

## 136:1 Sub-Micro Plastic Planetary Gearmotor 6Dx19L mm



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26:1 sub-micro plastic planetary gearmotor next to a micro metal gearmotor and a LEGO Minifigure for size reference.

### Overview

These tiny brushed DC gearmotors have a diameter of just 6 mm and weigh just over a gram, which makes them great actuators for miniature robots and very small mechanisms. They consist of a coreless motor fastened to a 26:1 or 136:1 planetary gearbox by a small clip. The gears are made from liquid crystal polymers (LCPs), and gearbox's nylon output shaft is compatible with our 14 mm wheels.

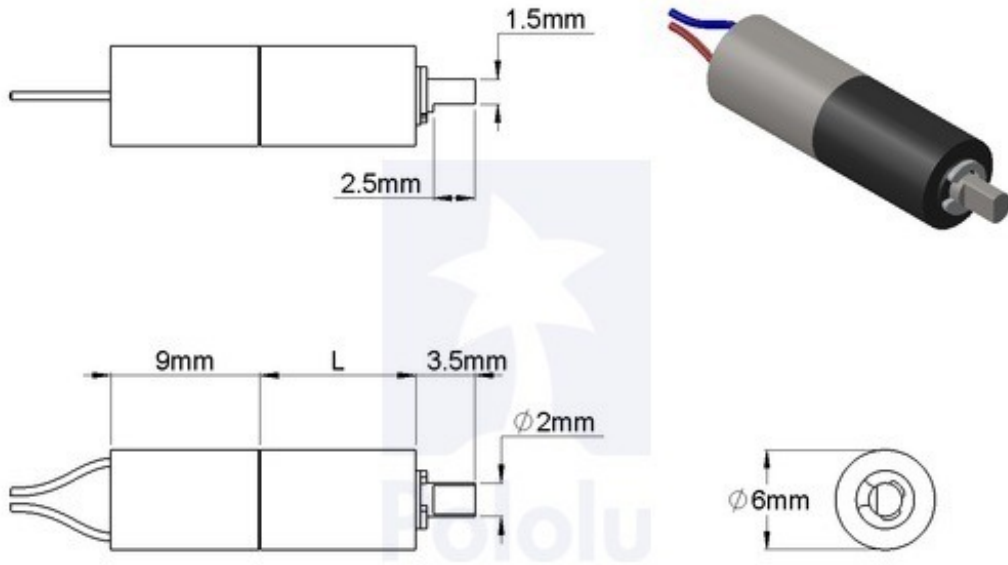
The intended nominal operating voltage for these motors is 3 V to 6 V, though in general, these kinds of motors can be used at voltages outside this range (rotation typically starts between 0.2 V and 0.3 V). Lower voltages might not be practical, and higher voltages could start negatively affecting the life of the motor.



Since the gearmotor's output shaft is nylon, there can be small variances in the diameter from unit to unit. These variations might cause press-fit attachments like our 14 mm wheel to fit loosely in some instances. If you experience a loose fit, you could try swapping wheels or using a small dab of glue to help hold the wheel on.

### Gearmotor dimensions

The following diagram shows the micro plastic gearmotor dimensions in mm. The planetary gearbox has a D-shaped plastic output shaft, which is 2 mm in diameter with a section that is flattened by 0.5 mm. The "D" portion of the shaft is 2.5 mm long. The motor measures 6 mm in diameter and 9 mm in length, and the gearbox length, labeled "L" in the diagram below, depends on the gear ratio. The 26:1 gearbox is 7.1 mm long, while the 136:1 option measures 9.4 mm. The motor leads come with their tips pre-stripped and extend approximately 2 cm (0.8") from the back of the motor.



| Gear ratio | L (mm) |
|------------|--------|
| 26:1       | 7.1    |
| 136:1      | 9.4    |

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This dimension diagram is also available as a downloadable PDF (117k pdf).

**Motor accessories**

The micro plastic gearmotor's output shaft is compatible with our 14 mm wheels. We do not have any brackets for this gearmotor, and it does not have any mounting holes, but its compact size makes it easy to fasten with tape or glue. Alternatively, since this gearmotor is nearly the same size as a 1/4" fuse, it can be mounted using standard 1/4" (6 mm) fuse clips, which can be found at places like Radio Shack and Digi-Key.



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Sub-micro plastic planetary gearmotor with a 14x4.5mm wheel.



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26:1 sub-micro plastic planetary gearmotor being held by a 1/4" (6 mm) fuse clip.

[Documentation on producer website.](#)

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