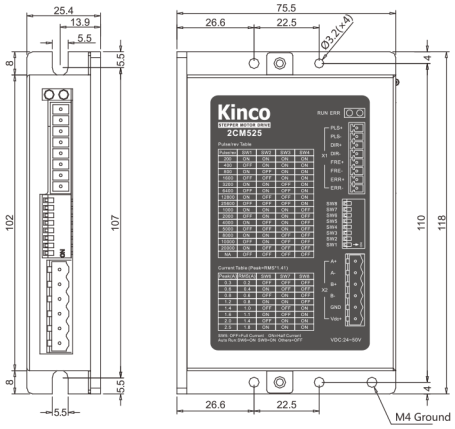
Stepper Driver 2CM525

- Support parameter self-adaptive function, generate optimal parameters according to motor type, ensure motor run at optimal performance;
- Phase memory function;
- Automatic half-current function, selected by DIP switches;
- Test running function, selected by DIP switches;
- Over voltage protection, over current protection functions;
- Micro-step filter function can smooth input pulse to reduce transient motion of motor, make sure motor run more smoothly;
- Opto-isolation ERR signal output with max. current of 100mA;
- Opto-isolation 5-24V pulse input, responding frequency up 400KHz;
- 15 subdivision levels and 8 current levels are selectable by DIP switches;
- Pulse type is selectable by DIP switches: PUL+DIR&CW/CCW.

Mechanical Dimensions (Unit : mm)



Function of DIP switches

Function	DIP setting	Description
PLS+DIR	SW6,SW7=ON; Others=OFF	Set DIP switches according to functions required when power off. Power on driver, RUN LED blinking in green, ERR LED is red. It means settings take effect. Then power off driver, reset subdivision and current for normal use.
CW/CCW	SW7,SW8=ON; Others=OFF	
Micro-step smooth & dynamic filter disable	SW5,SW6=ON; Others=OFF	
Micro-step smooth filter enable	SW5,SW7=ON; Others=OFF	
Micro-step dynamic filter enable	SW5,SW8=ON; Others=OFF	
Test motor parameter upon power on disable	SW6,SW7,SW8=ON; Others=OFF	
Test motor parameter upon power on enable	SW5,SW6,SW7=ON; Others=OFF	
Test running	SW6,SW8=ON; Others=OFF	Motor running @80RPM
Automatic half-current	SW5=ON	Set SW5=ON to enable automatic half-current. Phase current will reduce to half of the set value after motor stops for 1.5s

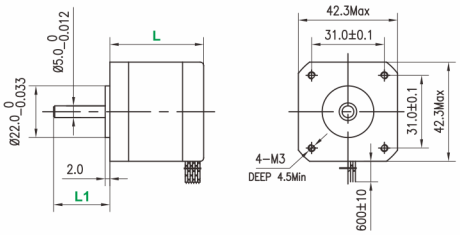
Technical Specifications

Input voltage		24 ~ 50VDC
Overvoltage protection		85VDC
Undervoltage protection		15VDC
Overheat protection		80℃(Temperature of thermistor)
Phase current(Peak)		0.3/0.6/0.8/1.2/1.4/1.6/2.0/2.5, 8 settable values in total. (Unit: A)
Subdivision		200~25600 Pulse/rev，15 subdivision levels in total
Adaptable motor		42/57 series 2-phase hybird stepper motor
Input signal		PLS（CW）、DIR(CCW)、FREE， Input voltage：5～24VDC， Input current：8mA@5VDC，12mA@24VDC
Control mode		Pulse control：PLS+DIR，CW/CCW
Output signal		ERR, open collector output, maximum current:100mA
Operation indicator		Combination of RUN and ERR LED indicates different status
Protection circuit		Over voltage, under voltage, over current, over heat
Cooling method		Nature air cooling
Environment	Operation environment	Avoid environment with great amount of metallic powder, oil mist, or erosive gases
	Operation humidity	<85%, RH(Non-condensing or water drops)
	Operation temperature	0℃ ~ +40℃
	Storage temperature	-20℃ ~ +70℃
Weight(Net)		0.25kg
Dimensions		118×75.5×25.4 mm（Toothless heat sink）
Ingress protection		IP20

Subdivision setting (Unit:PULSE/REV)					**Current setting** (Unit: A)				
SW1	SW2	SW3	SW4=ON	SW4=OFF	SW6	SW7	SW8	RMS	Peak
ON	ON	ON	200	1000	ON	ON	ON	1.8	2.5
OFF	ON	ON	400	2000	OFF	ON	ON	1.4	2
ON	OFF	ON	800	4000	ON	OFF	ON	1.1	1.6
OFF	OFF	ON	1600	5000	OFF	OFF	ON	1	1.4
ON	ON	OFF	3200	8000	ON	ON	OFF	0.8	1.2
OFF	ON	OFF	6400	10000	OFF	ON	OFF	0.6	0.8
ON	OFF	OFF	12800	20000	ON	OFF	OFF	0.4	0.6
OFF	OFF	OFF	25600	NA	OFF	OFF	OFF	0.2	0.3

Two-phase stepper motor/42 series

Dimensions (Unit : mm)



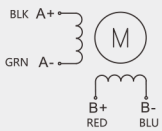
Model	L	L1
2S42Q-0348	48	24±0.5

Specification

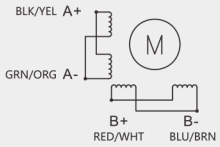
Technical Specifications		2S42Q-0348	
Step angle		1.8°	
Phase current (A)	Series	0.7	
	Parallel	1.4	
Holding torque (Nm)		0.34	
Damping torque (Nm)		0.026	
Winding resistance (Ω)		4.6±10%	
Winding inductance (mH)		4.0±20%	
Motor inertia (kg.cm^2)		0.068	
Motor length L (mm)		48	
Shaft diameter (mm)		5	
Number of lead wires		8	
Insulation class		B	
Withstand voltage level		500VAC for 1minute	
Max. axial load (N)		10N	
Max. radial load (N)		28N (20mm from the flange)	
Operating temperature		-20℃ ~ +50℃	
Surface temperature rise		Max.80℃ (Both phases connected with rated current)	
Insulation impedance		Minimum 100MΩ, 500V DC	
Weight (kg)		0.36	0.28

Motor cable

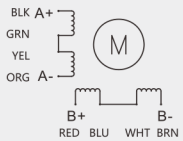
Connection of 4-wire motor



Parallel connection of 8-wire motor



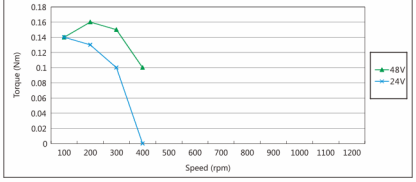
Series connection of 8-wire motor



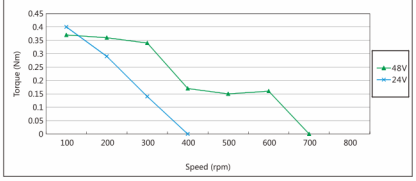
Note : AWG 26# UL1007 , Length: 600.

Torque-frequency curve

2CM525 @ 2S42Q-0240



2CM525 @ 2S42Q-0348 (Series connection)



2CM525 @ 2S42Q-0348 (Parallel connection)