

This durable line of gearmotors was designed and engineered for low audible noise, continuous operation and extended life. The 60SQ series is versatile and offers a wide choice of gear reductions for demanding applications. The 5700B brushless motor offers extended life, high efficiency, and controllability for demanding applications.

GEAR REDUCER FEATURES

Housing Material: Aluminum die cast

Gears: Hardened Steel

Bearings: Sintered or Needle

Lubrication: Synthetic Grease

Gear Ratios: 3:1 to 200:1

Output speeds: 1 to 600 RPM

Duty: Continuous

MOTOR FEATURES

Type: Electronically Commutated

Voltage: 12Vdc to 32Vdc

Output Power: 45 to 140 Watts with External Drive

Phase Connection: 3 Phase Wye

Slot / Poles: 12 / 8

Rotor Magnets: High Energy skewed to reduce cogging

Insulation Class: F

Rotation: Reversible

Rotor Positioning: Three Hall Effect Sensors

Bearings: Ball

INTEGRAL CONTROL FEATURES

Type: Two quadrant trapezoidal programmable

Speed Control: 0 to 5Vdc or 0 to 10Vdc

Protection: Over current and over temperature

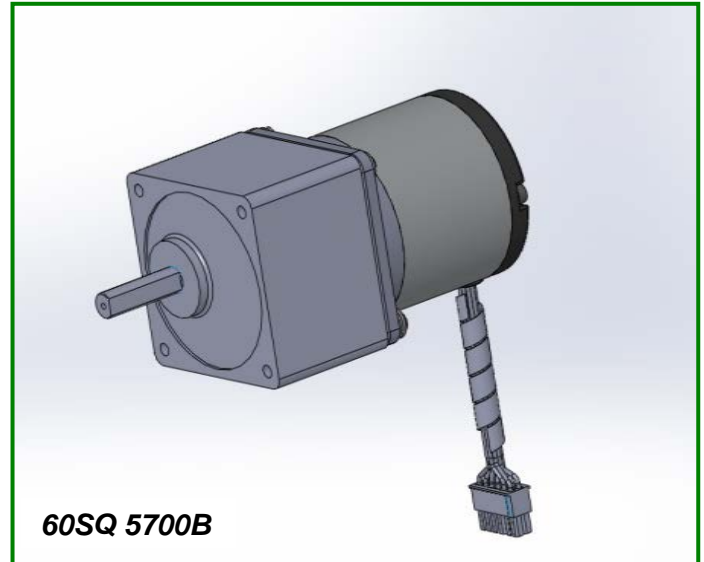
Braking: Dynamic

Programming Options: Acceleration, velocity, current limit

Tachometer Output: 2 Channels – 6 PPR

OPTIONAL FEATURES

- Customized output shafts including dual output
- Helical first stage gear for low audible noise
- Various lead lengths, terminals and connectors
- Output Needle bearings for high radial loads
- Integral motor control

