Baud Rate Setting

baud rate	SW7	SW6
9600(default)	ON	ON
19200	ON	OFF
38400	OFF	ON
115200	OFF	OFF

COM Address Setting

add.	custom	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SW5	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW4	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
SW3	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON
SW2	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON
SW1	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON

add.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
SW5	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
SW4	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
SW3	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON
SW2	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON
SW1	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON

Terminal Introduction

Mark	Function	Specification
PWR	Power indicator	Light on once power on
ALM	alarm light	Over-current, flash one time;Over-voltage, flash twice; Under-voltage, flash three times; EEPROMEEPROM error, flash four times;
X0-X7	8 channels of programmable input	Support NPN & PNP wiring modes, requires the pulse width is bigger than 10ms10ms.
DR-		Effects on falling edge. Input resistance 220Ω. Requirements：low level 0-0.5V，high level 4-5V，pulse width>2.5μs
DR+		+5V~+24V can drive, must add resistance on PU- to control current if the voltage is higher than +5V.
PU-		Effects on falling edge. Input resistance 220Ω. Requirements：low level 0-0.5V，high level 4-5V，pulse width>2.5μs
PU+		+5V~+24V can drive, must add resistance on PU- to control current if the voltage is higher than +5V.
XCOM		Support NPN & PNP wiring modes.
YCOM		Support NPN & PNP wiring modes.
Y0-Y3	4 channels of programmable output	
V+	power+	DC 24-80V
V-	power-	
A+ A-	Motor connection	
B+ B-		

-B +B 4 leads +A -A
-B +B 6 leads +A -A
-B +B 8 leads (for low speed) +A -A
-B +B 8 leads (for high speed) +A -A

SSD2505PR ModBus Close-loop Stepper Driver

Feature

- 32 bit DSP control technology, low noise/vibration with excellent stability and low cost
- Current automatically change according to load
- 16 constant-torque microstep settings, 200 microsteps the highest
- Input voltage range: DC24~50V
- Excellent high-speed performance and rigidity, perfectly integrated the advantages of servo and stepper
- Less torque attenuation, with 3000rpm efficient working speed
- RS-485 bus, support standard ModBus-RTU protocol, mounting 30 devices the most
- Built-in single-axis controller and digital drive function, supporting position control, speed control and multi-position control mode
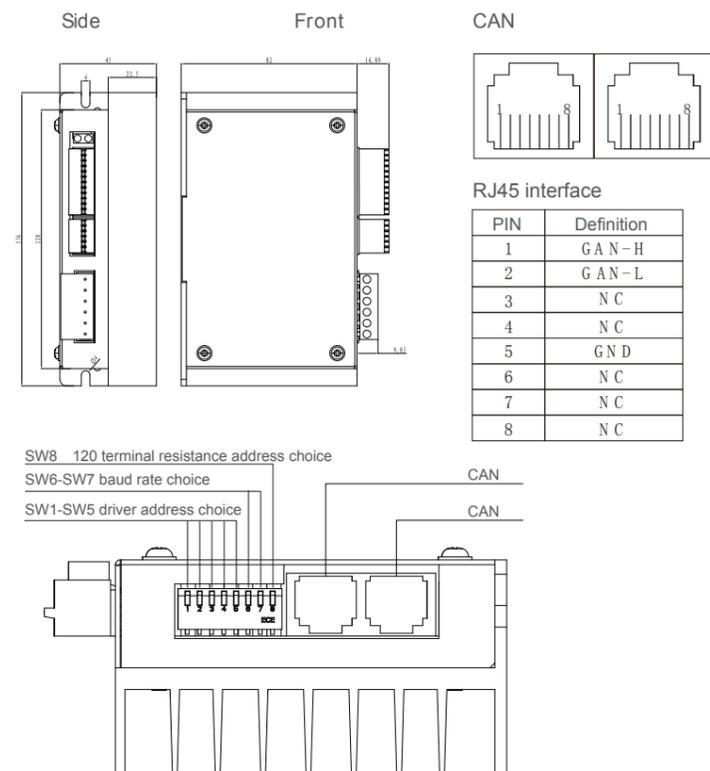
Description

SSD2505PR takes the advantages of 32-bit DSP control technology and power angle control technology, maximum speed reaches more than 3000rmp. It's high-speed torque attenuation is much lower than ordinary open-loop stepper drive, which can greatly enhance the high-speed performance and torque efficiency, and reduce motor heating/vibration, thus to enhancing machine's efficiency and accuracy.

SSD2505PR integrated with bus communication and uniaxial controller, equipped with RS-485 interface, and support standard ModBus-RTU protocol.
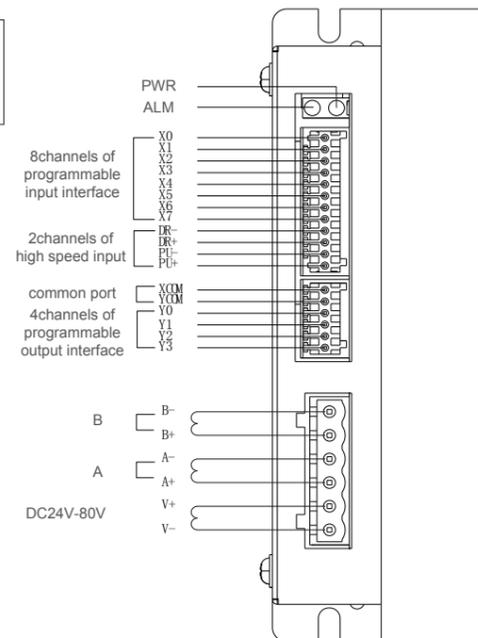
It has 2 photoelectric isolated programmable high-speed differential input terminals, 5 photoelectric isolated programmable input terminals and 3 photoelectric isolated output terminals. With those multiple input/output terminals, it's used to carry out current setting, position control, speed control, home position return and other uniaxial motion control.

SSD2505PR is particularly suitable for long distance, strong interference environment, and multiple motor control applications. Since it has uniaxial control function, users don't need to purchase controller anymore, thus greatly reduce costs.

Installation Dimensions (mm)

side   front

8.3 4.5
33   76   3.7
118

SW8 120 terminal resistance address choice
SW6-SW7 baud rate choice
SW1-SW5 driver address choice

MODBUS
MODBUS

Driver Connection

RJ45

RJ45 interface definition

PIN	Definition
1	RS−485−A
2	RS−485−B
3	NC
4	NC
5	RS−485−GND
6	NC
7	NC
8	NC

PWR
ALM

PU+
PU-
DR+
DR-
X0
X1
X2
X3
X4
XCOM

Y0
Y1
Y2
YCOM

EB+   NC
EB-   NC
EA+   EZ+
EA-   EZ-
+5V   GND

− B− A-
+ B+ A+
+

DC24-50V   V+
V-

Terminal Resistance Setting

120 choice of terminal resistance	SW8
invalid	OFF
valid	ON

COM Baud Rate Setting

Baud rate	SW7	SW6
9600(default)	ON	ON
19200	ON	OFF
38400	OFF	ON
115200	OFF	OFF

COM Address Setting

add.	custom	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SW5	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW4	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
SW3	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON
SW2	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON
SW1	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON

add.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
SW5	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
SW4	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
SW3	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON
SW2	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON
SW1	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON

Terminal Introduction

Mark	Function	Specification
PWR	power light	Light on once power on.
ALM	alarm light	Over-current, flash one time;Over-voltage,flash twice; Under-voltage,flash three times; EEPROMEEPROM error, flash four times; COM erro, flash five times.
PU+		+5V~+24V can drive, must add resistance on PU- to control current if the voltage is higher than +5V.
PU-		Effects on falling edge. Input resistance 220Ω. Requirements：low level 0-0.5V，high level 4-5V，pulse width>2.5μs
DR+		+5V~+24V can drive, must add resistance on PU- to control current if the voltage is higher than +5V.
DR−		Effects on falling edge. Input resistance 220Ω. Requirements：low level 0-0.5V，high level 4-5V，pulse width>2.5μs
X0~X4	5 channels of programmable input	Support NPN & PNP wiring modes
XCOM	common input port	Support NPN & PNP wiring modes
Y0~Y2	3 channels of programmable output	
YCOM	common output port	Support NPN & PNP wiring modes
EB+/EB−	encoder B phase	Encoder B phase input
EA+/EA−	encoder A phase	Encoder A phase input
+5V	encoder power	Encoder 5V power supply
GND	encoder GND	
A+ A-	motor connection	
B+ B-		

SSD2505PC CANbus Close-loop Stepper Driver

Feature

- 32 bit DSP control technology, low noise/vibration with excellent stability and low cost
- Current automatically change according to load
- 16 constant-torque microstep settings, 200 microsteps the highest
- Input voltage range: DC24~50V
- Excellent high-speed performance and rigidity, perfectly integrated the advantages of servo and stepper
- Less torque attenuation, with 3000rpm efficient working speed
- CAN-Bus, support standard CANopen protocol, mounting 127 devices the most
- Built-in single-axis controller and digital drive function, supporting position control, speed control and multi-position control mode

Description

SSD2505PC takes the advantages of 32-bit DSP control technology and power angle control technology, maximum speed reaches more than 3000rmp. It's high-speed torque attenuation is much lower than ordinary open-loop stepper drive, which can greatly enhance the high-speed performance and torque efficiency, and reduce motor heating/vibration, thus to enhancing machine's efficiency and accuracy.

SSD2505PC integrated with bus communication and uniaxial controller, equipped with CAN-Bus interface, and support standard CANopen CiA301 and CiA402 protocol.

It has 2 photoelectric isolated programmable high-speed differential input terminals, 5 photoelectric isolated programmable input terminals and 3 photoelectric isolated output terminals. With those multiple input/output terminals, it's used to carry out current setting, position control, speed control, home position return and other uniaxial motion control.

SSD2505PC is particularly suitable for long distance, strong interference environment, and multiple motor control applications. Since it has uniaxial control function, users don't need to purchase controller anymore, thus greatly reduce costs.

Installation Dimensions (mm)

Side   Front

Driver Connection

CAN

RJ45 interface

PIN	Definition
1	GAN-H
2	GAN-L
3	NC
4	NC
5	GND
6	NC
7	NC
8	NC

SW8 120 terminal resistance address choice
SW6-SW7 baud rate choice
SW1-SW5 driver address choice

CAN
CAN

8channels of programmable input interface
X0 X1 X2 X3 X4 X5 X6 X7

2channels of high speed input
DR- DR+ PU- PU+

common port
4channels of programmable output interface
XCOM YCOM Y0 Y1 Y2 Y3

PWR
ALM

B   B- B+
A   A- A+
V+ V-
DC24V-80V

Terminal Resistance Setting

120 choice of terminal resistance	SW8
invalid	OFF
valid	ON

COM Baud Rate Setting

baud rate	SW7	SW6
9600 (default)	ON	ON
19200	ON	OFF
38400	OFF	ON
115200	OFF	OFF

COM address setting

add.	custom	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SW5	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW4	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
SW3	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON
SW2	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON
SW1	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON

add.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
SW5	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
SW4	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
SW3	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON
SW2	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON
SW1	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON

Terminal Introduction

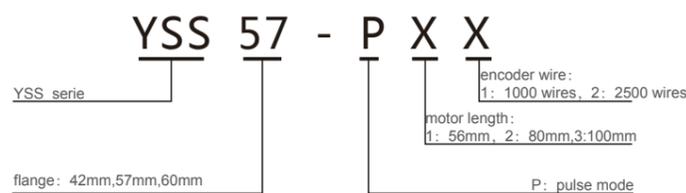| Mark	Function	Specification
PWR	Power indicator	Light on once power on
ALM	alarm light	Over-current, flash one time;Over-voltage, flash twice; Under-voltage, flash three times; EEPROMEEPROM error, flash four times;
X0-X7	8 channels of programmable input	Support NPN & PNP wiring modes, requires the pulse width is bigger than 10ms10ms.
DR-		Effects on falling edge. Input resistance 220Ω. Requirements： low level 0-0.5V， high level 4-5V， pulse width>2.5µs
DR+		+5V~+24V can drive, must add resistance on PU- to control current if the voltage is higher than +5V.
PU-		Effects on falling edge. Input resistance 220Ω. Requirements： low level 0-0.5V， high level 4-5V， pulse width>2.5µs
PU+		+5V~+24V can drive, must add resistance on PU- to control current if the voltage is higher than +5V.
XCOM		Support NPN & PNP wiring modes.
YCOM		Support NPN & PNP wiring modes.
Y0-Y3	4 channels of programmable output	
V+	power+	DC 24-80V
V-	power-	
A+ A-	Motor connection	
B+ B-		4 leads 6 leads 8 leads (for low speed) 8 leads (for high speed)

YSS57-P Series Integrated Stepper motor

Featrue:

- 32 bit DSP;build in posion and alarm output to monitor and control motor;
- Voltage: DC24-50V, 16-class;
- Max pulse frequence up to 400KHz;
- Small torque deduction;speed up to 3000rpm;
- Auto current deduction, lower vibration, heat and voice;
- Single/double pulse available;
- Pulse+direction control;
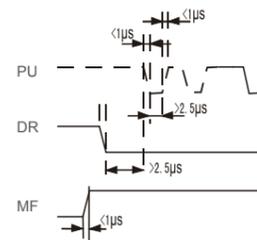- Perfect high speed and rigidity performance.

