JGA25-371 DC Gearmotor with Encoder (126 RPM at 12 V)

This JGA25-371 DC gearmotor features an integrated encoder which provides a resolution of 12 counts per revolution, ensuring an accurate control of motor's speed.

Overview

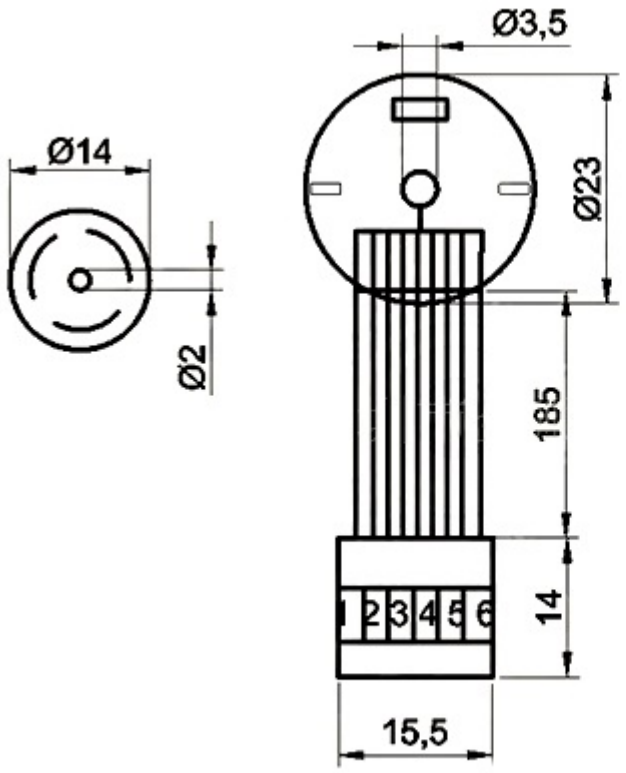
This JGA25-371 DC gearmotor features an integrated encoder which provides a resolution of 12 counts per revolution, ensuring an accurate control of motor's speed.

Specifications

- Operating voltage: between 6 V and 24 V
- Nominal voltage: 12 V
- Free-run speed at 12 V: 126 RPM
- Free-run current at 12 V: 46 mA
- Stall current at 12 V: 1 A
- Stall torque at 12 V: 4.2 kg·cm
- Gear ratio: 1:34
- Reductor size: 21 mm
- Weight: 99 g

For other variations of this motor see the JGA25-371 gearmotor selector.

Model: JGA25-371		Data Sheet										
Voltage		No Load		Load				Stall		Reducer		Weight
Workable	Rated	Speed	Current	Speed	Current	Torque	Output	Torque	Current	Ratio	Size	Unit
Range	Volt.V	rpm	mA	rpm	mA	kg.cm	W	kg.cm	A	1:00	mm	g
6-24V	12	977	46	781	300	0.11	1.25	0.55	1	4.4	15	99
6-24V	12	463	46	370	300	0.23	1.25	1.1	1	9.28	17	99
6-24V	12	201	46	168	300	0.53	1.25	2.65	1	21.3	19	99
6-24V	12	126	46	100	300	0.85	1.25	4.2	1	34	21	99
6-24V	12	95	46	76	300	1.1	1.25	5.5	1	45	21	99
6-24V	12	55	46	44	300	1.95	1.25	9.7	1	78	23	99
6-24V	12	41	46	32	300	2.5	1.25	12.5	1	103	23	99
6-24V	12	25	46	20	300	4.2	1.25	21	1	171	25	99
6-24V	12	19	46	15	300	5.6	1.25	28	1	226	25	99
6-24V	12	11	46	8.8	300	9.45	1.25	47	1	378	27	99
6-24V	12	8.6	46	6.8	300	12	1.25	60	1	500	27	99

