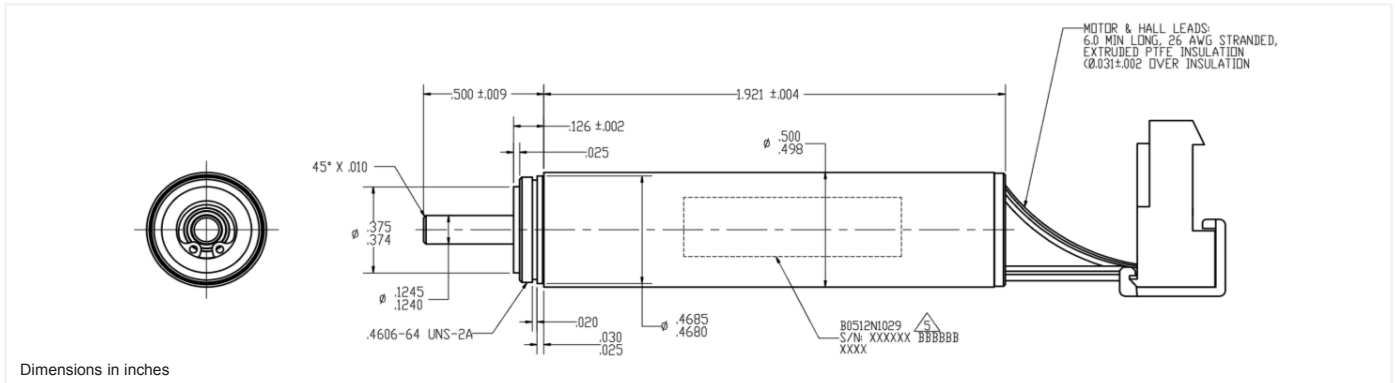


SPINE DRILL – Brushless Slotted

Ø 0.5 in.



B0512N1029

Electrical Data	Part Number	B0512N1029	Units
1 Nominal Voltage	U_N	48	Volt
2 Max No-Load Current (±50%)	I_{nl}	420	mA
3 No-Load Speed	W_{nl}	90,500	rpm
4 Resistance - Phase to Phase	R	1.46	ohm
5 Continuous Stall Torque	T_{cs}	9.2 (1.31)	mNm (oz-in)
6 Continuous Stall Current	I_{cs}	1.93	A
7 Peak Torque for 1s	T_{pk}	165.3 (23.4)	mNm (oz-in)
8 Peak Current	I_{pk}	32.8	A
9 Back EMF Constant	K_e	0.528	v/1000 rpm
10 Torque Constant	K_t	5.04 (0.71)	mNm/A (oz.-in/A)
11 Motor Regulation R/K_t^2	-	57.5	$10^9/Nms$
12 Motor Regulation $K_t/R^{1/2}$	-	4.2	mNm/W ^{1/2}
13 Inductance - Phase to Phase	L	0.110	mH @1Khz
General Data			
14 Thermal Resistance (winding to ambient)	R_{th}	15.9	°C/W
15 Thermal Time Constant	t_w	490	s
16 Mechanical Time Constant	t_m	2.73	ms
17 Electrical Time Constant	t_e	0.08	ms
18 Rotor Inertia	J	3.15 (4.46)	$kgm^2 \cdot 10^{-8}$ (oz-in-sec ² 10^{-6})
19 Max Winding Temperature	-	155 (311)	°C (°F)
20 Shaft Load Max.: radial (static)	-	41.22 (9.27) @ 5mm from front of bearing	N (lb)
axial (static)	-	0.01 (0.002)	N (lb)
21 Mass	M	38.5 (1.36)	g (oz)
22 Length L	L	48.8 (1.92)	mm (in)
23 Tolerances	-	Tolerances on all values ±10% unless otherwise specified.	

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

- Notes
- Three phase motor with Wye connections
 - Designed for sterilization in an autoclavable
 - Hall sensors: supply voltage 4.5V - 24V
 - Typical housing material 303 SS
 - Typical shaft material 17-4 PH
 - Motor is RoHS Compliant
 - Above parameters specified for 25 Deg C ambient temperature