Description

YSS57-P serie integrated stepper motors applies in new 32 bit of DSP control technology, its max speed up to 3000rpm. And its torque reduction under high speed is much lower than that of open loop drivers, which can greatly imporve stepper motor's high speed performance and machine's processing precision and efficiency.

The current control technology, based on load, can effectively reduce motor heat to prolong the motor's life. The built-in INPOS and alarm signal are used to monitor and control. And the over-tolerance alarm of position protects the safe work of processing equipments.

Naming rule

YSS 57 - P X X

YSS serie

encoder wire：
1：1000 wires，2：2500 wires

motor length：
1：56mm，2：80mm,3:100mm

flange：42mm,57mm,60mm

P：pulse mode

Waveform sequence diagram of input

PU

DR

MF

Installation dimensions(Unit:mm)

57.3
47.1±0.2

A-A(2:1)
75.5

47.1±0.2
57.3

52.2

Model	Length(mm)
YSS57-P11	56
YSS57-P21	80
YSS57-P31	100

Driver connection

Integrated Motor
www.yankong.com

ALM
PWR

SW6 SW5 SW4 SW3 SW2 SW1
1 2 3 4 5 6

NC RX GND TX 5V   GND +VDC

PU+ PU- DR+ DR- MF+ MF- Pend+ Pend- ALM+ ALM-
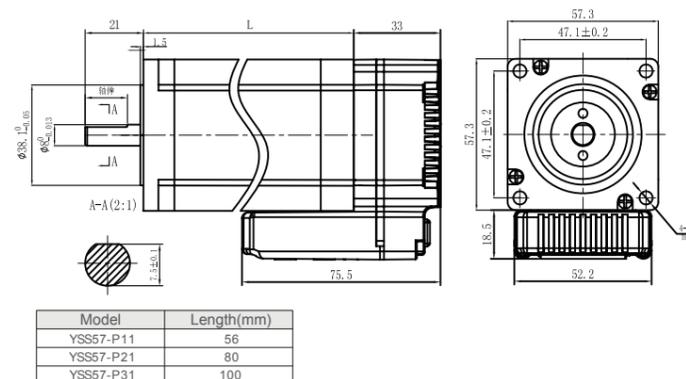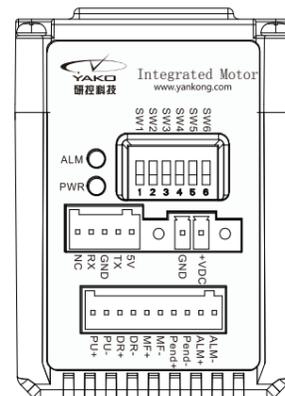
Current Setting

PU/Rev	400	800	1600	3200	6400	12800	25600	51200	1000	2000	4000	5000	8000	10000	20000	40000
SW6	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW5	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF
SW4	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW3	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF

SW2 single/double pulse, OFF=PU&DR, ON=CW&CCW

SW1 motor rotatin direction: OFF=CW, ON=CCW

Terminal Assignment

Mark	Function	Instruction
PWR	Power indicator	When power on, the green led lights on.
ALM	Alarm indicator	Flicker one time, means over-current or short circuit; flicker 2 times means over-voltage; flicker 3 times means under-voltage; flicker 5 times means alarm fault for EEPRO.
PU+	Pulse signal+	Connect with +24V or +5V signal power,it should connect with a resistor in PU- side if the voltage over 5V.
PU-	If SW2=OFF, it is PU- If SW2=OFF, it is PU+	Effects on falling edge, the motor moves one step as the pulse input change from high to low. built-in input resistance 2203,Requirements: low level 0-0.5V,high level 4-5V,the pulse width>2.5us.
DR+	Direction signal+	Connect with+24V or+5V signal power,it should connect with a resistor in D2- side if the voltage over 5V.
DR-	If SW2=OFF, it is direction signal	Used to change motor direction. Built-in resistance 220Ω.Requirements: low level is 0-0.5V,high level 4-5V, ,width>2.5us.
	If SW2=ON, it is PU-	E33ects on falling edge, the motor moves one step as the pulse input change from high to low. built-in input resistance 220s,Requirements: low level 0-0.5V,high level 4-5V,the pulse width>2.5us.
MF+	Positive optoelectronic of input signal	Connect with +24V or +5V signal power,it should connect with a resistor in M2- side if the voltage over 5V. If cut off motor current, the motor is free and all the alarm will be clear.
MF-	Motor free/alarm clear	
Pend+	Positive inpos signal output	When driver completes the setting pulse, INPOS is valid. Pend+ connects with upper resistor to positive, while ALM- connects to negative. Max driving current is 50mA.
Pend-	Negative inpos signal output	
ALM+	Positive alarm signal output	When alarm for over-current/voltage or for under-voltage, the alarm is valid. ALM+ connects with upper resistor to positive power, while ALM- connect to negative power. Max driving current is 50mA.
ALM-	Negative alarm signal output	
TX	RS232 COM	RS232 COM
RX	RS232 COM	
+VDC	Positive power	DC24-50V
GND	Negative power	

Instruction

1、 Input control signal level is 5V, if it's over 5V, users must connect resistor with it.

2、 Don't beat motor when instal it.
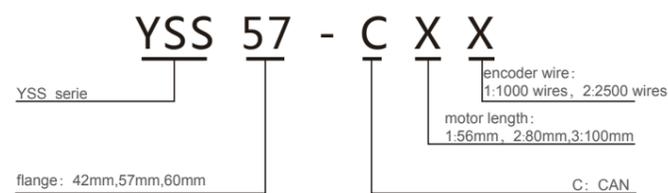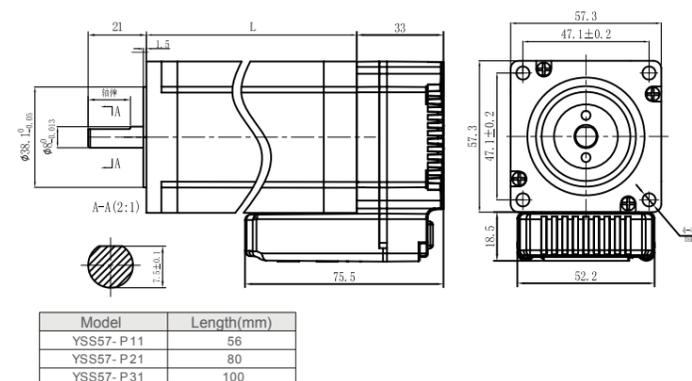
YSS57-C Series Integrated Stepper motor

Featrue:

- 32 bit DSP;
- Supports CANopen and CiA402;
- Voltage：DC 24V~50V
- Max pulse frequence up to 400KHz;
- Small torque deduction;speed up to 3000rpm;
- Built-in INPOS and alarm output to help monitor and control;
- Auto current deduction, lower vibration, heat and voice, the efficiency 35% higher;
- Multi I/O ports with single axis controle function;
- Perfect high speed performance and rigidity, which integrate servo and stepper's advantages

Description

YSS57-C serie integrated stepper motors applies in new 32 bit of DSP control technology, its max speed up to 3000rpm. And its torque reduction under high speed is much lower than that of open loop drivers, which can greatly imporve stepper motor's high speed performance and machine's processing precision and efficiency.
YSS57-C supports CANopen, meets CiA402 standard. Users can set driver parameters via fieldbus.

Naming rule

YSS 57 - C X X

YSS serie

flange：42mm,57mm,60mm

encoder wire：
1:1000 wires，2:2500 wires

motor length：
1:56mm，2:80mm,3:100mm

C：CAN

Installation dimensions(Unit:mm)

A-A(2:1)

57.3
47.1±0.2
75.5
33
21
L

57.3
47.1±0.2
47.1±0.2
52.2
18.5

Model	Length(mm)
YSS57-P11	56
YSS57-P21	80
YSS57-P31	100
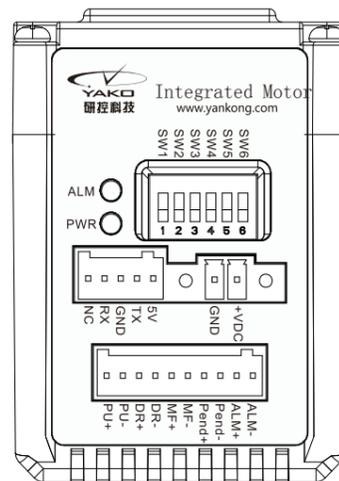
Current Setting

PU/Rev	Default	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SW6	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON
SW5	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON
SW4	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON
SW3	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON

SW2 Baud Rate：OFF=1Mbps ON=Custom

SW1 Terminal Resistance：OFF=Invalid ON=Valid

Terminal Assignment

Mark	Function	Instruction
PWR	Power indicator	When power on, the green led lights on.
ALM	Alarm indicator	Flicker one time menas over-current; 2 times means over-voltage; 3 times means under-voltage; 4 times means EEPRO fault; 5 times means wrong communication.
X0-X6	7 channels of programmable input	Requires the effective level pulse width is over 10ms.
XCOM	COM input	Supports NPN and PNP.
YCOM	COM output	Supports NPN and PNP.
Y0-Y2	3 channels of programmable output	Users can set function of every port via CANopen.
V+	Positive power	DC 24-50V
V-	Negative power	

Driver connection

Integrated Motor
www.yankong.com

ALM
PWR

SW6 SW5 SW4 SW3 SW2 SW1
1 2 3 4 5 6

5V TX GND RX NC

+VDC GND

PU+ PU- DR+ DR- MF+ MF- Pend+ Pend- ALM+ ALM-

Instruction

1、 Input control signal level is 5V, if it's over 5V, users must connect resistor with it.
2、 Don't beat motor when instal it.

□42mm Series YAKO 2 Phase Hybrid Stepper Motor

General Specifications

Step angle accurancy: 5%
Temperature: 80 C Max
Ambient Temperature: -20 C-+50 C
Insulation Resistance: 100M Ω Min 500VDC
Voltage endurance: 500V AC 1minute
Shaft Radial Play: Max0.06mm(450g)
Shaft Axial Play: Max0.08mm（450g）

Specifications

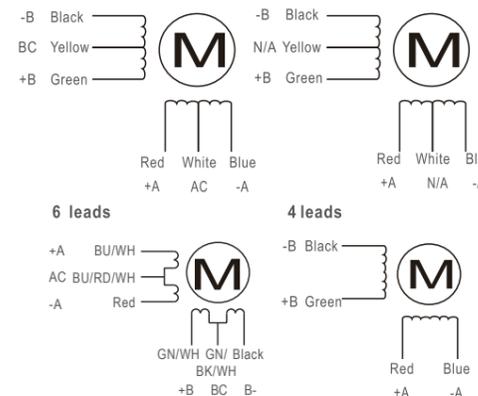| Model	Step Angle (°)	Voltage (V)	Length L(mm)	Holding torque (N.m)	Current (A/phase)	Resistance (Ω)	Inductance (mH)	Rotor inertia (g.cm²)	Weight (kg)	Motor Leads
YK42HB38-02A		3.0	41	0.4	2.0	1.06	2.0	54	0.3	4
YK42HB47-02A	1.8	3.0	49	0.48	2.0	1.35	2.9	77	0.35	4
YK42HB60-02A		3.6	61	0.72	2.0	1.8	3.7	110	0.5	4

The above is standard sample, OEM/ODM is available.

