

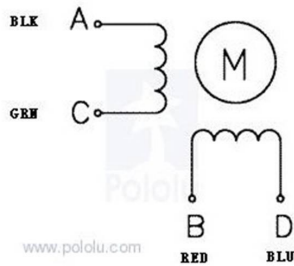
# Stepper Motors

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.

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 <sup>2</sup>	Mass Kg
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

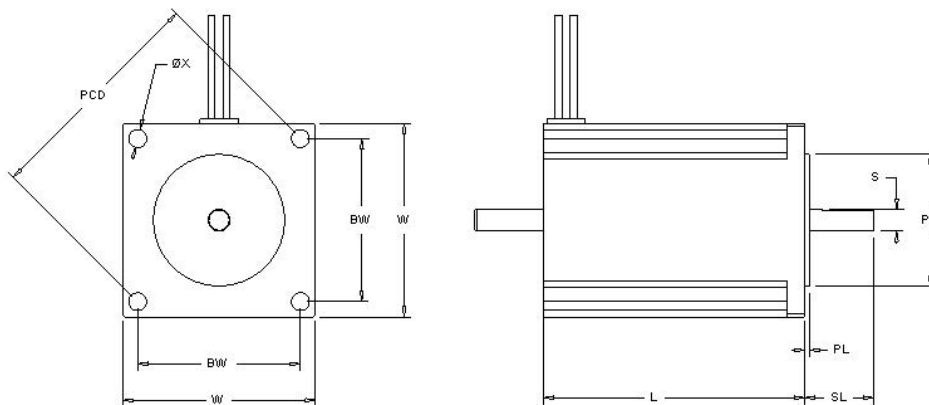


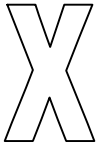
Wire	Colour (typical)	Phase
A	Black	B+
C	Green	B-
B	Red	A+
D	Blue	A-

## 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.

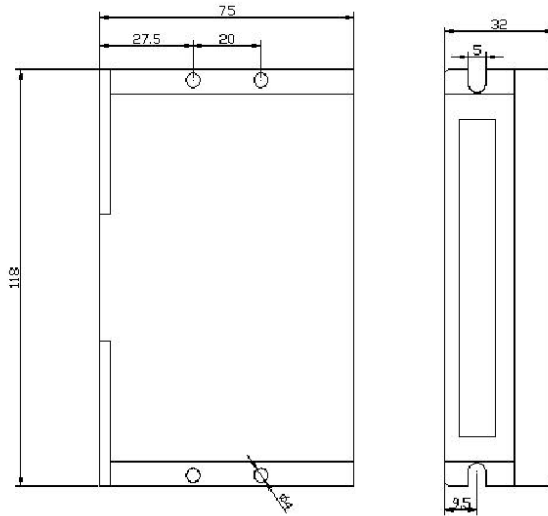




## Driver

A stepper driver will be required in most practical installations. The driver functions as an amplifier for low power control signals, while also adding some motor and mechanism protection.

- Overheat protection
- automatic half current when not moving
- connection error protection
- Motor lock and free rotation input
- Temperature: 15-40°C
- Microstepping: 2, 4, 5, 8, 10, 16, 25, 32, 50, 64, 125, 128, 250, 256
- LED status.
  - Green = Normal
  - Red = Failure, short-circuit, over or under voltage
- Current limit



### JK1545 for NEMA23 frame

Power input: 24V – 50V DC

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

### JF2060AC for NEMA42 frame

Power input: 24V – 55V AC

Output current: 2A-6A with 8 selectable settings

Current limit and micro stepping are selectable by micro switch. Settings are clearly labelled on the driver case. Do not change micro switch settings while the driver is powered on.