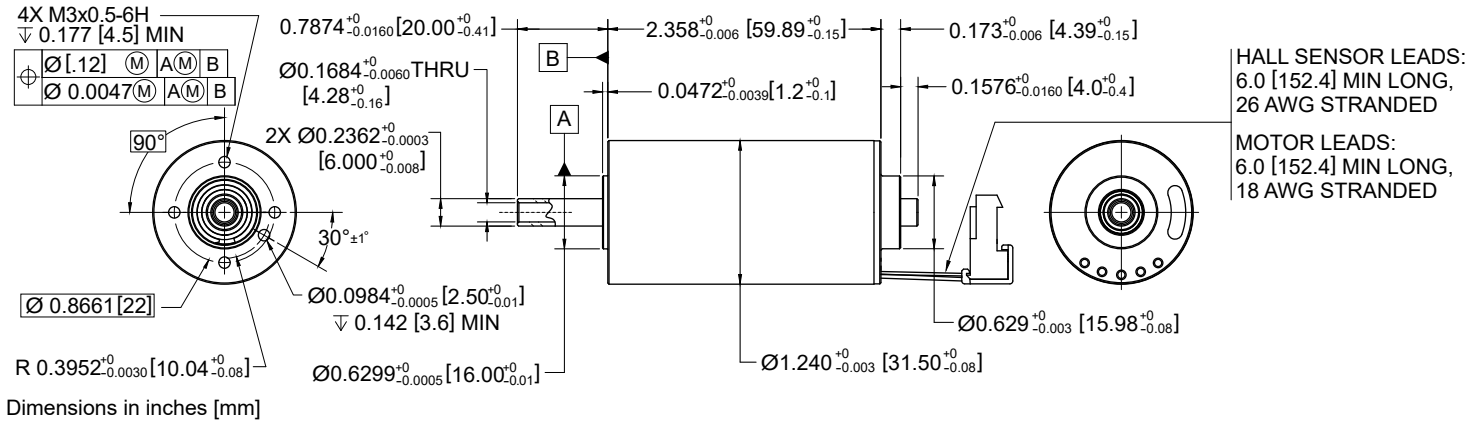


B1210N1035 Large Bone Orthopedic Drill/Wire Driver

Ø 1.24 inch • Brushless Slotted • 12.0 V



Electrical Data	Symbol	SM B1210N1035	Unit
1 Nominal Voltage	U_N	12.0	Volt
2 Optimization Direction	-	Bi-Directional	-
3 No Load Speed	n_0	15,749	rpm
4 Typical No Load Current	I_0	616	mA
5 Max. Continuous Mechanical Power (@25°C)	P_{max}	122.0	W
6 Max. Continuous Current	I_{cs}	11.8	A
7 Max. Continuous Torque	T_{cs}	81.5 (11.5)	mNm (oz-in)
8 Back EMF Constant	k_E	0.759	V/1000 rpm
9 Torque Constant	k_T	7.25 (1.03)	mNm/A (oz-in/A)
10 Motor Regulation	R/k^2	1350	$10^3/Nms$
11 Peak Torque	T_{pk}	1220 (173)	mNm (oz-in)
12 Motor Constant	k_M	27.2 (3.85)	mNm/W ^{1/2} (oz-in/W ^{1/2})
13 Line to Line Resistance	R_L	0.071	ohms
14 Inductance Phase to Phase	L	0.051	mH
15 Mechanical Time Constant	τ_m	2.73	ms
16 Electrical Time Constant	τ_e	0.718	ms

General Data			
17 Gearhead Ratio	-	N/A	Ratio
18 Ambient Working Temperature Range	-	25 (77)	°C (°F)
19 Max Operating Temperature Range	-	155 (311)	°C (°F)
20 Radial Static Force w/o Shaft Support (max)	-	80.28	lbs
21 Axial Static Force w/o Shaft Support (max)	-	27.17	lbs
22 Thermal Resistance	R_{th}	8.7	°C/W
23 Thermal Time Constant	τ_w	975	s
24 Weight	-	263 (9.30)	g (oz)
25 Rotor Inertia	J_m	133 (189)	kg-cm ² 10 ⁻⁴ (oz-in-sec ² 10 ⁻⁶)
26 Hall Sensor Electrical Phasing	-	60	Electrical °

- Notes:
- Three phase motor with Wye connections
 - Hall sensors: supply voltage 4.5 V - 24 V
 - Typical housing material 303 SS
 - Motor type has been designed and tested to achieve the stated number of autoclave cycles
 - Above parameters specified for 25° C ambient temperature
 - Typical shaft material 17-4 PH

Wire	Description
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