Dimention
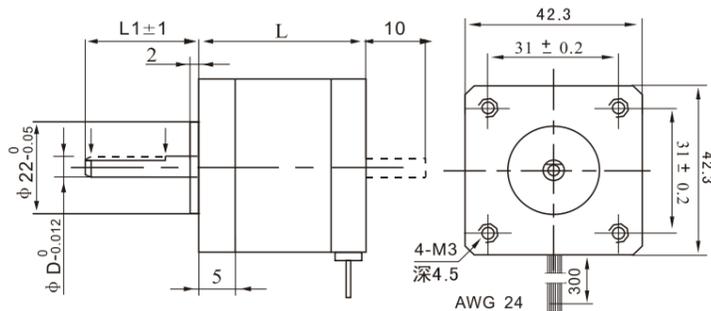
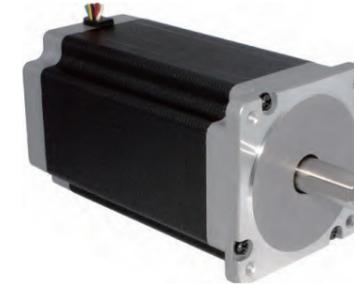| Model	Shaft Diameter D(mm)	Shaft Extension (mm)	Shaft Length L1(mm)
YK42HB38-02A	5.0	flat 0.5X15	24
YK42HB47-02A	5.0	flat 0.5X15	24
YK42HB60-02A	5.0	flat 0.5X15	24

Frequency-torque Characteristics
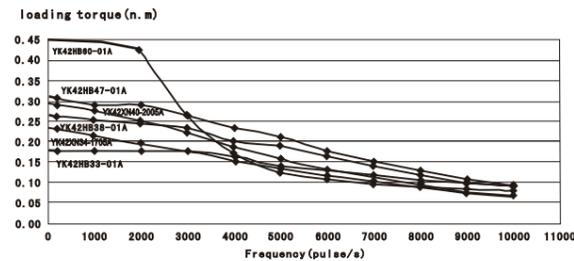
Connections

□57mmSeriesYAKO 2 Phase Hybrid Stepper Motor

General Specifications

Step angle accurancy: 5%
Temperature: 80 C Max
Ambient Temperature: -20 C-+50 C
Insulation Resistance: 100M Ω Min 500VDC
Voltage endurance: 500V AC 1minute
Shaft Radial Play: Max0.06mm(450g)
Shaft Axial Play: Max0.08mm（450g）

Specifications

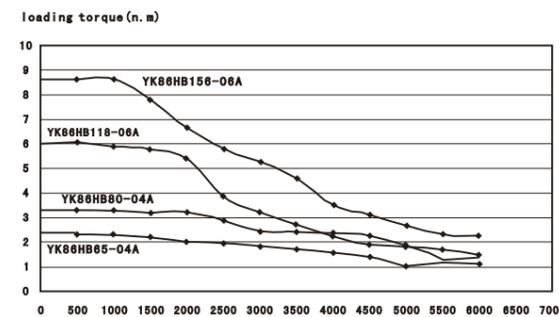| Model	Step Angle (°)	Voltage (V)	Length L(mm)	Holding torque (N.m)	Current (A/phase)	Resistance (Ω)	Inductance (mH)	Rotor inertia (g.cm²)	Weight (kg)	Motor Leads
YK57HB56-03A		2.9	56	0.90	3.0	0.75	1.1	300	0.68	6
YK57HB76-03A		3.0	76	1.35	3.0	1.0	1.6	480	1.03	6
YK57HB56-04A	1.8	2.22	56	1.20	3.0	0.74	2.4	280	0.7	4
YK57HB76-04A		2.15	78	2.2	4.0	0.43	1.8	480	1.0	4
YK57HB80-04A		2.0	80	2.2	5.0	0.40	2.0	520	1.15	4

The above is standard sample, OEM/ODM is available.

Dimention
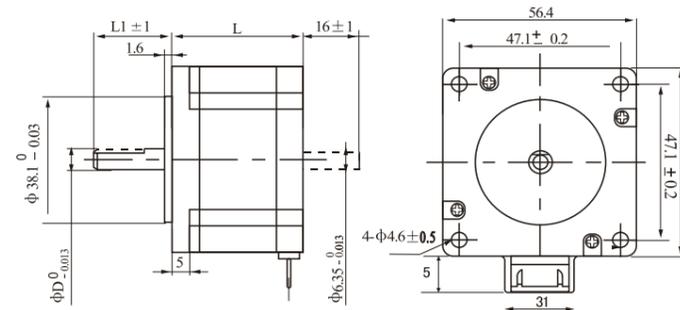
Model	Shaft Diameter D(mm)	Shaft Extension (mm)	Shaft Length L1(mm)
YK57HB56-03A	6.35	flat 0.5X15	20.6
YK57HB76-03A	6.35	flat 0.5X15	20.6
YK57HB56-04A	8	flat 0.5X15	20.6
YK57HB76-04A	8	flat 0.5X15	20.6
YK57HB80-04A	8	flat 0.5X15	20.6

Frequency-torque Characteristics
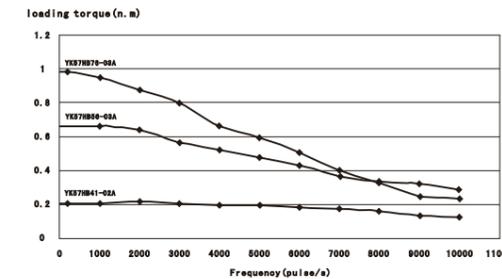
Connections

□60mmSeriesYAKO 2 Phase Hybrid Stepper Motor

General Specifications

Step angle accurancy:	5%
Temperature:	80 C Max
Ambient Temperature:	−20 C-+50 C
Insulation Resistance:	100M Ω Min 500VDC
Voltage endurance:	500V AC 1minute
Shaft Radial Play:	Max0.06mm(450g）
Shaft Axial Play:	Max0.08mm（450g）

Specifications

Model	Step Angle (°)	Voltage (V)	Length L(mm)	Holding torque (N.m)	Current (A/phase)	Resistance (Ω)	Inductance (mH)	Rotor inertia (g.cm²)	Weight (kg)	Motor Leads
YK60HB56-03A	1.8	3.6	56	1.65	2.0	1.8	3.6	400	0.83	6
YK60HB65-03A		4.8	67	2.1	2.0	2.4	4.6	570	1.03	6
YK60HB86-04A		2.8	88	3.1	4.0	0.7	1.8	840	1.44	6
YK60HB65-05A		2.26	65	2.0	5.0	0.39	2.0	490	1.20	4
YK60HB86-05A		6.0	86	3.0	5.0	0.43	2.0	690	1.30	4

The above is standard sample, OEM/ODM is available.

Dimention
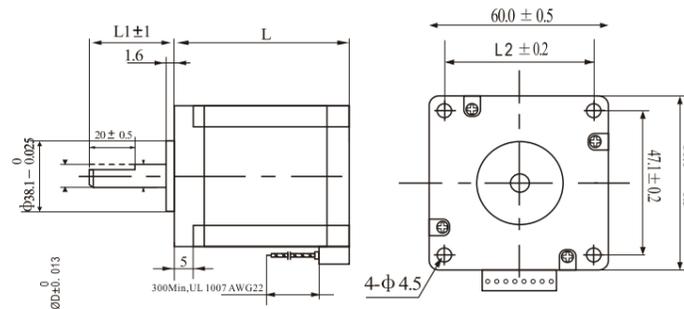
Model	Shaft Diameter D(mm)	Shaft Extension (mm)	Shaft Length L1(mm)	Pitch-Row L2(mm)
YK60HB56-03A	8.0	flat 0.5X20	24	47
YK60HB65-03A	8.0	flat 0.5X20	24	47
YK60HB86-04A	8.0	flat 0.5X20	24	47
YK60HB65-05A	8.0	flat 0.5X20	24	50
YK60HB86-05A	8.0	flat 0.5X20	24	50

Frequency-torque Characteristics

Connections

□86mm Series YAKO 2 Phase Hybrid Stepper Motor

General Specifications

Step angle accurancy:	5%
Temperature:	80 C Max
Ambient Temperature:	−20 C-+50 C
Insulation Resistance:	100M Ω Min 500VDC
Voltage endurance:	500V AC 1minute
Shaft Radial Play:	Max0.06mm(450g）
Shaft Axial Play:	Max0.08mm（450g）

Specifications

Model	Step Angle (°)	Length L(mm)	Holding torque (N.m)	Current (A/phase)	Resistance (Ω)	Inductance (mH)	Rotor inertia (g.cm²)	Weight (kg)	Motor Leads
YK86HB65-04A	1.8	65	3.4	2.8	1.4	3.9	1000	1.8	8
YK86HB80-04A		80	4.6	4.2	0.75	3.4	1400	2.26	8
YK86HB118-06A		118	8.7	4.2	0.9	6.0	2700	3.67	8
YK86HB156-06A		156	12.2	4.2	1.25	8.0	4000	5.17	8

The above is standard sample, OEM/ODM is available.

Dimention
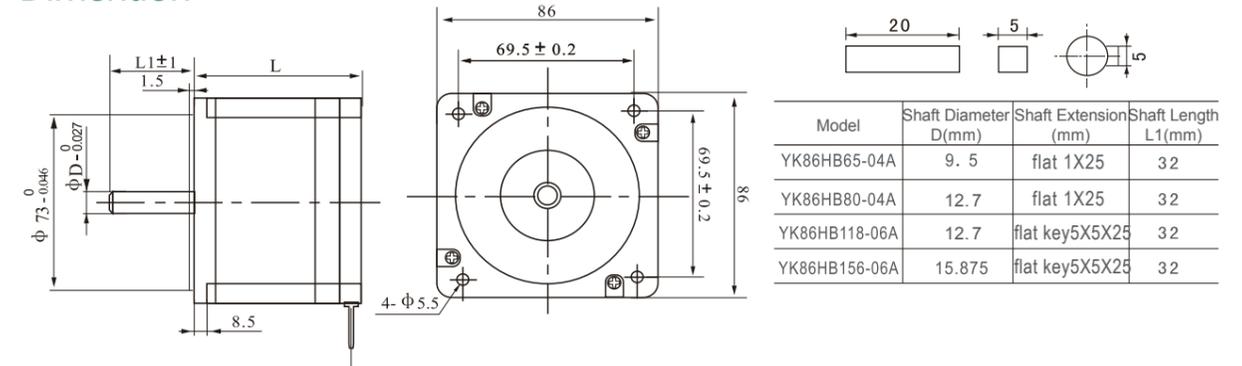
Model	Shaft Diameter D(mm)	Shaft Extension (mm)	Shaft Length L1(mm)
YK86HB65-04A	9.5	flat 1X25	32
YK86HB80-04A	12.7	flat 1X25	32
YK86HB118-06A	12.7	flat key5X5X25	32
YK86HB156-06A	15.875	flat key5X5X25	32

