

Winding Constants *

Parameter	Symbol	Unit	VALUE
Design Voltage	Vp	volt	43.000
Peak Torque, +/-25%	Tp	ozin Nm	220.898 1.560
Peak Current, +/-15%	Ip	ampere	78.244
Torque Sensitivity +/-10%	Kt	ozin/rpm Nm/rpm	2.823 0.020
No Load Speed	Snl	rpm rad/sec	19679.819 2060.866
Voltage Constant +/-10%	Kb	v/Krpm v/rad/sec	2.088 0.020
Terminal Resistance +/-12%	Rm	Ohms	0.550
Terminal Inductance +/-30%	Lm	Mh	0.139

* Performance @ 20.000°C

Design Voltage	Vp	volt	43.000
Continuous Power Output @	Power	watt Horsepower	54.515 0.073
Temperature Rise:	Torque	ozin Nm	4.915 0.035
75.507°C	Speed	rpm	15000.000
COOLING :	Iphase	amperes	2.370
Ambient temperature	I (dc-link)	amperes	1.685
20.000°C	Efficiency	%	75.231

UNHOUSED	MECHANICAL	
Stator Stack OD	1.800 inch	45.720 mm
Stator Stack Length (Machined)	0.500 inch	12.700 mm
Stator ID	1.040	
No. Of Phases	3	
PHase Connection	WYE	
Length Over Coil (Maximum)	1.211 inch	30.759 mm
End Turns OD (Maximum)	1.650 inch	41.910 mm
End Turns ID (Maximum)	1.100 inch	27.940 mm
Lead Wire Gage	20 AWG	
Lead Wire Length	12.000 inch	304.800 mm
ROTOR OD	0.970 inch	24.638 mm
TOrot ID	0.740 inch	18.796 mm
Rotor Axial Leangth "B"	0.680 inch	17.272 mm
No. Of Poles	8	

High Speed Series

Brushless DC Motors

Connection Diagrams

Torque Sensitivity (K_T) is the ratio of the developed torque to the applied current for a specific winding. K_T is related to the BEMF Constant K_B .

No Load Speed (S_{NL}) is the theoretical no load speed of the motor with the design voltage applied.

BEMF Constant (K_B) is the ratio of voltage generated in the winding to the speed of the rotor. K_B is proportional to K_T .

Terminal Resistance (R_M) is the winding resistance measured between any two leads of the winding in either a delta or wye configuration at 25°C.

Terminal Inductance (L_M) is the winding inductance measured between any two leads of the winding in either delta or wye configuration at 25°C.

Mechanical Data

Rotor inertia (J_M) is the moment of inertia of the rotor about its axis of rotation.

Motor Weight (W_M) is the weight of the standard motor.

Number of Poles (N_p) is the number of permanent magnet poles of the rotor. For the standard BH Series motors this is four poles (two pole pairs).

Speed-Torque Curves

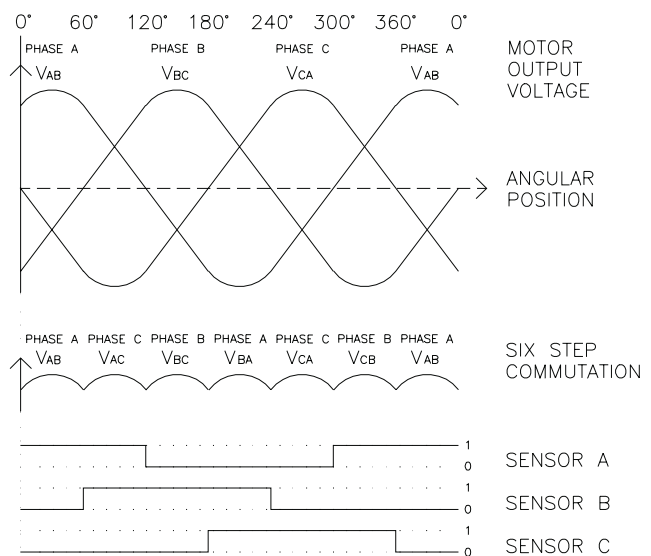
BH Series curves are for the standard catalog designs. The curves are based upon a 115°C rise over the ambient temperature.

The temperature rise of the example motors for a particular loadpoint is given in the tabulated data and differs from model to model.

Motor Connections and Commutation Logic

MOTOR EXCITATION SEQUENCE AND SENSOR OUTPUT LOGIC FOR CW ROTATION VIEWING LEADWIRE END.

EXCITATION	STEP	1	2	3	4	5	6	1
(RED) A		+	+	-	-	+	+	
(WHT) B		-	-	+	+	-	-	
(BLK) C								
(BRN) A		1	1	0	0	0	1	1
(ORG) B		0	1	1	1	0	0	0
(YEL) C		0	0	0	1	1	1	0



HALL EFFECT CONNECTION DIAGRAM