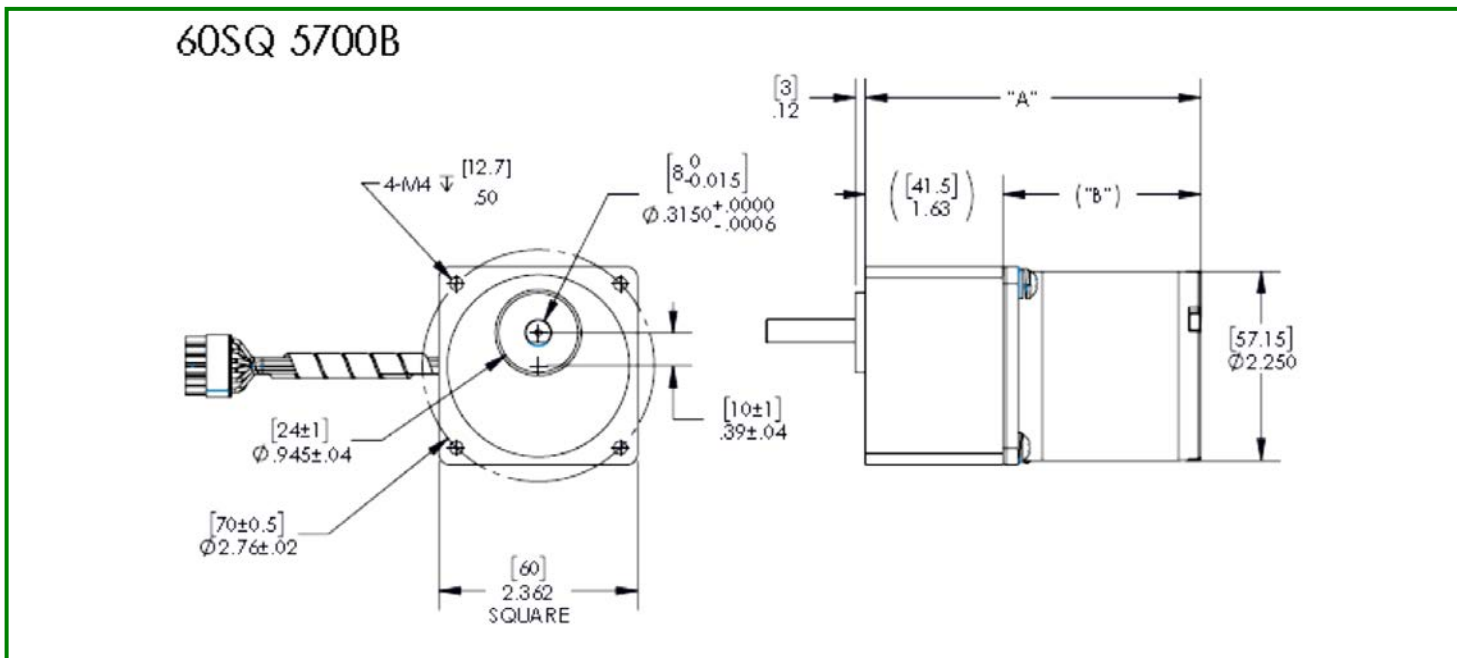


Maximum Permissible Torque: 26.5 In.Lb (3.0 Nm)
Speed: Up to 600 RPM

Note: Speed and torque combinations will vary depending on the motor/gearbox combination.

TYPICAL APPLICATIONS

- Food Service Equipment
- Satellite positioning systems
- Pellet Stoves
- Agricultural Equipment
- Valve Actuators
- Medical / Laboratory Equipment
- Robotics
- Material Handling



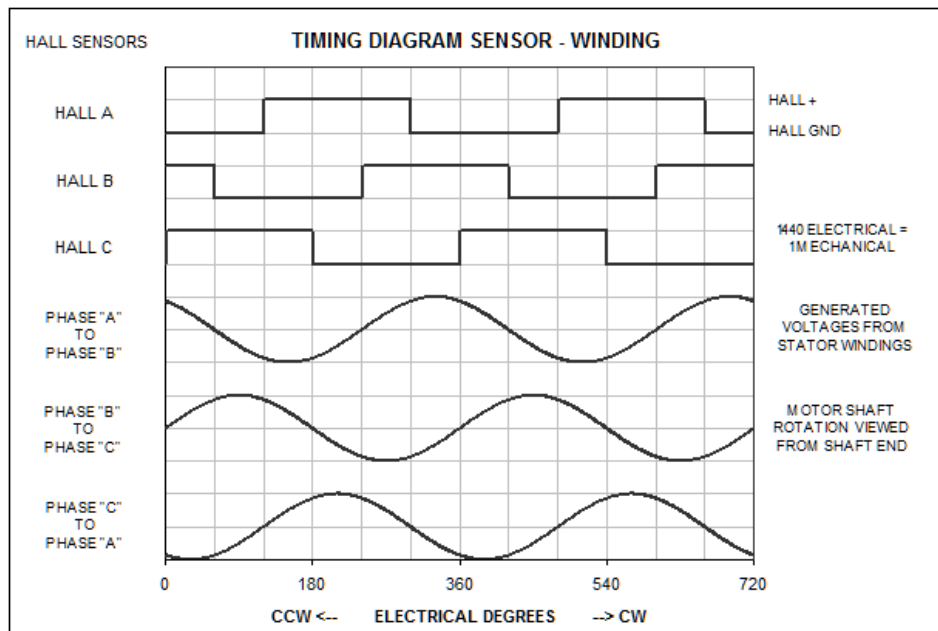
Model	Output Power (Watts) with Integral Control	Output Power (Watts) without Integral Control	Peak Torque (Lb.In)	Dimension "A"	Dimension "B"
60SQ-5706B	12	45	26.5	3.494" [88.75]	1.860" [47.24]
60SQ-5719B	25	100	26.5	3.994" [101.45]	2.360" [59.94]
60SQ-5738B	45	140	26.5	4.744" [120.50]	3.110" [79.00]

Integral Controller: Lead Wire Color Code

Board Position	Designation	Lead Color
1	Digital I/O "A"	Gray
2	Digital I/O "B"	White/Red
3	Direction	White/Black
4	Signal Ground	Green
5	Enable Input	Orange
6	5 Vdc (output)	Yellow
7	Input Power (12-32Vdc)	Red
8	Power Ground	Black
9	Analog Input 2	Violet
10	Analog Input 1 (speed)	Blue
11	Tachometer Output "B"	Brown
12	Tachometer Output "A"	White

External Controller (Hall Only): Lead Wire

Board Position	Designation	Lead Color
1	Motor Phase A	Blue
2	Motor Phase B	White
3	Motor Phase C	Brown
4	Hall A	Green
5	Hall B	Orange
6	Hall C	Yellow
7	5 Vdc (Vcc)	Red
8	Ground	Black



In order to properly commutate the Merkle-Korff 2.25" BLDC motor, the following table is provided to indicate the required motor phase state for a given hall-effect state.

Direction	120° Hall Spacing			Motor Phases		
	HA	HB	HC	MA	MB	MC
(NOTE 1) CW	1	0	0	DC+	OFF	DC-
	1	1	0	OFF	DC+	DC-
	0	1	0	DC-	DC+	OFF
	0	1	1	DC-	OFF	DC+
	0	0	1	OFF	DC-	DC+
	1	1	1	DC+	DC-	OFF
CW	1	0	0	DC-	OFF	DC+
	1	0	1	DC-	DC+	OFF
	0	0	1	OFF	DC+	DC-
	0	1	1	DC+	OFF	DC-
	0	1	0	DC+	DC-	OFF
	1	1	0	OFF	DC-	DC+

NOTE 1: Direction viewed from motor shaft (gearbox output shaft rotation may not be the same)