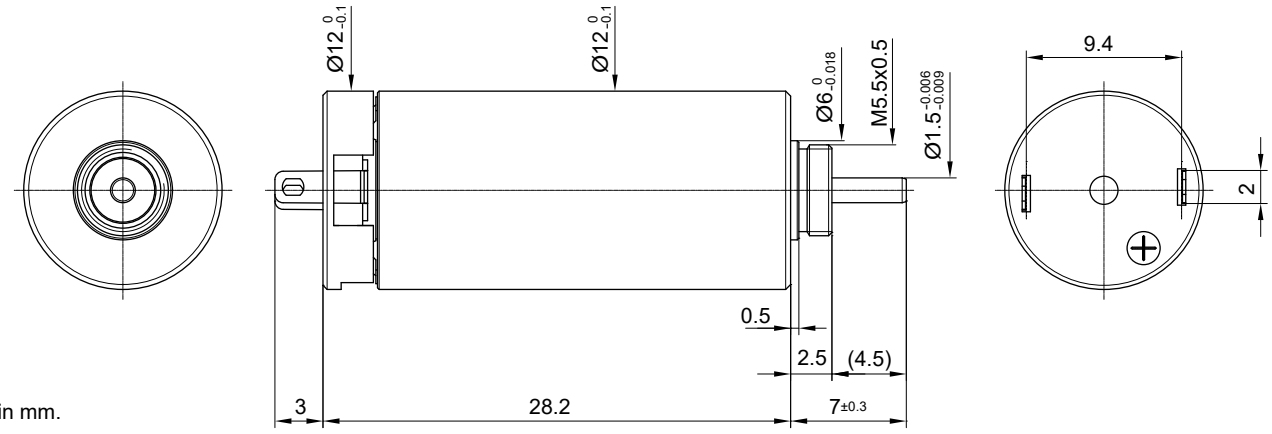
12G88 Athlonix™

Ø 12 mm • Precious metal commutation • 3.5 mNm



Dimensions in mm.

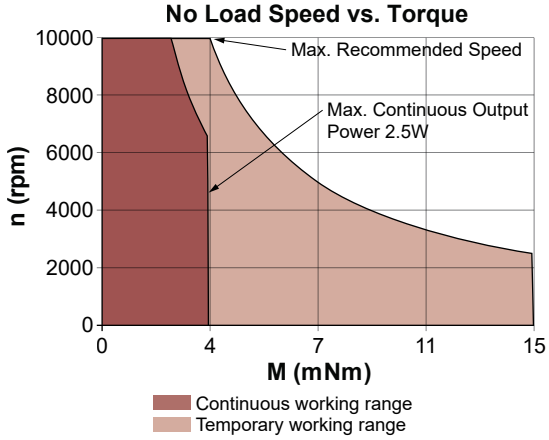
Electrical Data	Symbol	12G88 •••• .1001 215E	12G88 •••• .1001 210E	Unit
1 Nominal Voltage	V	4.5	9	Volt
2 No-Load Speed	n_0	8,670	9,900	rpm
3 No-Load Current	I_0	16.0	9.0	mA
4 Terminal Resistance	R	3.2	12.3	Ω
5 Output Power	$P_{2max.}$	2.7	2.4	W
6 Stall Torque	mNm	6.8 (0.97)	6.3 (0.9)	mNm (oz-in)
7 Efficiency	$h_{max.}$	80	79	%
8 Max Continuous Speed	$n_{e\ max.}$	10,000	10,000	rpm
9 Max Continuous Torque	$M_{e\ max.}$	3.5 (0.50)	3.1 (0.44)	mNm (oz-in)
10 Max Continuous Current	$I_{e\ max.}$	0.73	0.37	A
11 Back-EMF Constant	k_E	0.51	0.90	mV/rpm
12 Torque Constant	k_M	4.90	8.60	mNm/A
13 Motor Regulation	R/k^2	130.0	170.0	10^3/Nms
14 Friction Torque	T_F	0.08 (0.02)	0.08 (0.02)	mNm (oz-in)
15 Rotor Inductance	L	0.08	0.25	mH
16 Mechanical Time Constant	τ_m	3.8	4.3	ms
17 Rotor Inertia	J	0.29	0.26	g-cm²

General Data			
18 Thermal Resistance (rotor/body)	R_{th1}/R_{th2}	10/50	°C/W
19 Thermal Time Constant (rotor/stator)	t_{W1}/t_{W2}	6/300	S
20 Operating Temperature Range:	motor rotor	-30°C to 85°C (-22°F to 185°F) 100°C (212°F)	°C (°F) °C (°F)
21 Shaft Load Max.: (5 mm. from bearing)	 -radial -axial	With sleeve bearings 1.5 (5.4) 150 (539.5)	 N (oz) N (oz)
22 Shaft Play:	-radial -axial	<0.015 (0.0006) 0.300 (0.012)	mm (inch) mm (inch)
23 Weight	g	15 (0.53)	g (oz)
24 Commutation Segment	-	9	segment

Execution Table

Gearbox	Single Shaft	MR2
R10	1003	1005
R13	1002	1004

No Load Speed vs. Torque



▶ Motor shaft rotates CW when seen from motor front face when +ve and -ve supply is given to respective terminals.

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