Brushless DC Gear Motor BL3640SG

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Brushless DC Gear Motor BL3640SG

Main Applications

AI Robotics: Compact joints, grippers, pan-tilt mechanisms, service-robot modules, inspection mechanisms, and low-power g electronic speed control.

Industrial Automation: Small conveyors, valves, positioning mechanisms, feeders, automatic fixtures, and compact drive modules. Smart Home: Motorized windows, curtains, valves, furniture adjustments, appliance mechanisms, and smart-device actuators. Medical Equipment: Compact adjustment mechanisms, diagnostic equipment, laboratory automation, and controlled low-power actuators, subject to system-level validation. Commercial Equipment: Vending, dispensing, coffee-machine mechanisms, self-service terminals, and office automation. Custom OEM Equipment: Space-limited mechanisms requiring a compact brushless DC gear motor with built-in driver, PWM control, direction control, and FG feedback.

FAQ

Q1. What information is required to select the BL3640SG brushless DC gear motor?

Please provide the operating voltage, target output speed, continuous and peak torque, installation space, output shaft requirements, duty cycle, control method, feedback requirements, ambient temperature, target lifetime, and annual quantity. The gear ratio should be selected together with the required speed and load rather than from ratio alone.

Q2. Does this BLDC gear motor include a driver?

Yes. The supplied product data identifies the BL3640SG as a brushless DC gear motor with driver. However, the external control-signal definitions and

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electrical logic are not specified in the supplied material, so the [illegible] should be confirmed before system integration.

Q3. What gear ratios and voltages are available?

The supplied reference table covers 12 VDC, 24 VDC, and 36 VDC configurations with ratios of 1:5, 1:14, 1:27, 1:51, 1:71, 1:100, 1:189, 1:369, 1:516, and 1:977. Final availability should be confirmed for the exact BL3640SG configuration.

Q4. What control interface is available for the BL3640SG?

The supplied data confirms a built-in driver, but it does not define PWM, direction, speed-feedback, connector pinout, or logic-level specifications. These interface details should be confirmed during engineering evaluation before the customer controller is finalized.

Q5. Can the shaft, ratio, wiring, or connector be customized?

Customization can be evaluated based on the application. Please provide the required shaft drawing, installation dimensions, target speed and torque, wire length, connector specification, control interface, duty cycle, and annual demand so the engineering team can confirm feasibility.

Q6. How do I place an order with Shunli Motor?

Send us your application requirements or motor specifications. Our engineering team will evaluate the voltage, speed, torque, ratio, control interface, and installation conditions, then confirm the technical solution and sample. After sample approval, mass production can be arranged according to the confirmed specification and delivery requirements.

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Product Overview

BL3640SG Series The BL3640SG brushless DC gear motor is a compact 36 mm-class BLDC geared drive with a built-in driver, designed for OEM equipment requiring efficient electronic commutation, a broad output-speed range, and reliable geared transmission. The supplied reference data covers 12 VDC, 24 VDC, and 36 VDC configurations with gear ratios from 1:5 to 1:977. Depending on voltage and ratio, the series provides reference no-load output speeds from 2 to 5537 RPM and loaded speeds from 2 to 4436 RPM. With rated output power from 1 W to 16 W and a 295 g reference weight, the BL3640SG is suitable for industrial automation, AI robotics, smart equipment, commercial systems, medical equipment, and other compact motion-control applications. Final selection should be verified against operating voltage, target output speed, load torque, duty cycle, thermal conditions, installation dimensions, and control-interface requirements.

Model Information

Series	BL3640SG
Motor Type	Brushless DC Motor (BLDC)
Product Type	Brushless DC Gear Motor with Built-in Driver
Reference Performance Table	BL3640SG supplied performance table
Rated Output Power	1 W–16 W
Weight	295 g
Control Interface	Built-in driver; external control interface not specified in supplied data

Main Parameters

Technical Data

Parameter	Specification
Rated Voltage Options	12 VDC / 24 VDC / 36 VDC
Motor Reference Speed	2,360 RPM @ 12 V; 27,685 RPM @ 24 V; 20,686 RPM @ 36 V
Gear Ratio Options	1:5 / 1:14 / 1:27 / 1:51 / 1:71 / 1:100 / 1:189 / 1:369 / 1:516 / 1:977
Output Power	1 W–16 W
Weight	295 g
Driver	Built-in

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Control Signals	Not specified in supplied data
Torque Data	Source reference row provided; confirm test definition before guarantee

Technical Data

Ratio	5	14	27	51	71	100	1
No-load speed (RPM)	472	168	87	46	33	24	1
Loaded speed (RPM)	366	130	67	36	25	18	1
Reference torque (mN·m)*	102	249	481	780	1086	1530	

Technical Data

Ratio	5	14	27	51	71	100
No-load speed (RPM)	5537	1977	1025	542	390	276
Loaded speed (RPM)	4436	1585	820	435	312	221
Reference torque (mN·m)*	78.4	192	370	600	835	1177

Technical Data

Ratio	5	14	27	51	71	100
No-load speed (RPM)	4135	1477	766	405	291	206
Loaded speed (RPM)	3345	1194	619	328	235	167
Reference torque (mN·m)*	72	176	340	550	766	1080

