

Portescap



Athlonix™ 10NS Brush DC Mini Motor

Ultra Compact? ✓

Long battery life? ✓

Light weight? ✓

High torque? ✓

There is no need to make any compromises with the new 10NS Brush DC mini motor. The 10NS delivers unparalleled speed to torque performance, ensuring high power in a small envelope. Lower joule heating provides substantial energy savings making the 10NS ideal for use in applications such as medical and industrial pumps, imaging equipment, land surveying, and security and access systems. This robust motor eliminates the need to choose between compact size and weight or battery life and equipment life cycle!

OUTPUT AND PERFORMANCE

- Ultra Compact- 10mm diameter allows for a reduced application footprint.
- Max continuous torque up to 0.9 mNm
- Output power up to 0.7 watts

KEY FEATURES

- Optimized Athlonix coil provides sustained product performance
- Lower motor regulation factor allows for a longer life-time of motor and equipment
- Lower self heating motors means energy savings
- High continuous torque in a reduced envelope

Instrumentation: Land Surveying Equipment, including Total Station applications



Medical: Medical Imaging, including multi-leaf collimators; Insulin Pumps



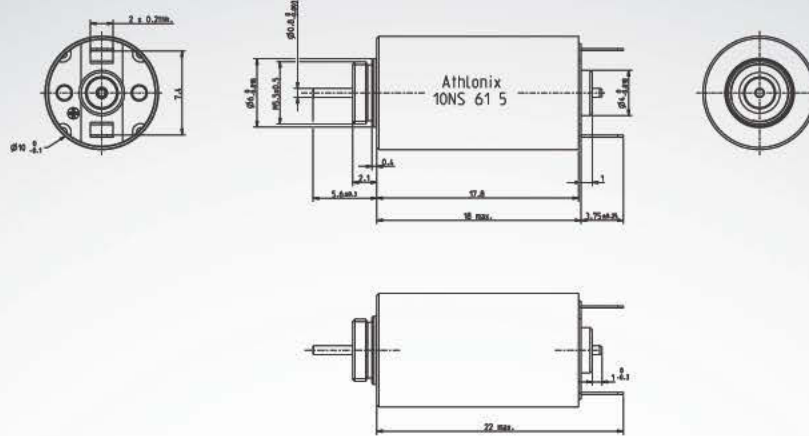
Security & Access: Door Locks, CCTV cameras



Others: Prosthetics, Model Trains, Robotics



MOTION SOLUTIONS THAT MOVE LIFE FORWARD.™



Electrical Data		***	107C	105C	104C	
1	Nominal Voltage	U_N	3	6	9	Volt
2	No-Load Speed	n_0	10,100	10,400	10,700	rpm
3	No-Load Current	I_0	11	4.2	3.6	mA
4	Terminal Resistance	R	10.8	43	98	Ω
5	Output Power	P_{2max}	0.7	0.7	0.7	W
6	Stall Torque	M_H	0.76(0.11)	0.75(0.11)	0.71(0.10)	mNm (oz-in)
7	Efficiency	η_{max}	64	68	64	%
8	Speed up to	n_{2max}	12,000	12,000	12,000	rpm
9	Torque up to	M_{1max}	0.9(0.12)	0.9(0.12)	0.85(0.12)	mNm (oz-in)
10	Current up to (thermal limits)	I_{1max}	0.34	0.17	0.12	Amp
11	Back-EMF Constant	k_E	0.29	0.57	0.81	mV/rpm
12	Torque Constant	k_M	2.72	5.4	7.7	mNm/A
13	Motor Regulation	R/k^2	1500	1500	1600	10%/Nms
14	Friction Torque	T_f	0.02(0.003)	0.02(0.003)	0.02(0.003)	mNm (oz-in)
15	Rotor Inductance	L	6	15	25	μ H
16	Mechanical Time Constant	t_m	7.3	7.3	8.1	ms
17	Rotor Inertia	J	0.05	0.05	0.05	gcm ²
18	Thermal Resistance	Rth1 / Rth2	23/48	23/48	23/48	$^{\circ}$ C/W
19	Thermal Time Constant	tw1/tw2	5/150	5/150	5/150	$^{\circ}$ C/W
20	Operating Temperature Range:	motor	85	85	85	$^{\circ}$ C ($^{\circ}$ F)
		rotor	100			$^{\circ}$ C ($^{\circ}$ F)
21	Shaft Bearings		Sleeve	Ball		
22	Shaft Load max.:					
	at 3000 rpm (2mm from bearing)	-radial		0.5(1.8)		N (oz)
23	Static	-axial		30 (107.9)		N (oz)
	Shaft play:	-radial		<.015 (.0006)		mm (inch)
		-axial			0.100(0.0039)	
24	Weight			16 (0.56)		g (oz)

