

TSL-GA12-N10

12 mm Brushed DC Motor with Spur Gearbox



Product Type	Brushed DC Motor with Spur Gearbox
Nominal Voltage	3 VDC / 3.7 VDC / 6 VDC
Gear Ratios	10:1, 30:1, 50:1, 100:1, 150:1, 298:1, 380:1, 500:1, 1000:1
Motor Cross-Section	12 mm x 10 mm
Gearbox Length	9.0 mm / 12.0 mm
Output Shaft	Ø3.0 mm, D-shaped
Motor Body Length	12 mm

Ultra-Compact Design

12 mm-class motor with a compact spur gearbox for space-limited assemblies.

Nine Gear Ratios

Reduction ratios from 10:1 to 1000:1 cover a wide range of speed and torque requirements.

Four Motor Options

3 V 10000 RPM, 3.7 V 15000 RPM, 6 V 20000 RPM and 6 V 30000 RPM versions are available.

Performance Parameters - 3 VDC, 10000 Type

Ratio	No Load		Rated Load			Stall	
	Speed	Current	Speed	Current	Torque	Torque	Current
i:1	RPM $\pm 10\%$	A	RPM $\pm 10\%$	A	g.cm	g.cm	A
10	1000	0.02	450	0.108	18	33	0.2
30	333	0.02	150	0.108	54	98	0.2
50	200	0.02	90	0.108	90	164	0.2
100	100	0.02	45	0.108	180	327	0.2
150	67	0.02	30	0.108	270	491	0.2
298	34	0.02	15.1	0.108	536.4	975	0.2
380	26	0.02	11.8	0.108	684	1244	0.2
500	20	0.02	9	0.108	900	1636	0.2
1000	10	0.02	4.5	0.108	1800	3273	0.2

Performance parameters can be customized according to customer requirements.

Performance Parameters - 3.7 VDC, 15000 Type

Ratio	No Load		Rated Load			Stall	
	Speed	Current	Speed	Current	Torque	Torque	Current
i:1	RPM $\pm 10\%$	A	RPM $\pm 10\%$	A	g.cm	g.cm	A
10	1500	0.035	750	0.2	20	40	0.39
30	500	0.035	250	0.2	60	120	0.39
50	300	0.035	150	0.2	100	200	0.39
100	150	0.035	75	0.2	200	400	0.39
150	100	0.035	50	0.2	300	600	0.39
298	50	0.035	25	0.2	596	1192	0.39
380	39	0.035	20	0.2	760	1520	0.39
500	30	0.035	15	0.2	1000	2000	0.39
1000	15	0.035	8	0.2	2000	4000	0.39

Performance parameters can be customized according to customer requirements.

Performance Parameters - 6 VDC, 20000 Type

Ratio	No Load		Rated Load			Stall	
	Speed	Current	Speed	Current	Torque	Torque	Current
i:1	RPM $\pm 10\%$	A	RPM $\pm 10\%$	A	g.cm	g.cm	A
10	2000	0.03	1252.5	0.26	20	26.8	0.43
30	667	0.03	417.5	0.26	60	80.3	0.43
50	400	0.03	250.5	0.26	100	133.8	0.43
100	200	0.03	125.3	0.26	200	267.6	0.43
150	133	0.03	83.5	0.26	300	401.3	0.43
298	67	0.03	42	0.26	596	797.3	0.43
380	53	0.03	33	0.26	760	1016.7	0.43
500	40	0.03	25.1	0.26	1000	1337.8	0.43
1000	20	0.03	12.5	0.26	2000	2675.6	0.43

Performance parameters can be customized according to customer requirements.

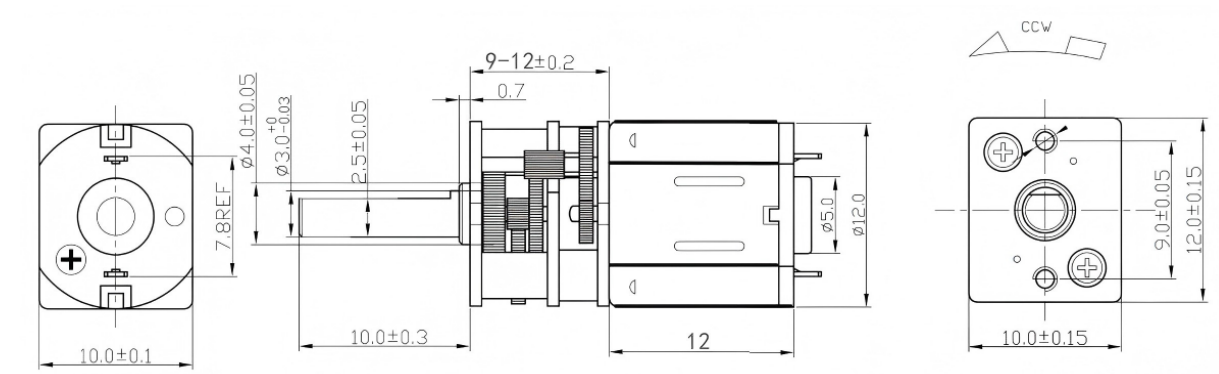
Performance Parameters - 6 VDC, 30000 Type

Ratio	No Load		Rated Load			Stall	
	Speed	Current	Speed	Current	Torque	Torque	Current
i:1	RPM $\pm 10\%$	A	RPM $\pm 10\%$	A	g.cm	g.cm	A
10	3000	0.055	2250	0.25	26	104	0.98
30	1000	0.055	750	0.25	68.25	273	0.98
50	600	0.055	450	0.25	113.75	455	0.98
100	300	0.055	225	0.25	195	780	0.98
150	200	0.055	150	0.25	292.5	1170	0.98
298	101	0.055	75.5	0.25	484.25	1937	0.98
380	79	0.055	59.2	0.25	617.5	2470	0.98
500	60	0.055	45	0.25	650	2600	0.98
1000	30	0.055	22.5	0.25	1300	5200	0.98

Performance parameters can be customized according to customer requirements.

Mechanical Dimensions

All dimensions are in millimetres.



Item	Dimension
Motor cross-section	12 ±0.15 x 10 ±0.15 mm
Motor body length	12 mm
Gearbox length L	9.0 mm / 12.0 mm
Output shaft	Ø3.0 mm, D-shaped
Shaft protrusion	10.0 ±0.3 mm
D-flat dimension	2.5 ±0.05 mm
Rotation	CCW

The dimension drawing is for reference only. Output shaft, mounting details, terminal configuration and performance can be customized according to customer requirements.