Frequency-torque Characteristics

Connections
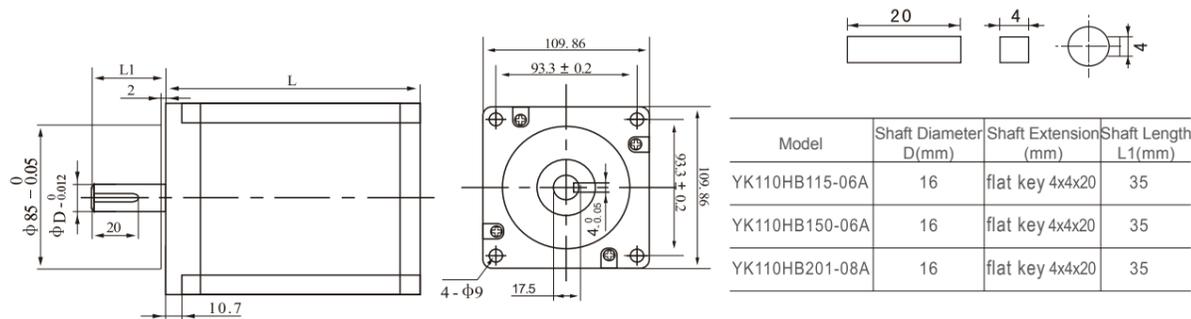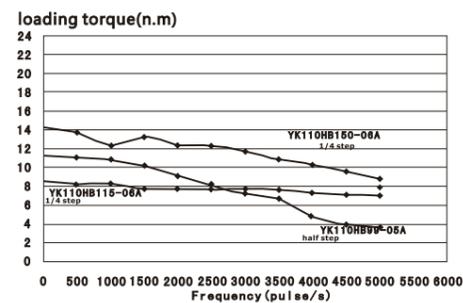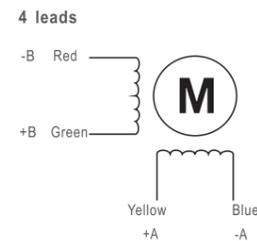
□110mm Series YAKO 2 Phase Hybrid Stepper Motor

General Specifications

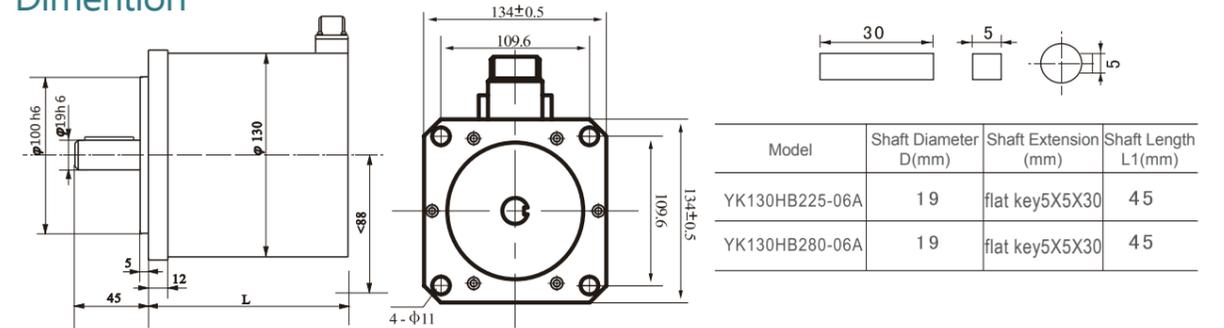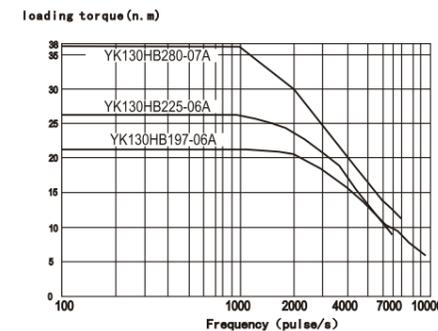|	
Step angle accurancy:	5%
Temperature:	80 C Max
Ambient Temperature:	−20 C-+50 C
Insulation Resistance:	100M Ω Min 500VDC
Voltage endurance:	500V AC 1minute
Shaft Radial Play:	Max0.06mm(450g)
Shaft Axial Play:	Max0.08mm（450g）

Specifications

Model	Step Angle (°)	Length L(mm)	Holding torque (N.m)	Current (A/phase)	Resistance (Ω)	Inductance (mH)	Rotor inertia (g.cm²)	Weight (kg)	Motor Leads
YK110HB99-05A		99	10	5.0	0.72	9.8	5500	5.0	4
YK110HB115-06A		115	12	6.0	0.44	4.9	7200	5.93	4
YK110HB150-06A	1.8	150	21	6.5	0.8	15	10900	8.35	4
YK110HB201-08A		201	28	8.0	0.67	12	16200	11.7	4

Dimention

Model	Shaft Diameter D(mm)	Shaft Extension (mm)	Shaft Length L1(mm)
YK110HB115-06A	16	flat key 4x4x20	35
YK110HB150-06A	16	flat key 4x4x20	35
YK110HB201-08A	16	flat key 4x4x20	35

Frequency-torque Characteristics

Connections

4 leads

-B Red
+B Green
Yellow +A
Blue -A

M

□130mm Series YAKO 2 Phase Hybrid Stepper Motor

General Specifications

Step angle accurancy:	5%
Temperature:	80 C Max
Ambient Temperature:	−20 C-+50 C
Insulation Resistance:	100M Ω Min 500VDC
Voltage endurance:	500V AC 1minute
Shaft Radial Play:	Max0.06mm（450g）
Shaft Axial Play:	Max0.08mm（450g）

Specifications

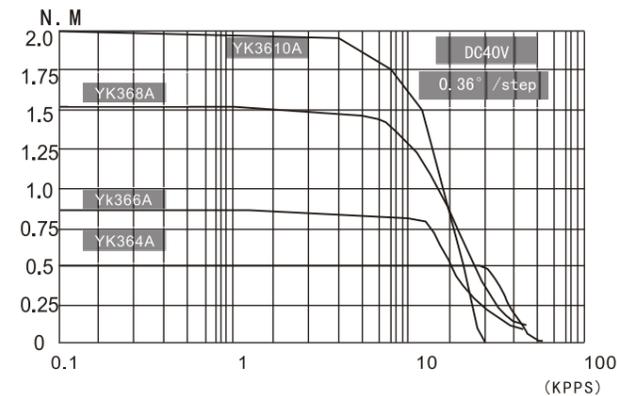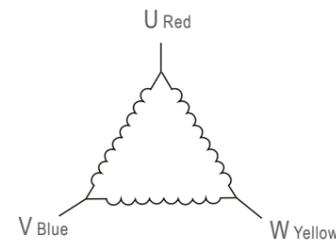| Model	Step Angle ° ( )	Length L(mm)	Holding torque (N.m)	Current (A/phase)	Resistance (Ω)	Inductance (mH)	Rotor inertia (g.cm²)	Weight (kg)
YK130HB225-06A		225	27	6.0	0.77	14	35000	17.3
YK130HB280-07A	1.8	280	37	7.0	0.64	11	45500	21.8

The above is standard sample, OEM/ODM is available.

Dimention

Model	Shaft Diameter D(mm)	Shaft Extension (mm)	Shaft Length L1(mm)
YK130HB225-06A	19	flat key5X5X30	45
YK130HB280-06A	19	flat key5X5X30	45

Frequency-torque Characteristics

Connections
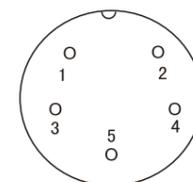
Phase	A+	A−	B+	B−	GND
NO.	1	2	3	4	5

□57mm Series YAKO 3 Phase Hybrid Stepper Motor

General Specifications

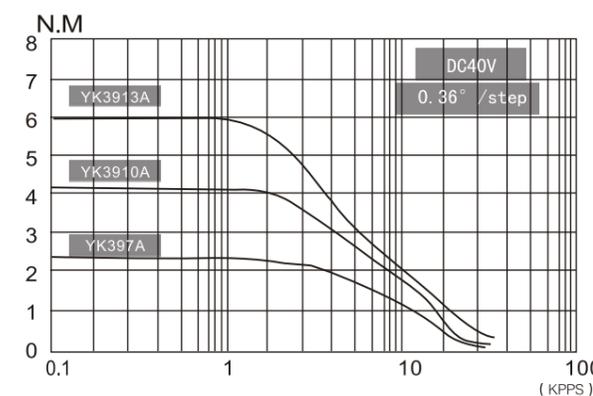|	
Step angle accurancy:	5%
Temperature:	80 C Max
Ambient Temperature:	−20 C-+50 C
Insulation Resistance:	100M Ω Min 500VDC
Voltage endurance:	500V AC 1minute
Shaft Radial Play:	Max0.06mm(450g）
Shaft Axial Play:	Max0.08mm（450g）

Specifications

Model	Step Angle (°)	Length L(mm)	Holding torque (N.m)	Current (A/phase)	Resistance (Ω)	Inductance (mH)	Rotor inertia (g.cm²)	Weight (kg)	Matched Driver
YK364A		40.5	0.45	5.2	0.242	0.22	100	0.5	YKD3606M
YK366A		56	0.9	5.6	0.55	1.62	300	0.75	YKD3606M
YK368A	1．2	79	1.5	5.8	0.7	2.4	480	1.1	YKD3606M
YK3610A		102	2.0	5.8	0.376	0.5	530	1.57	YKD3606M

The above is standard sample, OEM/ODM is available.

Dimention

Model	Shaft Diameter D(mm)	Shaft Extension (mm)	Shaft Length L1(mm)
YK364A	6.35	flat 0.5x15	21
YK366A	6.35	flat 0.5x15	21
YK368A	8.0	flat 0.5x15	21
YK3610A	8.0	flat 0.5x15	21

Frequency-torque Characteristics

Connections

U Red
V Blue
W Yellow

□86mm Series YAKO 3 Phase Hybrid Stepper Motor

General Specifications

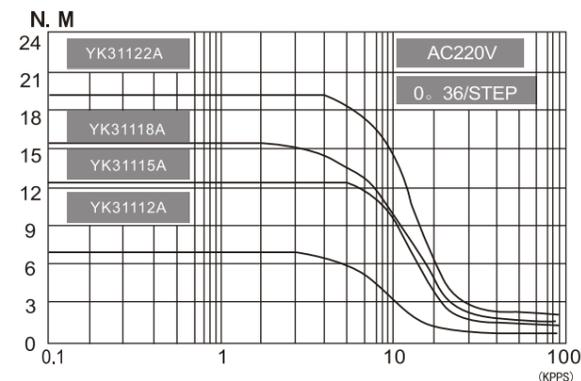|	
Step angle accurancy:	5%
Temperature:	80 C Max
Ambient Temperature:	−20 C-+50 C
Insulation Resistance:	100M Ω Min 500VDC
Voltage endurance:	500V AC 1minute
Shaft Radial Play:	Max0.06mm(450g）
Shaft Axial Play:	Max0.08mm（450g）

Specifications

Model	Step Angle (°)	Length L(mm)	Holding torque (N.m)	Current (A/phase)	Resistance (Ω)	Inductance (mH)	Rotor inertia (g.cm²)	Weight (kg)	Matched Driver
YK397A-H		69	2.26	1.75	5.6	21	1120	1.65	YKD3522M
YK397A		69	2.0	5.8	0.5	0.9	1320	2.0	YKD3608MH
YK3910A-H		97	4.0	2.0	4.65	14.6	2400	3.0	YKD3522M
YK3910A	1.2	97	4.0	5.8	0.7	1.5	2400	3.0	YKD3608MH/YKD3522M
YK3911A		105	4.2	4.0	1.35	6.7	3500	4.1	YKD3608MH/YKD3522M
YK3913A-H		127	6.78	3.0	6.85	39	3300	4.0	YKD3522M
YK3913A		127	6.78	5.8	1.06	6.37	3300	4.0	YKD3608MH/YKD3522M

Dimention

Model	Shaft Diameter D(mm)	Shaft Extension (mm)	Shaft Length L1(mm)
YK397A(-H)	12.0	flat key4x4x20	30
YK3910A(-H)	12.0	flat key4x4x20	30
YK3911A	11.0	flat key4x4x20	35
YK3913A(-H)	14.0	flat key4x4x20	30

Frequency-torque Characteristics

Connections

U Black
V Blue
W Brown

□110mm Series YAKO 3 Phase Hybrid Stepper Motor

General Specifications

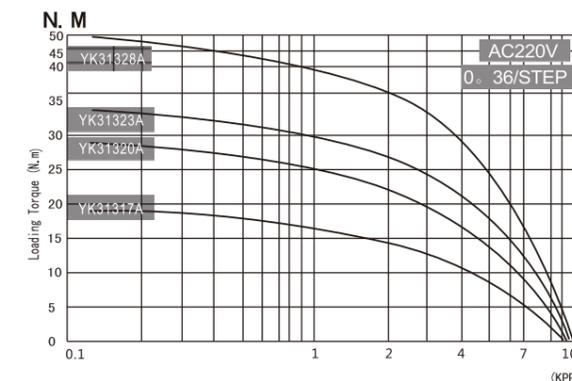|	
Step angle accurancy:	5%
Temperature:	80 C Max
Ambient Temperature:	−20 C-+50 C
Insulation Resistance:	100M Ω Min 500VDC
Voltage endurance:	500V AC 1minute
Shaft Radial Play:	Max0.06mm(450g)
Shaft Axial Play:	Max0.08mm（450g）

Specifications

Model	Step Angle (°)	Length L(mm)	Holding torque (N.m)	Current (A/phase)	Resistance (Ω)	Inductance (mH)	Rotor inertia (g.cm²)	Weight (kg)	Matched Driver
YK31112A	1.2	124.5	8.0	3.0	1.25	4.49	6000	5.0	YKD3722M
YK31115A		162	12	3.5	1.89	8.34	9720	6.4	YKD3722M
YK31118A		182	16	4.0	1.89	8.73	13560	9.0	YKD3722M
YK31122A		216	20	4.5	1.859	7.26	17400	11.1	YKD3722M

The above is standard sample, OEM/ODM is available.

