

MOTOR OPERATING SPECIFICATIONS

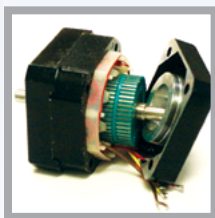
Specifications	Nema size	8	11	14	14	17	17	17	23	23	23	34	34	34	
	Motor Family	208	211	3509 3609 3709 3809	3518	416 417 4109	4209	4018 4118 4218 4418 4518	5704	5609 5709	5618 5718	8609 8709	8618	8718	
Step Size Angle		1.8°	1.8°	0.9°	1.8°	0.9°	0.9°	1.8°	0.45°	0.9°	1.8°	0.9°	1.8°	1.8°	
Radial Play (inches)		0.001" max @ 1 lbs load													
End Play (inches)		0.003" max @ 2 lbs load													
Shaft Run Out		0.002" TIR													
Concentricity of Mounting Pilot to Shaft		0.003" TIR													
Perpendicularity of Shaft to Mounting Face		0.003" TIR													
Max. Radial Load at Dimension "K" from mounting face (lbs)		4.5	5.0	6			15			24		39			
Dimension "K"		0.5"			0.62"			0.55"		0.8"		0.9"			
Max Axial Load (lbs)		0.45	2.25	6			13			22		25			
Maximum Case Temperature (°C)		60°C			80°C maximum*										
Ambient Temperature (°C)		-20° to 50° C*													
Storage Temperature (°C)		-20° to 100° C*													
Humidity Range (%)		85% or less, non-condensing													
Magnet Wire Insulation		Class B 130° C*													
Insulation Resistance		100MΩ at 500 VDC													
Dielectric Strength		500 VAC for 1 minute										900 VAC for 1 minute			

BLDC MODEL	BL17	BL24	BL25
Hall Effect Angle	120°C electrical Angle	120°C electrical Angle	120°C electrical Angle
Number of Rotor Poles	8	4	4
Number of Phase	3	3	3
Radial Play	.002" @ .99 lb	.002" @ .99 lb	.002" @ .99 lb
End Play	.003" @ 99 lb	.003" @ 99 lb	.003" @ 99 lb
Max. Radial Force	3.37 lbs @ .394" from flange	16.8 lbs @ .787" from flange	16.8 lbs @ .787" from flange
Max. Axial Force	2.25 lbs	3.37 lbs	3.37 lbs
Insulation Class	Class B	Class B	Class B
Dielectric Strength	500 VDC for 1 minute	500 VDC for 1 minute	500 VDC for 1 minute
Insulation Resistance	100 Ω Min. 500 VDC	100 Ω Min. 500 VDC	100 Ω Min. 500 VDC
Ambient Operating Temperature	-30° to 85° C	-30° to 85° C	-30° to 85° C
Storage Temperature	-20° to 100° C	-20° to 100° C	-20° to 100° C
Humidity Range	85% (RH) non-condensing	85% (RH) non-condensing	85% (RH) non-condensing
Lead wire AWG	UL1007, AWG 20	UL1007, AWG 20	UL1007, AWG 20
Direction of Rotation **	CCW	CCW	CCW

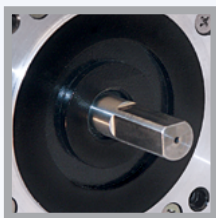
*Custom designs available upon request

**Follow commutation sequence on page 84-88

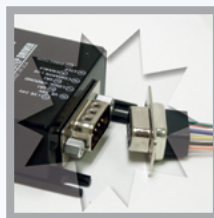
OPERATION & USAGE TIPS



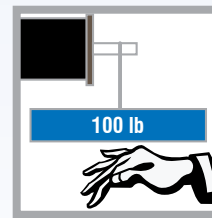
Do not disassemble motors; a significant reduction in motor performance will occur.



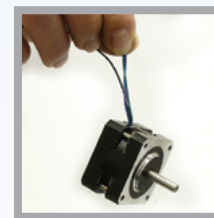
Do not machine shafts; this will have a negative effect on shaft run out and perpendicularity.



Do not disconnect motor from drive while in operation.



Do not use holding torque/detent torque of motor as a fail safe brake.



Do not hold motor by lead wires.

FAILURE TO COMPLY WITH THESE RECOMMENDATIONS WILL VOID ALL WARRANTY TERMS