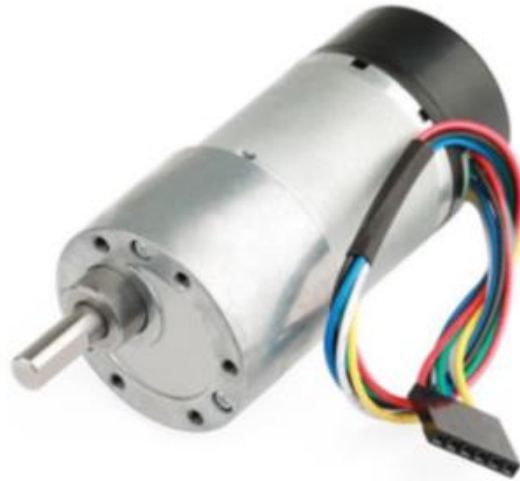


## GM37 Geared Motor with Encoder-DC Motor-1:43-16 CPR

**SKU: 316030174**



This Motor with encoder, Mainly used in robot platform and car provides power, Good quality and long lifetime, high torque and low noise.

## PRODUCT DETAILS

This Motor with encoder, Mainly used in robot platform and car provides power, Good quality and long lifetime, high torque and low noise.

The motor has two reduction ratios, and you can also choose a motor with a reduction ratio of [1:10](#) GM37 motor. If you need a smaller motor, you can choose [JGA25](#), or you need better performance, you can choose GP36 motor([1:51](#) \ [1:14](#)).

We offer a variety of couplings for this motor, which can be mounted via a coupling.

[6mm Brass Hex Mounting Hub-Hexagonal-12\\*12\\*30mm](#)

[6mm Brass Hex Mounting Hub-Hexagonal-12\\*12\\*18mm](#)

[6mm Flange Set Screw Hub-28mm in Diameter](#)

Available wheel:

[Robot cars Wheel-68mm-Hexagonal](#)

[Robot cars Wheel-72mm-Hexagonal](#)

[Robot cars Wheel-130mm-Hexagonal](#)

[Robot cars Wheel-82mm Wheel-Omni Robot-Flange](#)

What is a geared motor?

The geared motor uses a gear set to convert the original high speed and low torque of the motor to a low speed and high torque state. So what are the benefits of geared motors?

Under the same voltage conditions, you can manually clamp the motor to stop it, but once it is a gear motor, it is more difficult to stop the motor with an external force because the "force" of the motor becomes larger. Therefore, when you use a geared motor, you will find it is slower than a motor that does not slow down, but it can provide a larger load.

Geared motors are typically used where high torque is required, such as an elevator, which will carry more than a dozen people upstairs, which will require a lot of torque. Of course, there will be some energy loss during deceleration, but it will still bring a lot of convenience to our lives.

What is an encoder?

An encoder is a device that monitors the speed of a motor through an optoelectronic, Hall or magnetic encoder chip. Using an encoder, we can use some complicated algorithms.

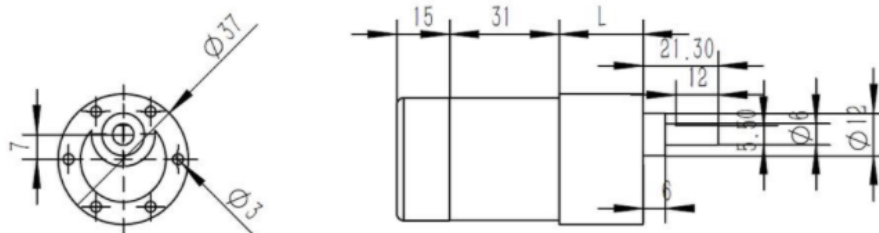
For example, we can use the PID algorithm to monitor the speed of the motor. And controls such as speed off can keep the speed of the motor at a certain value. When the external load becomes larger, the speed of the ordinary motor will slow down, but when we know that it is slow, we can adjust it by an algorithm. Controlling the output voltage keeps the motor speed at a certain value. Of course, we need to learn to control the related algorithms.

What can we do with this motor?

With this motor, we can design and manufacture a balance car. Keep the motor steady by using position loops and gyroscopes to keep the car balanced.

We can design off-road vehicles or mobile robots. The geared motor allows the robot to get more force so that it can pass through some light slopes.

