

## STEPPING MOTOR FAMILY

### Series 35mm (LSG35) Geared Stepping Motor



Frame Size:	35mm
Max Torque:	150 oz-in [1059 mN-m]
Step Angle:	7.5°
Position Accuracy:	+/- 5% max.
Number of Phases:	4 phase bifilar
Insulation Class:	Class A (105°C)
Insulation Resistance:	100 MΩ at 500Vdc
Dielectric Strength:	600 Vac/second
Lead Wire:	6 leads 28AWG (approx. 9 inches [228.6 mm])
Operation Ambient Temp:	-10°C to +40°C (approx.)
Temperature Rise:	60°C max
Gear Housing:	Die cast housing with hardened steel gears
Note: Typical data subject to change without notification	

Example:    LS                    G                    35                    12                    E02                    P

	Motor Family	Gearing	Motor Size	Voltage	Gear Ratio	Gear Box
Options	LS	D=Direct Drive G=Geared	35=35MM 42=42MM	005=5VDC 006=6VDC 012=12VDC 024=24VDC	Gear Options	P=Pear-Shaped Gearbox

Part Number	Reduction	Step Angle (deg.)	Steps per Rev.	Rated Torque @ 175 p/s (oz-in)	Rated Torque @ 175 p/s (mN-m)	Output Speed (RPM)	Input Power (watts)	Nominal Voltage (VDC)	Winding Res. (ohms)	Rated Ind. (mH)	Rotor Inertia (oz-in <sup>2</sup> )	Rotor Inertia (g-cm <sup>2</sup> )	Case Length (in)	Case Length (mm)	Weight (oz)	Weight (g)
LSG35012E98P	300	0.025	14400	150	1059.2	0.73	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35024E98P	300	0.025	14400	150	1059.2	0.73	4.2	24	280	215	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E96P	250	0.03	12000	150	1059.2	0.88	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E90P	150	0.05	7200	150	1059.2	1.46	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E88P	125	0.06	6000	136.5	963.9	1.75	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E86P	120	0.063	5760	131.04	925.1	1.82	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E84P	112.5	0.067	5400	122.85	867.9	1.94	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8

Part Number	Reduction	Step Angle (deg.)	Steps per Rev.	Rated Torque @ 175 p/s (oz-in)	Rated Torque @ 175 p/s (mN-m)	Output Speed (RPM)	Input Power (watts)	Nominal Voltage (VDC)	Winding Res. (ohms)	Rated Ind. (mH)	Rotor Inertia (oz-in <sup>2</sup> )	Rotor Inertia (g-cm <sup>2</sup> )	Case Length (in)	Case Length (mm)	Weight (oz)	Weight (g)
LSG35012E82P	100	0.075	4800	109.2	769.7	2.19	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012F80P	83.333	0.09	4000	112	790.9	2.63	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012F78P	80	0.094	3840	107.52	755.6	2.73	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012F76P	75	0.1	3600	100.8	713.2	2.92	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012F74P	66.667	0.113	3200	89.6	635.5	3.28	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012F72P	62.5	0.12	3000	84	593.2	3.5	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012F70P	60	0.125	2880	80.64	564.9	3.65	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012F68P	56.25	0.133	2700	75.6	536.7	3.89	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012F66P	54	0.139	2592	72.576	515.5	4.05	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012F64P	50	0.15	2400	67.2	473.1	4.38	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012F62P	41.667	0.18	2000	56	395.4	5.25	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012F60P	40	0.188	1920	53.76	381.3	5.47	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012F58P	37.5	0.2	1800	50.4	353.1	5.83	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012F56P	33.333	0.225	1600	44.8	317.8	6.56	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012F54P	31.25	0.24	1500	42	296.6	7	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012F52P	30	0.25	1440	40.32	282.5	7.29	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35024F52P	30	0.25	1440	40.3	282.5	7.3	4.2	24	280	215	0.0372	6.8	0.866	22	8.6	243.8
LSG35012F50P	25	0.3	1200	33.6	233	8.75	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012F48P	20.833	0.36	1000	28	197.7	10.5	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012F46P	20	0.375	960	26.88	183.6	10.94	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E44P	16.667	0.45	800	24.5	169.5	13.13	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E42P	16	0.469	768	23.52	162.4	13.67	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E40P	15	0.5	720	22.05	155.4	14.58	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E38P	13.333	0.563	640	19.6	141.2	16.41	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E36P	12.5	0.6	600	18.375	127.1	17.5	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E34P	12	0.625	576	17.64	120	18.23	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E30P	10	0.75	480	14.7	105.9	21.88	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E28P	8.333	0.9	400	12.25	84.7	26.25	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E24P	7.5	1	360	11.025	77.7	29.17	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E22P	6.25	1.2	300	9.1875	63.6	35	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E20P	5	1.5	240	7.35	51.5	43.75	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E18P	4.167	1.8	200	6.125	43.1	52.5	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E16P	4	1.875	192	5.88	41.7	54.69	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E12P	3.333	2.25	160	4.9	34.6	65.63	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E10P	3	2.5	144	4.41	31.1	72.92	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E08P	2.5	3	120	3.675	26.1	87.5	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E06P	2.083	3.6	100	3.0625	21.9	105	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E04P	2	3.75	96	2.94	20.5	109.38	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012E02P	1.667	4.5	80	2.45	17.7	131.25	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8

