

细节造就品质 科技引领未来
THE DETAILS CREATE QUALITY THE TECHNOLOGY LEADS THE FUTURE

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FUYU
福誉科技

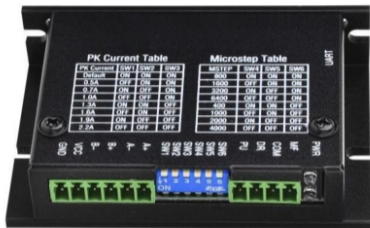
FMDD36D22NOM

驱动器

使用指南手册版本: V 2.0

FUYU TECHNOLOGY CO.,LTD

一. 产品简介



FMDD36D22NOM是基于DSP控制的二相混合式步进电机驱动器，是新一代数字式步进电机驱动器。驱动电压为DC12V~36V，适配电流在2.2A以下、外径39~42mm的各种型号的二相混合式步进电机。运行平稳，震动和噪音极小。定位精度最高可达6400步/转。该产品广泛应用于激光加工设备、医疗设备、测量设备、电子。

特点

- ◆设有8档等角度恒力矩细分，最高分辨率6400步/转
- ◆最高响应频率可达200Kpps

- ◆自动半流用户可设，步进脉冲停止超过1.5s时，线圈电流自动减到设定电流的一半
- ◆光电隔离信号输入/输出
- ◆驱动电流0.3A/相到2.2A/相分8档可调
- ◆单电源输入，电压范围: DC12~36V

注意事项

- 1、输入电压不能超过DC36V;
- 2、输入控制信号电平为+5V~+28V范围，高于+5V时无需外接限流电阻;
- 3、输入脉冲信号上升沿有效;
- 4、驱动器温度超过80度时驱动器停止工作，故障指示灯ALM亮，直到驱动器温度降到50度时，驱动器需要重新上电才能恢复工作。出现过热保护请加装散热器;
- 5、过流(负载短路)故障指示灯ALM亮，请检查电机接线及其他短路故障，排除后需要重新上电恢复;
- 6、无电机故障指示灯ALM亮，请检查电机接线，排除后需要重新上电恢复。

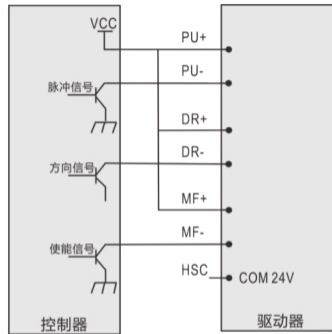
拨码设置 (选择峰值电流 1A 即可)

峰值电流(A)	Default	0.5	0.7	1	1.3	1.6	1.9	2.2
		运行电流(A)	0.35	0.49	0.71	0.92	1.13	1.34
SW1	ON	OFF	ON	OFF	ON	OFF	ON	OFF
SW2	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW3	ON	ON	ON	ON	OFF	OFF	OFF	OFF

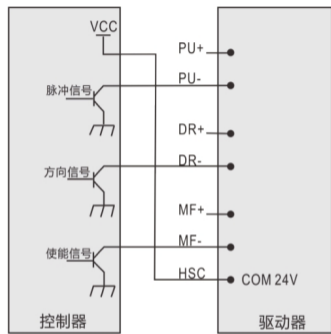
运行电流

细分数	800	1600	3200	6400	400	1000	2000	4000
	SW4	ON	OFF	ON	OFF	ON	OFF	ON
SW5	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW6	ON	ON	ON	ON	OFF	OFF	OFF	OFF

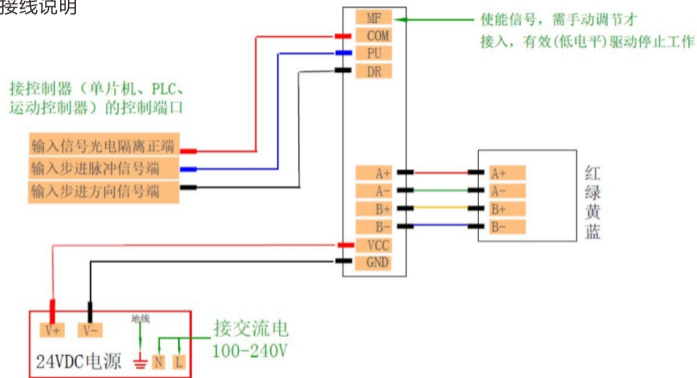
细分数



共阳接法



接线说明



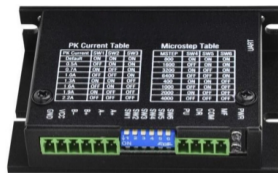
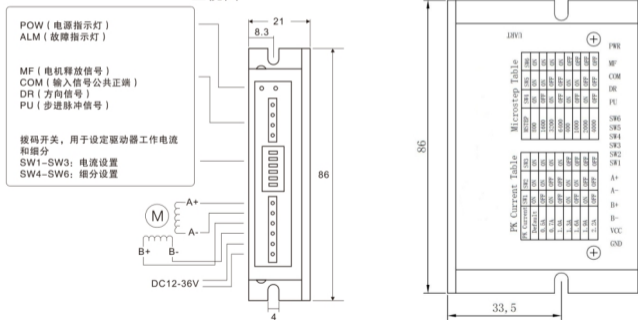
功能引脚定义

标记符号	功能	说明
PU	步进脉冲信号	上升沿有效，每当脉冲由高变低时电机走一步，输入电阻 220Ω，要求：低电平 0-0.5V，高电平大于 4V，脉冲宽度 > 2.5μS
DR	方向控制信号	用于改变电机转向。输入电阻 220Ω，要求：低电平 0-0.5V，高电平大于 4V，脉冲宽度 > 2.5μS
COM	输入信号公共端	接信号电源正端，幅度范围 +5V-+28V 均可驱动，高于 +5V 时无需外接线流电阻
MF	电机释放信号	有效（低电平）时关断电机接线电流，驱动器停止工作，电机处于自由状态
GND	电源负端	电源：DC12-36V
VCC	电源正端	

