

TSL-GIM6010-8

Integrated Joint Motor | 8:1 Planetary Gearbox



Rated Voltage 24 / 48 V	Rated Torque 4.20-4.60 N.m	Peak Torque 11.27-17.91 N.m	Gear Ratio 8:1
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1. Electrical, Mechanical and Control Parameters

Parameter	Unit	24 V / GDS68	48 V / GDS68	48 V / GDZ468H
Rated Voltage	V	24	48	48
Model of Driver Board	-	GDS68	GDS68	GDZ468H
Operating Voltage Range	V	12-48	12-48	12-48
Rated Power	W	70	134	138
Rated Torque	N.m	4.60	4.60	4.20
Peak Torque	N.m	13.12	17.91	11.27
Rated Speed after Reduction	RPM	82	200	220
Maximum Speed after Reduction	RPM	140	280	553
Rated Current	A	2.90	2.80	2.87
Peak Current	A	10.36	17.19	20.02
Phase Resistance	Ω	1.45	1.45	0.44
Phase Inductance	mH	0.82	0.82	0.23
Speed Constant	rpm/V	11.54	5.83	11.52
Torque Constant	N.m/A	1.20	1.20	0.65
Number of Pole Pairs	Pairs	14	14	14
Gear Ratio	-	8:1	8:1	8:1
Gearbox Type	-	Planetary	Planetary	Planetary
Gear Material	-	Steel	Steel	Steel
Gear Backlash	arcmin	15	15	15
Motor Weight (without driver)	g	370.0	370.0	370.0
Motor Weight (with integrated driver)	g	388.0	388.0	388.0
Motor Dimensions (without driver)	mm	Ø80 × 29.5	Ø80 × 29.5	Ø80 × 29.5
Motor Dimensions (with integrated driver)	mm	Ø80 × 40	Ø80 × 40	Ø80 × 40
Maximum Axial Load	N	200	200	200
Maximum Radial Load	N	800	800	800
Noise	dB	< 60	< 60	< 60
Communication Protocol	-	CAN	CAN	CAN & RS485
Secondary Encoder Support (on output shaft)	-	Yes	Yes	Yes
Ingress Protection (IP) Rating	-	IP54	IP54	IP54
Operating Temperature Range	°C	-20 to +80	-20 to +80	-20 to +80
Onboard Encoder Resolution	bit	16	16	16
Stand-alone Encoder Support	-	No	No	No
Customizable Brake Support	-	Yes	Yes	Yes

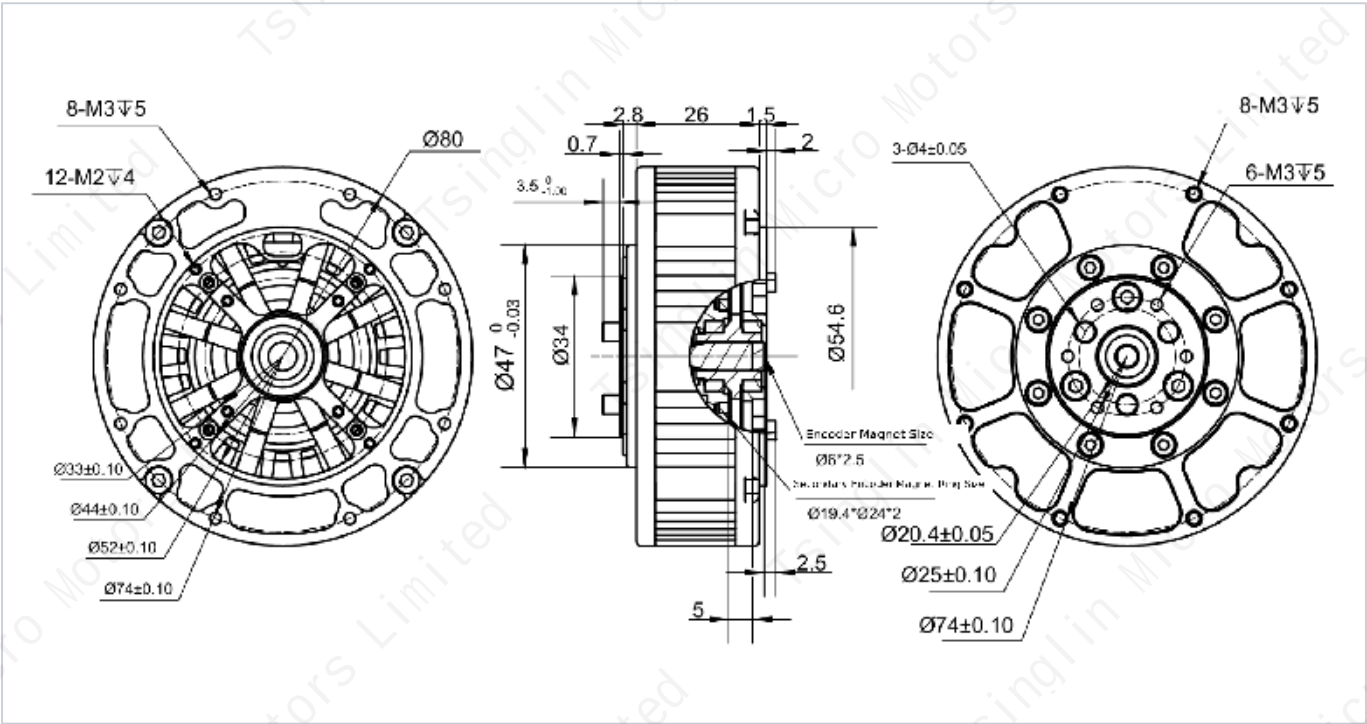
The above parameters are for reference only and can be customized according to customer requirements.

