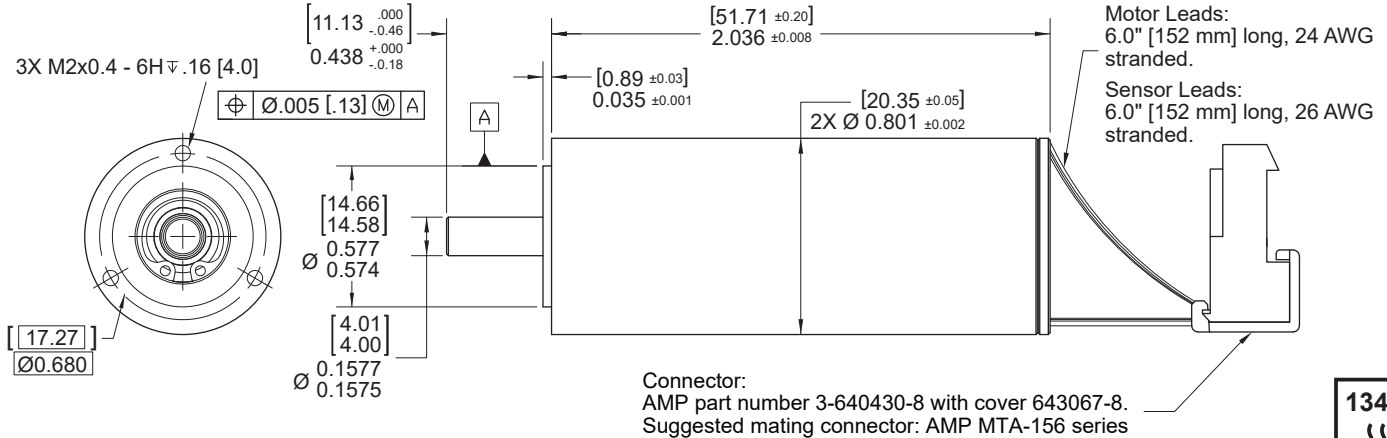


B0810A1 Multi-tool Surgical Motor

Ø 0.8 inch • Brushless Slotted



Dimensions in inches [mm]

Electrical Data	Symbol	B0810A1000	Unit
1 Nominal Voltage	U_N	9	Volt
2 Optimization Direction	-	Symmetrical	-
3 No Load Speed	n_0	26'700	rpm
4 Typical No Load Current	I_0	705	mA
5 Max. Continuous Mechanical Power (@25°C)	P_{max}	12	W
6 Max. Continuous Current	I_{cs}	7.75	A
7 Max. Continuous Torque	T_{cs}	21.4 (3)	mNm (oz-in)
8 Back EMF Constant	k_E	0.337	V/1000 rpm
9 Torque Constant	k_T	3.22 (0.456)	mNm/A (oz-in/A)
10 Motor Regulation	R/k^2	14.08	$10^3/Nms$
11 Peak Torque	T_{pk}	198 (28.1)	mNm (oz-in)
12 Motor Constant	k_M	8.43 (1.2)	mNm/W ^{1/2} (oz-in/W ^{1/2})
13 Line to Line Resistance	R_L	0.146	ohms
14 Inductance Phase to Phase	L	0.027	mH
15 Mechanical Time Constant	τ_m	2.76	ms
16 Electrical Time Constant	τ_e	0.185	ms

General Data			
17 Gearhead Ratio	-	N/A	Ratio
18 Ambient Working Temperature Range	-	-30 to +135 (-22 to +275)	°C (°F)
19 Maximum Winding Temperature	-	155 (311)	°C (°F)
20 Radial Static Force w/o Shaft Support (max)	-	60 (15.8)	N (lbs)
21 Axial Static Force w/o Shaft Support (max)	-	15.8 (3.5)	N (lbs)
22 Thermal Resistance	R_{th}	9.8	°C/W
23 Thermal Time Constant	τ_w	285	s
24 Weight	-	110 (3.88)	g (oz)
25 Rotor Inertia	J_m	19.6 (27.7)	kg-cm ² 10 ⁻⁴ (oz-in-sec ² 10 ⁻⁶)
26 Hall Sensor Electrical Phasing*	-	60	Electrical °
27 Autoclave Cycles	-	1000+	Cycles

*Also available without Hall sensors

Wire	Description
Blue	Phase A
Brown	Phase B
Violet	Phase C
Red	4.5 to 24 Vdc
Yellow	Sensor 1
Orange	Sensor 2
White	Sensor 3
Black	GND

