Brushless Planetary Gear Motor Z0130







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Main Applications

• Robotics and intelligent actuator modules

• Industrial automation and compact positioning mechanisms • Smart equipment, valves, latches, and opening/closing mechanisms • Dispensing, vending, and commercial equipment drive modules • Medical, laboratory, and analytical equipment subassemblies • Other OEM devices requiring a compact 24V brushless planetary gear motor with feedback and PWM control

FAQ

Q1. What are the main specifications of the Z0130 brushless planetary gear motor?

The supplied reference configuration is 24 VDC with a 1:51 planetary reduction ratio, 160 RPM free-load speed, 125 RPM rated speed, 14 kgf·cm reference rated torque, and 60 kgf·cm minimum stall torque.

Q2. Does this BLDC planetary gear motor support speed and direction control?

Yes. The drawing provides PWM input, FG speed feedback, CW/CCW direction control, and a brake signal through a six-wire control interface.

Q3. What is the gearbox and motor size?

The design uses a GMP36-51K planetary gearbox with an approximately Ø36.8 mm gearbox body and a BL3650 motor with Ø36 mm maximum diameter.

Q4. Can the output shaft, gear ratio, cable, and connector be customized?

Yes. These items can be reviewed according to the customer installation drawing, target speed, torque, control interface, and annual quantity.

Q5. Is sta on allowed?

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No. The supplied drawing marks stall operation as not allowed. System-level current limiting, timeout protection, or brake/control logic should be used to avoid prolonged stall conditions.

Q6. What information is needed for OEM selection?

Please provide voltage, target speed, rated and peak torque, installation space, shaft and mounting drawing, duty cycle, control-signal requirements, operating environment, and target lifetime.

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Product Overview

The Z0130 is a brushless DC gear motor with long service life, low noise, high efficiency, and precise speed control. It is customized for robots, AGVs, robotic lawn mowers, medical equipment, conveyors, and smart appliances.

Model Information

Item	Specification
Project / Customer Code	Z0130-001(01)
Product Series	GMP36-51K
Motor Type	Brushless DC Motor
Product Type	Brushless Planetary Gear Motor
Driving Motor	BL3650#
Rated Voltage	24 VDC
Reference Gear Ratio	1:51
Driver / Control	6-wire BLDC control interface with PWM, FG and brake

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Technical Data

Parameter	Specification
Rated Voltage	24 VDC
Gear Ratio	1:51
Free-load Speed	160 ±10% RPM
Free-load Current	300 mA Max
Rated Speed	125 ±10% RPM
Rated Current	1500 mA Max
Rated Torque	14 kgf·cm REF (≈1.37 N·m)
Stall Current	7500 mA Max
Stall Torque	60 kgf·cm Min (≈5.88 N·m)
Stall Allowed	No
Direction	CW / CCW
Noise	62 dB Max at L=300 mm
Driving Motor Model	BL3650#
Driving Motor Free-load Speed	8000 ±10% RPM
Driving Motor Free-load Current	200 mA Max

Technical Data

Voltage	Ratio	No-load Speed	No-load Current	Rated Speed	Rated Current	Rated Torque	Stall C
24 VDC	1:51	160 RPM	300 mA Max	125 RPM	1500 mA Max	14 kgf·cm REF	75 mA Ma

Technical Data

Control Item	Specification
VCC	Pin 1 / Red
FG Feedback	Pin 2 / Yellow
Direction Control	Pin 3 / White, CW/CCW
GND	Pin 4 / Black
PWM Input	Pin 5 / Blue, 10 kHz-20 kHz r rawing

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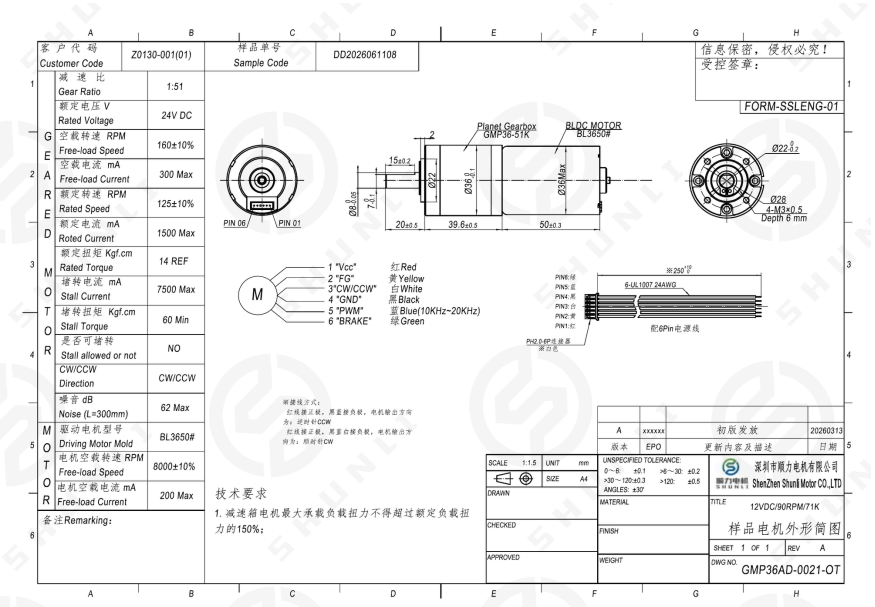
Brake	Pin 6 / Green
Harness	6 × UL1007 24AWG, approx. 250 mm
Connector	PH2.0-6P, white

