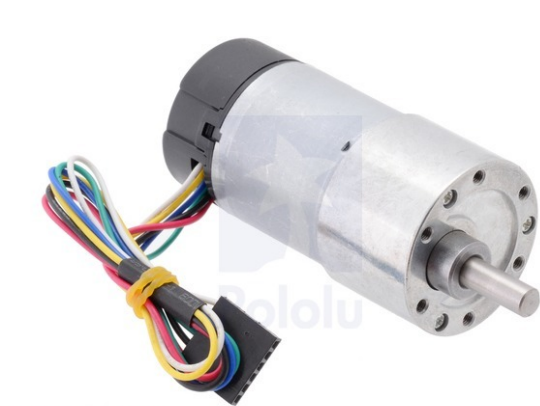


131:1 Metal Gearmotor 37Dx73L mm 12V with 64 CPR Encoder (Spur Pinion)



www.pololu.com

Pololu item #: 2827

Brand: [Pololu](#)

Status: Obsolete [?](#)

[✓ RoHS 3](#)

This product has been discontinued.

This gearmotor has been replaced by a [functionally identical version](#) that uses helical pinion gears for the first stage of the gearbox to reduce noise and improve efficiency.



This gearmotor is a powerful 12V brushed DC motor with a **131.25:1** metal gearbox and an integrated quadrature encoder that provides a resolution of 64 counts per revolution of the motor shaft, which corresponds to **8400 counts per revolution** of the gearbox's output shaft. These units have a 16 mm-long, 6 mm-diameter D-shaped output shaft. This gearmotor is also available [without an encoder](#).

Key specifications:

voltage	no-load performance	stall extrapolation
12 V	76 RPM, 200 mA	45 kg·cm (630 oz·in), 5.5 A

Alternatives available with variations in these parameter(s): gear ratio encoders? [Select variant...](#)

[Description](#) [Specs \(21\)](#) [Pictures \(14\)](#) [Resources \(4\)](#) [FAQs \(1\)](#) [On the blog \(1\)](#)

Dimensions

Size:	37D × 72.5L mm ¹
Weight:	210 g
Shaft diameter:	6 mm ²

General specifications

Gear ratio:	131.25:1
No-load speed @ 12V:	76 rpm
No-load current @ 12V:	0.2 A
Stall current @ 12V:	5.5 A ³
Stall torque @ 12V:	45 kg·cm ³

Max output power @ 12V:	6 W
No-load speed @ 6V:	38 rpm ⁴
No-load current @ 6V:	0.15 A ⁴
Stall current @ 6V:	3.0 A ⁵
Stall torque @ 6V:	28 kg·cm ⁵

Performance at maximum efficiency

Max efficiency @ 12V:	45 %
Speed at max efficiency:	66 rpm
Torque at max efficiency:	6.0 kg·cm
Current at max efficiency:	0.74 A
Output power at max efficiency:	4.1 W

General specifications

Lead length:	20 cm ⁶
Encoders?:	Y
Encoder resolution:	64 CPR

Notes:

- 1** Length measurement is from gearbox face plate to back of encoder cap (it does not include the output shaft). See dimension diagram for details.
- 2** D shaft.
- 3** Stalling is likely to damage the gearmotor. Stall parameters come from a theoretical extrapolation of performance at loads far from stall. As the motor heats up, as happens as it approaches an actual stall, the stall torque and current decrease.
- 4** This motor will run at 6 V but is intended for operation at 12 V.
- 5** Stalling is likely to damage the gearmotor. Stall parameters come from a theoretical extrapolation of performance at loads far from stall. This motor will run at 6 V but is intended for operation at 12 V.
- 6** May vary by a few centimeters.