

Brushless DC Motor

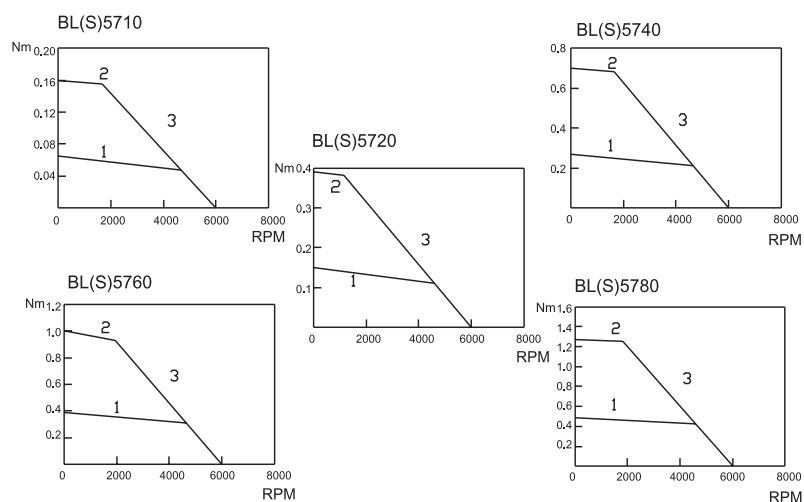
BL(S)57 SERIES

Note: Square front end-bell BLS57; Round front end-bell BL57

◆ GENERAL SPECIFICATIONS

No. of phase	3
No. of polar	4
Winding type	Delta
Hall effect angle	120 degree electrical angle
Shaft run out	0.025mm
Radial play	0.025mm@460g
End play	0.025mm@4000g
Max. radial force	75N @ 20mm from the flange
Max. axial force	15N
Operating range	Max. 1000m .above sea level
Ambient temperature	-20℃ to +50℃
Insulation class	Class B
Dielectric strength	500VDC for one minute
Insulation resistance	100M Ω Min., 500VDC

PERFORMANCE CURVE



1 Continuous duty 2 10% duty 3 Limit curve for Vdc bus=60V

ELECTRICAL CONNECTION

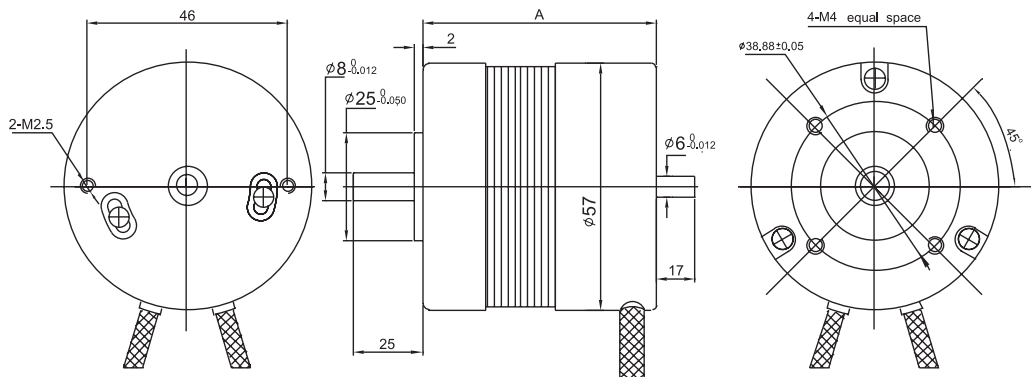
Lead No.	Lead Color	Lead Gauge	FUNCTION	DESCRIPTION
1	Red	UL1007 26AWG	Vcc	SUPPLY VOLTAGE FOR HALL SENSORS
2	Blue		HALL A	
3	Green		HALL B	
4	White		HALL C	
5	Black	UL1007 20AWG	GND	GROUND FOR HALL SENSORS
6	Yellow		PHASE A	
7	Red		PHASE B	
8	Black		PHASE C	

◆ ELECTRICAL SPECIFICATIONS

Model		BL(S)5745-001	BL(S)5755-001	BL(S)5775-001	BL(S)5795-001	BL(S)57115-001
Continuous stall torque(Δt_{cu} 80°C)	Nm	0.065	0.15	0.27	0.39	0.49
Continuous torque at rated speed	Nm	0.055	0.11	0.22	0.32	0.43
Max. peak torque(duty cycle 10%)	Nm	0.16	0.39	0.7	1	1.27
Rated speed	RPM	4000	4000	4000	4000	4000
Output power at rated speed	W	23	46	92	133	180
Rotor inertia	Kgm ²	3*10 ⁻⁶	7.5*10 ⁻⁶	11.9*10 ⁻⁶	17.3*10 ⁻⁶	23*10 ⁻⁶
Torque constant	Nm/A	0.063	0.063	0.063	0.063	0.063
Terminal resistance at 20°C	ohms	5.4	1.5	0.7	0.45	0.35
Line to line inductance	mH	11	4.2	2.16	1.4	1
B.E.M.F. at nominal speed	V	26.4	26.4	26.4	26.4	26.4
Locked rotor rated current	A	1	2.4	4.3	6.2	7.8
Max. peak current	A	3	6.8	14.5	17.6	22.3
Body length A	mm	45	55	75	95	115
Mass	Kg	0.25	0.5	0.75	1	1.25

◆ DIMENSIONS:

BL57



BLS57

