YKD2822M
Digital Stepper Driver

Feature

o New generation 32 bit Digital Signal Processing Technology,enhenced performance from the analogy technology.

o Voltage input :AC110-265V,Max. Current 8A

o The highest pulse response frequence is 400Kpps.

o According different motors to set the driver parameter.

o With the pulse micro subdivision function,to make motor working steady.

o According speed and microstep to select pulse filter frequency.

o With Self-inspection pulse.

o With 4 kinds Motor Lock current,when current stopped over 500ms,current reduced to locked current.
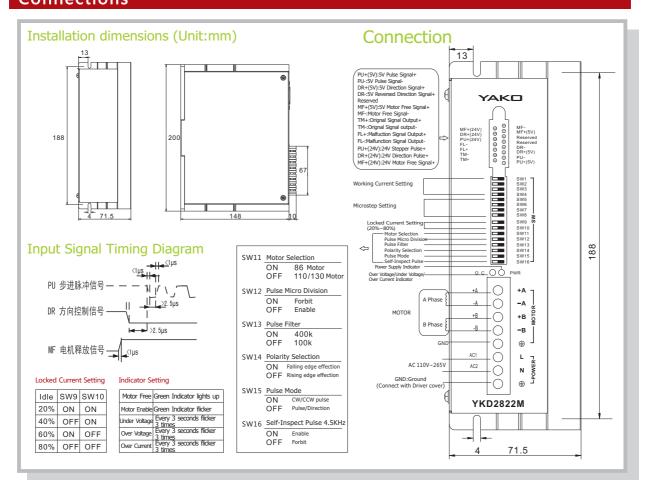
Typical Applications

Engraving machines,Laser Applications,labling machine,Electronic Applications,Advertisement Applications,Package Machines.

Description

YKD2822M Digital stepper driver based on a new generation DSP technology,it is high specification digital stepper drivers,input range from AC110-2650V,peak current is 8A,match 2 phases stepper motor from frange size 86-130mm.

YKD2822M cite the control technology similar as servo.Unique circuit design,excellent software algorithms make motor working smoothly,and super low noise and vibrations.The smooth,precise current control technology reduced motor heat.Extra 16 kinds microstep.Photoelectric isolated signal input,anti-resonance,over-voltage and error protection;used a lot at medical equipment,dispenser machine,and so on.

Connections

Installation dimensions (Unit:mm)

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+:Malfunction 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
Pulse Micro Division
Pulse Filter
Polarity Selection
Pulse Mode
Self-Inspect Pulse
Power Supply Indicator
Over Voltage/Under Voltage/
Over Current Indicator

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

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

O.C PWR

MOTOR
A Phase   +A   +A
           -A   -A
B Phase   +B   +B
           -B   -B
           GND

AC 110V~265V   AC1   L
               AC2   N

GND:Ground
(Connect with Driver cover)

YKD2822M

Input Signal Timing Diagram

PU 步进脉冲信号

<1μs   <1μs

DR 方向控制信号

>2.5μs

>2.5μs

MF 电机释放信号

<1μs

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

SW Settings

SW11	Motor Selection	
	ON	86 Motor
	OFF	110/130 Motor
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

细分数	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

Current 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
Current 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

Indicator Pins Function Description

Mark	Function	Description
PWR	Power indicator	When power on, the green LED lights up.
O. C	Over or Under Voltage/Over Current Indicator	When Over Voltage,Under voltage,or over Current,the indicator become red.
PU+24V/5V	Input Signal photoelectric isolation+(24V/5V)	Connect with +24V/+5V Signal input.
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" ..Requirement: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/+5V Signal input.
DR−	DP15=ON CCW Stepper Pulse Signal	Effects on falling edge ,the motor goes one step as the pulse input change from "high" to "low" ..Requirement: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 Direction control signal	To change the motor direction.Requirement: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/+5V Signal input.
MF−	Motor Free Signal	When effective(Low voltage),motor is free.
FL+	Over&Under Voltage,over current photoelectric isolation+	FL+ connect with limited resistor.
FL−	Over&Under Voltage,over current photoelectric isolation-	FL- connect with GND,Max. Current is 50mA,max. voltage is 50V.
TM+/TM−	Orignal 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 ———— +B, −B	Motor Connection	Four Leads Six Leads Eight leads For low speed Eight leads For high speed