Tsinglin Micro Motors Limited

TSL-GIM8108-8

Integrated Joint Motor | 8:1 Planetary Gearbox

Rated Voltage	Rated Torque	Peak Torque	Gear Ratio
48 V	**6.71 N.m**	**23.09 N.m**	**8:1**

1. Electrical, Mechanical and Control Parameters

Parameter	Unit	Value
Rated Voltage	V	48
Model of Driver Board	-	GDZ468H
Operating Voltage Range	V	12-48
Rated Power	W	229
Rated Torque	N.m	6.71
Peak Torque	N.m	23.09
Rated Speed after Reduction	RPM	256
Maximum Speed after Reduction	RPM	290
Rated Current	A	4.78
Peak Current	A	18.86
Phase Resistance	Ω	0.72
Phase Inductance	mH	0.37
Speed Constant	rpm/V	6.04
Torque Constant	N.m/A	1.19
Number of Pole Pairs	Pairs	21
Gear Ratio	-	8:1
Gearbox Type	-	Planetary

Parameter	Unit	Value
Gear Material	-	Steel
Gear Backlash	arcmin	15
Motor Weight (without driver)	g	378.0
Motor Weight (with integrated driver)	g	396.0
Motor Dimensions (without driver)	mm	Ø92 × 44
Motor Dimensions (with integrated driver)	mm	Ø92 × 55
Maximum Axial Load	N	225
Maximum Radial Load	N	900
Noise	dB	< 60
Communication Protocol	-	CAN & RS485
Secondary Encoder Support (output shaft)	-	Yes
Ingress Protection (IP) Rating	-	IP54
Operating Temperature Range	°C	-20 to +80
Onboard Encoder Resolution	bit	16
Stand-alone Encoder Support	-	No
Customizable Brake Support	-	Yes

The above parameters are for reference only and can be customized according to customer requirements.

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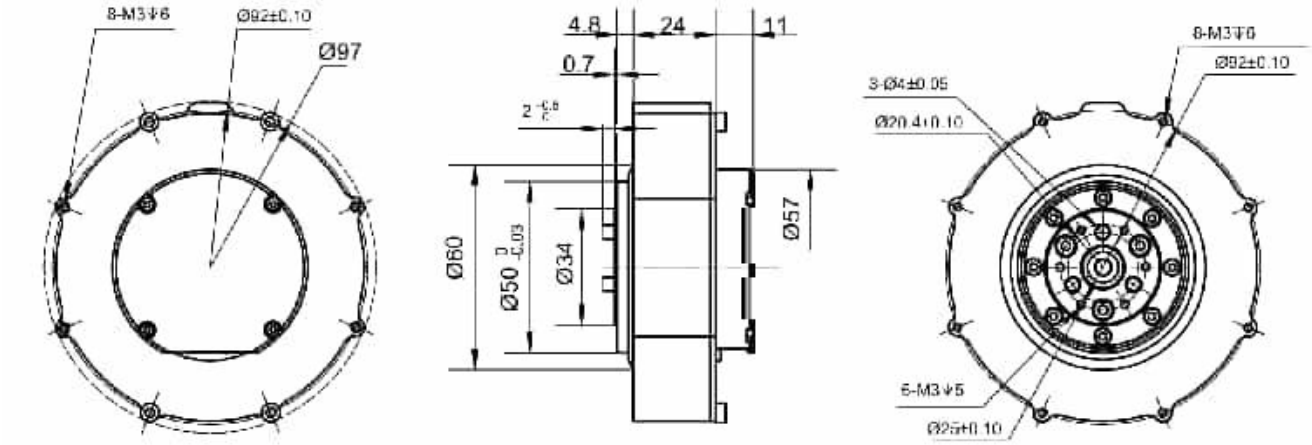
2. Dimension Drawing - With Integrated Driver

All dimensions are in millimeters unless otherwise specified.



