

ELINCO

**HIGH PERFORMANCE,
BRUSHLESS, DC MOTORS**

*For speed control, extreme efficiency,
or just plain long, trouble-free life.*

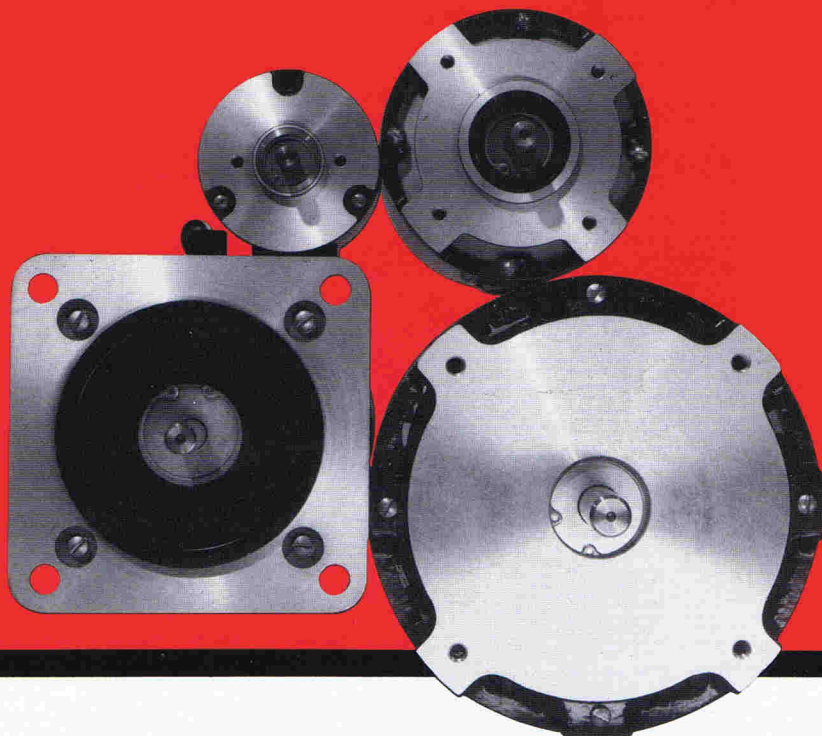
Series

2300

3400

4400

5800



**DESIGNED WITH SLOT-FREE STATOR
WINDINGS FOR MAXIMUM EFFICIENCY
AND ULTRA SMOOTH OPERATION.**

Brushless DC Motors

The opposite of conventional dc motors, electronically controlled brushless dc motors have a permanent magnet rotor and the field windings are housed in the stator. Transistors commutate dc current to the stator. There are no brushes or commutator bars to spark or wear.

A rotating electromagnetic field is induced by sequentially energizing the stator windings. The field rotation is started, stopped, speeded up, slowed down or reversed, controlled by the electronics. The permanent magnet rotor follows the field. Torque is directly proportional to armature current: RPM, to voltage.



BRUSHLESS DC MOTORS

Elinco stands at the forefront of brushless dc motor design with units of unsurpassed efficiency which combine a slot free winding with a unique rotor construction. Elinco's patent pending winding technique insures performance that cannot be duplicated anywhere.

The unique (patent pending) stator winding technique on slot-free stators produces low inductive, more efficient motors. The uniform, symmetrical windings on slot-free stators assure smooth, non-cogging operation. Reduced winding inductance reduces wattage losses in the control electronics, permitting newer, less expensive but just as effective control circuits. This also permits smaller size motors with greater power output, even in continuous duty operation.

Electronic Control Circuits

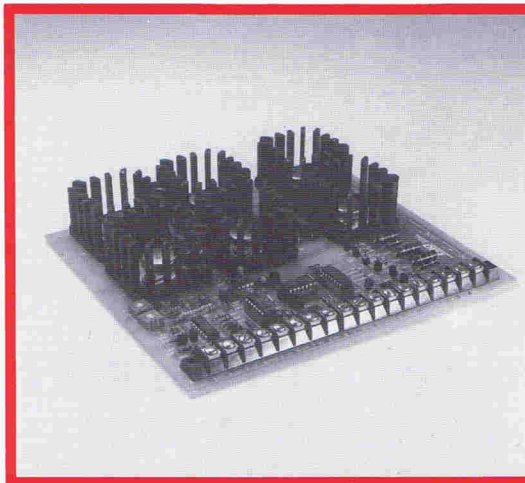
Open or closed loop electronic control boards are available for Elinco 3-phase brushless dc motors. Other winding options are also available.

