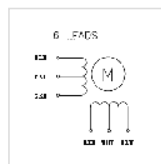
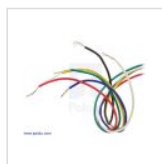


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 Stepper Motor: Unipolar/Bipolar, 200 Steps/Rev, 42×48mm, 4V, 1.2 A/Phase



Stepper Motor: Unipolar/Bipolar, 200 Steps/Rev, 42×48mm, 4V, 1.2 A/Phase

SKU: POLOLU-1200 | Brand: [Pololu](#)

This NEMA 17 size hybrid stepping motor can be used as a unipolar or bipolar stepper motor and has a 1.8° step angle (200 steps/revolution). Each phase draws 1.2 A at 4 V, allowing for a holding torque of 3.2 kg-cm (44 oz-in).

\$60.45 AUD, inc GST

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Shipping:

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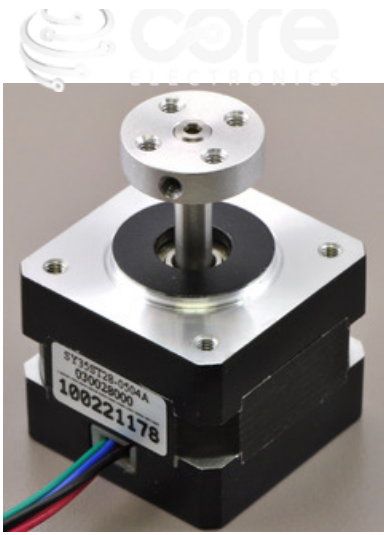
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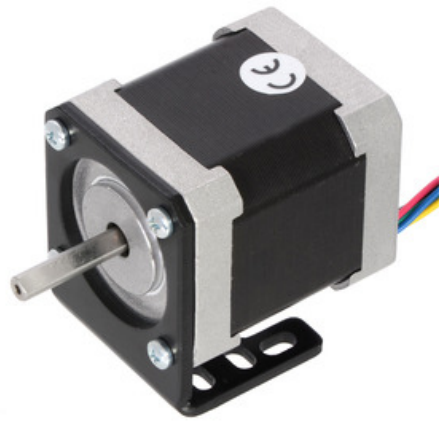
*Conditions apply, see [shipping](#) tab below.

DESCRIPTION	COMMENTS	SHIPPING	RELATED PRODUCTS	REVIEWS
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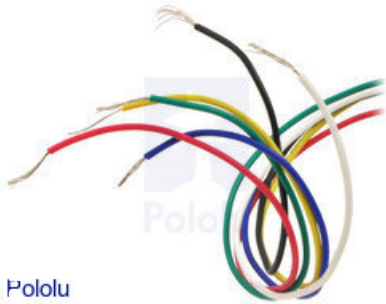
This hybrid stepping motor has a 1.8° step angle (200 steps/revolution). Each phase draws 1.2 A at 4 V, allowing for a holding torque of 3.2 kg-cm (44 oz-in). The motor has six color-coded wires terminated with bare leads that allow it to be controlled by both unipolar and bipolar stepper motor drivers. When used with a unipolar stepper motor driver, all six leads are used. When used with a bipolar stepper motor driver, the center-tap yellow and white wires can be left disconnected (the red-blue pair gives access to one coil and the black-green pair gives access to the other coil). Pololu recommend using it as a bipolar stepper motor and controlling it with one of Pololu's **[bipolar stepper motor drivers](#)** or one of Pololu's **[Tic Stepper Motor Controllers](#)**. In particular, the Tics make control easy because they support six different interfaces (USB, TTL serial, I²C, RC, analog voltages, and quadrature encoder) and are configurable over USB with Pololu's free configuration utility.



5mm Pololu universal aluminum mounting hub on a stepper motor with a 5mm-diameter output shaft.

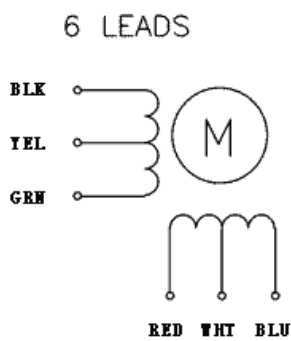


NEMA 17 stepper motor (item #1200) mounted with a Pololu stamped aluminum L-bracket for NEMA 17 stepper motors.



Pololu

6-lead, unipolar/bipolar stepper motor wires are terminated with bare leads.



6-lead, unipolar/bipolar stepper motor wiring diagram.