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2. Dimension Drawing - Without Integrated Driver

All dimensions are in millimeters unless otherwise specified.



Configuration	Motor assembly without integrated driver
Overall Size	Ø80 × 29.5 mm
Motor Weight	370.0 g
Output / Pilot Interfaces	Ø20.4, Ø25, Ø33, Ø44, Ø52, Ø74 and Ø80 as shown
Mounting Features	M3 and M2 threaded holes plus Ø4 locating holes; see drawing

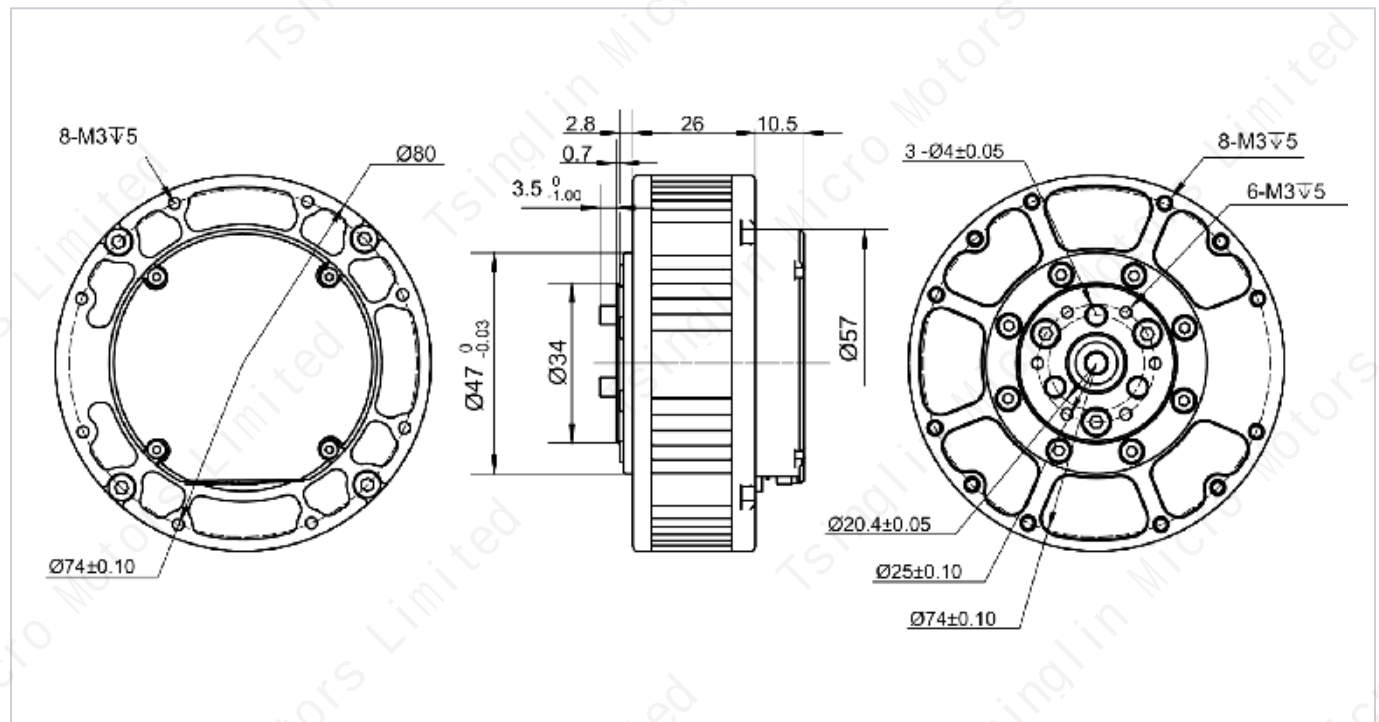
Drawing: TSL-GIM6010-8 - Without Integrated Driver	Version V1.0 Updated 2026-08-03
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3. Dimension Drawing - With Integrated Driver

