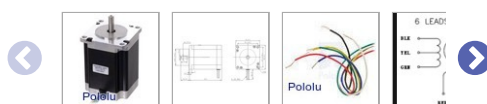


## Stepper Motor: Unipolar/Bipolar, 200 Steps/Rev, 57×76mm, 8.6V, 1 A/Phase



[www.pololu.com](http://www.pololu.com)



**Pololu item #:** 1477    **119** in stock

Price break	Unit price (US\$)
1	49.95
10	44.96

**Quantity:**

**Add to cart**

**backorders** allowed

**Add to wish list**

This NEMA 23-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 A at 8.6 V, allowing for a holding torque of 14 kg-cm (190 oz-in).

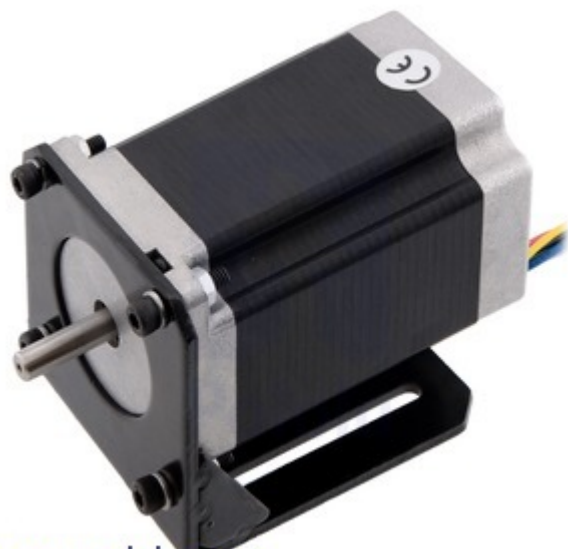
or .

**Description**    **Specs (13)**    **Pictures (6)**    **Resources (1)**    **FAQs (2)**    On the blog (0)

### Overview

This high-torque hybrid stepping motor has a 1.8° step angle (200 steps/revolution). Each phase draws 1 A at 8.6 V, allowing for a holding torque of 14 kg-cm (190 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). We recommend using it as a bipolar stepper motor.



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**NEMA 23 stepper motor (item #1475)  
mounted with a steel L-bracket for  
NEMA 23 stepper motors.**

Our [1/4" universal mounting hub](#) and [1/4" scooter wheel adapter](#) can be used to mount objects on the stepper motor's 1/4"-diameter output shaft, and we carry a [NEMA 23 steel bracket](#) for securely mounting this stepper motor to a flat surface.

## Specifications

- Size: 56.4 mm square × 76 mm, not including the shaft (NEMA 23)
- Weight: 1 kg (35 oz)
- Shaft diameter: 6.35 mm (0.25") "D"
- Steps per revolution: 200
- Current rating: 1 A per coil
- Voltage rating: 8.6 V
- Resistance: 8.6 Ω per coil
- Holding torque: 14 kg-cm (190 oz-in)
- Inductance: 14 mH per coil
- Lead length: 30 cm (12")
- Output shaft supported by two ball bearings

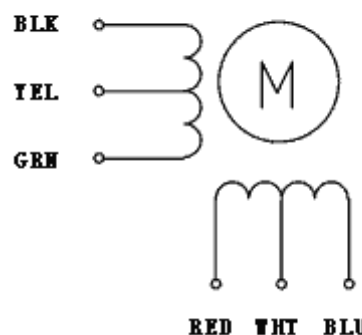
More specifications are available in the [datasheet](#) (28k pdf).



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

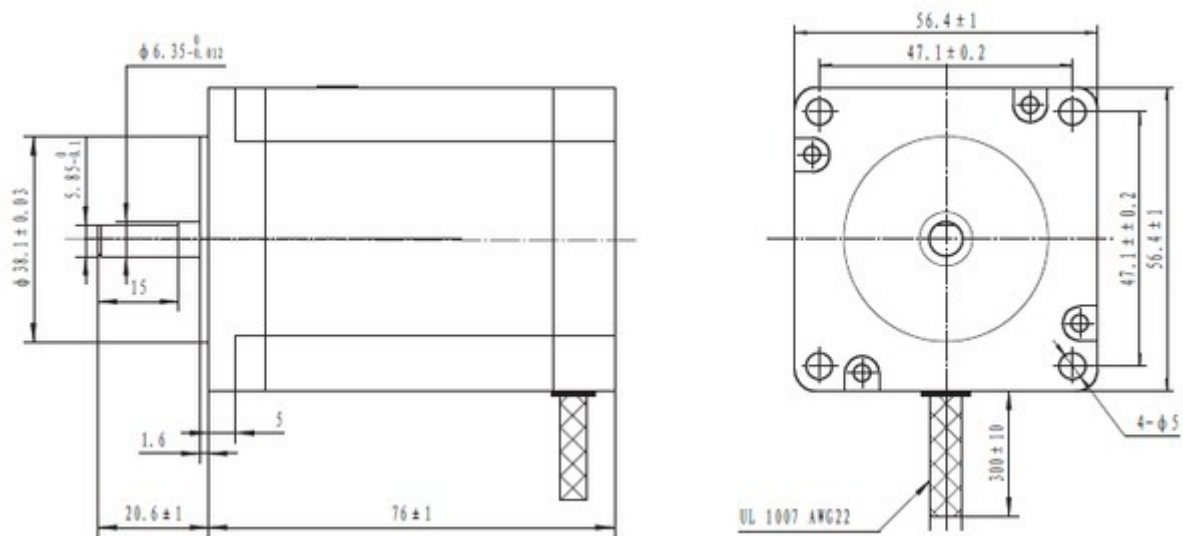
6 LEADS



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

## Dimensions

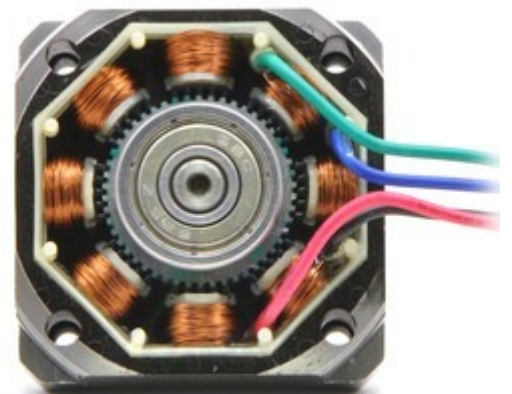
The following diagram shows the stepper motor dimensions in mm. The output D-shaft has a 0.25" (6.35 mm) diameter with a section that is flattened by 0.5 mm. This shaft works with our [1/4" universal mounting hub](#) and [1/4" scooter wheel adapter](#).



## 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
- Linear actuators
- Hard drives



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**The inside of a bipolar stepper motor.**



Pololu's assortment of stepper motors.

**Note:** This stepper motor is SOYO part number SY57STH76-1006A.

People often buy this product together with:



[DRV8825 Stepper Motor Driver Carrier, High Current](#)



[Steel L-Bracket for NEMA 23 Stepper Motors](#)



[Pololu Universal Aluminum Mounting Hub for 1/4" \(6.35mm\) Shaft, #4-40 Holes \(2-Pack\)](#)