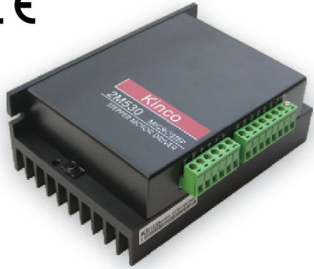
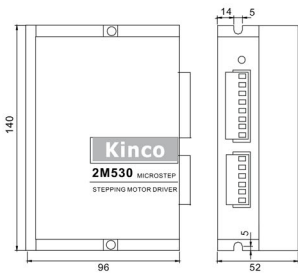


Kinco 2M530 Stepper Motor Driver (Two-phase Bipolar Micro Step)



- The maximum supply voltage can reach 48V;
- The bipolar constant current drive mode is taken, with a maximum drive current up to 3.5A per phase, which can drive any 56 and 86 series two-phase bipolar hybrid stepper motors with a current less than 3.5A;
- The drive output phase current of a motor can be regulated through the DIP switch, to match motors of different specifications;
- Supporting automatic half current function of motors in statically locked status, which can greatly reduce heat dissipation of the motors;
- A dedicated control chip is used, with a maximum of 256/200 subdivisions. The subdivision function can be set by the DIP switch, to ensure the best operation stability;
- Supporting offline function so that the output current of a motor can be cut off if necessary;
- Optical coupling devices are used for the isolation of the input circuit of the control signals to reduce interference of external noises.

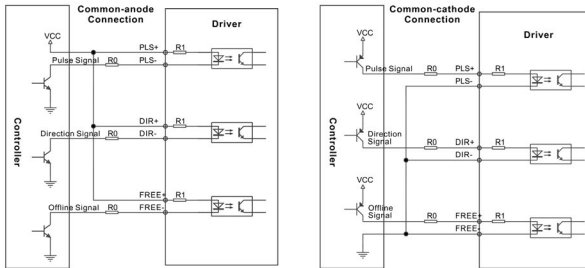
Mechanical Dimensions Unit:mm



Technical Specifications

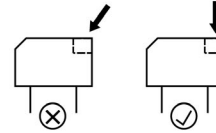
Supply voltage	24 ~ 48V DC
Output phase current	1.2 ~ 3.5A
Control signal input current	6 ~ 16mA
Cooling method	Natural air cooling
Operating environment	Avoid the environment with a great amount of metallic powder, oil mist, or erosive gases
Operating temperature	-10°C ~ +45°C
Operating humidity	<85% (non-condensing or water drops)
Weight	0.7Kg

Typical Wiring Diagram



Precautions

1. Please poke the DIP switch correctly as following figure.



2. When the voltage of the control signal is 5V, then the resistors in the connection figure are 0Ω. When the voltage of the control signal is 24V, then the resistors in the connection figure are 2KΩ.

Functions of DIP Switch

There is a red 8-bit function setting switch at the top of the driver, which is used to set the working mode and parameters of the driver. Please carefully read the reference before use. Do remember to cut off the power before changing the settings of the DIP switch.

The front view of the DIP switch is as follows:



Serial Number	Function of ON	Function of OFF	Remarks
DIP1~DIP4	Subdivision setting	Subdivision setting	
DIP5	Half current of static current	Full current of static current	
DIP6~DIP8	Output current setting	Output current setting	

The subdivision setting table			DIP1 is ON	DIP1 is OFF
DIP2	DIP3	DIP4	subdivision	subdivision
ON	ON	ON	N/A*	2
OFF	ON	ON	4	4
ON	OFF	ON	8	5
OFF	OFF	ON	16	10
ON	ON	OFF	32	25
OFF	ON	OFF	64	50
ON	OFF	OFF	128	100
OFF	OFF	OFF	256	200

* N/A indicates invalid. The rotary switch is forbidden setting as N/A.

