



Lead color	Function
Violet	Phase A
Brown	Phase B
Blue	Phase C
Red	4.5 to 24 vdc
Yellow	Hall 1
Orange	Hall 2
White	Hall 3
Black	Supply RTN

.4606-64 UNS-3A	
MAJOR DIAMETER (THEORETICAL)	.4606
THREADS PER INCH	64
THREAD ANGLE	(60°)
PITCH DIAMETER	.4505/.4485
MINOR DIAMETER	.4437/.4384

[*] denotes millimeters.
Specification subject to change without notice

Motor length and winding options

Electrical Data	Symbols	B0508		B0512		B0517		Units
		-N024A-R00	-N024B-R00	-N024A-R00	-N024B-R00	-N024A-R00	-N024B-R00	
1 Nominal Voltage	U_N	24		24		24		V
2 Max No-Load Current	I_{nl}	175	120	245	205	360	260	mA
3 No-Load Speed	W_{nl}	51,110	25,528	47,500	25,418	55,190	28,007	rpm
4 Resistance - Phase to Phase	R	2.56	10.20	1.50	5.40	0.77	2.86	Ω
5 Continuous Stall Torque	T_{cs}	5.8 (0.82)		8.6 (1.22)		11.7 (1.66)		mNm (oz-in)
6 Continuous Stall Current	I_{cs}	1.35	0.68	1.90	1.00	2.91	1.51	A
7 Peak Torque for 1s	T_{pk}	41.7 (5.90)	20.3 (2.87)	75.8 (10.7)	38.4 (5.44)	130.4 (18.46)	67.8 (9.6)	mNm (oz-in)
8 Peak Current	I_{pk}	9.25	2.25	15.8	4.28	30.9	8.15	A
9 Back EMF Constant	K_e	0.472	0.945	0.503	0.940	0.442	0.871	v/1000 rpm
10 Torque Constant	K_t	4.51 (0.64)	9.02 (1.28)	4.80 (0.68)	8.98 (1.27)	4.22 (0.60)	8.32 (1.18)	mNm/A (oz.-in/A)
11 Motor regulation R/K_t^2	-	125.9	125.4	65.1	67.0	43.2	41.3	$10^3/Nms$
12 Motor regulation K_t/R^2	-	2.8	2.8	3.9	3.9	4.8	4.9	mNm/W $^{1/2}$
13 Inductance - Phase to Phase	L	0.141	0.562	0.097	0.340	0.054	0.218	mH
General Data								
14 Thermal Resistance (winding to ambient)	R_{th}	18.5		15.9		13.2		$^{\circ}C/W$
15 Thermal Time Constant	τ_w	485		492		699		s
16 Mechanical Time Constant	τ_m	4.14		3.14		2.62		ms
17 Electrical time constant	τ_e	0.05	0.06	0.06	0.06	0.07	0.08	ms
18 Rotor Inertia	J	2.18 (3.09)		3.15 (4.46)		4.11 (5.82)		kgm 2 10 $^{-8}$ (oz-in-sec 2)
19 Max winding temperature	-	-		155 (311)		-		$^{\circ}C$ ($^{\circ}F$)
20 Shaft Load max.: radial (static)	-	-		48.9 (11)		-		N (lb)
axial (static)	-	-		35.6 (8)		-		N (lb)
21 Mass	M	32.8 (1.16)		38.5 (1.36)		45.7 (1.61)		g (oz)
22 Length L	L	36.3 (1.429)		48.8 (1.92)		61.0 (2.401)		mm (in)
23 Tolerances	-	Tolerances on all values $\pm 10\%$ unless otherwise specified.						

Notes

- Three phase motor with Wye connections
- Gearbox option: Size 5 Planetary
- Autoclavable versions available
- Hall sensors: supply voltage 4.5V - 24V
- Above parameters specified for 25 Deg C ambient temperature
- Sensorless option available on request
- Typical housing material 303 SS
- Typical shaft material 17-4 PH
- Motor is RoHS Compliant

