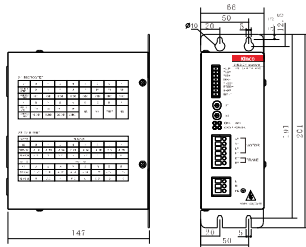


Stepper Driver 2M2280N



- High performance, multiple functions, simple operation, cost-effective;
- Automatic parameter adjustable regulation, ensures motor run at optimal performance;
- Supporting driver test running function;
- Supporting phase memory function, driver will record phase position of motor during motor stop to ensure motor not shake when re-power;
- With step smooth filter, can smooth input pulse and reduce the transient motion of motor, make sure motor run more smoothly;
- Supporting automatic half current function of motors in statically locked status, which can greatly reduce heat dissipation of the motors;
- Automatic internal high-subdivision conversion technology ensures motor run at optimal subdivision state;
- Opto-isolation ERR signal output with max. current of 10mA;
- Opto-isolation signal input, with pulse response frequency up to 400KHz.

Mechanical Dimensions (Unit : mm)



Operation Table

Mode	S1	S2	Method
Auto Run	E	0~F	Set S1=E, S2=0~F when driver is powered off, then power on the driver, the motor will run at 60RPM automatically.
PLS+DIR	0~B	0~7	Set S1=0~B, S2=0~7 when driver is powered off, then power on the driver, the motor will run in PLS+DIR mode.
CW/CCW	0~B	8~F	Set S1=0~B, S2=8~F when driver is powered off, then power on the driver, the motor will run in CW/CCW mode.
Half current	F	C	Set S1 and S2 as the "MODE settings (as the left table)" when driver is powered off. Then power on the driver, the 4 LEDs will run as: RUN LED blinks, POWER LED is green, ERR LED is red, CHOP LED is off. It means the mode setting is succeed, then restart the driver, the driver will work in setting mode.
Full current	F	D	
Step smooth filter enable	F	F	
Step smooth filter disable	F	E	

Technical Specifications

Input voltage	220VAC $\pm 15\%$ (50Hz) (187~253VAC)	
Over-voltage protection	395VDC	
Under-voltage protection	200VDC	
Output current	4.5 / 5 / 5.5 / 6A / 6.5 / 7 / 7.5 / 8, 8 settable values in total. (Unit: A)	
Micro step	2/ 4/ 5 / 8/ 10/ 16/ 20/ 32/ 50/ 64/ 100/ 128, total 12 subdivisions.	
Adaptable motor	110/ 130 series 2-phase bipolar hybrid stepper motors	
Input signal	PLS(CW), DIR(CCW), A/B, FREE; Current range: 6~16mA	
Control mode	Pulse control : PLS+DIR, CW/CCW, A+B	
Output signal	ERR, open collector output, maximum current:10mA	
Automatic half current	The driver will reduce phase current of the motor by a half in 1.5 seconds	
Protection	Overvoltage, undervoltage, short circuit and over heat protection.	
Dynamic braking circuit *	Absorb regenerated energy of motor by connecting to power resistor. Custom function.	
Cooling way	Fan cooling	
Environment	Operation Environment	Avoid the environment with great amount of metallic powder, oil mist, or erosive gases.
	Operation humidity	<85%, RH (non-condensing or water drops)
	Operation temperature	0°C ~ +40°C
	Storage temperature	-20°C ~ +70°C
Weight	1.5Kg	
Dimensions	201 x 147 x 66 mm	
Ingress protection	IP20	

* Please confirm with factory for custom of driver with dynamic braking circuit.

S1 , Micro-step : switch for subdivision and test running function											
S1	0	1	2	3	4	5	6	7			
Microstep	2	4	5	8	10	16	20	32			
Pulse/rev	400	800	1000	1600	2000	3200	4000	6400			
S1	8	9	A	B	C	D	E	F			
Microstep	50	64	100	128	NA	NA	TEST	NA			
Pulse/rev	10000	12800	20000	25600							

S2 , Current : switch for current and PLS/DIR, CW/CCW setting											
Mode	PLS+DIR										
S2	0	1	2	3	4	5	6	7			
Rms(A)	3.18	3.54	3.89	4.24	4.60	4.95	5.30	5.65			
Peak(A)	4.5	5	5.5	6	6.5	7	7.5	8			
Mode	CW/CCW										
S2	8	9	A	B	C	D	E	F			
Rms(A)	5.65	5.30	4.95	4.60	4.24	3.89	3.54	3.18			
Peak(A)	8	7.5	7	6.5	6	5.5	5	4.5			

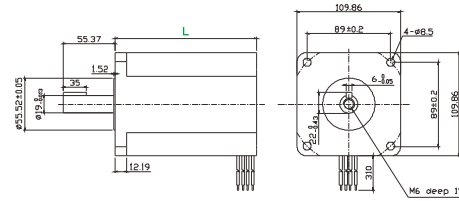
* DIP switch is forbidden to set as N/A, or the driver will be alarm automatically.

Two-phase stepper motor/110 series

Two-phase stepper motor/110 series



Dimensions (Unit : mm)



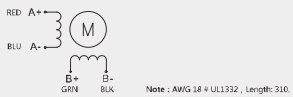
Specification

Technical Specifications	2S110Q-054K1	2S110Q-047F0	2S110Q-03999
Step angle	1.8°	1.8°	1.8°
Phase current (A)	8.0	6.5	5.5
Holding torque (Nm)	30	21	11.7
Damping torque (Nm)	0.75	0.59	0.3
Winding resistance (Ω)	0.67±10%	0.72±10%	0.7±10%
Winding inductance (mH)	11±20%	12.8±20%	9.8±20%
Motor inertia (kg.cm ²)	16.2	10.9	5.5
Motor length L (mm)	201	150	99
Shaft diameter (mm)	19	19	19
Number of lead wires	4		
Insulation class	B		
Withstand voltage level	1200VAC 1S 5mA		
Max. axial load (N)	60		
Max. radial load (N)	220		
Operating temperature	-20°C ~ +50°C		
Surface temperature rise	Max.80°C (Both phases connected with rated current)		
Insulation impedance	Minimum 100MΩ, 500V DC		
Weight (kg)	11.7	8.4	5.0
Startup freq. with no load(Hz)*	4.8K	4.5K	5.2K

Note: The startup freq. is tested under condition of 2000 steps/round, only for reference.

Motor cable

Two-phase 4-wire motor



Torque-frequency curve