Dimention

Model	Shaft Diameter (mm)	Shaft Extension (mm)
YK31112A	19	flat key 6x6x30
YK31115A	19	flat key 6x6x30
YK31118A	19	flat key 6x6x30
YK31122A	19	flat key 6x6x30

Frequency-torque Characteristics

Connections

Phase	1	2	3	4
NO.	U	V	W	GND

□130mm Series YAKO 3 Phase Hybrid Stepper Motor

General Specifications

Step angle accurancy:	5%
Temperature:	80 C Max
Ambient Temperature:	−20 C-+50 C
Insulation Resistance:	100M Ω Min 500VDC
Voltage endurance:	500V AC 1minute
Shaft Radial Play:	Max0.06mm(450g)
Shaft Axial Play:	Max0.08mm（450g）

Specifications

Model	Step Angle (°)	Length L(mm)	Holding torque (N.m)	Current (A/phase)	Resistance (Ω)	Inductance (mH)	Rotor inertia (g.cm²)	Weight (kg)	Matched Driver
YK31317A	1.2	168	23	5.0	1.859	7.26	25000	13.2	YKD3722M
YK31320A		197	30	5.0	1.1	4.9	30000	16	YKD3722M
YK31323A		225	36	6.0	2.8	17.9	35000	18.35	YKD3722M
YK31328A		280	50	6.0	3.3	21.52	45500	22.8	YKD3722M

The above is standard sample, OEM/ODM is available.

Dimention

Model	Shaft Diameter (mm)	Shaft Extension (mm)
YK31317A	19	flat key5x5x30
YK31320A	19	flat key5x5x30
YK31323A	19	flat key5x5x30
YK31328A	19	flat key5x5x30

Frequency-torque Characteristics

Connections

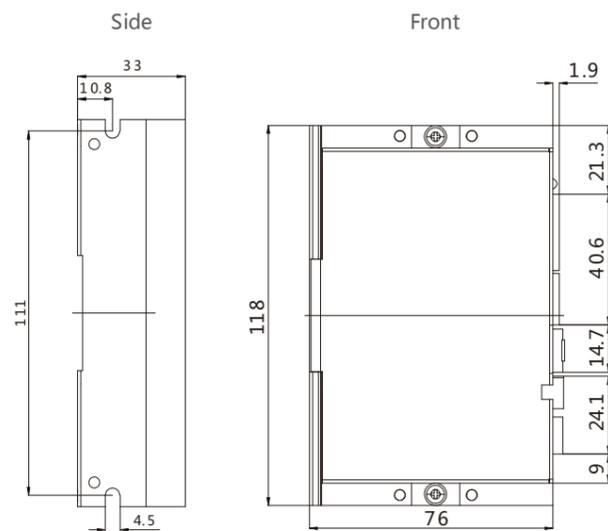| Phase	1	2	3	4	5	6	7
NO.	U		V		W		GND
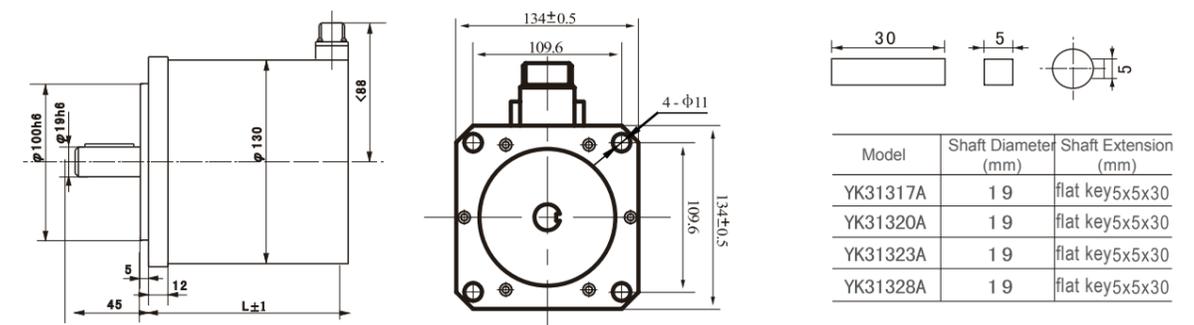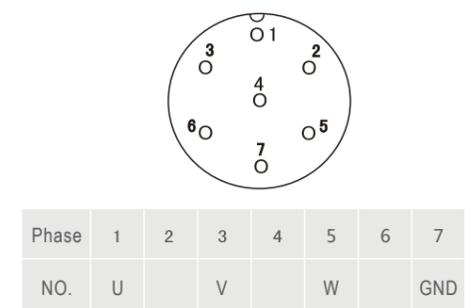
SSD2505M Close-loop Driver

Feature

- 32 bit DSP control technology
- 16 constant-torque microstep settings, 200 microsteps the highest
- 500Kpps pulse response frequency
- Input voltage range: DC24~50V
- Less torque attenuation, with 3000rpm efficient working speed
- Position and warning output signal for easy monitoring and control
- Current intelligent adjust to reduce vibration, noise and heat, increased 35% efficiency
- Single and double pulse selection, default setting: pulse+direction control
- Excellent high-speed performance and rigidity, perfectly integrated the advantages of servo and stepper

Description

SSD2505M takes the advantages of 32-bit DSP control technology and power angle control technology, maximum speed reaches more than 3000rmp. It's high-speed torque attenuation is much lower than ordinary open-loop stepper drive, which can greatly enhance the high-speed performance and torque efficiency, and reduce motor heating/vibration, thus to enhancing machine's efficiency and accuracy.

The use of load-based current control technology can effectively reduce motor heat, extend motor life. The position and warning output signal will assist host computer to monitor and control. And the position warning function ensures safe operation of processing machine.

Installation Dimensions (mm)

Side   Front

33
10.8
1.9
21.3
40.6
14.7
24.1
9
111
118
4.5
76

Driver Connection

Power Indicator(Green)
Malfunction Indicator(Red)

Pulse Signal Input+ ——— PU+
Pulse Signal Input- ——— PU-
Direction Signal Input+ ——— DR+
Direction Signal Input- ——— DR-
Motor free+ ——— MF+
Motor free- ——— MF-

Arrival Signal+ ——— PEND+
Arrival Signal- ——— PEND-
Alarm Signal+ ——— ALM+
Alarm Signal- ——— ALM-

Encode B Phase+ ——— EB+ NC
Encode B Phase- ——— EB- NC
Encode A Phase+ ——— EA+ NC
Encode A Phase- ——— EA- NC
Encode Power Supply ——— +5V GND
Encode Power GND
B Phase Motor+ ——— B- A-
A Phase Motor+
B Phase Motor+ ——— B+ A+
A Phase Motor-

DC 24 - 50 V ——— V+
——— V-

SSD2505M Microstep Setting

Microstep	2	4	8	16	32	64	128	256	5	10	20	25	40	50	100	200
PU/Rev	Default (400)	800	1600	3200	6400	12800	25600	51200	1000	2000	4000	5000	8000	10000	20000	40000
SW8	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW7	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF
SW6	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW5	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF

SW4	Resolved
SW3	Out-of-tolerance alarm OFF=90°, ON=360
SW2	Motor rotation direction OFF=CW, ON=CCW
SW1	Single/double pulse OFF=PU&DR, ON=CW&CCW

SSD2505M Motor Selection

Model No.	Voltage	Max. Current	Motor Encoder	
SSD2505M-C011	DC(24-50V)	2.3A	YK242EC51E1	YK242EC67E1
SSD2505M		5A	YK257EC56E1	YK257EC76E1
SSD2505M-C531		5A	YK257EH76E1	
SSD2505M-C231		5.8A	YK260EC86E1	

Terminal Introduction

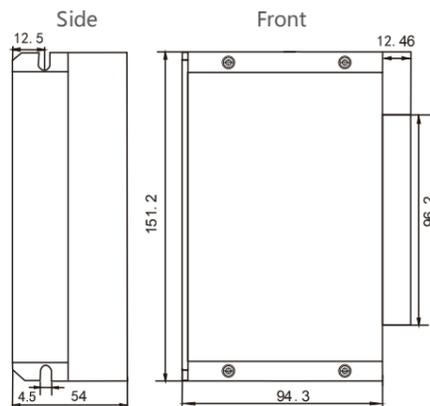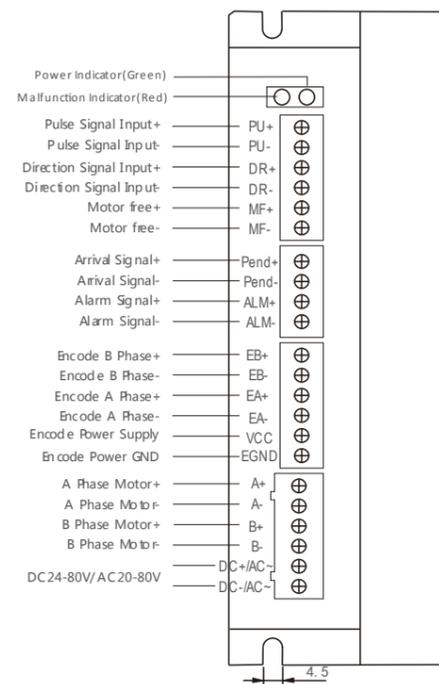| Mark	Function	Specification
PWR	Power Indicator	When power on, the green LED lights
ALM	Malfunction Indicator	Flicker 1 time:Over-current or short-curcuit;Flicker continuously two times:Over-voltage;Flicker continuously 3 times:Under-voltage;Flicker continously 5 times:tracking error or overproof.
PU+	Input signal photoelectric isolate+	+5V is standard signal input voltage.Add a resistor to shift to 24V input voltage.
PU-	SW1=OFF PU is Pulse Signal	Effects on falling edge ,motor runs one step as 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
	SW1=ON PU is clockwise pulse signal	
DR+	Direction input signal pulse +	+5V is standard signal input voltage.Add a resistor to shift to 24V input voltage.
DR-	SW1=OFF PU is Pulse Signal	Use it to change the direction. Input resistance is 220Ω. Requirement:low level:0-0.5V,high level:4-5V
	SW1=ON PU is CCW Pulse signal	Effects on falling edge,motor goes one step as the pulse input change from "high" to "low". Input resistance is 220Ω.Requirement:low level:0-0.5V,high level:4-5V.Pulse width>2.5µs.
MF+	Input signal photoelectric isolate+	+5V is standard signal input voltage.Add a resistor to shift to 24V input voltage.
MF-	Motor Free Signal -	When effects, it cut off motor current, the driver stops working and sets the motor free.
Pend+	Arrival Output Input +	When driver finished input pulse directive,and Arrival siganl effective.Pend+ connect pull-up resistor to power supply positive,Pend- connect with power suply negative. Max drive current is 50mA.
Pend-	Arrival Output Input -	
ALM+	Arrival Signal Input +	When Over-current,over-voltage,low-voltage or error happens,Alarm Siganl is effective. ALM+ connect with pull-up resistor to power supply positive and ALM- connect with Power suply negative.
ALM-	Arrival Signal Input -	
EB+/EB-	Encoder B phase input +/-	Encoder B phase input +/-
EA+/EA-	Encoder A phase input +/-	Encoder A phase input +/-
VCC	Encoder Power Supply	The 5V power supply for Encoder.
EGND	Encoder GND	Encoder Ground.
+A,-A	Motor Connection	4 leads
+B,-B		

SSD2608H Close-loop Driver

Feature

● 32 bit DSP control technology
● Digital and analog combination with advanced power angle close-loop control
● Current automatically change according to load
● 16 constant-torque microstep settings, 200 microsteps the highest
● Suitable for 57~86mm (NEMA 23~34) close-loop motor
● Photoelectric isolated signal input/output, high anti-interference ability
● 200Kpps pulse response frequency
● Input voltage range: DC24~80V/ AC20~80V/DC30~110V
● Fault protection: over current, over voltage, low voltage protection, position warning
● Small size: 152*95*54mm, 0.5kg

Description

SSD2608H takes the advantages of 32-bit DSP control technology and power angle control technology, maximum speed reaches more than 3000rmp. It's high-speed torque attenuation is much lower than ordinary open-loop stepper drive, which can greatly enhance the high-speed performance and torque efficiency, and reduce motor heating/vibration, thus to enhancing machine's efficiency and accuracy.

