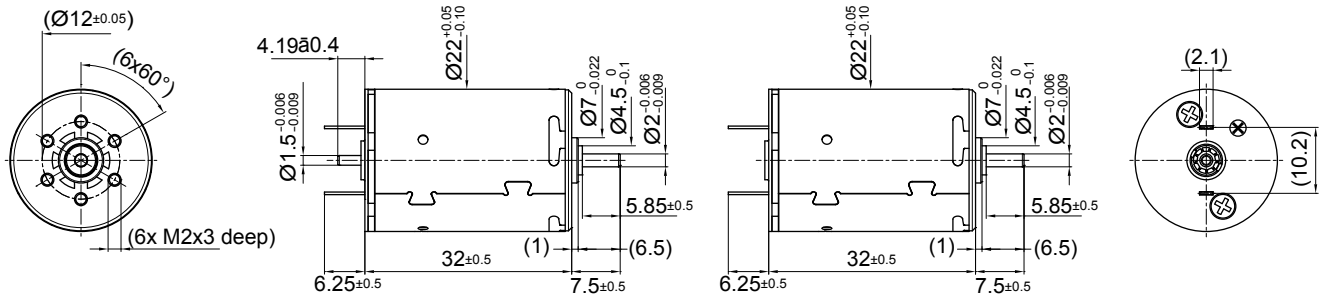


22DCT Athlonix™

Ø 22 mm • Graphite-Copper commutation • 12.74 mNm



Dimensions in mm.

Electrical Data	Symbol	22DCT 32G2 .... *						Unit
		135P	225P	228E	226E	224E	220E	
1 Nominal Voltage	V	3	6	6	9	12	12	Volt
2 No-Load Speed	$n_0$	5475	8490	5856	7045	8106	6014	rpm
3 No-Load Current	$I_0$	87.3	67.1	46.4	37.1	32.0	23.8	mA
4 Terminal Resistance	R	0.5	0.6	1.2	1.7	2.2	4.1	$\Omega$
5 Output Power	$P_{2max}$	3.9	8.4	5.4	7.5	9.0	6.1	W
6 Stall Torque	mNm	29.93 (4.24)	64.83 (9.19)	47.2 (6.69)	64.48 (9.14)	75.72 (10.73)	54.86 (7.77)	mNm (oz-in)
7 Efficiency	$\eta_{max}$	77	84	82	84	85	83	%
8 Max Continuous Speed	$n_{e max}$	10000	10000	10000	10000	10000	10000	rpm
9 Max Continuous Torque	$M_{e max}$	9.65 (1.37)	11.48 (1.63)	11.8 (1.68)	12.61 (1.79)	12.74 (1.81)	12.59 (1.79)	mNm (oz-in)
10 Max Continuous Current	$I_{e max}$	1.96	1.78	1.26	1.08	0.94	0.69	A
11 Back-EMF Constant	$k_E$	0.54	0.70	1.01	1.27	1.47	1.98	mV/rpm
12 Torque Constant	$k_M$	5.16	6.70	9.69	12.12	14.05	18.90	mNm/A
13 Motor Regulation	$R/k^2$	19.00	13.71	12.99	11.44	11.21	11.48	$10^3/Nms$
14 Friction Torque	$T_F$	0.45 (0.07)	0.45 (0.07)	0.45 (0.07)	0.45 (0.07)	0.45 (0.07)	0.45 (0.07)	mNm (oz-in)
15 Mechanical Time Constant	$\tau_m$	9.38	8.66	7.92	7.51	7.28	6.96	ms
16 Rotor Inertia	J	4.90	6.32	6.09	6.57	6.49	6.06	g-cm <sup>2</sup>

General Data				
17 Thermal Resistance (rotor/body)	$R_{th1}/R_{th2}$	6/22		$^{\circ}C/W$
18 Thermal Time Constant (rotor/stator)	$t_{W1}/t_{W2}$	9/550		S
19 Operating Temperature Range:	motor	-30 $^{\circ}C$ to 85 $^{\circ}C$ (-22 $^{\circ}F$ to 185 $^{\circ}F$ )		$^{\circ}C$ ( $^{\circ}F$ )
	rotor			100 $^{\circ}C$ (212 $^{\circ}F$ )
20 Shaft Load Max.: (5 mm. from bearing)	-radial -axial	With sleeve bearings		
		3 (10.79)		N (oz)
		100 (359.6)		N (oz)
21 Shaft Play:	-radial -axial	0.03 (0.0012)		mm (inch)
		0.15 (0.0059)		mm (inch)
22 Weight	g	65 (2.3)		g (oz)
23 Commutation Segment	-	9		segment