Configuration	Motor assembly with integrated GDZ468H driver
Overall Size	Ø92 × 55 mm
Motor Weight	396.0 g
Driver / Communication	12-48 V operating range; CAN & RS485
Protection / Encoder	IP54; onboard 16-bit encoder

Drawing: TSL-GIM8108-8 - With Integrated Driver Version V1.0 | Updated 2026-08-04

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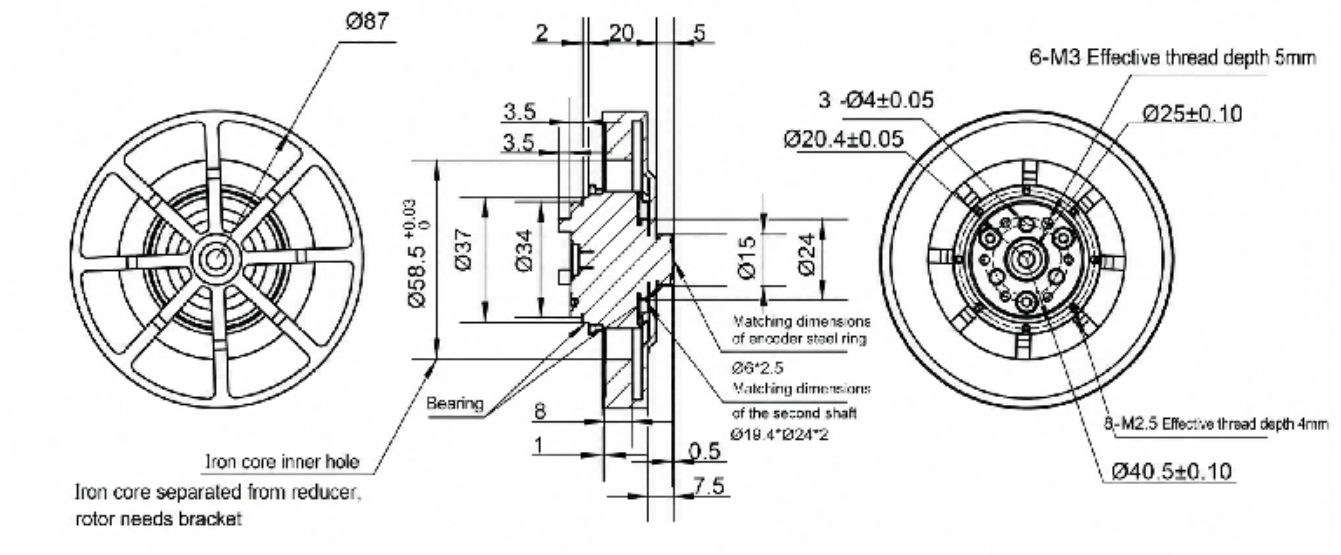
3. Dimension Drawing - Frameless Torque Motor + Gearbox

All dimensions are in millimeters unless otherwise specified.



Configuration	Frameless torque motor + planetary gearbox assembly
Overall Structure	Outer rotor diameter Ø87; interface details as shown
Installation Note	Iron core is separated from reducer; rotor support bracket is required
Encoder Interface	Matching dimensions of encoder steel ring: Ø6 × 2.5
Secondary Shaft Interface	Matching dimensions: Ø19.4 × Ø24 × 2

Drawing: TSL-GIM8108-8 - Frameless Torque Motor + Gearbox Version V1.0 | Updated 2026-08-04

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4. Dimension Drawing - With Output Shaft