All dimensions are in millimeters unless otherwise specified.



Configuration	Motor assembly with integrated driver
Overall Size	$\varnothing 80 \times 40$ mm
Motor Weight	388.0 g
Driver / Communication	12-48 V operating range; CAN or CAN & RS485 depending on driver option
Protection / Encoder	IP54; onboard 16-bit encoder

Drawing: TSL-GIM6010-8 - With Integrated Driver

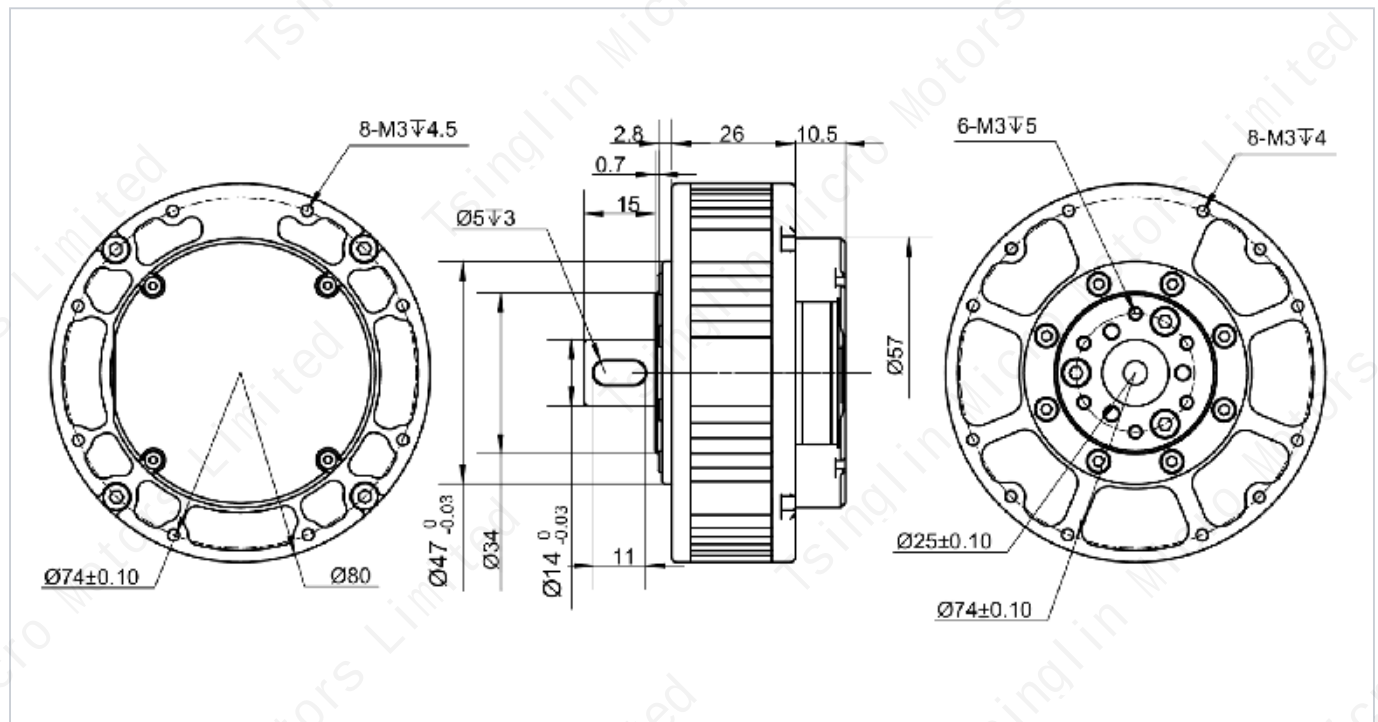
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4. Dimension Drawing - With Output Shaft

Output-shaft configuration; all dimensions are in millimeters unless otherwise specified.



