

## BN17 SPECIFICATIONS - Continuous Stall Torque 7.0 to 16.0 oz-in (0.049 - 0.113 Nm) Peak Torque 64 - 149 oz-in (0.45 - 1.05 Nm)

Part Number*		BN17-15AA- <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>			BN17-20AA- <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>			BN17-25AA- <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		
Winding Code**		01	02	03	01	02	03	01	02	03
L = Length	inches	1.50			2.00			2.50		
	millimeters	38.1			50.8			63.5		
Terminal Voltage	volts DC	12.0	24.0	36.0	12.0	24.0	36.0	12.0	24.0	36.0
Peak Torque	oz-in	64.0	83.0	88.00	116.0	116.0	124.0	140.0	149.0	142.0
	Nm	0.4519	0.5861	0.6214	0.8191	0.8191	0.8756	0.9886	1.0522	1.0027
Continuous Stall Torque	oz-in	7.0	7.0	8.0	12.0	12.0	12.0	15.0	15.0	16.0
	Nm	0.0494	0.0494	0.0565	0.0847	0.0847	0.0847	0.1059	0.1059	0.1130
Rated Speed	RPM	10623.0	15627.0	14644.0	8659.0	9172.0	9771.0	8414.0	8452.0	7834.0
	rad/sec	1112	1636	1534	907	960	1023	881	885	820
Rated Torque	oz-in	6.7	5.4	6.3	9.5	8.7	8.5	10.7	11.0	11.5
	Nm	0.0473	0.0381	0.0445	0.0671	0.0614	0.0600	0.0756	0.0777	0.0812
Rated Current	Amps	5.65	3.27	2.38	6.29	3.05	2.10	6.90	3.54	2.30
Rated Power	watts	52.2	62.4	68.8	60.8	59.0	61.4	66.6	68.7	66.6
Torque Sensitivity	oz-in/amp	1.28	1.86	2.95	1.64	3.13	4.45	1.70	3.40	5.44
	Nm/amp	0.0090	0.0131	0.0208	0.0116	0.0221	0.0314	0.0120	0.0240	0.0384
Back EMF	volts/KRPM	0.95	1.38	2.18	1.21	2.31	3.29	1.26	2.51	4.02
	volts/rad/sec	0.0090	0.0131	0.0208	0.0116	0.0221	0.0314	0.0120	0.0240	0.0384
Terminal Resistance	ohms	0.24	0.54	1.20	0.17	0.65	1.30	0.15	0.55	1.38
Terminal Inductance	mH	0.23	0.48	1.22	0.17	0.69	1.40	0.15	0.61	1.57
Motor Constant	oz-in/sq.rt.watts	2.69	2.56	2.71	4.13	3.92	3.93	4.67	4.64	4.65
	Nm/sq.rt.watts	0.01900	0.01808	0.01914	0.02916	0.02768	0.02775	0.03298	0.03277	0.03284
Rotor Inertia	oz-in-sec <sup>2</sup> x10 <sup>-3</sup>	0.23	0.23	0.23	0.39	0.39	0.39	0.54	0.54	0.54
	g-cm <sup>2</sup>	16.2	16.2	16.2	27.5	27.5	27.5	38.1	38.1	38.1
Weight	oz	6.7	6.7	6.7	10.5	10.5	10.5	13.4	13.4	13.4
	g	190	190	190	298	298	298	380	380	380
# of Poles		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Timing		120°	120°	120°	120°	120°	120°	120°	120°	120°
Mech. Time Constant	ms	4.8	5.1	4.5	3.5	3.7	3.6	4.0	3.6	3.6
Electrical Time Constant	ms	0.96	0.89	1.02	1.00	1.06	1.08	1.00	1.11	1.14
Thermal Resistivity	deg. C/watt	8.2	8.3	8.1	6.9	6.9	6.9	6.0	6.0	6.0
Speed/Torque Gradient	rpm/oz-in.	197.4	210.4	186.6	85.7	89.9	88.8	70.0	64.4	63.1

**Notes:**

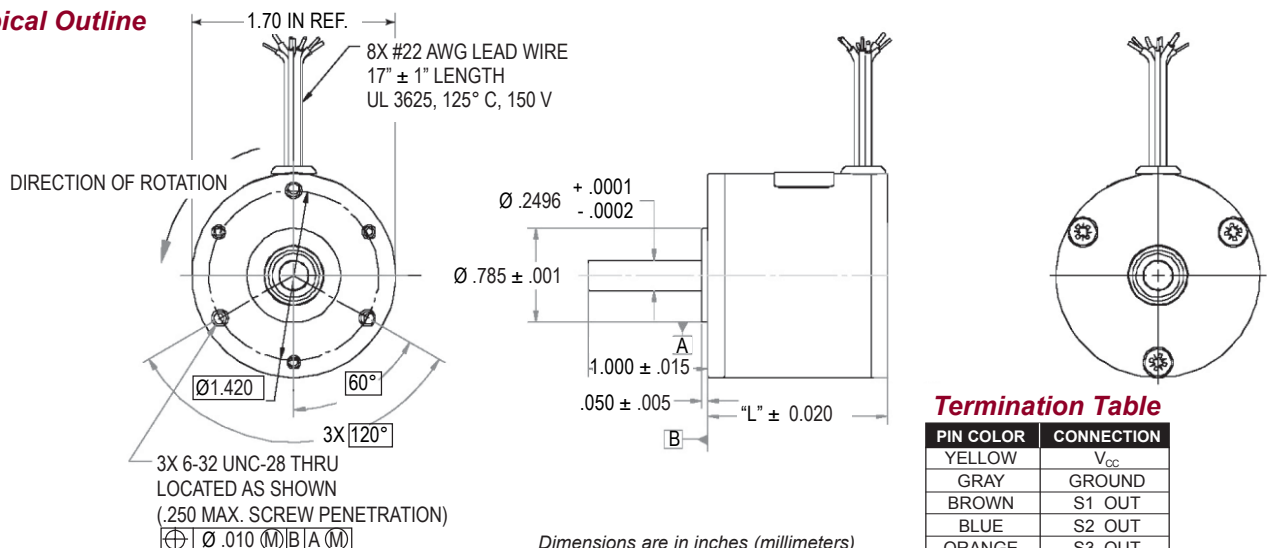
- Motor mounted to a 4" x 4" x 1/4" aluminum plate, still air.
  - Maximum winding temperature of 155°C.
  - Typical electrical specifications at 25°C.
  - Calculated (theoretical) speed/torque gradient.
  - Shaft options for encoder mounting available.
- \* Many other custom mechanical options are available – consult factory.  
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Select your options below and place their code in its corresponding block as shown on page 8.

