

## 1. Introduction

# Motor 1 Specification – 12V DC Motor

### Features

- ◆ 12V – 200RPM –
- ◆ 3.6KG•CM torque DC gearhead motor
- ◆ 30:1 Gear Ratio
- ◆ 2mm rear encoder shaft
- ◆ Good compromise between speed and torque for small robotic designs.

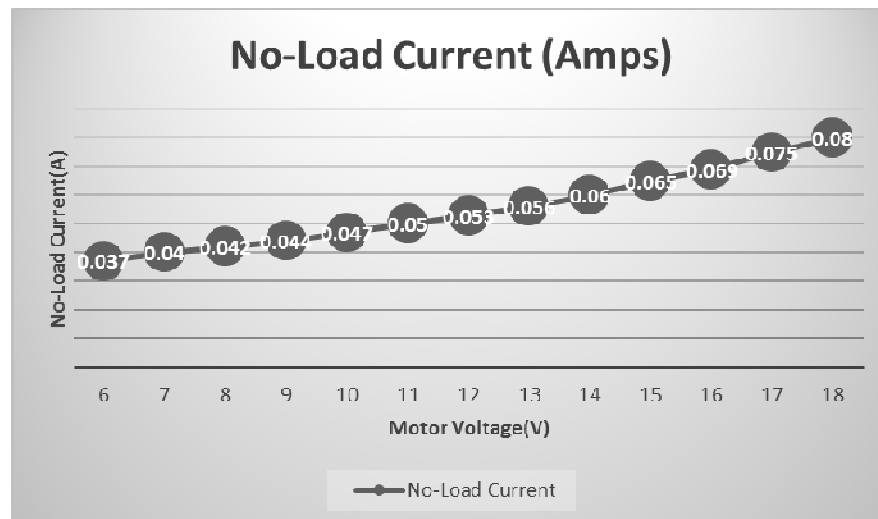
### 1.1 Description

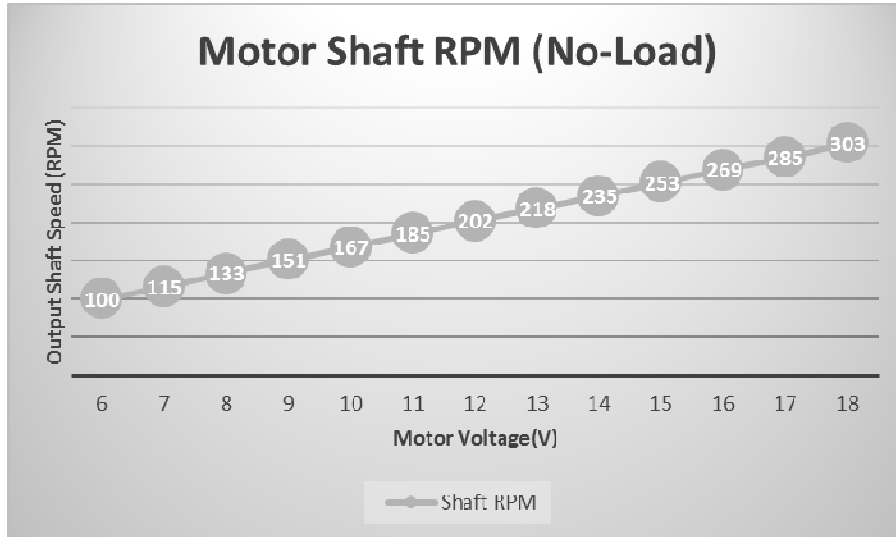
Motor1 is a 12V DC geared motor with a .25" motor output shaft and a 2mm rear encoder shaft. The 2mm shaft works with our ENC300 quadrature encoder to allow the motor to be used in position control applications. Motor controllers that are rated for 12V@2A are ideal for controlling this motor. However, motor controllers with lower current ratings can also be used if they have over-current and over-temperature protection.