Configuration	Motor assembly with extended output shaft
Body Size	Ø80 body; axial dimensions and shaft projection are shown in the drawing
Output Shaft	Ø14 output shaft with keyed feature; see detailed tolerances in the drawing
Mounting / Pilot Interfaces	Ø25, Ø74 and Ø80 references with M3 mounting features
Customization	Shaft length, key feature and mounting interface can be customized

Drawing: TSL-GIM6010-8 - Output Shaft Version

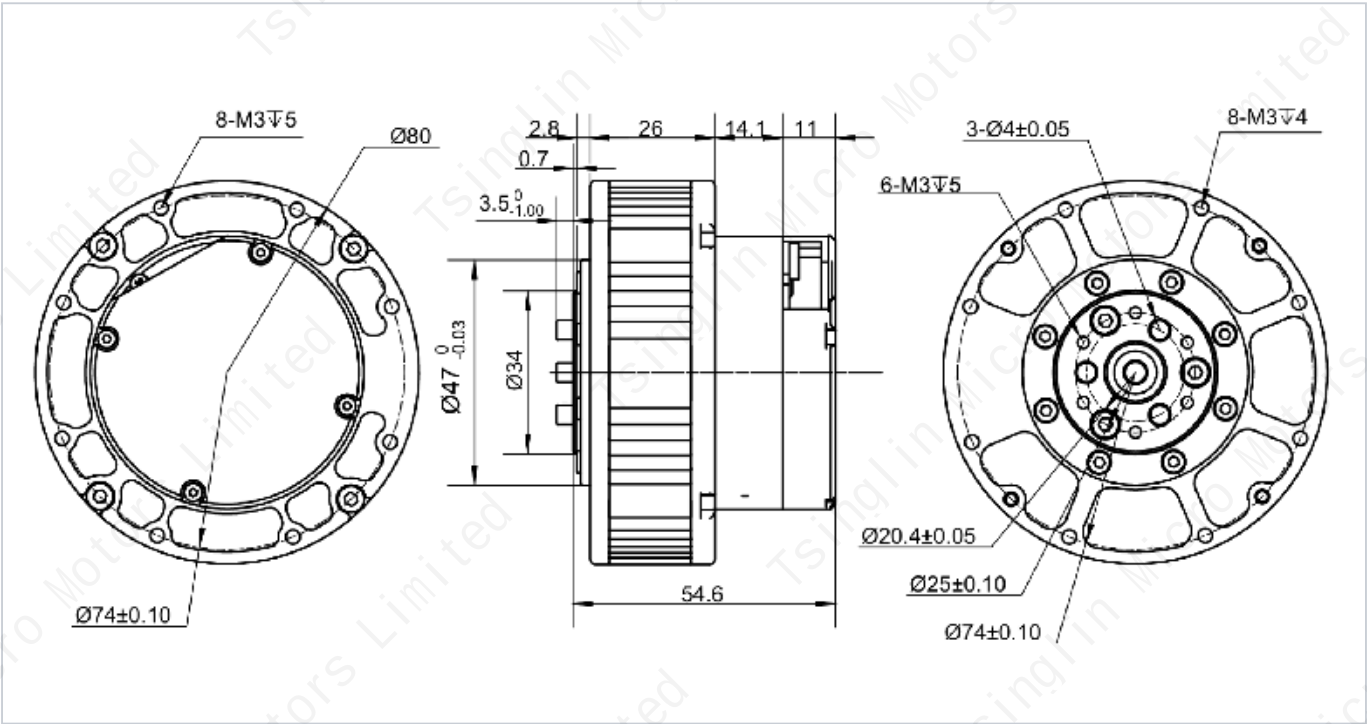
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5. Dimension Drawing - With Brake

Brake-equipped configuration; all dimensions are in millimeters unless otherwise specified.