Pololu's **5 mm universal mounting hub** can be used to mount objects on the stepper motor's 5 mm-diameter output shaft, and Pololu's **EMA 17 aluminum bracket** offers a variety of options for mounting this stepper motor in your project. A **similar NEMA17 stepper motor** is available **with a threaded rod output shaft** that converts its rotations into linear motion of the included traveling nut.

Specifications

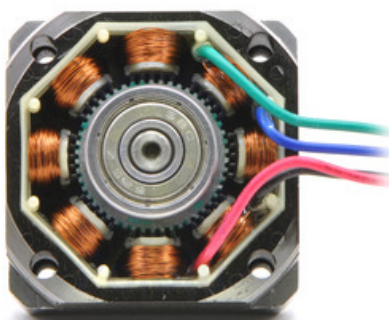
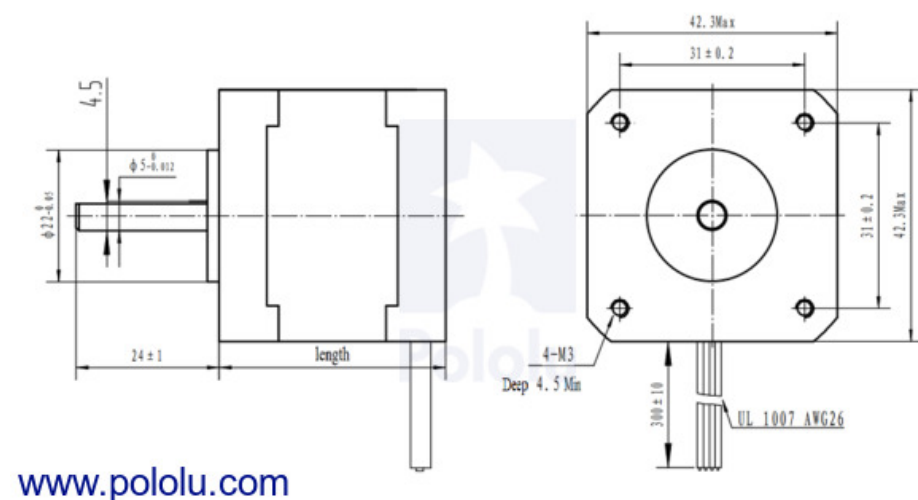
- Size: 42.3 mm square × 48 mm, not including the shaft (NEMA 17)
- Weight: 350 g (13 oz)
- Shaft diameter: 5 mm "D"
- Steps per revolution: 200

- Current rating: 1.2 A per coil
- Voltage rating: 4 V
- Resistance: 3.3 Ω per coil
- Holding torque: 3.2 kg-cm (44 oz-in)
- Inductance: 2.8 mH per coil
- Lead length: 30 cm (12")
- Output shaft supported by two ball bearings

More specifications are available in the [datasheet](#) (189k pdf).

Dimensions

The following diagram shows the stepper motor dimensions in mm. The dimension labeled "length" is 48 mm. The output D-shaft has a 5 mm diameter with a section that is flattened by 0.5 mm. This shaft works with Pololu's [5 mm universal mounting hub](#).



The inside of a bipolar stepper motor (SOYO NEMA 14-size).

Stepper Motor Applications

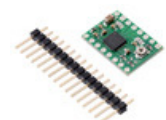
Stepper motors are generally used in a variety of applications where precise position control is desirable and the cost or complexity of a feedback control system is unwarranted. Here are a few applications where stepper motors are often found:

- Printers
- CNC machines
- 3D printer/prototyping machines (e.g. RepRap)
- Laser cutters
- Pick and place machines



Note: This stepper motor is SOYO part number SY42STH47-1206A.

People often buy this product together with:



A4988 Stepper Motor Driver Carrier



Pololu Universal Aluminum Mounting Hub for 5mm Shaft, #4-40 Holes (2-Pack)



Pololu Stamped Aluminum L-Bracket for NEMA 17 Stepper Motors

Dimensions

Size:	42.3 mm square × 48 mm (NEMA 17) ¹
NEMA size:	17
Weight:	350 g
Shaft diameter:	5 mm

General specifications

Shaft type:	5 mm "D"
Current rating:	1200 mA ²
Voltage rating:	4 V
Holding torque:	44 oz·in
Steps per revolution:	200
Resistance:	3.3 Ohm ²
Inductance per phase:	2.8 mH
Number of leads:	6
Lead length:	30 cm

Notes:

- 1. Not including the shaft.
- 2. Per coil.

File downloads

- [SY42STH47-1206A stepper motor datasheet \(189k pdf\)](#)

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