## 2. Motor1 Specifications

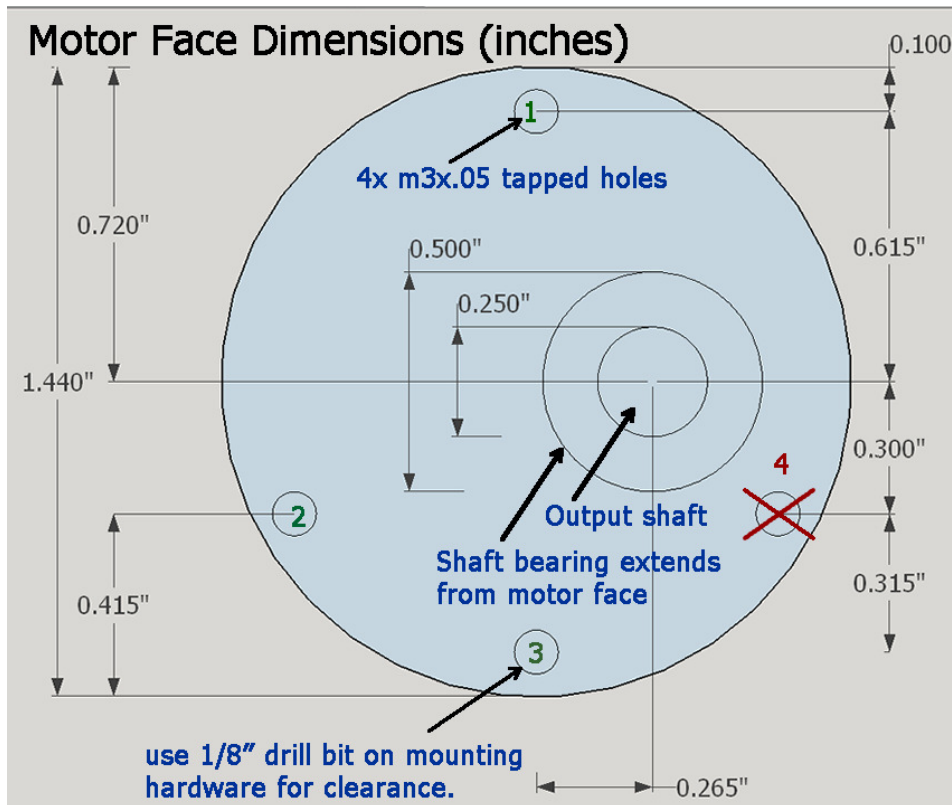
### 2.1 DC Gearhead Motor Characteristics

Characteristic	Value	Unit
Operating voltage	4.5-18	V
Startup torque (kilogram-force centimeter)	3.6	KG•CM
Startup torque (inch-pound)	3.1	Inch•lbf
Gear ratio	30:1	
No-Load Current (12V)	0.053	A
Stall Current	1.5	A
No-Load Speed (12V)	200	RPM

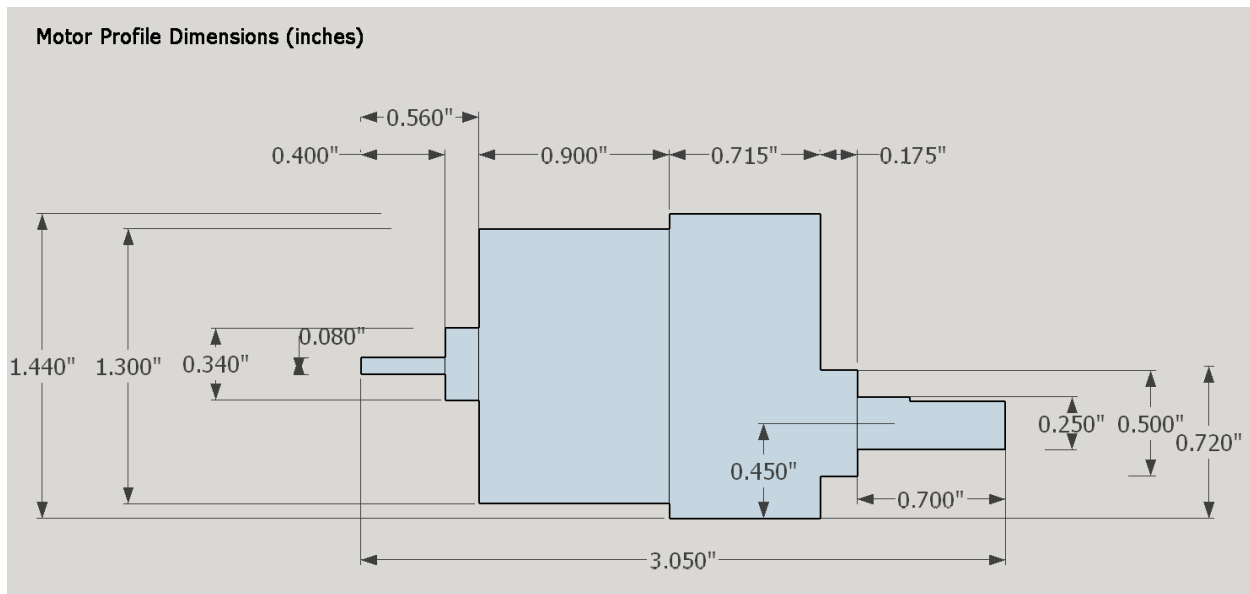




### 3. Mechanics



Notes on mounting hardware: The motor has 4 mounting holes on its face (labeled 1-4 in the image above). They are threaded for m3 x .05 metric machine screws. We have used 8mm long screws successfully to mount the motor to a 1/8" thick L-bracket. However, mounting hole 4 is in close proximity to the internal motor mechanics, and it is recommended that you avoid using it.



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