- |                                      |   |  |
|--------------------------------------|---|--|
| <input type="checkbox"/> TERMINATION | <input type="checkbox"/> FEEDBACK OPTIONS | <input type="checkbox"/> OTHER OPTIONS |
| L – Leads (std)                      | H – Hall Effect (std)                     | D – Drive                              |
| C – Connector                        | R – Resolver                              | E – Encoder                            |
| M – MS connector                     | S – Sensorless                            | G – Gearhead                           |

### BN17 Typical Outline

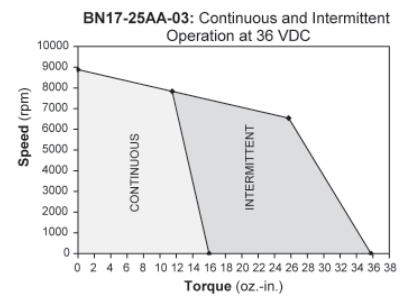
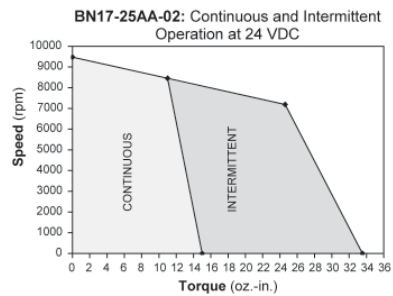
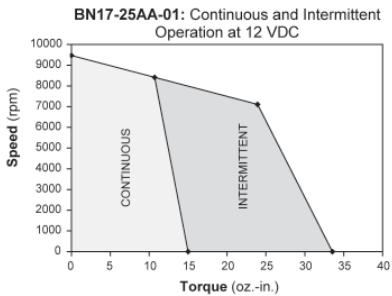
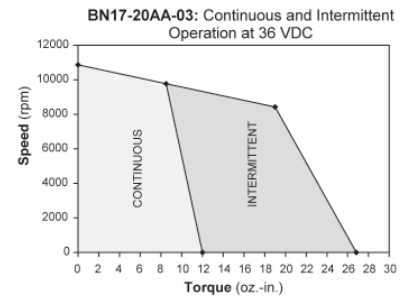
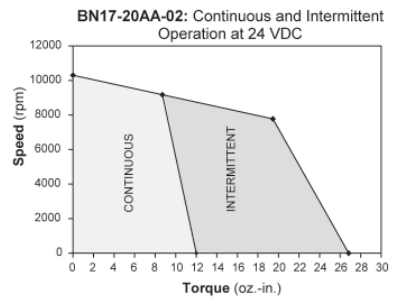
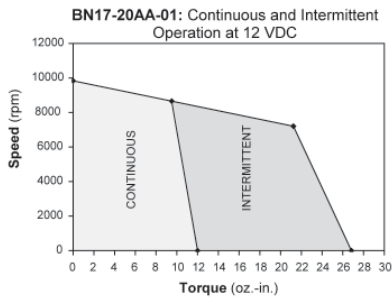
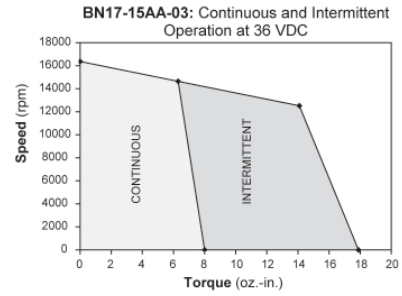
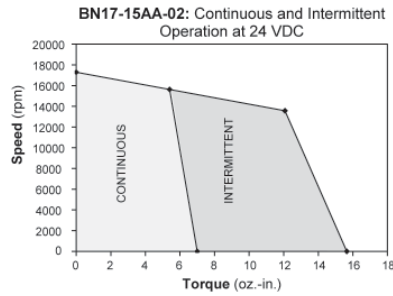
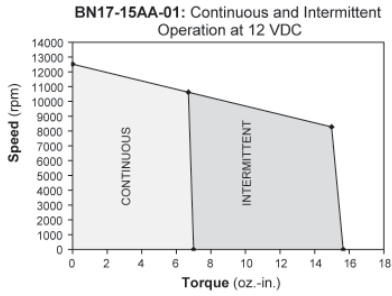


### Termination Table

PIN COLOR	CONNECTION
YELLOW	V <sub>CC</sub>
GRAY	GROUND
BROWN	S1 OUT
BLUE	S2 OUT
ORANGE	S3 OUT
RED	A COIL
BLACK	B COIL
GREEN	C COIL

# Brushless Motors

## BN17 Performance Curves



**Note:** Intermittent operation is based on a 20% duty cycle of one minute on, four minutes off.  
Please contact the factory regarding the duty cycle of your application.

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