Technical Data

Mechanical Item	Specification
Gearbox Type	Planetary Gearbox GMP36-51K
Gearbox Outside Diameter	Ø36.8 mm class
Motor Outside Diameter	Ø36 mm Max
Gearbox Length	39.6 ±0.5 mm
Motor Length	50 ±0.3 mm
Front Pilot Diameter	Ø22 mm
Mounting Circle	Ø28 mm
Mounting Threads	4 × M3 × 0.5, depth 6 mm
Output Shaft Extension	15 ±0.2 mm from front reference
Harness Length	Approx. 250 mm

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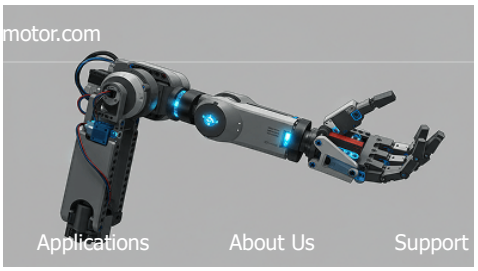
Dimension Drawing

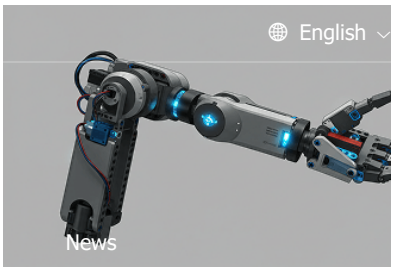


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Main Applications

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Industrial Automation

Industrial valves, dampers, gates, low-speed rotary platforms, adjustment mechanisms, and

Industrial Automation

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Customization Range

- Electrical Configuration
- • Rated voltage and winding specification
- • Motor speed and target output speed
- • PWM, FG, brake, and direction-control logic
- • Connector and wire definition
- Gearbox & Performance
- • Gear ratio selection
- • Target output speed and torque
- • Backlash and noise requirements
- • Duty cycle and service-life target
- Mechanical Interface
- • Output shaft diameter, flat, thread, or special machining
- • Mounting interface and pilot geometry
- • Harness length and connector type
- • Cable outlet orientation
- Reliability Validation
- • Operating temperature and environmental conditions
- • Load spectrum, start/stop frequency, and peak load
- • Noise/vibration requirements
- • Life-cycle and batch-consistency validation
- Information Required for Custom Evaluation
- • Target output speed, rated torque, and peak/stall condition
- • Input voltage and controller interface requirements
- • Installation space, mounting drawing, and output shaft specification
- • Duty cycle, daily cycle count, and expected lifetime

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- Noise, temperature, and environmental requirements
- Annual quantity and validation/certification requirements