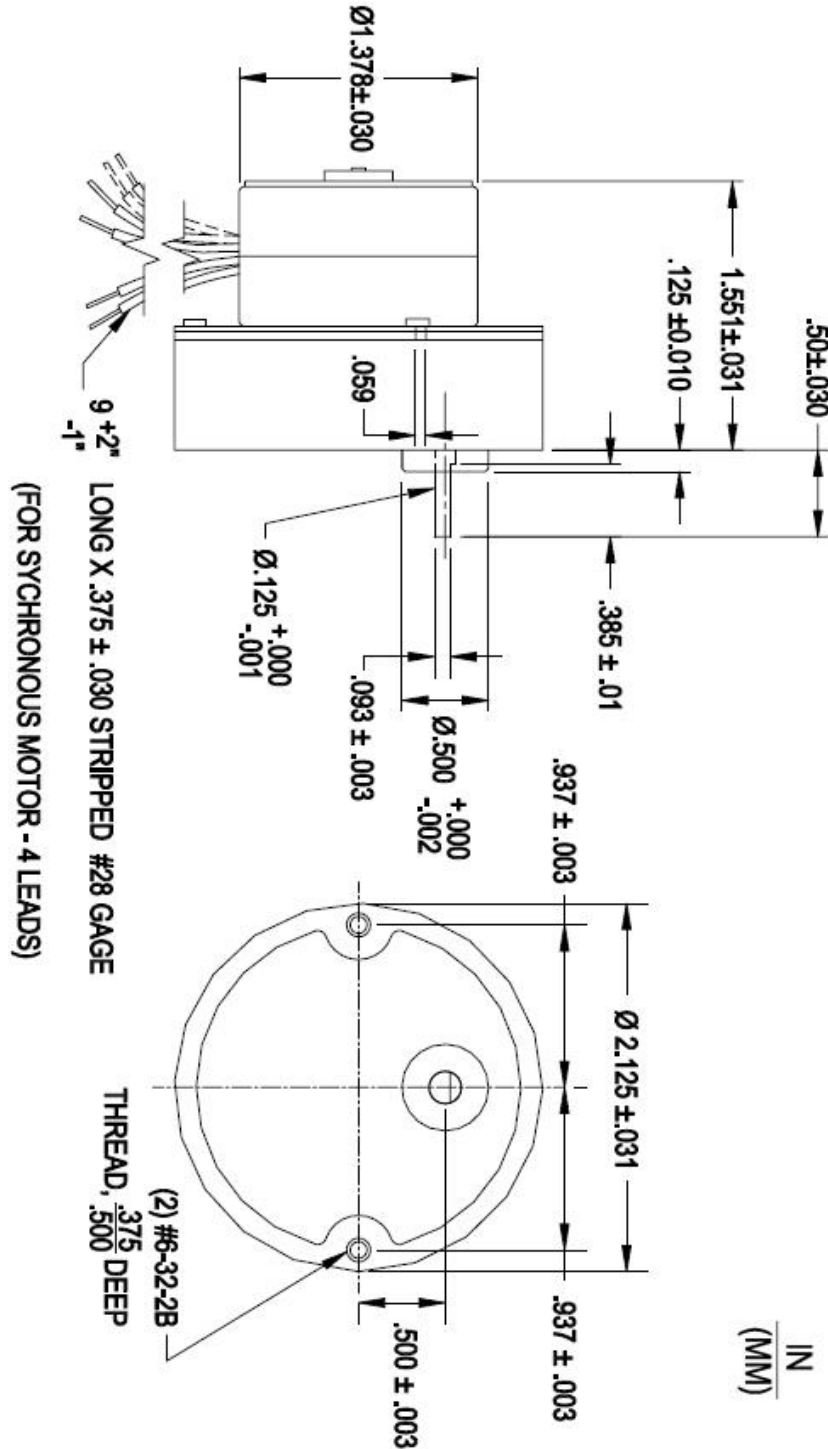
NEW ROUND-SHAPED GEAR MOUNTINGS:

NOTE: ALL LYG35 Models listed have sleeve bearings.