Advantages

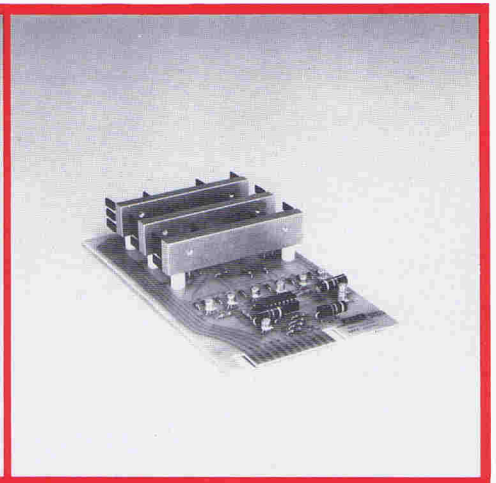
- High thermal efficiency
- Non-cogging
- Extremely low inductance
- Superior torque-to-inertia ratios
- Extremely long life without brush and commutator wear
- Non-arcing, suitable for hazardous environments
- Low magnet noise levels (RFI, EMI)
- Excellent speed control
- Low weight-to-HP ratio
- Higher torque in smaller packages
- Quiet operation
- Wide voltage and torque ranges
- Constant or variable speeds

TYPICAL APPLICATIONS

- Disk and tape drives
- Robotics
- Machine tool drives
- Business machines
- Blowers and fans
- Printers and copiers
- Medical equipment
- Pumps
- Control equipment
- Materials handling equipment
- Computer peripherals



CLOSED LOOP electronic controls are available for all frame size motors.



OPEN LOOP controls to suit individual applications are also available for all frame sizes.

**2300, 3400, 4400 and 5800 SERIES
BRUSHLESS DC MOTORS**

All frame size motors are available with open or closed loop electronic controls and in optional mounting configurations shown.

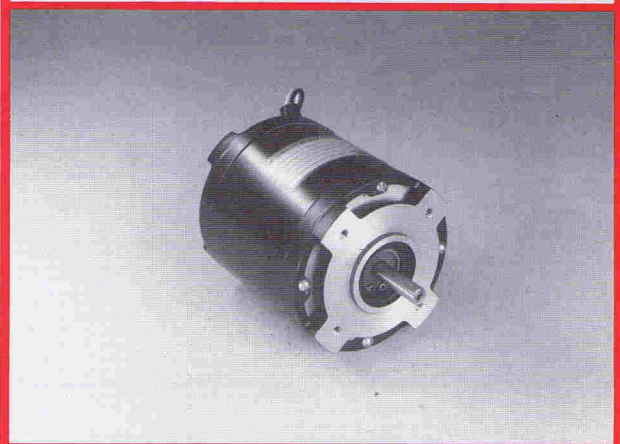
2300 SERIES

(Base Mounting)



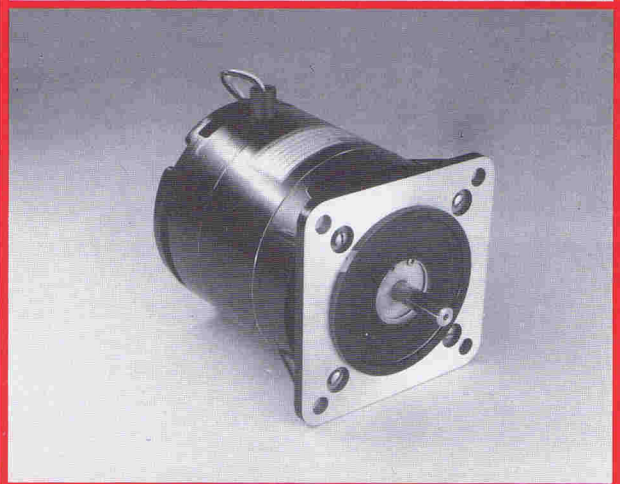
3400 SERIES

(Pilot Mounting)