The use of load-based current control technology can effectively reduce motor heat, extend motor life. The position and warning output signal will assist host computer to monitor and control. And the position warning function ensures safe operation of processing machine.
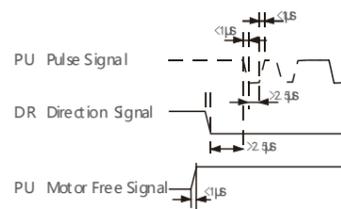
Installation Dimensions (mm)

Side   Front

12.5   12.46

151.2   96.2

4.5   54   94.3

Input Signal Timing Diagram

PU Pulse Signal

DR Direction Signal

PU Motor Free Signal

Driver Connection

Power Indicator(Green)
Malfunction Indicator(Red)
Pulse Signal Input+ — PU+
Pulse Signal Input- — PU-
Direction Signal Input+ — DR+
Direction Signal Input- — DR-
Motor free+ — MF+
Motor free- — MF-
Arrival Signal+ — Pend+
Arrival Signal- — Pend-
Alarm Signal+ — ALM+
Alarm Signal- — ALM-
Encode B Phase+ — EB+
Encode B Phase- — EB-
Encode A Phase+ — EA+
Encode A Phase- — EA-
Encode Power Supply — VCC
Encode Power GND — EGND
A Phase Motor+ — A+
A Phase Motor- — A-
B Phase Motor+ — B+
B Phase Motor- — B-
DC24-80V/AC20-80V — DC+/AC-
DC-/AC-

4.5

SSD2608H Microstep Setting

Microstep	2	4	8	16	32	64	128	256	5	10	20	25	40	50	100	200
PU/Rev	400	800	1600	3200	6400	12800	25600	51200	1000	2000	4000	5000	8000	10000	20000	40000
SW8	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW6	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF
SW5	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF

SW4   Reservation
SW3   Position Error Value:OFF=90。, ON=360。
SW2   Motor Rotate Direction:OFF=CW, ON=CCW
SW1   Single/Double Signal:OFF=PU&DR, ON=CW&CCW

SSD2608H Motor Selection

Model No.	Voltage	Max. Current		Matched Motors	Motor Encoder
SSD2608H	AC(20-80V)	6A	60	YK260EC86C1	Last letter of motor item No. shows the motor lines.1 means 1000 lines,2 shows 2500 lines.If user need 2500 lines,then change last letter from "1" to "2".
	DC(30-110V)		86	YK286EC80C1 YK286EC118A1 YK286EC118B1 YK286EC156B1 YK286EC156C1	

Terminal Introduction

| Mark	Function	Specification
PWR	Power Indicator	When power on, the green LED lights
ALM	Malfunction Indicator	Flicker 1 time:Over-current or short-curcuit;Flicker continuously two times:Over-voltage;Flicker continuously 3 times:Under-voltage;Flicker continously 5 times:tracking error or overproof.
PU+	Input signal photoelectric isolate+	+5V is standard signal input voltage.Add a resistor to shift to 24V input voltage.
PU-	SW1=OFF PU is Pulse Signal	Effects on falling edge ,motor runs one step as 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
	SW1=ON PU is clockwise pulse signal	
DR+	Direction input signal pulse +	+5V is standard signal input voltage.Add a resistor to shift to 24V input voltage.
DR-	SW1=OFF PU is Pulse Signal	Use it to change the direction. Input resistance is 220Ω. Requirement:low level:0-0.5V,high level:4-5V
	SW1=ON PU is CCW Pulse signal	Effects on falling edge,motor goes one step as the pulse input change from "high" to "low". Input resistance is 220Ω.Requirement:low level:0-0.5V,high level:4-5V.Pulse width>2.5µs.
MF+	Input signal photoelectric isolate+	+5V is standard signal input voltage.Add a resistor to shift to 24V input voltage.
MF-	Motor Free Signal -	When effects, it cut off motor current, the driver stops working and sets the motor free.
Pend+	Arrival Output Input +	When driver finished input pulse directive,and Arrival siganl effective.Pend+ connect pull-up resistor to power supply positive,Pend- connect with power suply negative. Max drive current is 50mA.
Pend-	Arrival Output Input -	
ALM+	Arrival Signal Input +	When Over-current,over-voltage,low-voltage or error happens,Alarm Siganl is effective. ALM+ connect with pull-up resistor to power supply positive and ALM- connect with Power suppy negative.
ALM-	Arrival Signal Input -	
EB+/EB-	Encoder B phase input +/-	Encoder B phase input +/-
EA+/EA-	Encoder A phase input +/-	Encoder A phase input +/-
VCC	Encoder Power Supply	The 5V power supply for Encoder.
EGND	Encoder GND	Encoder Ground.
+A,-A	Motor Connection	4 leads
+B,-B		

MS-S3 Servo-stepper Driver

Feature

- 32 bit DSP control technology
- Digital and analog combination with advanced power angle close-loop control
- Current automatically change according to load
- Microstep settings: continuously changeable from 400 to 60,000 pulse per round
- Suitable for 86mm (NEMA 34) close-loop motor
- Photoelectric isolated signal input/output, high anti-interference ability
- 200Kpps pulse response frequency
- Input voltage range: AC24~80V
- Fault protection: over current, over voltage, low voltage protection, position warning
- Six-digit LED display, user friendly for setting and monitoring

Description

MS-S3 series servo-stepper drive is the latest technology of YAKO. It combines 32-bit DSP motor control technology and power angle control technology, thus completely solved the problem of losing step.

Installation Dimensions (mm)

Side   Front

PU Pulse Signal

DR Direction Signal

MF Motor Free Signal
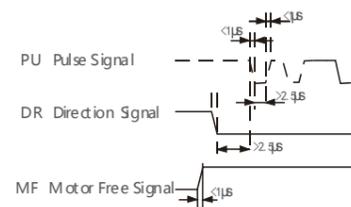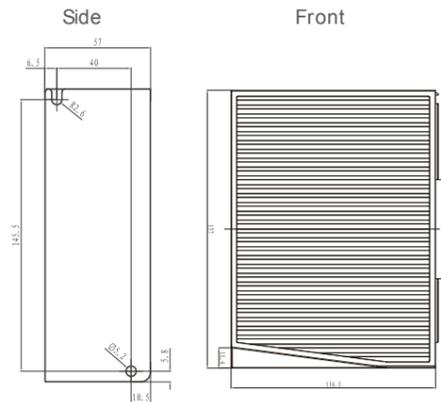
Driver Connection
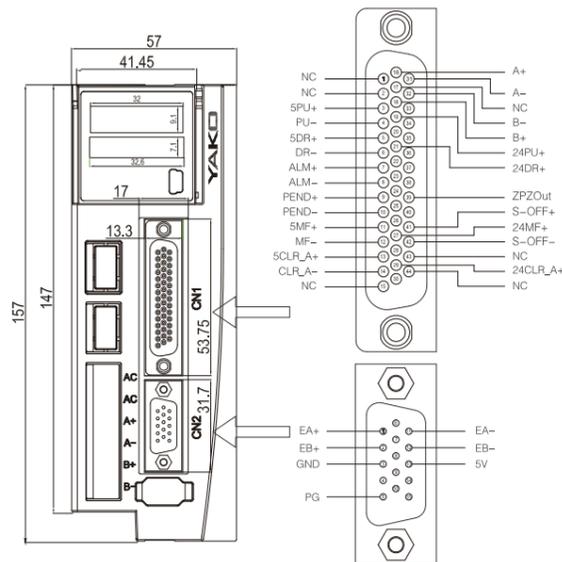
Electrical Indicators

Parameter	MS-S3			
	Min value	Typical value	Max. value	Unit
Contiuous output current	0	—	6.5	A
Input power voltage	30	70	80	Vac
Logic input current	7	10	20	mA
Pulse frequency	0	—	200	kHz
Insulation resistance	500	—	—	MΩ

Matching Motors

Driver Model	Motor Model	Max. output torque
MS-S3	YK286EC80A1	4N.m
	YK286EC118A1	8N.m
	YK286EC156A1	12N.m

Terminal Introduction

• Power input terminal

Terminal No.	Symbol	Name	Instruction
1	AC	Power Input terminal	connect with AC4V~80V
2	AC		
3	A+	Motor current cables	connect with red motor wire
4	A-		connect with blue motor wire
5	B+		connect with green motor wire
6	B-		connect with black motor wire

• Encoder feedback terminal

Connect motor's encoder with driver through encoder cable which we offer。

Definition of Control Signal Termianl

Terminal No.	Name	Specification	Remark
3	5PU+	Pulse input 5V+	Pulse input signal
4	PU-	Pulse input -	
19	24PU+	Pulse input 24V+	
5	5DR+	Direction input 5V+	Direction input signal
6	DR-	Negative direction input	
21	24DR+	Direction input 24V+	
11	5MF+	Motor free 5V+	Motor free input signal
12	MF-	Negative motor free input	
27	24MF+	Motor free 24V+	
13	5CLR_A+	Over-error alarm clear input 5V+	Motor free input signal
14	CLR_A-	Negative over-error alarm clear input	Over-error alarm clear signal
29	24CLR_A+	Over-error alarm clear input 24V+	

Terminal No.	Terminal Name	Specification	Remark
9	PEND+	Arrival output+	Arrival output signal
10	PEND-	Arrival output-	
7	ALM+	Positive alarm signal output	Alarm output signal
8	ALM-	Negative alarm signal output	
41	S-OFF+	S-OFF+, positve output of motor shaft	shaft control signal
42	S-OFF-	S-OFF-, negative oputput of motor shaft	output signal
16	A+	Encoder A output+	Encoder pulse differential output signal
31	A-	Encoder A output-	
18	B+	Encoder B output+	
32	B-	Encoder B output-	
34	Z+	Encoder Z output+	
35	Z-	Encoder Z output-	
39	ZPZOut	ZPOut, encoder Z output	

Note

• MS-Sx has one 6-bit digital tube display, the driver will stop work and display the error code when the driver encounter some problem; and if several errors happen at the same time, it will display one by one, and it can save 10 latest errors in the driver"EEPROM.

MS-L3 Hybrid Servo Driver

Feature

- 32 bit DSP control technology
- Advanced lead angle and vector control algorithm;
- Current automatically change according to load
- Microstep settings: continuously changeable from 400 to 60,000 pulse per round
- Suitable for 86~110mm (NEMA 34~42) close-loop motor
- Photoelectric isolated signal input/output, high anti-interference ability
- 200Kpps pulse response frequency
- Input voltage range: AC220V
- Fault protection: over current, over voltage, low voltage protection, position warning
- Six-digit LED display, user friendly for setting and monitoring

Description

MS-L3 series servo-stepper drive is the latest technology of YAKO. It combines 32-bit DSP motor control technology and power angle control technology, thus completely solved the problem of losing step.