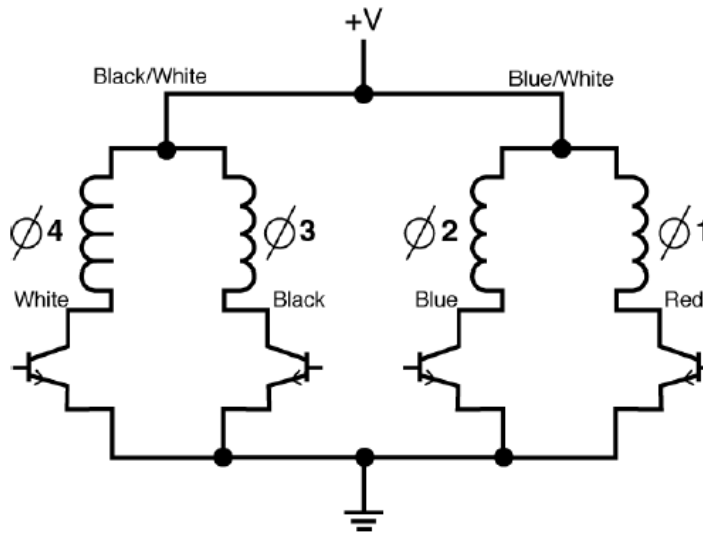
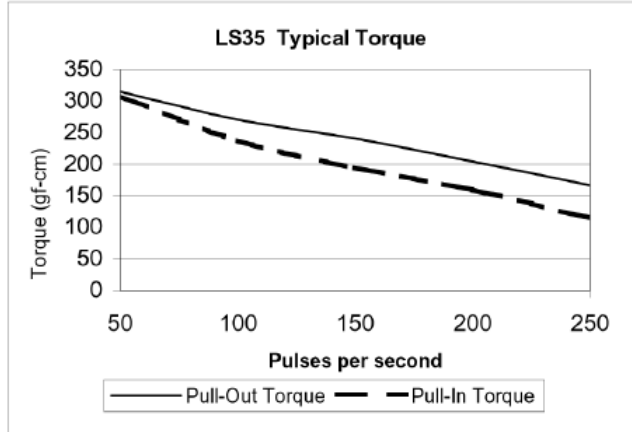
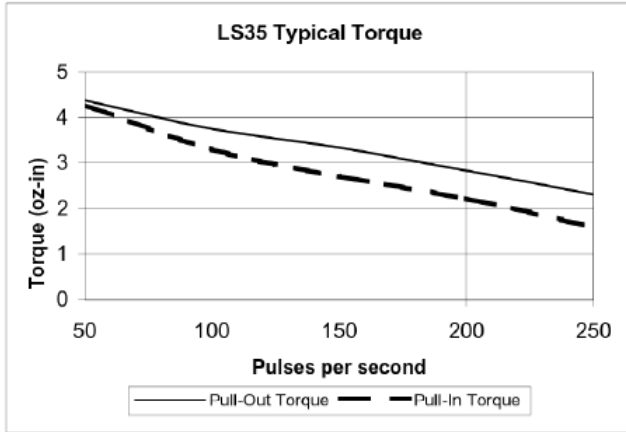
Part Number	Reduction	Step Angle (deg.)	Steps per Rev.	Rated Torque @ 175 p/s (oz-in)	Rated Torque @ 175 p/s (mN-m)	Output Speed (RPM)	Input Power (watts)	Nominal Voltage (VDC)	Winding Res. (ohms)	Rated Ind. (mH)	Rotor Inertia (oz-in <sup>2</sup> )	Rotor Inertia (g-cm <sup>2</sup> )	Case Length (in)	Case Length (mm)	Weight (oz)	Weight (g)
LSG35012FR30	10	.75	480	15	105.9	21.8	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012FR40	15	.5	720	22	155.4	14.6	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012FR52	30	.25	1440	40	282.5	7.3	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8
LSG35012ER70	60	.125	2880	80	564.9	3.6	4.5	12	65	27	0.0372	6.8	0.866	22	8.6	243.8



Round-Shaped Gear with Sleeve Bearings:







	Ø4 White	Ø3 Black	Ø2 Blue	Ø1 Red	
↑ CCW ROTATION	1	0	1	0	↓ CW ROTATION
	1	0	0	1	
0	1	0	1		
0	1	1	0		

**1 = ON, 0 = OFF**

**SWITCHING SEQUENCE**