

TSL-16GAY-030

Brushed DC Motor with Planetary Gearbox



Product Type	Brushed DC Motor with Planetary Gearbox
Nominal Voltage	6 VDC / 12 VDC
Motor Type	030 Brushed DC Motor
Gear Ratios	4.75:1, 16:1, 22.5:1, 49:1, 64:1, 84:1, 114:1, 135:1, 224:1, 304:1, 399:1, 509:1, 684:1, 864:1, 1026:1
Gearbox Outer Diameter	Ø16 mm
Gearbox Length	12.5 / 16 / 19.5 / 23 mm (ratio-dependent)
Motor Body	Ø15.5 mm; 18.6 mm length
Output Shaft	Ø3 mm, D-shaped; 15 ±0.3 mm protrusion
Mounting Holes	2 x M2

Compact Planetary Gearmotor

A compact 030-size brushed DC motor and 16 mm planetary gearbox combination for instruments, smart devices, automation and electromechanical equipment.

Fifteen Gear Ratios

Standard ratios from 4.75:1 to 1026:1 provide a broad output-speed and torque range for different motion requirements.

Two Voltage Options

6 V and 12 V windings are available. Performance values, shafts and mounting details can also be customized for customer applications.

Performance Parameters - 6 VDC

Ratio	No Load			Rated Load			Stall	
	Rated Voltage	Speed	Current	Speed	Current	Torque	Torque	Current
	V	RPM ±10%	A	RPM ±10%	A	kg.cm	kg.cm	A
4.75	6	2526	0.2	2021	0.4	0.02	0.08	0.6
16	6	750	0.2	600	0.4	0.07	0.2	0.6
22.5	6	533	0.2	426	0.4	0.1	0.3	0.6
49	6	245	0.2	195	0.4	0.2	0.7	0.6
64	6	187	0.2	150	0.4	0.3	1	0.6
84	6	142	0.2	114	0.4	0.4	1.2	0.6
114	6	105	0.2	84	0.4	0.5	1.5	0.6
135	6	88	0.2	71	0.4	0.6	2	0.6
224	6	53	0.2	42	0.4	1	3.5	0.6
304	6	39	0.2	31	0.4	1.3	4.5	0.6
399	6	30	0.2	24	0.4	1.7	6	0.6
509	6	23	0.2	19	0.4	2.2	8	0.6
684	6	17	0.2	14	0.4	3	10	0.6
864	6	14	0.2	11	0.4	3.5	13	0.6
1026	6	12	0.2	10	0.4	4.5	16	0.6

Note: Motors with reduction ratios above 399:1 must not be operated under stall conditions.

Performance parameters can be customized according to customer requirements. The values above are standard specifications.

Performance Parameters - 12 VDC

Ratio	No Load			Rated Load			Stall	
	Rated Voltage	Speed	Current	Speed	Current	Torque	Torque	Current
	V	RPM ±10%	A	RPM ±10%	A	kg.cm	kg.cm	A
4.75	12	2526	0.1	2021	0.25	0.02	0.08	0.4
16	12	750	0.1	600	0.25	0.07	0.2	0.4
22.5	12	533	0.1	426	0.25	0.1	0.3	0.4
49	12	245	0.1	195	0.25	0.2	0.7	0.4
64	12	187	0.1	150	0.25	0.3	1	0.4
84	12	142	0.1	114	0.25	0.4	1.2	0.4
114	12	105	0.1	84	0.25	0.5	1.5	0.4
135	12	88	0.1	71	0.25	0.6	2	0.4
224	12	53	0.1	42	0.25	1	3.5	0.4
304	12	39	0.1	31	0.25	1.3	4.5	0.4
399	12	30	0.1	24	0.25	1.7	6	0.4
509	12	23	0.1	19	0.25	2.2	8	0.4
684	12	17	0.1	14	0.25	3	10	0.4
864	12	14	0.1	11	0.25	3.5	13	0.4
1026	12	12	0.1	10	0.25	4.5	16	0.4

