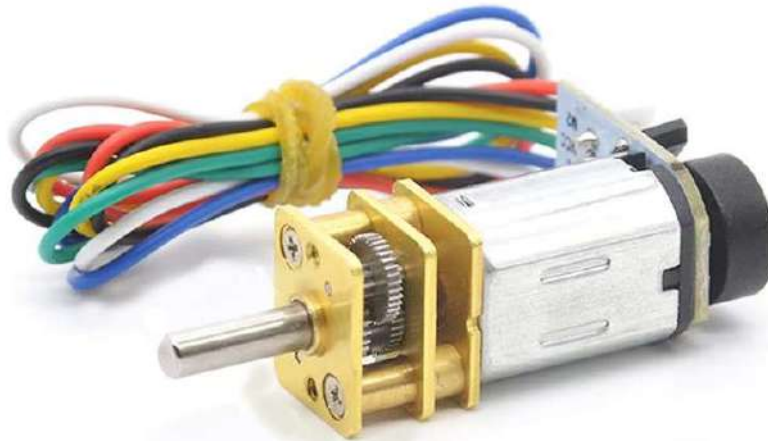


The **JGA12 N20 6V 15-3000RPM Micro Hall Encoded Gear DC Motor** is a compact, high-torque brushed DC motor designed for precision motion in space-constrained applications. Equipped with a robust **metal gearbox** and reverse gear configuration, this motor is ideal for use in small robots, automation projects, and DIY electronics where directional control and consistent performance are key.



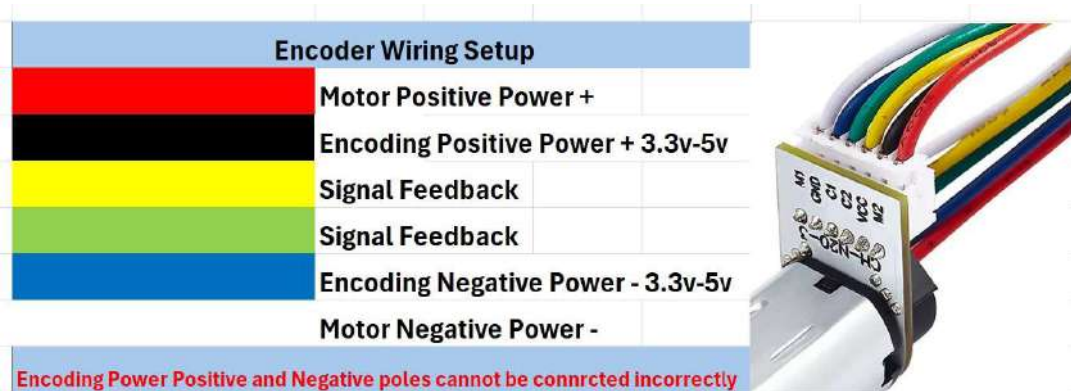
This motor operates at a nominal voltage of **6V**, making it compatible with a wide range of low-voltage control systems, including **Arduino**, **Raspberry Pi**, and other microcontrollers. One of its key features is the **adjustable RPM range**, typically from **15 to 500 rotations per minute**, depending on the selected gear ratio.

JGA12-N20-06150	Ratio	Voltage	No Load		At Max. Efficiency			Stall	
Model	i : 1	Rated	Speed	Current	Speed	Current	Torque	Torque	Current
JGA12-N20-15 RPM	1000	6VDC	15RPM	0.05mA	11RPM	0.12A	1000g/cm	3000g/cm	0.43A
JGA12-N20-39RPM	380	6VDC	39RPM	0.05mA	30RPM	0.12A	513g/cm	1480g/cm	0.43A
JGA12-N20-50 RPM	298	6VDC	50RPM	0.05mA	39RPM	0.12A	400g/cm	1160g/cm	0.43A
JGA12-N20-71 RPM	210	6VDC	71RPM	0.05mA	55RPM	0.12A	280g/cm	815g/cm	0.43A
JGA12-N20-100 RPM	150	6VDC	100RPM	0.05mA	77RPM	0.12A	200g/cm	585g/cm	0.43A
JGA12-N20-150 RPM	100	6VDC	150RPM	0.05mA	115RPM	0.12A	135g/cm	390g/cm	0.43A
JGA12-N20-300 RPM	50	6VDC	300RPM	0.05mA	231RPM	0.12A	75g/cm	228g/cm	0.43A
JGA12-N20-500 RPM	30	6VDC	500RPM	0.05mA	384RPM	0.12A	45g/cm	135g/cm	0.43A
JGA12-N20-750 RPM	20	6VDC	750RPM	0.05mA	577RPM	0.12A	30g/cm	91g/cm	0.43A
JGA12-N20-1500 RPM	10	6VDC	1500RPM	0.05mA	1154RPM	0.12A	15g/cm	46g/cm	0.43A
JGA12-N20-3000 RPM	5	6VDC	3000RPM	0.05mA	2308RPM	0.12A	7.5g/cm	23g/cm	0.43A
<b>Note: all reduced no-load speeds have a tolerance of ±15%</b>									
Over all Size	40.5X12X10 cm	Shaft size	3mm x 10mm	Weight	13g	Specifications +-5%			

The **Encoder** an integrated two-channel incremental Hall effect encoder that senses the rotation of a magnetic disk on a rear protrusion of the motor shaft. The quadrature encoder provides a resolution Basic pulse **7 PPR** x Gear reduction ratio of the motor shaft when counting both edges of both channels.



