# DESCRIPTION

This is a great first stepper motor, good for small projects and experimenting with steppers. This uni-polar motor has a built in mounting plate with two mounting holes. There are only 32 step (11.25 degree) per revolution, and inside is a 1/64 reduction gear set. (Actually its 1/64.128 but for most purposes 1/16 is a good enough approximation) What this means is that there are really 32*64.128 steps per revolution = 2052 steps! The shaft is flattened so its easy to attach stuff to it with a set-screw. A perfect first stepper motor and works well with the Motor Shield for Arduino.

The gearing has a few side effects which are important to note. First, you shouldn't use interleaved or micro-stepping to control or it will take forever to turn. Instead use single or double stepping. The torque is fairly high but its slower than un-geared steppers - we maxed out at about 12 RPM by over-driving it a bit with 9VDC. At 5V try to stick to under 6 RPM

To use with the Adafruit Motor Shield, connect red to ground (middle), orange and pink to one motor port (say M1) and blue and yellow to the other motor port (say M2). So in order, thats: orange - pink - red - blue - yellow. Then just use the example code that comes with the Adafruit Motor Shield library and set the constructor to **Adafruit_StepperMotor *myMotor = AFMS.getStepper(2052, *motornum*)** and the speed at 5 RPM by calling **motor->setSpeed(5)**. Otherwise, you can also wire it up with some transistors and use the Arduino Stepper library

# TECHNICAL DETAILS

**Revision History:**

- As of Jan 2021, these have been coming with **1/64** gearing rather than **1/16** gearing!

**Specifications:**

- Unipolar stepper with 0.1" spaced 5-pin cable connector
- 2052 steps per revolution
- 1/64.128 geared down reduction
- 5V DC suggested operation
- Weight: 37 g.
- Dimensions: 28mm diameter, 20mm tall not including 9mm shaft with 5mm diameter
- 9" / 23 cm long cable
- Holding Torque: 150 gram-force*cm, 15 N*mm/ 2 oz-force*in
- Shaft: 5mm diameter flattened
- Approx 42 ohm DC impedence per winding



2、 **Pink**

4、 **Orange**

5、 **Red**

1、 **Blue**

3、 **Yellow**