MS-L3 increases high and low speed performance and torque utilization efficiency, effectively reduce motor heat, thus to enhance machine's processing efficiency/accuracy and reduce energy consumption. It has obvious advantage on cost compared with traditional AC servo system.

Installation Dimensions (mm)

Side　　　　　　Front

PU Pulse Signal

DR Direction Signal

MF Motor Free Signal
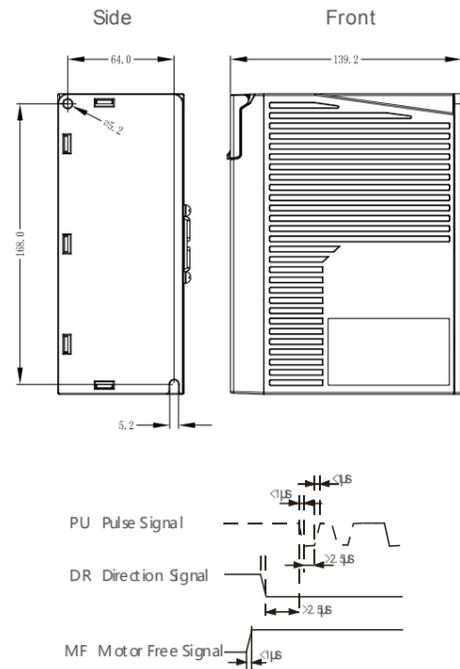
Driver Connection
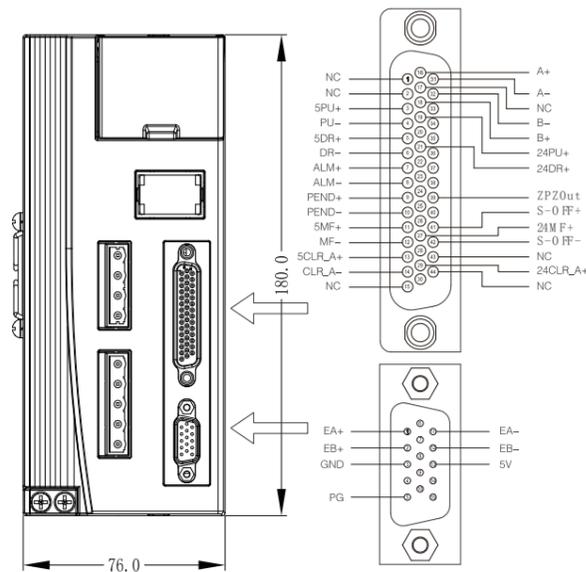
Electrical Indicators

Parameter	MS-L3			
	Min value	Typical value	Max. value	Unit
Contiuous output current	0	—	6.0	A
Input power voltage	150	220	240	Vac
Logic input current	7	10	20	mA
Pulse frequency	0	—	200	kHz
Insulation resistance	500	—	—	MΩ

Terminal Introduction

• Power input terminal

Terminal No.	Symbol	Name	Instruction
1	AC	Power Input terminal	connect with AC220V
2	AC		
3	BRK+	Brake resistor	Externally connect with brake resistor
4	BRK -		

Definition of Control Signal Termianl

Terminal No.	Terminal Name	Instruction	Remark
3	5PU+	Pulse input 5V+	Pulse input signal
4	PU-	Negative pulse input	
19	24PU+	Pulse input 24	
5	5DR+	Direction input 5+	Direction input signal
6	DR-	Negative direction	
21	24DR+	Direction input 24V+	
11	5MF+	Motor free 5V+	Motor free input
12	MF-	Negative motor	
27	24MF+	Motor free 24V+	
13	5CLR_A+	over-error alarm clear input 5V+	Motor free input signal
14	CLR_A-	Negative over-error lear input	Over-error alarm clear signal
29	24CLR_A+	Over-error alarm clear input 24V+	

Matching Motors

Driver Model	Motor Model		Max. output torque
MS-L3	YK385EC127A1	YK385EC127B1	8N.m
MS-L3	YK3110EC140C1	YK3110EC140C1-S	12N.m
MS-L3	YK3110EC220C1	YK3110EC220C1-S	20N.m

■ Motor output terminal

Symbol	Name	Instruction
U	Driver output	Connect with motor's U.V.W
V		
W		
NC	NC	Resolved
PE	GND	GND

The driver outputs power to motor through U, V, and W terminals.The driver's U,V and W can only connect with motor's U,V,W resistance, cannot connect with AC. And the motor's U,V,W must connect with driver's U,V,W one by one, or the motor can't work normally.

Terminal No.	Terminal Name	Instruction	Remark
9	PEND+	Positive arrival output signal	Arrival output signal
10	PEND-	Negative arrival output signal	
7	ALM+	Positive alarm output signal	Alarm output signal
8	ALM-	Negative alarm output signal	
41	S-OFF+	Motor brake control output+	shaft control signal
42	S-OFF-	Motor brake control output-	output signal
16	A+	Encoder A ouput+	Encoder pulse differential output signal
31	A-	Encoder A ouput-	
18	B+	Encoder B ouput+	
32	B-	Encoder B ouput-	
34	Z+	Encoder Z ouput+	
35	Z-	Encoder Z ouput-	
39	ZPZOut	Encoder Z single output	

Note

MS-L3 has one 6-bit digital tube display, the driver will stop work and display the error code when the driver encounter some problem; and if several errors happen at the same time, it will display one by one, and it can save 10 latest errors in the driver' EEPROM.

# □42mmYAKO 2 Phase Close-loop Stepper Motor

General Specifications

Step angle accurancy: 5%
Temperature: 80 C Max
Ambient Temperature: −20 C-+50 C
Insulation Resistance: 100M Ω Min 500VDC
Voltage endurance: 500V AC 1minute
Shaft Radial Play: Max0.06mm(450g）
Shaft Axial Play: Max0.08mm（450g）

Specifications

Model	Step Angle (°)	Voltage (V)	Length L(mm)	Holding torque (N.m)	Current (A/phase)	Resistance (Ω)	Inductance (mH)	Rotor inertia (g.cm²)	Weight (kg)
YK242EC51E1	1.8	2.5	79	0.5	2.3	1.0	1.9	77	0.53
YK242EC67E1	1.8	3	95	0.7	2.3	1.4	3.1	115	0.67

Dimention
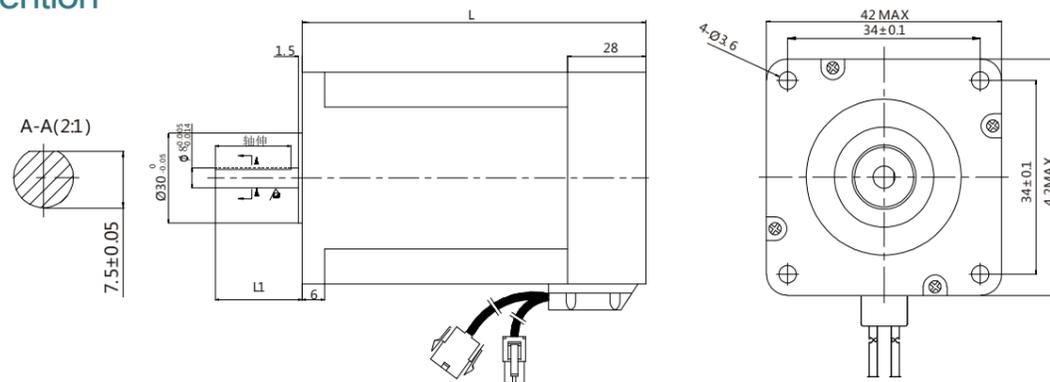
Encoder Connection

Black	EGND
Blue/Whtie	E A -
Yellow/Whtie	E B -
Red	+5 V C C
Blue	E A +
Yellow	E B +
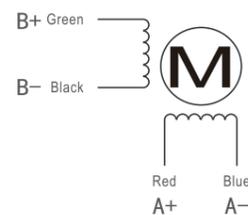
Connections

Model	Shaft Diameter	Shaft Extension	Shaft Length
YK242EC51E1	8	flat0.5X15	21
YK242EC67E1	8	flat0.5X15	21

Caution

1.Please connect motor and encoder exactly,or the motor will alarm.

2.Please don't knock the motor's back cover, or it will damage the encoder.

□57mmYAKO 2 Phase Close-loop Stepper Motor

General Specifications

Step angle accurancy: 5%
Temperature: 80 C Max
Ambient Temperature: −20 C-+50 C
Insulation Resistance: 100M Ω Min 500VDC
Voltage endurance: 500V AC 1minute
Shaft Radial Play: Max0.06mm(450g）
Shaft Axial Play: Max0.08mm（450g）

Specifications

| Model	Step Angle (°)	Voltage (V)	Length L(mm)	Holding torque (N.m)	Current (A/phase)	Resistance (Ω)	Inductance (mH)	Rotor inertia (g.cm²)	Weight (kg)
YK257EC56E1	1.8	2.15	78	1.2	5.0	0.43	1.8	280	0.8
YK257EC76E1	1.8	2.15	98	2.0	5.0	0.4	1.8	480	1.15
YK257EC80E1	1.8	2.15	102	2. 2	5.0	0.4	2.0	520	1.15
YK257EH76E1	~	2.15	98	1.5	5.0	0.44	2.4	480	1.15

Dimention
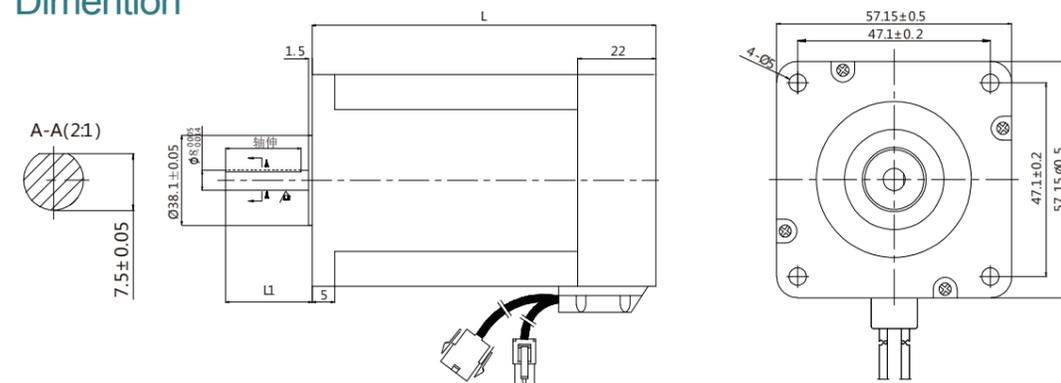
Encoder Connection

Black	EGND
Blue/Whtie	E A -
Yellow/Whtie	E B -
Red	+5 V C C
Blue	E A +
Yellow	E B +
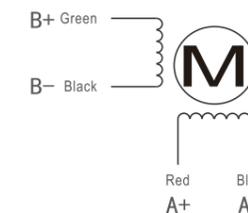
Connections

Model	Shaft Diameter D(mm)	Shaft Extension (mm)	Shaft Length L1(mm)
YK257EC56E1	8	flat 0.5X15	21
YK257EC76E1	8	flat 0.5X15	21
YK257EC80E1	8	flat 0.5X25	30
YK257EH76E1	8	flat 0.5X15	21

Caution

1.Please connect motor and encoder exactly,or the motor will alarm.

2.Please don't knock the motor's back cover, or it will damage the encoder.