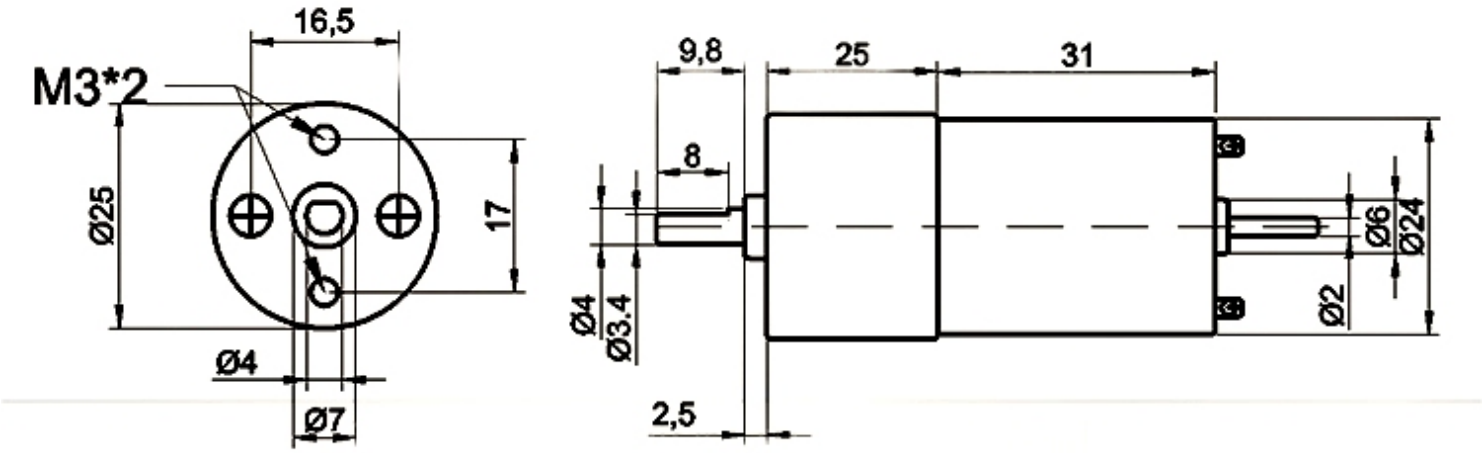


Parameter:

Operating voltage: between 6 and 24 V DC
Nominal voltage: 12 V DC

Connection of the encoder:

Red: Motor power supply +
Black: Coding power supply -
Yellow: Signal feedback
Green: Signal feedback
Blue: Coding power supply +
White: Motor power supply -


16,5
M3*2
Ø25
17
Ø4
Ø7
9,8
25
31
8
Ø4
Ø3.4
2,5
Ø6
Ø24
Ø2

JGA25-371 Geared Motor with Encoder

SKU 114090047

Please use this motor as an alternative to JGB37-371 and Encoder Geared Motor JGA25-371

Introduction:

This Motor with **encoder**, Mainly used in robot platform and car provides power, Good quality and long lifetime, high torque and low noise.
If you don't need an encoder, you can choose JGA25-370 Geared Motor

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.

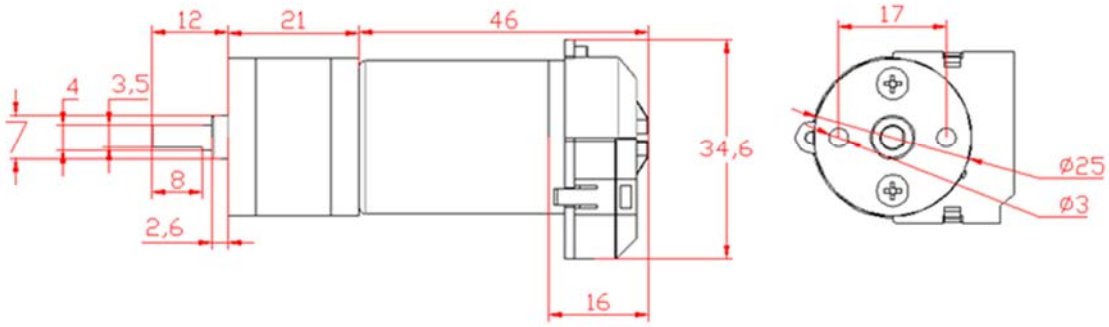
What can we do with this motor?

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.