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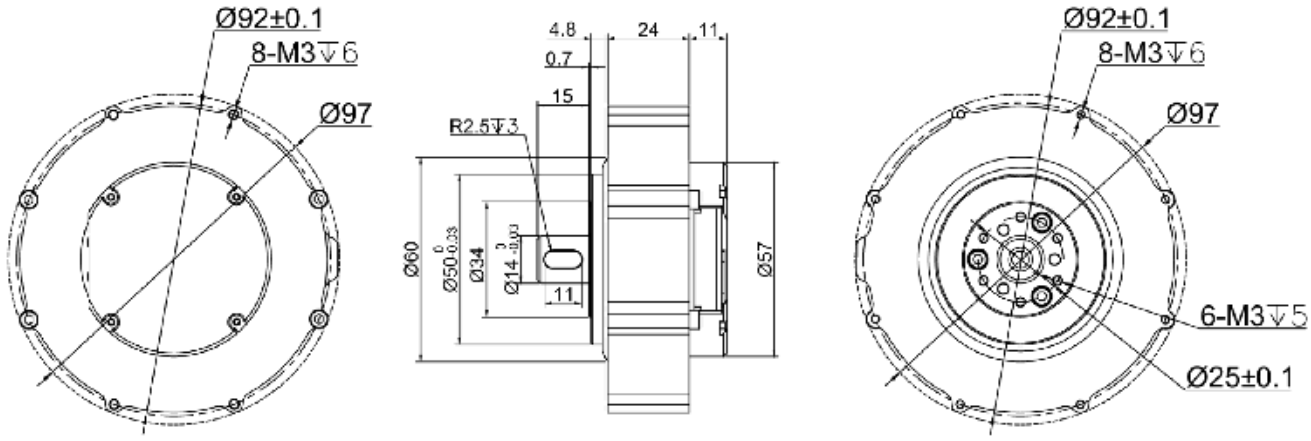

Configuration	Motor assembly with output shaft
Overall Structure	Output-shaft version; dimensions and interfaces as shown
Front Interfaces	8-M3 depth 6, Ø92±0.1 and Ø97
Output Shaft	Ø14 (0 / -0.03), shaft extension 11 mm; slot detail as shown
Mounting Features	6-M3 depth 5 and Ø25±0.1

Drawing: TSL-GIM8108-8 - With Output Shaft Version V1.0 | Updated 2026-08-04

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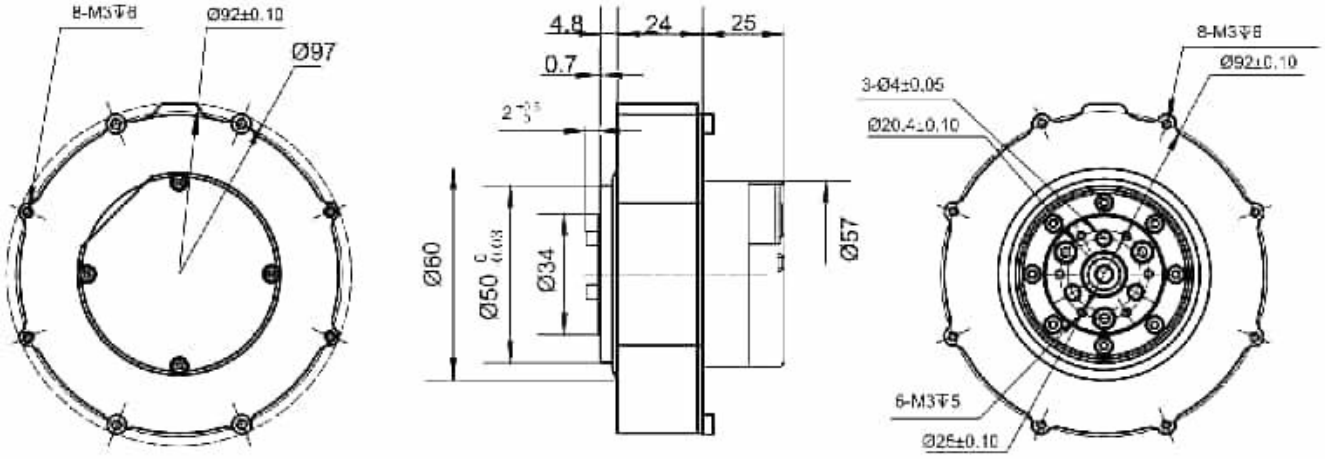
5. Dimension Drawing - With Brake

All dimensions are in millimeters unless otherwise specified.