□60mmYAKO 2 Phase Close-loop Stepper Motor

General Specifications

Step angle accurancy: 5%
Temperature: 80 C Max
Ambient Temperature: −20 C-+50 C
Insulation Resistance: 100M Ω Min 500VDC
Voltage endurance: 500V AC 1minute
Shaft Radial Play: Max0.06mm(450g）
Shaft Axial Play: Max0.08mm（450g）

Specifications

Model	Step Angle (°)	Voltage (V)	Length L(mm)	Holding torque (N.m)	Current (A/phase)	Resistance (Ω)	Inductance (mH)	Rotor inertia (g.cm²)	Weight (kg)
YK260EC65E1	1.8	2.26	87	2.0	5.8	0.39	2.0	490	1.2
YK260EC86E1	1.8	2.26	108	3.0	5.0	0.50	2.0	690	1.3

Dimention
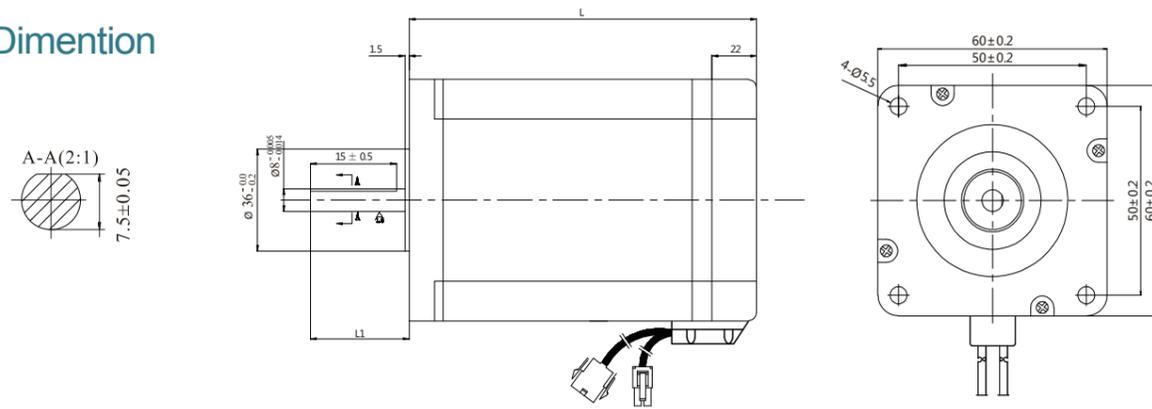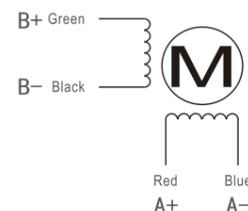
Model	Shaft Diameter	Shaft Extension	Shaft Length
YK260EC65E1	8	flat 0.5X20	24
YK260EC86E1	8	flat 0.5X20	24

Encoder Connection

Black	EGND
Blue/Whtie	EA-
Yellow/Whtie	EB-
Red	+5VCC
Blue	EA+
Yellow	EB+

Connections

Caution

1.Please connect motor and encoder exactly,or the motor will alarm.
2.Please don't knock the motor's back cover, or it will damage the encoder.

□86mmYAKO 2 Phase Close-loop Stepper Motor

General Specifications

Step angle accurancy: 5%
Temperature: 80 C Max
Ambient Temperature: −20 C-+50 C
Insulation Resistance: 100M Ω Min 500VDC
Voltage endurance: 500V AC 1minute
Shaft Radial Play: Max0.06mm(450g）
Shaft Axial Play: Max0.08mm（450g）

Specifications

Model	Step Angle (°)	Voltage （V）	Length L(mm)	Holding torque (N.m)	Current (A/phase)	Resistance (Ω)	Inductance (mH)	Rotor inertia (g.cm²)	Weight (kg)	Motor Leads
YK286EC80A1	1.8	3.0	106	8.0	6.0	0.5	6.5	3600	4.0	4
YK286EC118A1	1.8	2.45	144	8.0	6.0	0.44	3.73	3200	5.0	4
YK286EC156C1	1.8	2.45	182	12.0	6.0	0.45	5.20	4800	4.5	4

Dimention
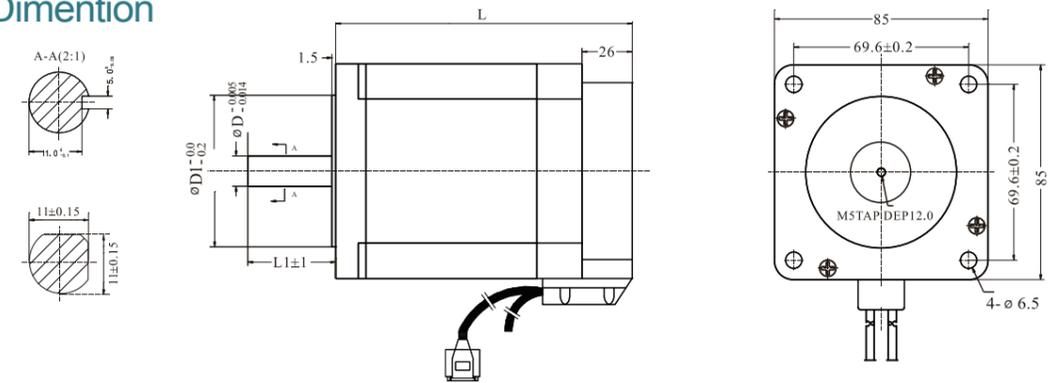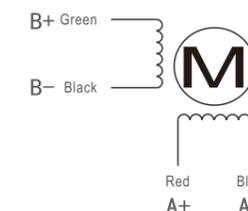
Model	Shaft Diameter D(mm)	Shaft Extension (mm)	Shaft Length L1(mm)	Center bore D1(mm)
YK286EC80A1	14	flat key 5X5X25	40	60
YK286EC118A1	14		40	60
YK286EC156C1	14		40	73

Encoder Connection

Black	EGND
Blue/Whtie	EA-
Yellow/Whtie	EB-
Red	+5VCC
Blue	EA+
Yellow	EB+

Connections

Caution

1.Please connect motor and encoder exactly,or the motor will alarm.
2.Please don't knock the motor's back cover, or it will damage the encoder.

□86mmYAKO 3 Phase Close-loop Stepper Motor

General Specifications

Step angle accurancy: 5%
Temperature: 80 C Max
Ambient Temperature: −20 C-+50 C
Insulation Resistance: 100M Ω Min 500VDC
Voltage endurance: 500V AC 1minute
Shaft Radial Play: Max0.06mm(450g）
Shaft Axial Play: Max0.08mm（450g）

Specifications

Model	Step Angle (°)	Voltage (V)	Length L(mm)	Holding torque (N.m)	Current (A/phase)	Resistance (Ω)	Inductance (mH)	Rotor inertia (g.cm²)	Weight (kg)	Motor Leads
YK386EC127A1	1.2	220	153	8.0	4.0	5.6	43	4056	4.26	4

Dimention
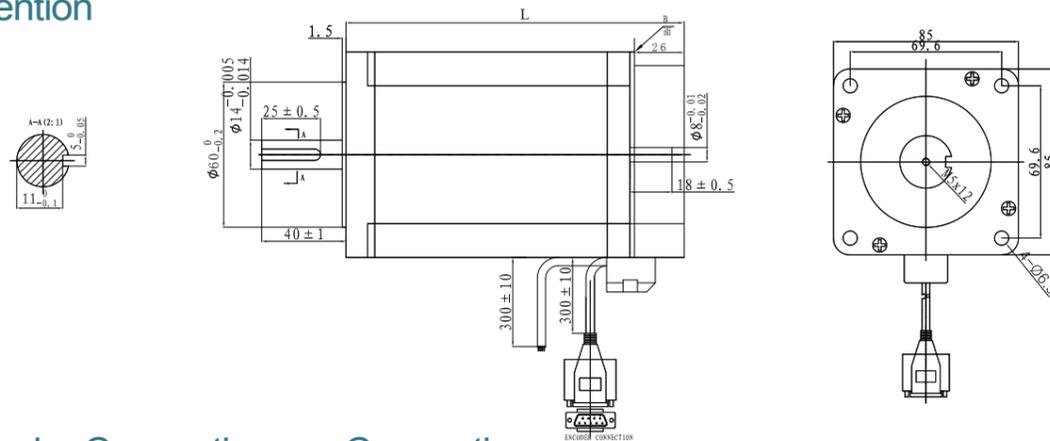
Encoder Connection

Black	EGND
Blue/Whtie	EA -
Yellow/Whtie	EB -
Red	+5VCC
Blue	EA +
Yellow	EB +

Connections

B+ Green
B− Black
Red A+　Blue A−
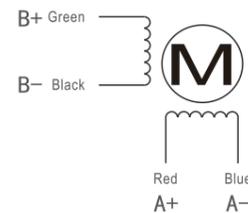
Model	Shaft Diameter D(mm)	Shaft Extension (mm)	Shaft Length L1(mm)	Center bore (mm)
YK386EC127A1	14	平键5x5x25	40	60

Caution

1.Please connect motor and encoder exactly,or the motor will alarm.

2.Please don't knock the motor's back cover, or it will damage the encoder.

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□110mmYAKO 3 Phase Close-loop Stepper Motor

General Specifications

Step angle accurancy: 5%
Temperature: 80 C Max
Ambient Temperature: −20 C-+50 C
Insulation Resistance: 100M Ω Min 500VDC
Voltage endurance: 500V AC 1minute
Shaft Radial Play: Max0.06mm(450g）
Shaft Axial Play: Max0.08mm（450g）

Specifications

Model	Step Angle (°)	Voltage (V)	Length L(mm)	Holding torque (N.m)	Current (A/phase)	Resistance (Ω)	Inductance (mH)	Rotor inertia (g.cm²)	Weight (kg)	Motor Leads
YK3110EC140C1	1.2	220	161	12	4.2	1.2	13	9320	6.5	3
YK3110EC220C1	1.2	220	243	20	4.2	1.88	18	12510	10.4	3

Dimention
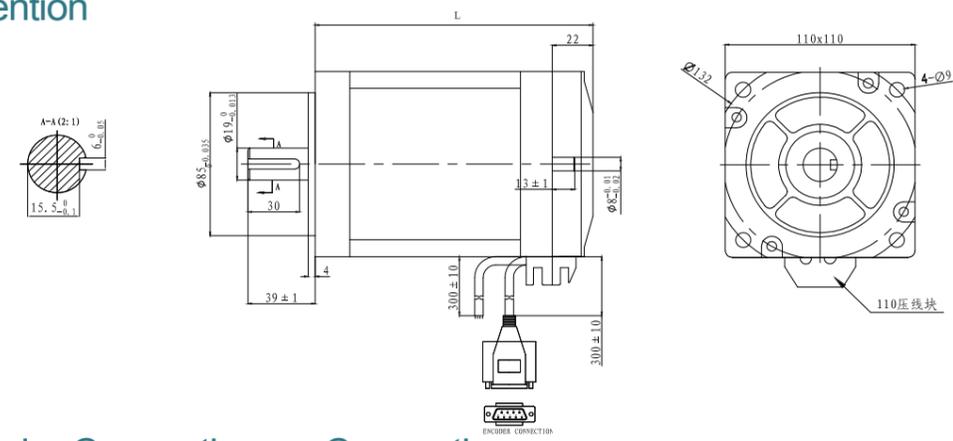
Encoder Connection

Black	EGND
Blue/Whtie	EA -
Yellow/Whtie	EB -
Red	+5VCC
Blue	EA +
Yellow	EB +

Connections

B+ Green
B− Black
Red A+　Blue A−
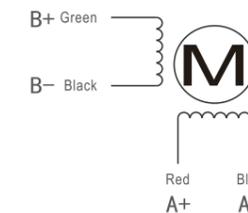
Model	Shaft Diameter D(mm)	Shaft Extension (mm)	Shaft Length L1(mm)	Center bore (mm)
YK3110EC140C1	19	flat key 6X6X30	39	85
YK3110EC220C1	19	flat key 6X6X30	39	85

Caution

1.Please connect motor and encoder exactly,or the motor will alarm.

2.Please don't knock the motor's back cover, or it will damage the encoder.

2006
YAKO was founded
YAKO started stepper driver mass production

2007
YAKO motion control series products launched into market

2008
YAKO was awarded as one of Top 5 Name Brand of Driver in China

2009
YAKO launched servo system
YAKO was awarded as National High-Tech Enterprise

2010
YAKO got Enterprise Software Certification
YAKO became one of the best suppliers of stepper driver in China

2011
YAKO factory was enlarged
YAKO Shanghai branch company and YAKO service center was enlarged

2012
YAKO established Marketing Center, R&D Center and Production Center
YAKO started Lean Production Management System to factory

2013
YAKO launched close-loop stepper motor and driver
YAKO launched servo-stepper driver
YAKO factory was enlarged

2014
YAKO announced a new high sales turnover

2015
YAKO was enlarged by Shenzhen Topband Co., Ltd. (stock code 002139)

2016
YAKO announced a new high sales turnover

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