

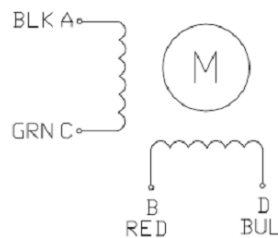
Stepper Motors

A DC stepper motor offers the most economical entry to precision motion. The motors move a certain angle of rotation as the phases are energized in succession and micro stepping can be used in some applications to reduce the step angle. Being brushless they are suitable for continuous motion.

Model	Frame (except shaft)	Step Angle °	Motor Length, L mm	Current/ Phase A	Resistance / Phase Ω	Inductance / Phase mH	Holding Torque N.m	# of Leads	Detent Torque g.cm	Rotor Inertia g.cm ²	Mass Kg
JK42HM47-1684	Nema 17	1.8	48	1.68	1.65	2.8	0.44	4	260	68	0.35
JK57HS76-4204	Nema 23	1.8	76	4.2	0.6	1.8	1.8	4	600	440	1.1
JK86HS115-6004	Nema 34	1.8	115	6	0.6	6.5	8.7	4	2400	2700	3.8

Detent torque is the torque required to turn the shaft when not electrically connected

Electrical connection



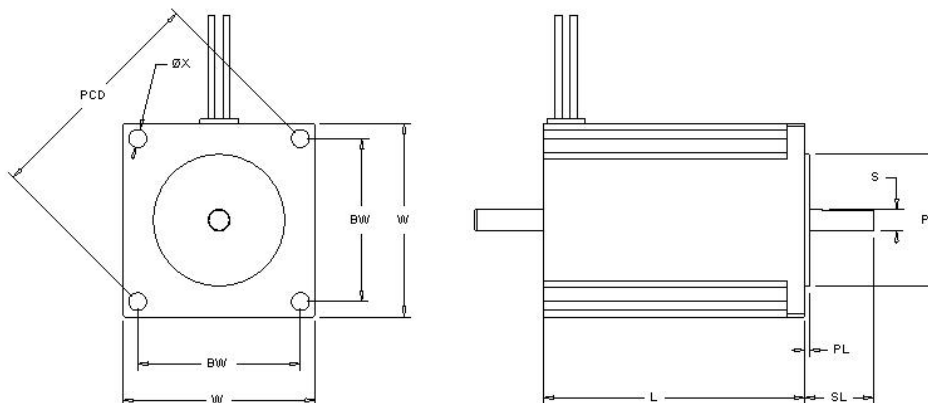
Wire	Colour (typical)	Phase
A	Black	B+
C	Green	B-
B	Red	A+
D	Blue	A-

Swapping phase order connection to the drive will change motor rotation direction. Swapping the cables within a phase will cause motor instability or stalling.

Physical dimensions

Frame size		Shaft Diameter	Shaft Length	Pilot Diameter	Pilot Length	Mounting Bolt Circle	Bolt Hole Size	Bolt Hole spacing	Overall width
Metric	NEMA*	S	SL	PD	PL	PCD	X	BW	W
42	17	5	24	22	2	43.8	M3x3.5	31	42
56	23	6.35	21	38.1	1.6	66.7	5	47.1	56
86	34	12.7	37	73	1.52	98.4	5.5	69.5	86
110	42	19	55.37	55.5	1.52	125.7	8.5	89	110

*Shaft sizes listed above are not traditional NEMA sizes.



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Driver

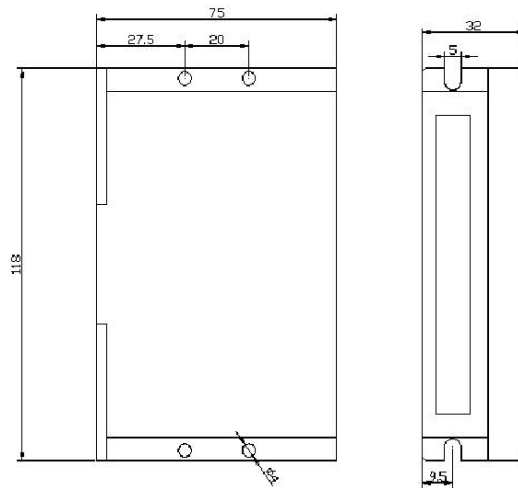
A stepper driver will be required in all but the lowest powered applications. The driver functions as an amplifier for low power control signals, while also adding some motor and mechanism protection. A pulse train control signal from PLC or other host controller is required to run the motor.

- Overheat protection
- automatic half current when not moving
- connection error protection
- Motor lock and free rotation input
- Micro stepping: 2, 4, 5, 8, 10, 16, 25, 32, 50, 64, 125, 128

JK1545 for NEMA23 frame

Power input: 24V – 50V DC

Output current: 1.3A-4.5A with 8 selectable settings



2M2280N for NEMA42 frame

Power input: 240V AC

Output current: 4.5A-8A with 8 selectable settings