Configuration	Motor assembly with customizable brake
Overall Size	$\varnothing 80 \times 54.6$ mm as shown
Brake Section	Rear brake and housing dimensions are shown in the drawing
Driver / Communication	Compatible with integrated driver options; protocol depends on selected driver
Protection / Encoder	IP54; onboard 16-bit encoder; secondary encoder supported

Drawing: TSL-GIM6010-8 - Brake Version	Version V1.0 Updated 2026-08-03
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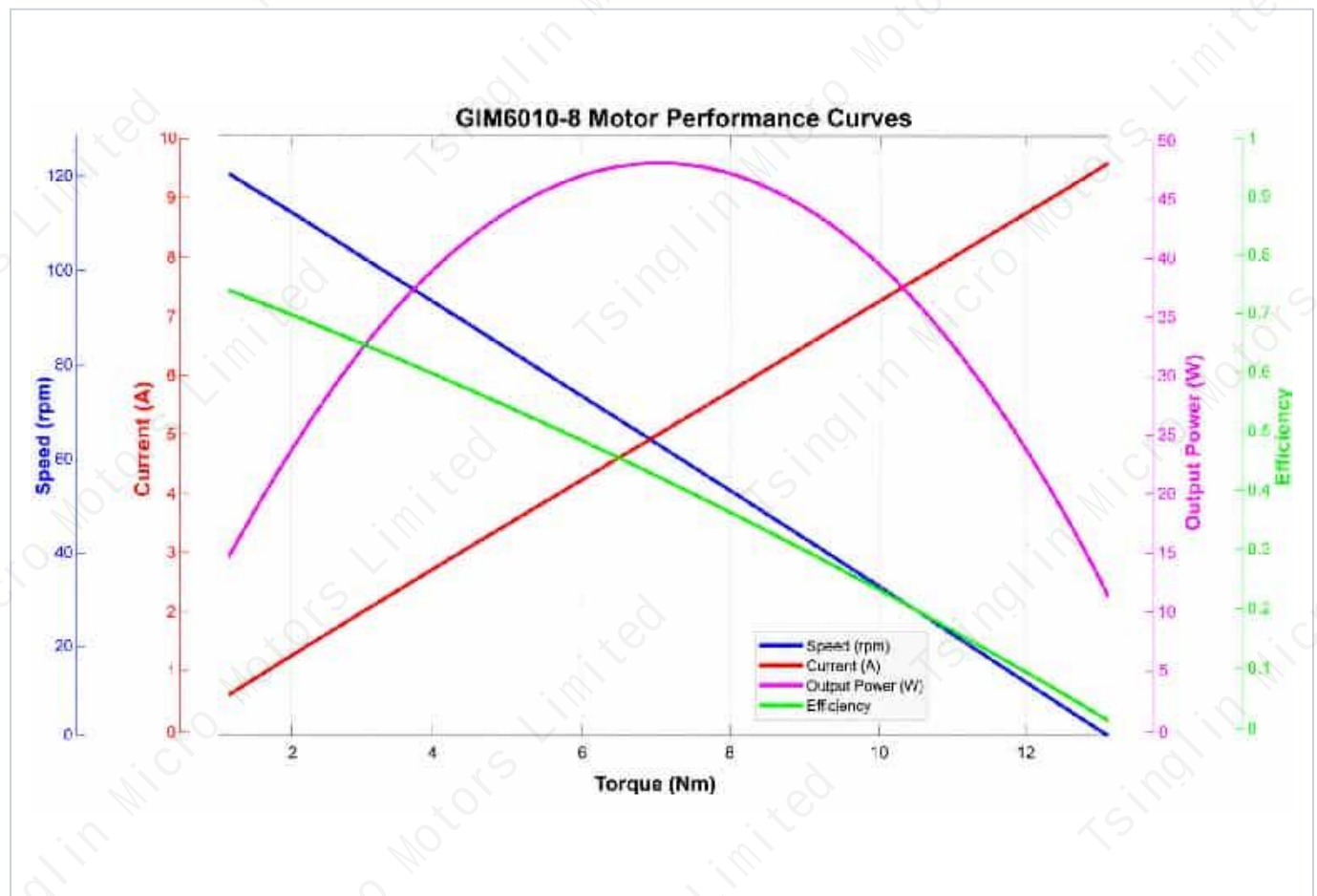
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6. Motor Performance Curve

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

TSL-GIM6010-8 Motor Performance Curve - 24 V / GDS68



Reference Operating Points

Rated Torque	Rated Speed	Rated Current	Peak Torque	Peak Current
4.60 N.m	82 RPM	2.90 A	13.12 N.m	10.36 A

The curve corresponds to the 24 V / GDS68 configuration. Performance may vary with operating conditions and customized configurations.