Specification:

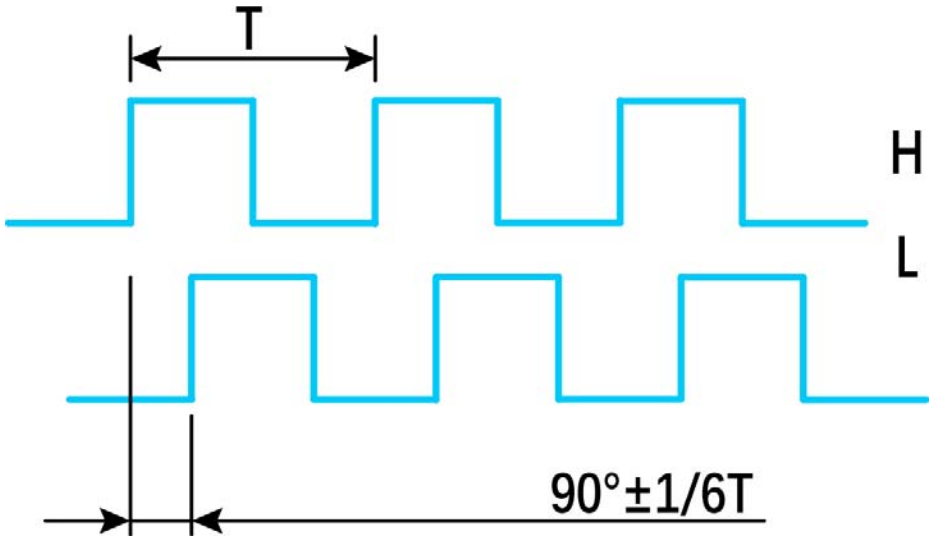
Voltage V	No-load		Maximum efficiency pointed				Blockage	
	speed r/min	electric current A	speed r/min	electric current A	Torque Kg.cm	Power W	Torque Kg.cm	electric current A
6	190	0.2	133	0.5	0.75	1.1	4.0	2.1
12	350	0.1	245	0.65	1.4	2.4	5.2	2.2

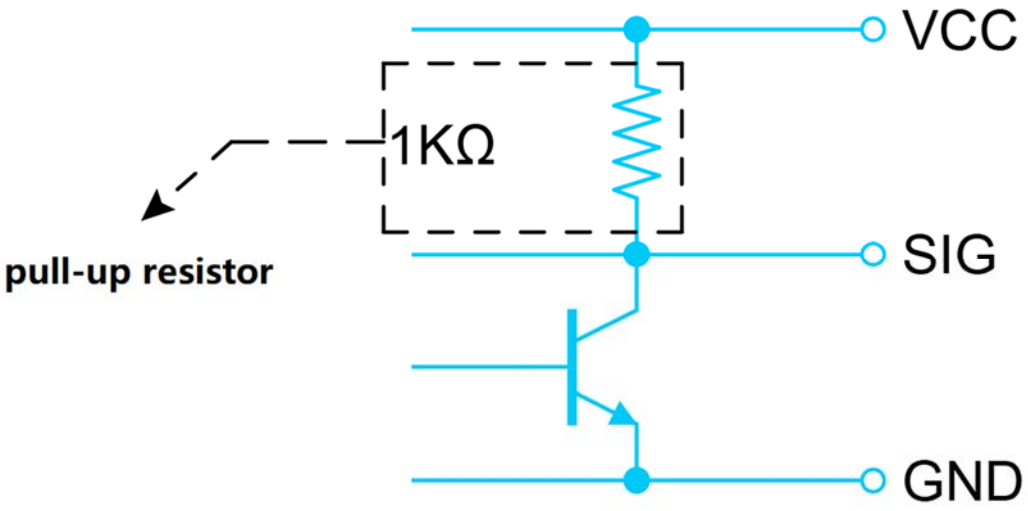
size:



Electrical characteristics:

Encoder electrical characteristics	specification	Code	Test Conditions	MIN	Benchmark	MAX	unit
	Input voltage	vcc	--	2.7	-	5.5	V
	Output saturation voltage	Vce sat	VCC=14V;IC=20 mA	-	300	700	mA
	Output leakage current	lcex	VCC=14V;VCC=14V	-	<0.1	10	A
	Input Current	lce	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 JGA25-371 motor

1 x 6pin Wire

ECCN/HTS

ECCN	ERA99
HSCODE	8501101000
UPC	