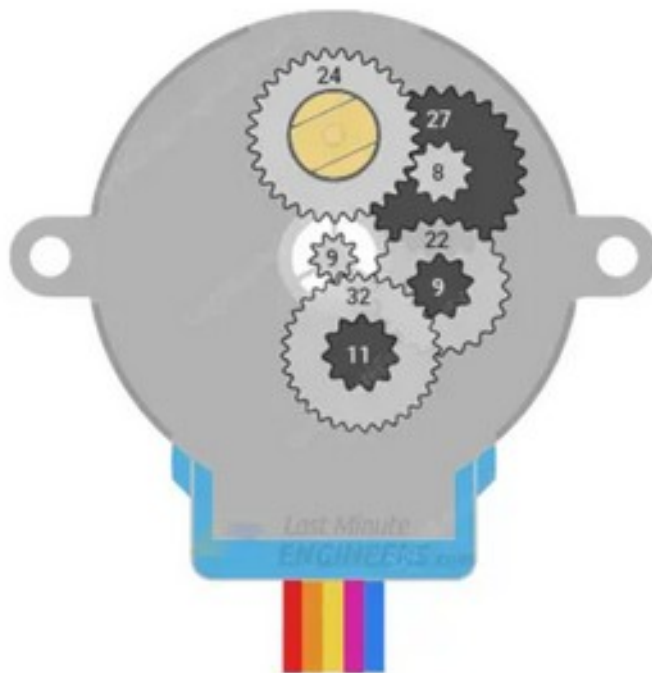


Stepper Motor

28BYJ-48

<https://lastminuteengineers.com/28byj48-stepper-motor-arduino-tutorial>



Gear Ratios:

- 32 / 9
- 22 / 11
- 27 / 9
- 24 / 8

Multiplying the gear ratios:

$$\frac{32}{9} \times \frac{22}{11} \times \frac{27}{9} \times \frac{24}{8} = 64$$

This gives us a 64:1 gear ratio

The built-in gearbox serves an important purpose: it slows down the motor's spinning speed while increasing its torque. This trade-off explains why the motor rotates at only 15 RPM but can generate a relatively strong torque of about 34.3 mN·m.

- ⓘ Not all 28BYJ-48 motors have the same gear ratio. Some versions (depending on the manufacturer) may use a 1:16 ratio, which gives 512 steps per rotation instead of 2048.

Power Consumption

The 28BYJ-48 stepper motor runs on 5 volts but requires a fair amount of current—about 240 milliamps (mA) per phase.