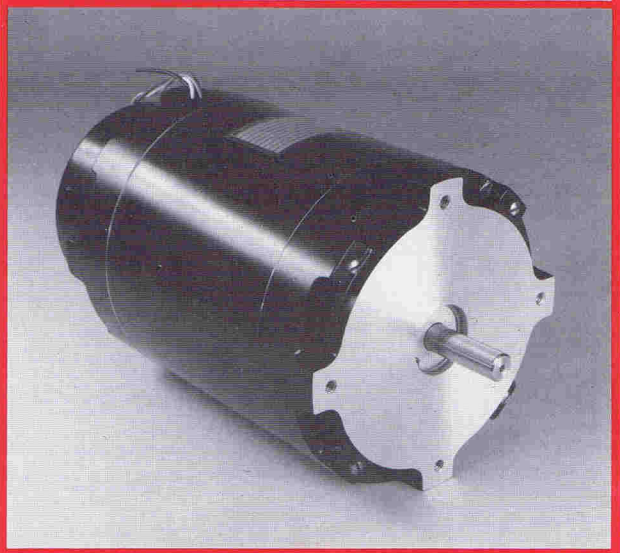
4400 SERIES

(Flange Mounting)



5800 SERIES

(Face Mounting)



2300 SERIES 48 VOLTS / 3600 RPM

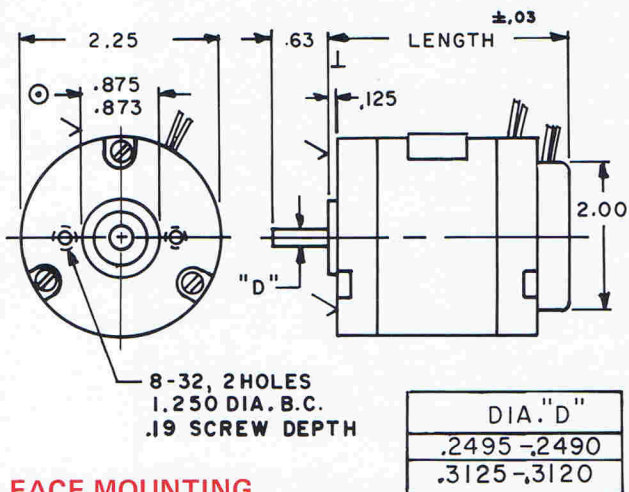
TORQUE CONSTANT (KT) = 15 IN OZ/AMP

VOLTAGE CONSTANT (KV) = 11 VOLTS/1000 RPM

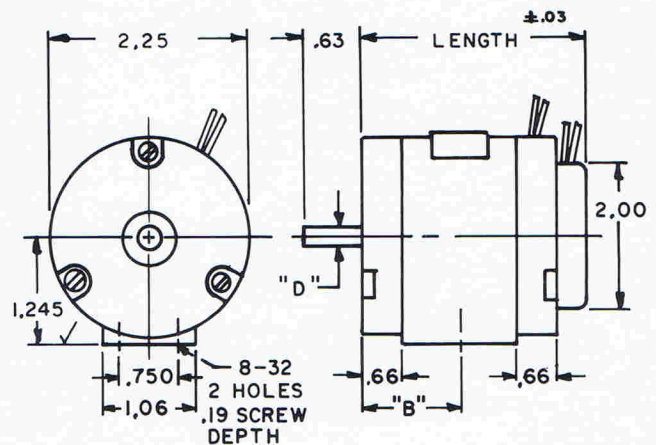
FRAME TYPE	RATED TORQUE IN-OZ*	HP	RATED AMPS	NO LOAD RPM	LENGTH	BASE LOCATION "B"
2309	5	1/60	0.4	5600	3.58	1.19
2318	14	1/20	1.1	5600	4.45	2.06

*Torque ratings are for ceramic rotors. Rare earth rotors more than double the ceramic ratings.

