

Brushless DC Motors

Outside Rotor Fractional Horsepower

TYPICAL APPLICATIONS

- Medical equipment (pumps, blowers, others)
- HVAC systems (air handling equipment)
- Industrial automation
- Scanners
- Office automation equipment

FEATURES

- Compact lengths - from 1.1" to 2.4"
- Continuous torques from 5.9 to 19.2 oz-in
- Low cost bonded ferrite magnets
- Safe, arcless operation
- High speed capabilities – up to 6,700 rpm
- 8 pole motors standard
- Options include electronic drives, encoders, Hall effect or sensorless feedback
- Available as a parts set or a complete housed motor

BENEFITS

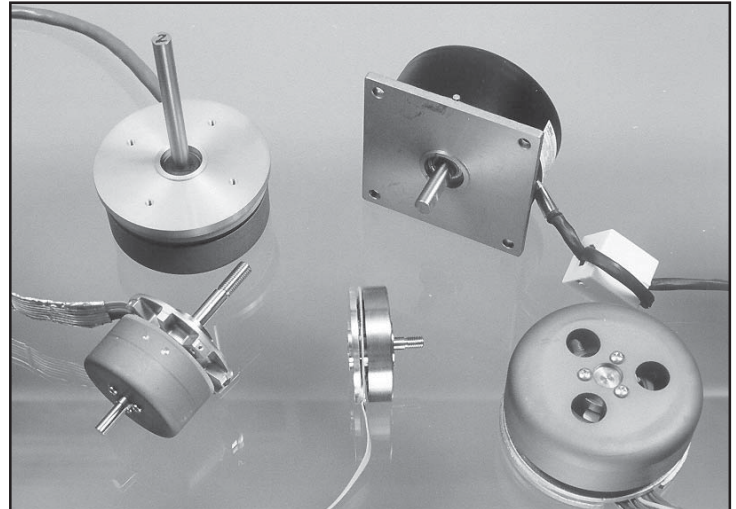
- Operate over a wide range of speeds - not limited to AC frequency
- Extremely quiet operation with long life capability
- Precise, variable speed control
- Motor life is not limited to brush or commutator life
- Efficient operation without losses associated with brushes and commutation or armature induction

ENCODERS

High resolution, high reliability, and state-of-the-art technology in a small package:

- Bidirectional incremental code
- Up to 1024 cycles standard
- Up to 3 channels: A, B, and index
- TTL/CMOS compatible
- Other configurations and resolutions available

BOF23 Series



Quiet, Brushless Motors

BOF 23 motors provide smooth, efficient operation at high speeds. The brushless design ensures low audible noise and long life. Utilizing bonded ferrite magnets, these brushless motors provide excellent performance and value demonstrated by their low cost to high torque ratio. They are available in three lengths with a variety of options, including custom windings to achieve different speed/torque operating points, electronic drives, encoders, and Hall effect or sensorless feedback.

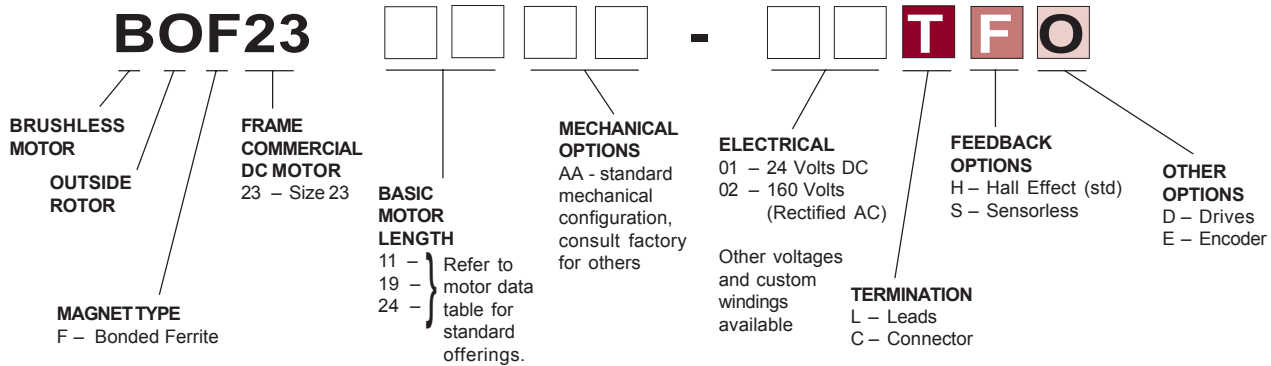
In some applications, motors with an outside rotor enjoy several advantages over their counterparts with inside rotors. Motors with outside rotors perform especially well in applications with significant torque oscillation. Also, BOF outside rotor motors have relatively low profile dimensions for height so they can easily fit in an envelope that is wider than it is tall - such as some medical equipment or industrial machines.