Configuration	Motor assembly with brake
Overall Structure	Brake-integrated version; dimensions and interfaces as shown
Front Interfaces	8-M3 depth 6, Ø92±0.10 and Ø97
Brake / Rear Section	Integrated rear brake section as shown in the side view
Mounting / Output	3-Ø4±0.05, Ø20.4±0.10, 6-M3 depth 5 and Ø25±0.10

Drawing: TSL-GIM8108-8 - With Brake Version V1.0 | Updated 2026-08-04

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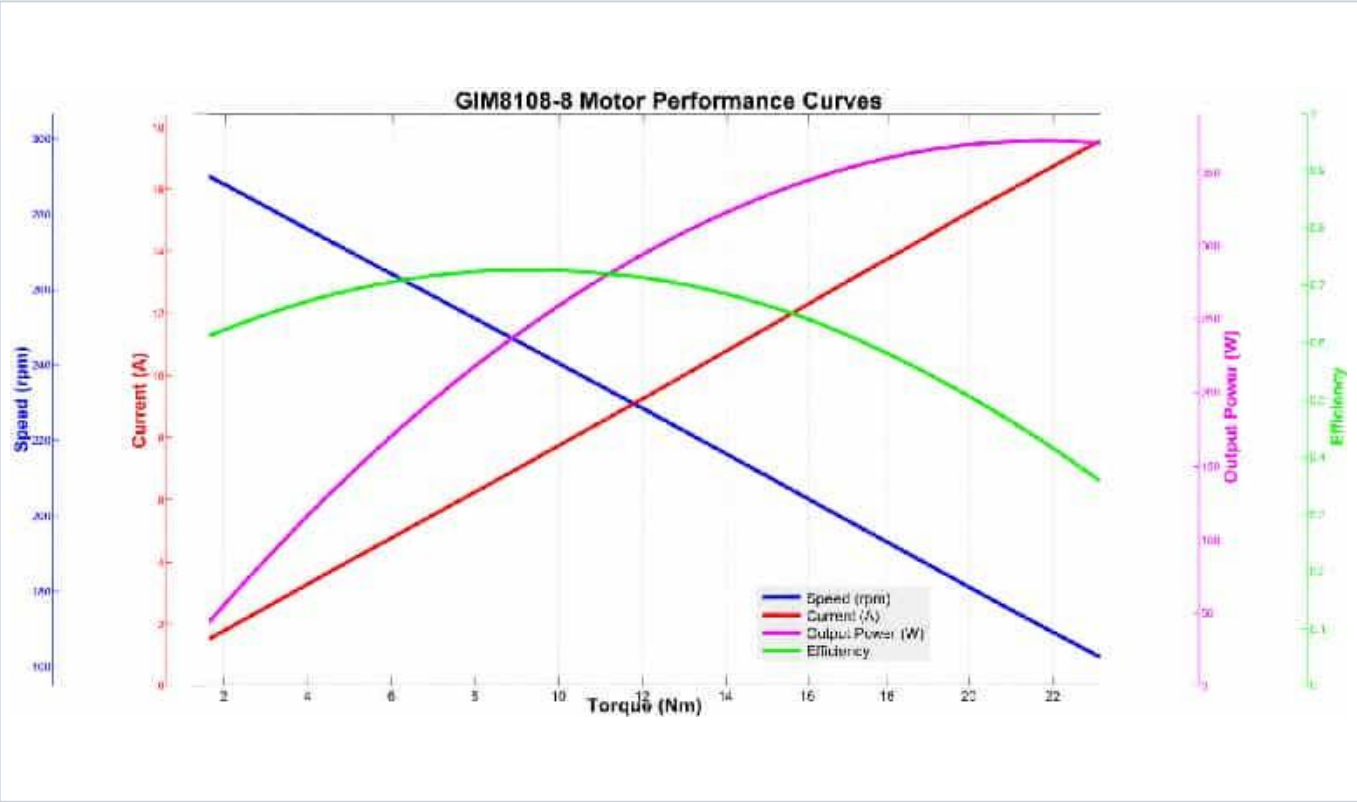
6. Motor Performance Curve

Speed, current, output power and efficiency versus output torque.

TSL-GIM8108-8 Motor Performance Curve



Reference Operating Points

Rated Torque	Rated Speed	Rated Current	Peak Torque	Peak Current
6.71 N.m	256 RPM	4.78 A	23.09 N.m	18.86 A

Performance curves are for reference only and may vary with operating conditions and customer-specific configurations.