FRAME DIMENSIONS



FACE MOUNTING



BASE MOUNTING

SPECIFICATIONS

In addition to the outputs, sizes, mounting packages and electronic controls represented by these specifications, Elinco engineers are equipped to modify standard units or produce special designs to meet your exacting requirements. (See rear cover.)

3400 SERIES 48 VOLTS / 3600 RPM

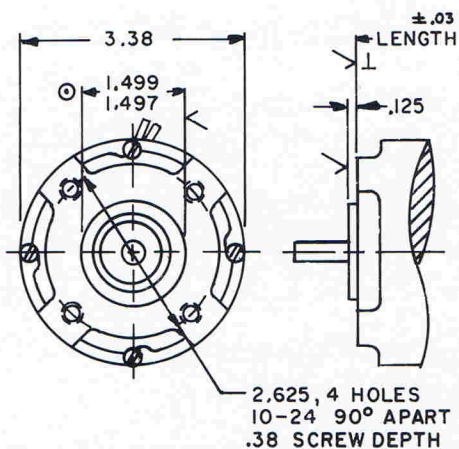
TORQUE CONSTANT (KT) = 13 IN OZ/AMP

VOLTAGE CONSTANT (KV) = 9.2 VOLTS/1000 RPM

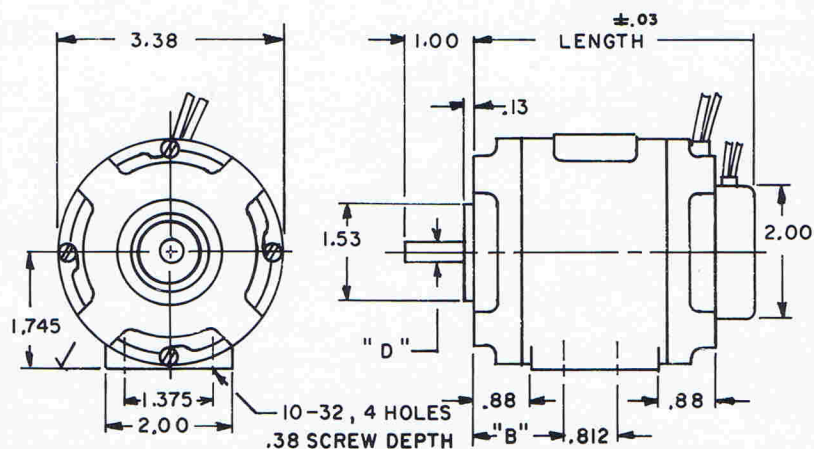
FRAME TYPE	RATED TORQUE IN-OZ*	HP	RATED AMPS	NO LOAD RPM	OPEN FRAME LENGTH	LENGTH CLOSED FRAME	BASE LOCATION "B"
3413	28	1/10	2.2	4700	5.00	4.70	1.50
3419	35	1/8	2.8	4700	5.65	5.32	1.50
3430	70	1/4	5.6	4700	6.77	6.44	1.75

*Torque ratings are for ceramic rotors. Rare earth rotors more than double the ceramic ratings.