We've designed thousands of DC motors, so if our BOF series doesn't meet your needs, call us to talk about your specifications. One of our other designs may meet your needs, or our engineering department can design a motor to meet your specific requirement.

Brushless Motors

SPECIFICATION AND NUMBERING SYSTEM

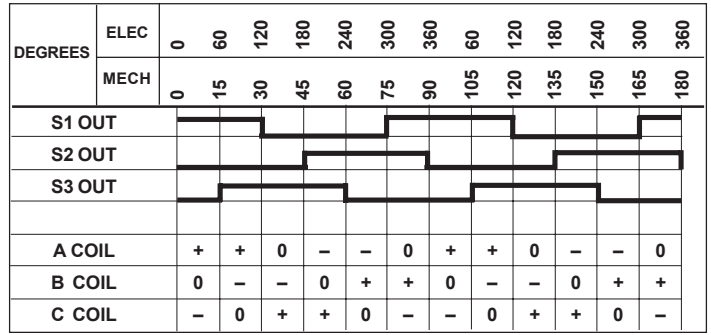
Part Numbering System Guide



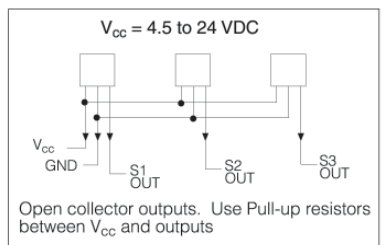
Conversion Table

FROM	TO	MULTIPLY BY
Length		
inches	cm	2.540
feet	cm	30.48
cm	inches	.3937
cm	feet	3.281 x 10 ⁻²
Mass		
oz	g	28.35
lb	g	453.6
g	oz	3.527 x 10 ⁻²
lb	oz	16.0
g	lb	2.205 x 10 ⁻³
oz	lb	6.250 x 10 ⁻²
Torque		
oz-in	g-cm	72.01
lb-ft	g-cm	1.383 x 10 ⁴
g-cm	oz-in	1.389 x 10 ⁻²
lb-ft	oz-in	192.0
g-cm	lb-ft	7.233 x 10 ⁻⁵
oz-in	lb-ft	5.208 x 10 ⁻³
Rotation		
rpm	degrees/sec	6.0
rad/sec	degrees/sec	57.30
degrees/sec	rpm	.1667
rad/sec	rpm	9.549
degrees/sec	rad/sec	1.745 x 10 ⁻²
rpm	rad/sec	.1047
Moment Of Inertia		
oz-in ²	g-cm ²	182.9
lb-ft ²	g-cm ²	4.214 x 10 ⁵
g-cm ²	oz-in ²	5.467 x 10 ⁻³
lb-ft ²	oz-in ²	2.304 x 10 ³
g-cm ²	lb-ft ²	2.373 x 10 ⁻⁶
oz-in ²	lb-ft ²	4.340 x 10 ⁻⁴
oz-in-sec ²	g-cm ²	7.062 x 10 ⁴

Timing Diagram for Hall Switches



Hall Effect Switches



Termination Table

PIN NUMBER	CONNECTION	COLOR
1	C COIL	BROWN
2	B COIL	RED
3	A COIL	ORANGE
4	S1 OUT	YELLOW
5	S3 OUT	GREEN
6	S2 OUT	BLUE
7	Vcc	VIOLET
8	GROUND	GRAY

IMPORTANT

The operational life and performance of any motor is dependent upon individual operating parameters, environment, temperature, and other factors. Your specific application results may vary. Please consult the factory to discuss your requirements.

Peromatic GmbH
Gubelstrasse 28
rue Confédération 29
info@peromatic.ch

CH-8050 Zürich
CH-2300 La Chaux-de-Fonds
www.peromatic.ch

Fon +41-(0)43 300 60 60
Fon +41-(0)32 927 37 20

Fax +41-(0)43 300 60 79
Fax +41-(0)32 927 37 22

Brushless Motors

BOF23 Performance Curves

