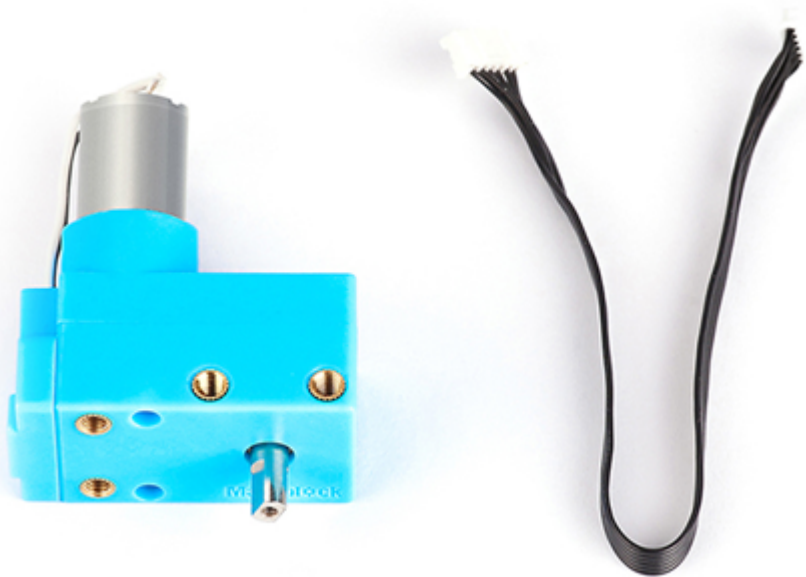# 180 Optical Encoder Motor

Overview

The 180 optical encoder motor is equipped with an optical encoder that enables high-accuracy control. With two M4 threaded holes on each of the three sides, it can be easily connected to Makeblock mechanical parts and thus can be used flexibly in combination with various other parts. The customized material it uses reduces noise and promises large output torque. It supports multiple motor drivers and main control boards, such as Orion, MegaPi, MegaPi Pro, Me Auriga, and mBot2 Shield.

Electrical performance

Driving voltage	5V	7.4V
Rotational speed range	1–207 (RPM)	0–350 ± 5% (RPM)
Rotational precision	≤ 5°	
Detection precision	1°	
Rotational torque	1,500 g·cm	Start torque: 5,000 g·cm Rated torque: 800 g·cm
Material of the output shaft	Metal	

Control performance

Turning	Precise turning
Moving straight forward	Deviation: ≤2% Providing the command for moving forward *XX* mm
Functioning as a servo	Supported Angle control accuracy: ≤5°
Functioning as a knob	Supported Detection accuracy: 1°

Mechanical specifications

- Reduction gear ratio: 39.6
- Length of the output shaft: 9 mm

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