Current Regulation

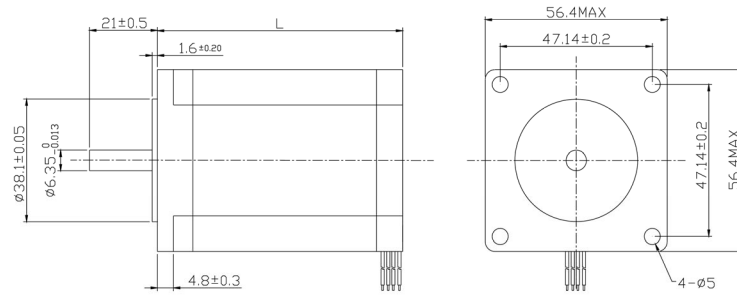
There is a red 8-bit function setting switch at the top of the driver, which is used to set the working mode and parameters of the driver. Please carefully read the reference before use. Do remember to cut off the power before changing the settings of the DIP switch.

The front view of the DIP switch is as follows:



The output phase current setting table			
DIP6	DIP7	DIP8	Output Current
ON	ON	ON	1.2A
ON	ON	OFF	1.5A
ON	OFF	ON	1.8A
ON	OFF	OFF	2.0A
OFF	ON	ON	2.5A
OFF	ON	OFF	2.8A
OFF	OFF	ON	3.0A
OFF	OFF	OFF	3.5A

Kinco Two-phase Stepper Motor /56 Series



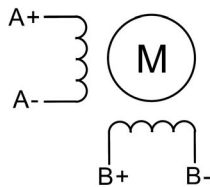
Note: Where, the shaft diameter of 2S56Q-030B5 is 8mm.

Technical Specifications	2S56Q-030B5	2S56Q-02976	2S56Q-02054	2S56Q-02741
Step angle	1.8° ±5%	1.8° ±5%	1.8° ±5%	1.8° ±5%
Phase current (A)	6.0	3.0	3.0	1.5
Holding torque (Nm)	2.5	1.5	0.9	0.5
Damping torque (Nm)	0.12	0.07	0.04	0.02
Winding resistance (Ω)	0.5±10%	0.95±15%	0.65±15%	1.8±10%
Winding inductance (mH)	1.8±20%	3.4±20%	2.5±20%	4.1±20%
Motor inertia (kg.cm ²)	0.75	0.46	0.26	0.14
Motor length L (mm)	111	76	54	41
Number of lead wires	4			
Insulation class	B			
Withstand voltage level	600V AC 1S 5mA			
Max. axial load (N)	15			
Max. radial load (N)	75			
Operating temperature	-20°C ~ 50°C			
Surface temperature rise	Max.80°C (rated phase current after single-phases are connected)			
Insulation impedance	Minimum 100MΩ, 500V DC			
Weight (kg)	1.5	1.0	0.6	0.42
Lead wire length (mm)	300±10	300±10 ^{*2}		
Startup freq. with no load(Hz) ^{*1}	5.3K	8.8K	8.9K	9.8K

*1 Note: The startup freq. is tested on condition of 2000step/turn, only for reference.

*2 The outlet wire of 2S56Q-02741 is in plug-in form.

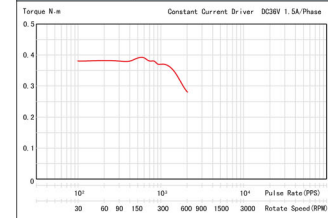
Motor Cable



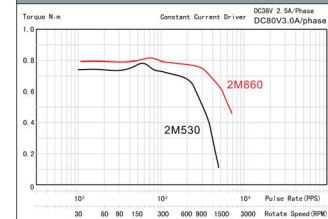
Four lead wires of Two-phase Motor

Wire Color	Motor Signal
Red	A+
Blue	A-
Green	B+
Black	B-

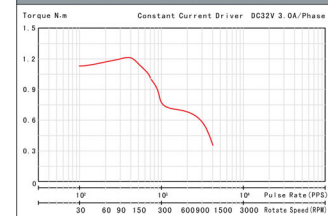
Torque-frequency Curve of 2S56Q-02741/2M530



Torque-frequency Curve of 2S56Q-02054/2M530 and 2S56Q-02054/2M860



Torque-frequency Curve of 2S56Q-02976/2M530



Torque-frequency Curve of 2S56Q-030B5/2M860