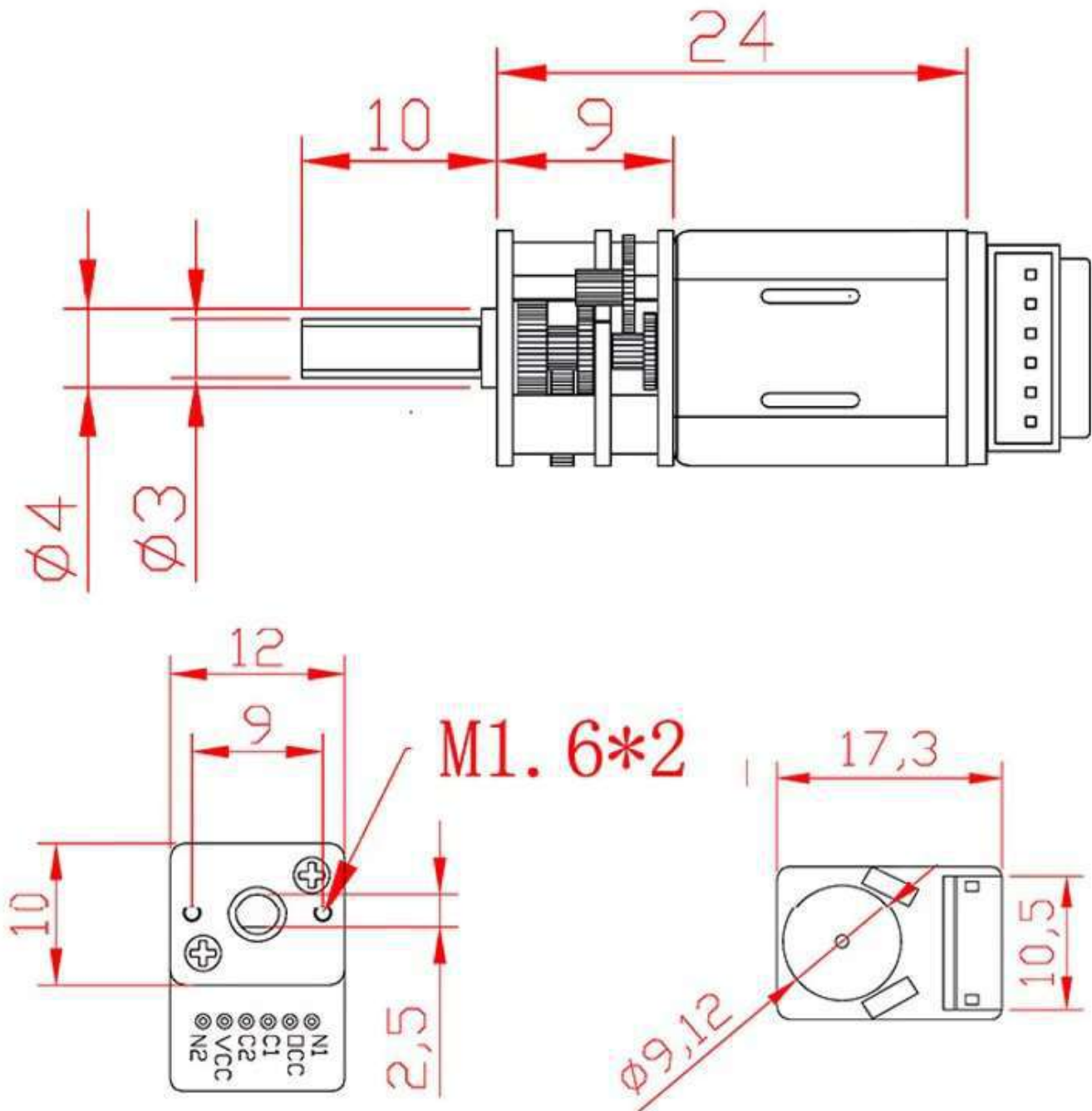
<b>Model:</b>	<b>JGA12-N20 Encoder</b>
Type:	AB Dual-Phase Incremental Magnetic Hall Encode
Line Rate	Basic pulse 7 PPR x Gear reduction ratio
Power Supply	DC 3.3V / DC 5.0V
Basic Function:	with pull-up resistor, directly connect to MCU
Output Signal	Square wave AB phase
Response Frequency:	100 KHz
Basic Pulses:	7 PPR
Magnetic Ring:	Trigger Poles Number 14 poles (7 pairs of poles)
Connector	ZH1.5 6 Way



To control the motor, simply connect it to a compatible **H-bridge driver** and use **PWM signals** to adjust speed and direction. Combined with feedback systems like encoders or limit switches, this motor can be part of a more complex, closed-loop control system.

With its **N20 size classification**, the motor measures approximately **12mm x 10mm x 25mm** (including the gearbox), allowing it to fit into tight spaces where traditional motors might not be viable. The **metal gearbox** not only increases torque output but also provides durability and extended operational life compared to plastic-geared counterparts. Depending on the chosen gear ratio, the motor can provide enough torque to lift small weights, drive wheels, or actuate levers with precision.

The **D-shaped output shaft** ensures a secure mechanical connection to wheels, pulleys, or other rotary attachments, reducing the chance of slippage during operation. Its compact design and energy-efficient operation make it a Favorite for battery-powered devices and portable robots.



In conclusion, the **JGA12 N20 6V 15-3000RPM Micro Hall Encoded Gear DC Motor** is a small yet powerful component that delivers precise control, reversible motion, and long-lasting performance, making it a solid choice for engineers, makers, and hobbyists alike.