Parameter:



1:10 L= 19mm

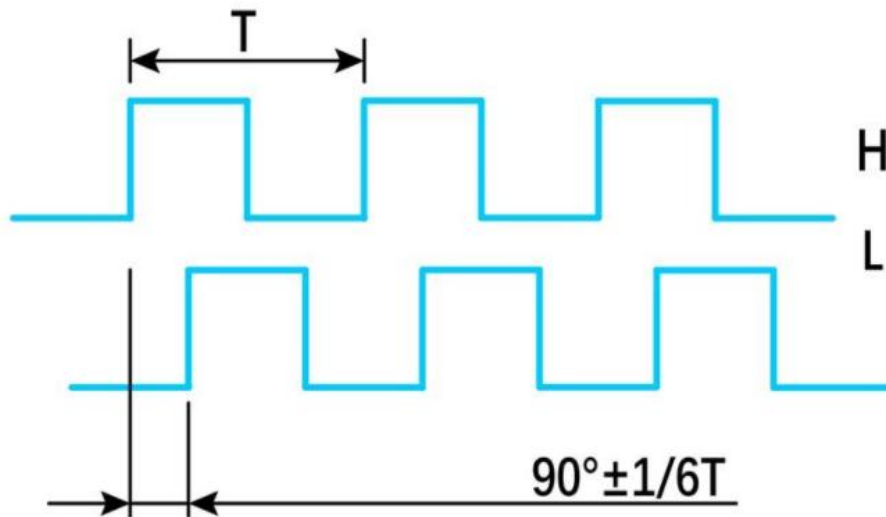
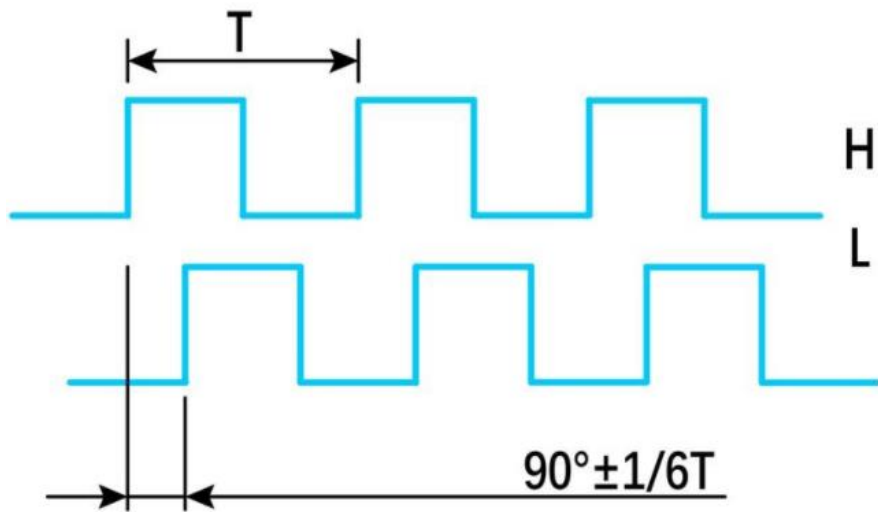
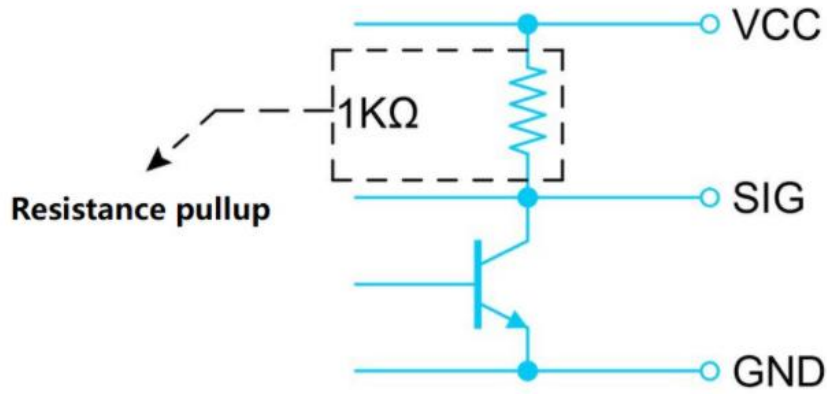
1: 43 L=24mm

DC motor power	6.5W
Motor voltage range	6-12V
Encoder voltage	3.3-5V
Encoder type	Hall
Encoder accuracy	16cpr

Reduction ratio	Voltage V	无负荷		Maximum efficiency point				Locked-Rotor	
		r/min	A	r/min	A	Kg.cm	W	Kg.cm	A
10:01	12	1000	0.25	750	1.1	1.2	6.5	6.5	6.5
43:01:00	12	228	0.25	180	1.1	4	5.5	20	6.5

Encoder electrical characteristics	Specification characteristics	symbol	Test Conditions	MIN	Benchmark	MAX	Unit symbol
	Input voltage	vcc	--	2.7	-	5.5	V
	Output saturation voltage	vce (sat)	VCC=14V; IC=20mA	-	300	700	mA
	Output leakage current	lcex	VCC=14V; VCC=14V	-	<0.1	10	A
	Input Current	Ice	VCC=20V output open	-	5	10	mA
	Output rise time	tr	VCC=14V; RH=820Ω; CH=20pF	-	0.3	1.5	S
	Output fall time	tr	VCC=14V; RL=820Ω; CL=20pF	-	0.3	1.5	S





### Part List:

1 x GM37 Geared Motor 1:10



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