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FAQ

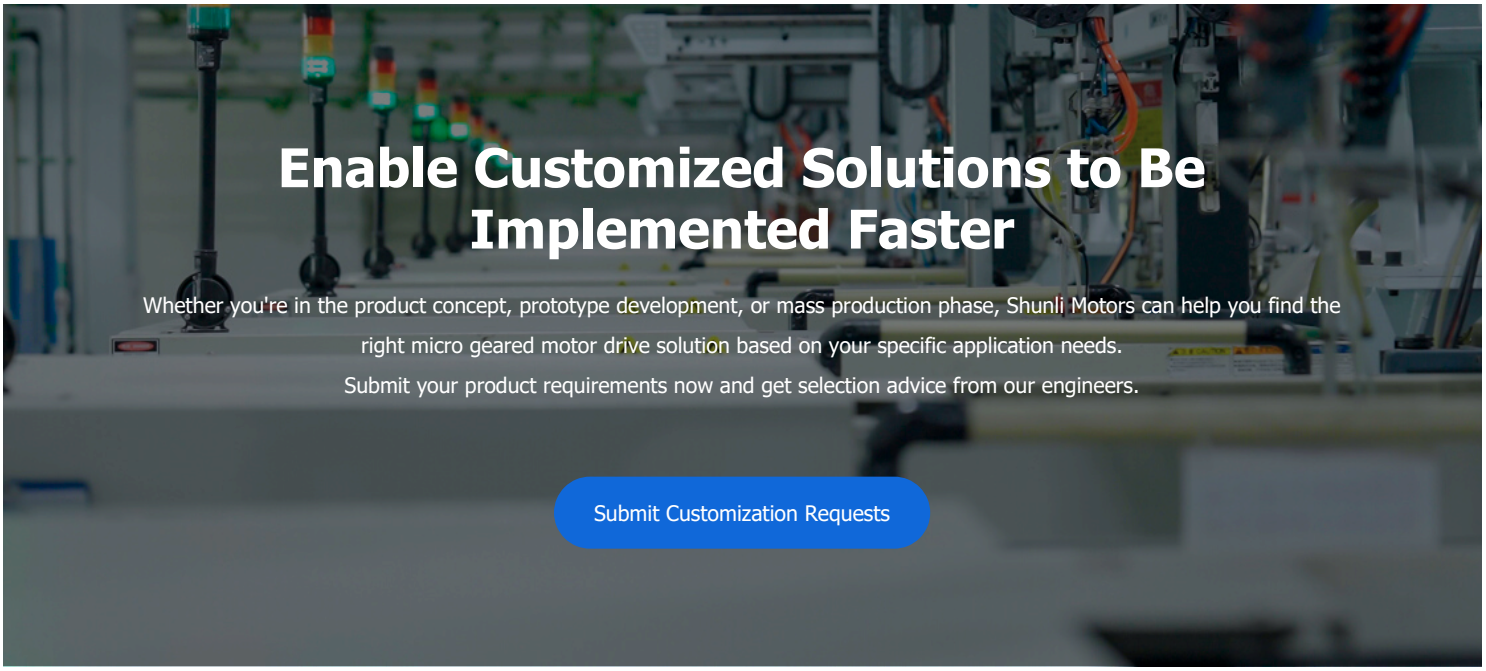
Q1: What types of projects are best suited to the GM58EM DC Worm Gear Motor?

Yes. Provide the product structure, space, load, and motion requirements, and our engineering team can assist with parameter conversion and solution evaluation.

Q2: What types of projects are best suited to the GM58EM DC Worm Gear Motor?

Q3: What types of projects are best suited to the GM58EM DC Worm Gear Motor?

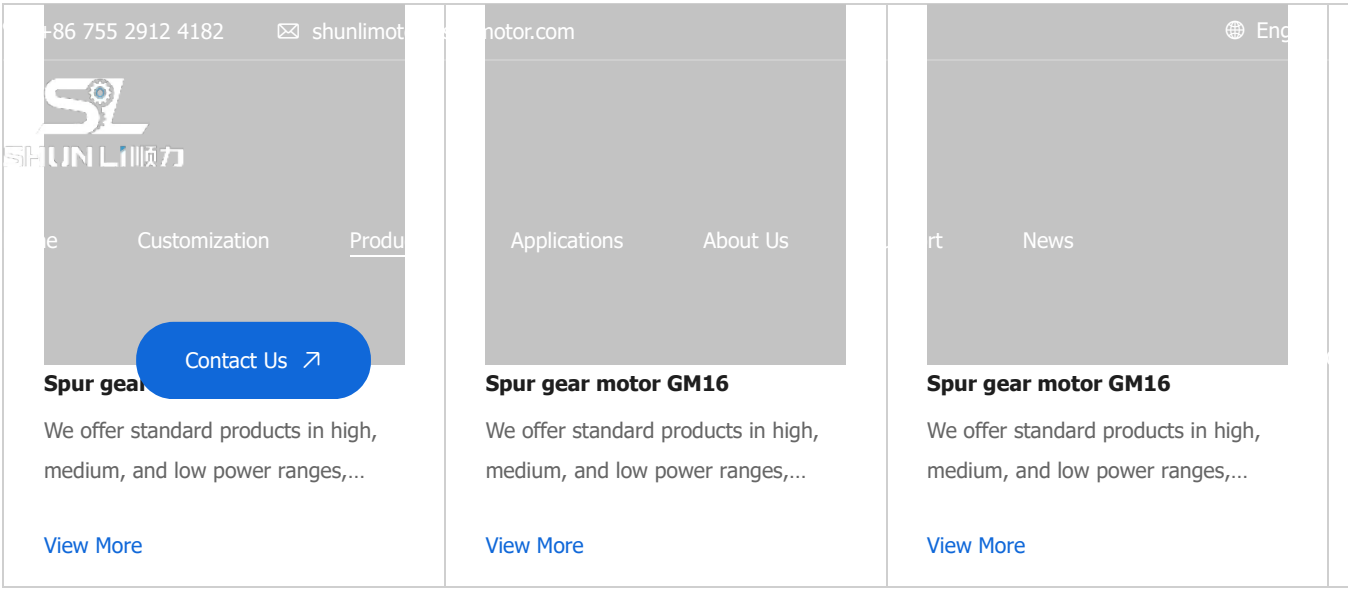
Q4: What types of projects are best suited to the GM58EM DC Worm Gear Motor?



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