A+	电机接线	电源：DC12-36V
A-		
B+		
B-		

产品安装尺寸

正视图



FMDD36D22NOM is a two-phase hybrid stepper motor driver based on DSP control, and it is a new generation of digital stepper motor driver. The driving voltage is DC12V~36V, suitable for various types of two-phase hybrid stepping motors with a current below 2.2A and an outer diameter of 39~42mm. Smooth operation, minimal vibration and noise. The positioning accuracy can reach up to 6400 steps/rev. This product is widely used in laser processing equipment, medical equipment, measuring equipment, electronic

Application

It is widely used in curving machine, processing equipment, packing machine, electronic machine, CNC and etc.

Feature

- ◆ Equipped with 8 equal-angle and constant-torque subdivisions, the highest resolution is 6400 steps/rev
- ◆ The highest response frequency can reach 200Kpps
- ◆ Opto-isolated signal input/output
- ◆ Drive current 0.3A/phase to 2.2A/phase adjustable in 8 steps

- ◆ Automatic half current can be set by the user, when the stepping pulse stops for more than 1.5s, the coil current will be automatically reduced to half of the set current
- ◆ Single power input, voltage range: DC12~36V

Current Setting

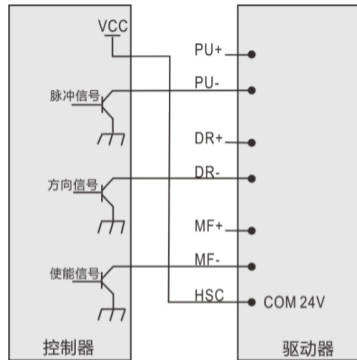
Stepper driver working current is set by DIP switches SW1 to SW3. Running current is the output.

Max current (A)	Default	0.5	0.7	1	1.3	1.6	1.9	2.2
Rated current (A)		0.35	0.49	0.71	0.92	1.13	1.34	1.56
SW1	ON	OFF	ON	OFF	ON	OFF	ON	OFF
SW2	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW3	ON	ON	ON	ON	OFF	OFF	OFF	OFF

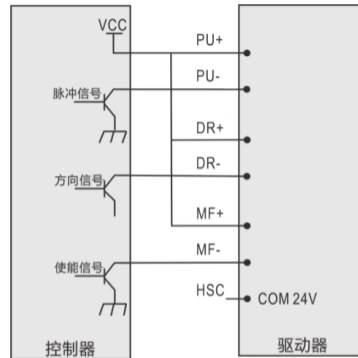
Subdivision(micro step) Setting

The subdivision is set by DIP switches SW4 to SW6, 8 channels in total.

Subdivision	800	1600	3200	6400	400	1000	2000	4000
SW4	ON	OFF	ON	OFF	ON	OFF	ON	OFF
SW5	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW6	ON	ON	ON	ON	OFF	OFF	OFF	OFF



5V signal connection

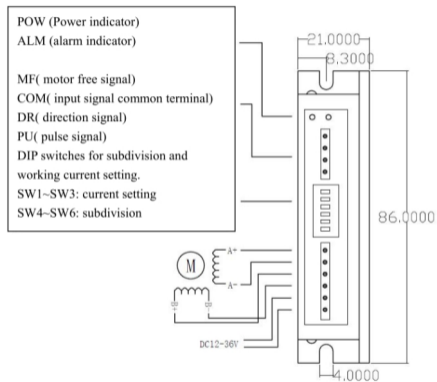
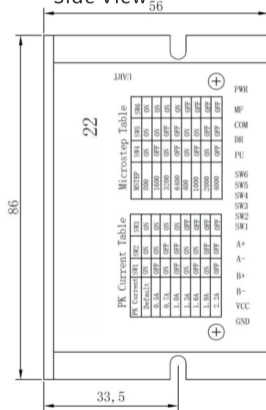


24V signal connection

common anode connection

CAUTION

1. The supply voltage shouldn't exceed 36VDC.
2. Input control signal is 5V, and a current-limiting resistance is unnecessary when it is over 5V.
3. Input pulse signal is effective with the rising edge.
4. Alarm indicator ALM lights and the driver stops working when the driver temperature is over 80°C. It restarts working until the temperature falls to 50°C. The heat sink is needed when overheat occurs.
5. Alarm indicator ALM lights when overcurrent (short of load) occurs. Please check motor's connection and other shorts and turn the power supply on after removing the trouble.
6. Alarm indicator ALM lights when no motor connected or poor connection. Please check motor's connection and turn the power supply on after removing the trouble.

Dimension Diagram And Wiring Example**Front View****Side View**

Symbol	Functions	Definition
PU	Pulse Signal	With the rising edge of the signal PU, the motor executes an angular step. The input resistance is 220Ω. Low voltage 0-0.5V, high voltage 4-5V, pulse width > 2.5μS.
DR	Direction Signal	Change the motor's direction of rotation. Input resistance is 220Ω. Low voltage 0-0.5V, high voltage 4-5V, pulse width > 2.5μS.
COM	Input Signal Common Terminal	Connect to +5V power supply, drive voltage ranges from 5V to +28V. Current-limiting resistance is not needed when it is over 5V.
MF	Motor Free Signal	The motor current will be cut off and the driver stops working when it is effective.
GND	Negative Power Supply	DC12-36V
VCC	Positive Power Supply	

A+	Motor Connection	DC12-36V
A-		
B+		
B-		

Wiring instructions