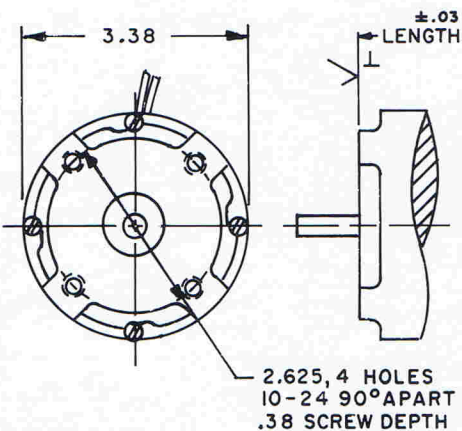
FRAME DIMENSIONS



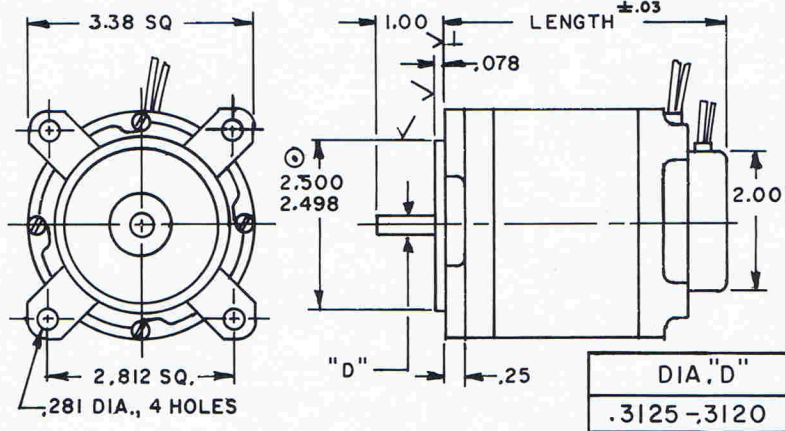
PILOT MOUNTING



BASE MOUNTING



FACE MOUNTING



FLANGE MOUNTING

DIA "D"
.3125-.3120
.3750-.3745
.5000-.4995

4400 SERIES 48 VOLTS / 3600 RPM

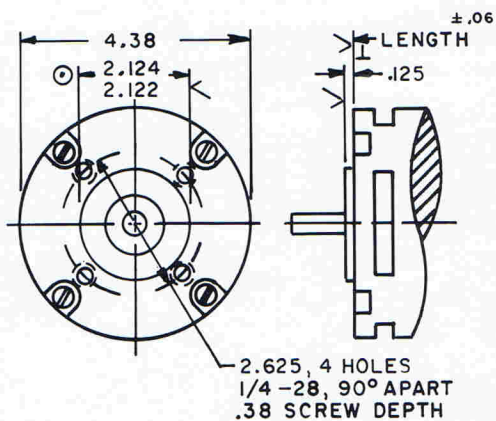
TORQUE CONSTANT (KT) = 12.5 IN OZ/AMP

VOLTAGE CONSTANT (KV) = 9.2 VOLTS/1000 RPM

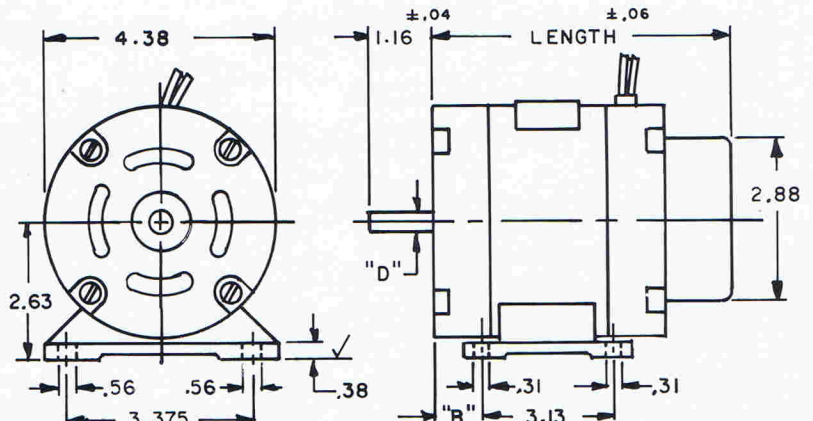
FRAME TYPE	RATED TORQUE IN-OZ*	HP	RATED AMPS	NO LOAD RPM	OPEN FRAME LENGTH	LENGTH CLOSED FRAME	BASE LOCATION "B"
4425	140	1/2	11.0	5200	8.24	7.24	1.25
4439	210	3/4	17.0	5200	9.49	8.49	2.50
4450	280	1	22.0	5200	10.68	9.68	2.50

*Torque ratings are for ceramic rotors. Rare earth rotors more than double the ceramic ratings.