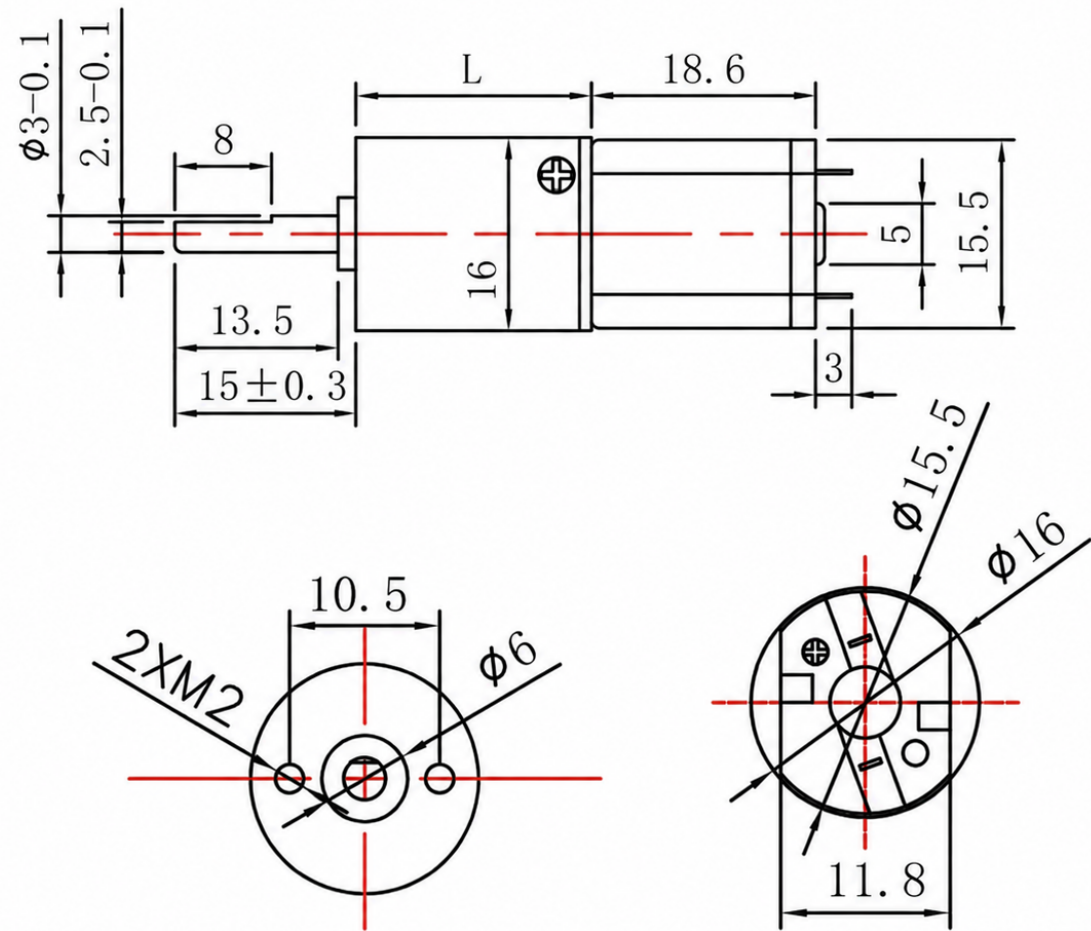
Note: Motors with reduction ratios above 399:1 must not be operated under stall conditions.

Performance parameters can be customized according to customer requirements. The values above are standard specifications.

Mechanical Dimensions

All dimensions are in millimetres.

L Value Represents Housing Length for Different Gear Ratios															
Gear Ratio	4.75	16	22.5	49	64	84	114	135	224	304	399	509	684	864	1026
L Dimension (mm)	12. 5	16		19. 5					23						



Item	Dimension
Gearbox Outer Diameter	Ø16 mm
Motor Body	Ø15.5 mm
Motor Body Length	18.6 mm
Gearbox Length L	12.5 / 16 / 19.5 / 23 mm
Output Shaft	Ø3 mm, D-shaped
Shaft Protrusion	15 ± 0.3 mm
D-flat Length	8 mm
Mounting Holes	2 x M2

The gearbox housing length varies with the selected reduction ratio. Output shaft geometry and mounting details are shown in the drawing. Customized shaft and mounting configurations are available upon request.