Technical Data

Driver Configuration	Built-in driver
PWM Input	Not specified in supplied data

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Ground	Not specified in supplied data
Direction Control	Not specified in supplied data
Speed Feedback	Not specified in supplied data
Power Input	12 / 24 / 36 VDC reference versions; wiring definition to be confirmed

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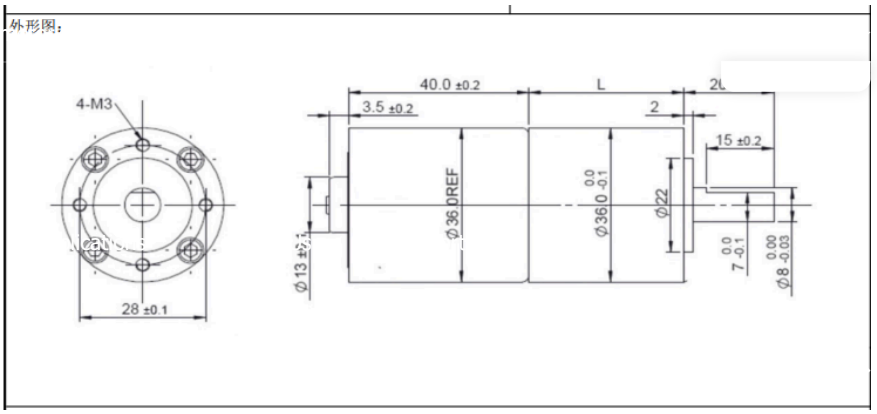
Technical Data

Motor Outside Diameter	**Ø38 mm REF**
Gearbox Outside Diameter	Ø36 mm (0 / -0.1)
Front Face Diameter	Ø25 mm (0 / -0.3)
Mounting Interface	4 × M3; 28 ±0.1 mm mounting pattern shown in drawing
Output Shaft Diameter	Ø8 mm (0 / -0.03)
Output Shaft Flat	7 mm (0 / -0.1), per drawing
Output Shaft Extension	15 ±0.2 mm
Motor Section Length	40.0 ±0.2 mm
Gearbox Length	L – varies by reduction configuration
Front Section Length	20 ±0.5 mm
Overall Length	40.0 mm motor section + L gearbox + 20 mm front section; shaft extension per drawing

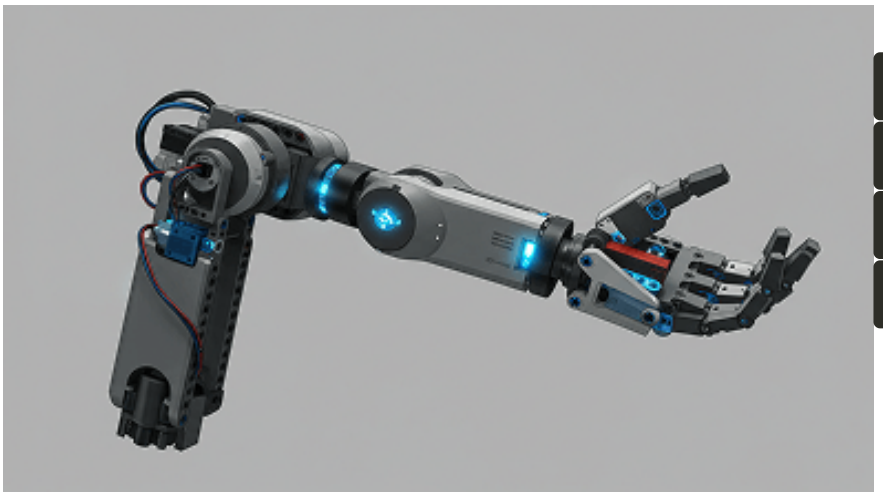
Dimension Drawing

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Main Applications



Industrial Automation

Industrial valves, dampers, gates, low-speed rotary platforms, adjustment mechanisms, and compact actuators requiring right-angle transmission.

Customization Range

- Electrical Configuration
- Rated voltage and winding configuration
- Motor speed and output speed
- Lead wire and connector interface
- Direction-control and speed-control interface, subject to driver design
- Gearbox & Performance
- Gear ratio selection
- Output speed
- Torque target within gearbox capability
- Gearbox length based on ratio configuration
- Mechanical Interface
- Output shaft geometry and length

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- Mounting interface
- Connector orientation and harness requirements
- Application-specific mechanical matching
- Control & Feedback
- PWM speed control
- CW/CCW direction control
- FG speed feedback
- Driver-function matching based on customer controller requi
- Reliability Validation
- Duty cycle and temperature rise
- Frequent start / stop and reversing
- Load variation and overload conditions
- Noise, vibration, target lifetime, and batch consistency
- Information Required for Custom Evaluation
- End product and motion task
- Rated and minimum operating voltage
- Target output speed
- Continuous / starting / peak torque
- Installation envelope and shaft/interface drawing
- Single-cycle running time and daily cycle count
- PWM / direction / FG interface requirements
- Ambient temperature and heat-dissipation conditions
- Noise and lifetime targets
- Expected annual quantity and certification requirements

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?

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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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Enable Customized Solutions to Be Implemented Faster

Whether you're in the product concept, prototype development, or mass production phase, Shunli Motors can help you find the right micro geared motor drive solution based on your specific application needs.
Submit your product requirements now and get selection advice from our engineers.

Submit Customization Requests

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