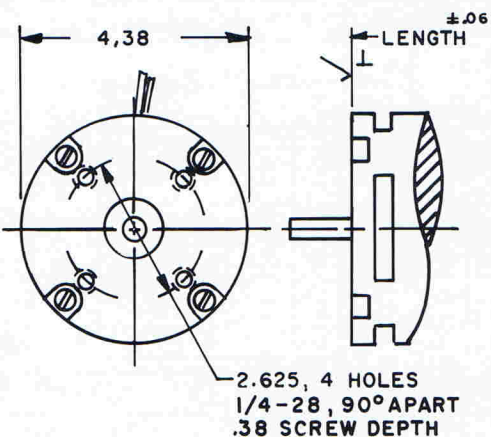
FRAME DIMENSIONS



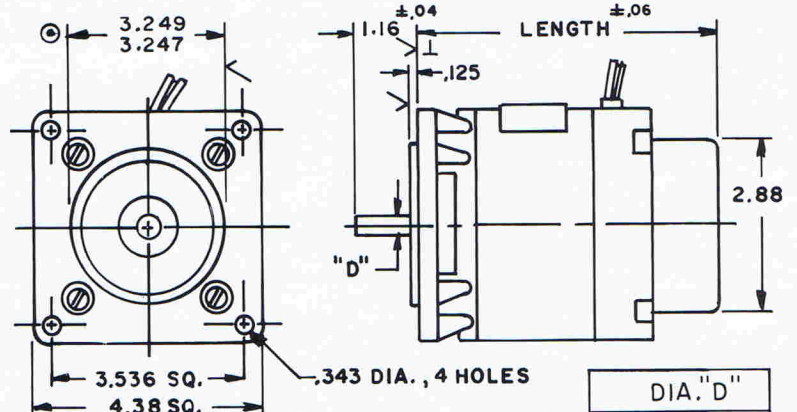
PILOT MOUNTING



BASE MOUNTING



FACE MOUNTING



FLANGE MOUNTING

DIA. "D"
.5000-.4995
.6250-.6245

5800 SERIES 90 VOLTS / 3600 RPM

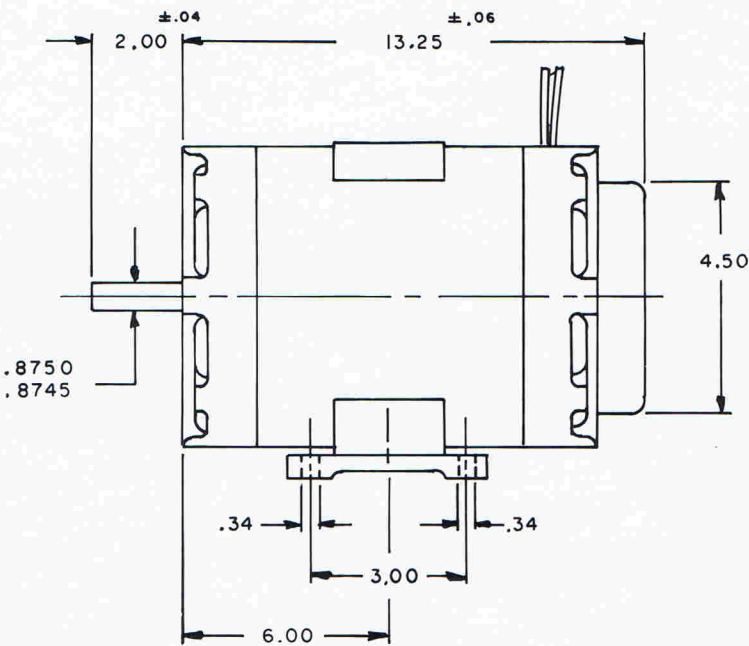
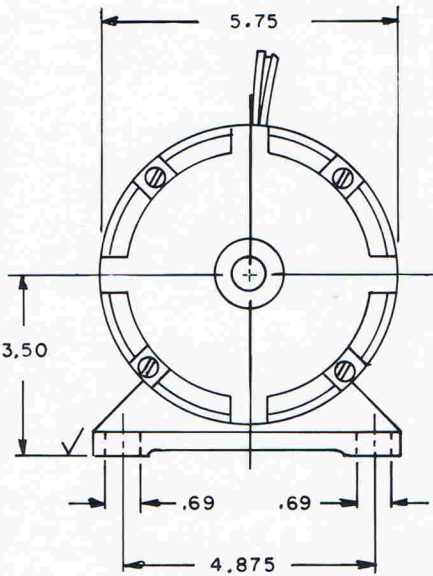
TORQUE CONSTANT (KT) = 27 IN OZ/AMP

VOLTAGE CONSTANT (KV) = 20.2 VOLTS/1000

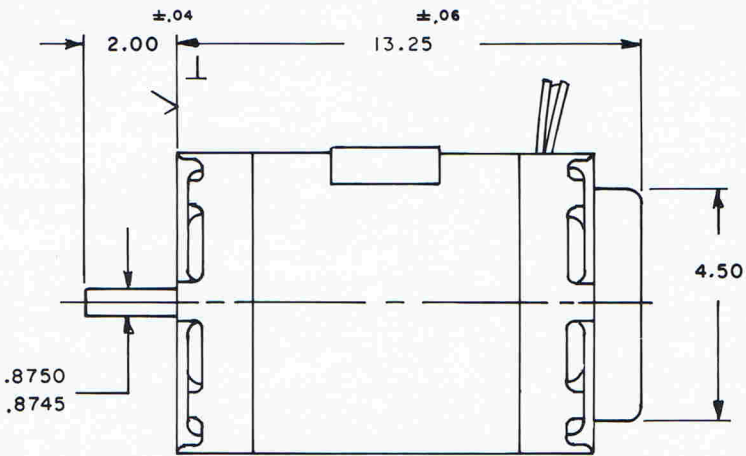
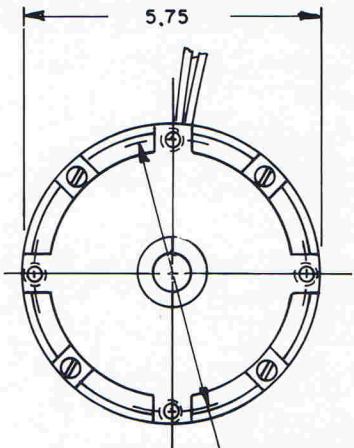
FRAME TYPE	RATED TORQUE IN-OZ*	HP	RATED AMPS	NO LOAD RPM	LENGTH	BASE LOCATION "B"
5853	560	2	20	5200	13.25	6.00

*Torque ratings are for ceramic rotors. Rare earth rotors more than double the ceramic ratings.

FRAME DIMENSIONS



BASE MOUNTING



5.000, 4 HOLES
1/4 - 28, 90° APART
.38 SCREW DEPTH

FACE MOUNTING

BRUSHLESS DC MOTORS FOR INDIVIDUAL REQUIREMENTS

In addition to the motor specifications indicated, other combinations of voltage, speed, torque and length are available.

Each Brushless DC Motor may be ordered with or without solid state electronic control circuitry. Electronics may be open or closed loop systems and may be engineered to accommodate individual requirements.

Encoders are available, as well as electronic tachometers.

The ELINCO Engineering Staff welcomes your inquiry. Since 1926, Elinco has been adapting standard units and developing new characteristics to meet individual requirements.

ELINCO DIVISION/ EDO CORPORATION

Established in 1926 to design and manufacture fractional horsepower motors for special applications, Elinco has been in the forefront of electric motor development for over half a century.

Recent advances in brushless dc motor design include electronic speed control, ceramic and rare earth rotors for greater output in smaller frames, and patents pending on techniques for winding slotless stators uniformly and symmetrically for non-cogging, much more efficient operation.

ELINCO PRODUCTS

Elinco products include the following fractional standard and special units.

BRUSHLESS DC MOTORS

TORQUE MOTORS

INDUCTION MOTORS

HYSTERISIS SYNCHRONOUS MOTORS

RELUCTANCE SYNCHRONOUS MOTORS

POLARIZED SYNCHRONOUS MOTORS

SELF-SYNCHRONOUS MOTORS

AC GENERATORS

DC GENERATORS

SERIES MOTORS

SHUNT MOTORS

UNIVERSAL MOTORS

CERAMIC MAGNET MOTORS

PERMANENT MAGNET MOTORS

SERVO MOTORS

GEAR MOTORS

FURTHER INFORMATION

*For further information on standard or special units,
or for name of your nearest Elinco Representative,
phone, wire or write:*

203-847-5861 / TELEX 96-5945

Fred J. Drake, Marketing Manager

ELINCO DIVISION/EDO CORPORATION

272 Main Avenue, Norwalk, CT 06851

EDO / ELINCO
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