\*Also available with ball bearing

Execution Table

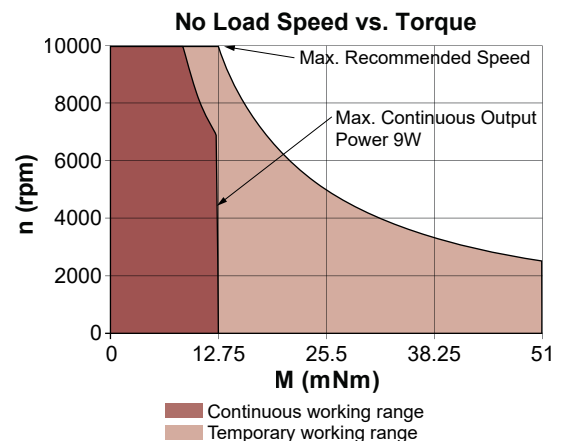
Gearbox	Single Shaft	MR2	E9
R22	4	5	6
K24	7	8	9
K27	1	2	3
R22HT	20	21	22

Note:

G1: standard commutation

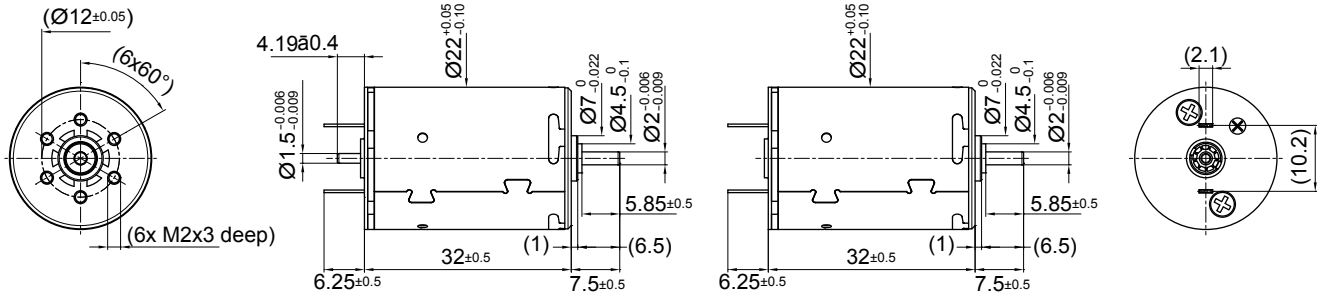
G2: special commutation for double shaft version

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



22DCT Athlonix™

Ø 22 mm • Graphite-Copper commutation • 12.74 mNm



22DCT 32G2 .... .2

22DCT 32G2 .... .1

Dimensions in mm.

Electrical Data	Symbol	22DCT 32G2 .... *					Unit
		216E	215E	212E	211E	209E	
1 Nominal Voltage	V	18	24	24	36	48	Volt
2 No-Load Speed	$n_0$	6637	8538	5569	7405	6461	rpm
3 No-Load Current	$I_0$	17.5	16.9	11.1	9.8	6.4	mA
4 Terminal Resistance	R	8.5	10.0	23.5	30.5	71.8	Ω
5 Output Power	$P_{2max}$	6.4	8.3	4.8	6.9	5.7	W
6 Stall Torque	mNm	54.06 (7.66)	63.66 (9.02)	41.06 (5.82)	53.9 (7.64)	46.52 (6.59)	mNm (oz-in)
7 Efficiency	$h_{max}$	83	84	80	83	81	%
8 Max Continuous Speed	$n_{e max}$	10000	10000	10000	10000	10000	rpm
9 Max Continuous Torque	$M_{e max}$	11.87 (1.69)	11.34 (1.61)	11.27 (1.6)	11.19 (1.59)	11.13 (1.58)	mNm (oz-in)
10 Max Continuous Current	$I_{e max}$	0.48	0.44	0.29	0.25	0.16	A
11 Back-EMF Constant	$k_E$	2.69	2.79	4.26	4.82	7.36	mV/rpm
12 Torque Constant	$k_M$	25.68	26.65	40.71	46.04	70.27	mNm/A
13 Motor Regulation	$R/k^2$	12.86	14.04	14.20	14.39	14.54	10 <sup>3</sup> /Nms
14 Friction Torque	$T_F$	0.45 (0.07)	0.45 (0.07)	0.45 (0.07)	0.45 (0.07)	0.45 (0.07)	mNm (oz-in)
15 Mechanical Time Constant	$\tau_m$	6.78	6.75	6.68	6.66	6.64	ms
16 Rotor Inertia	J	5.27	4.81	4.70	4.63	4.56	g-cm <sup>2</sup>

General Data				
17 Thermal Resistance (rotor/body)	$R_{th1}/R_{th2}$	6/22		°C/W
18 Thermal Time Constant (rotor/stator)	$t_{w1}/t_{w2}$	9/550		S
19 Operating Temperature Range:	motor	-30°C to 85°C (-22°F to 185°F)		°C (°F)
	rotor			100°C (212°F)
20 Shaft Load Max.: (5 mm. from bearing)		With sleeve bearings		
	-radial	3 (10.79)		N (oz)
	-axial	100 (359.6)		N (oz)
21 Shaft Play:	-radial	0.03 (0.0012)		mm (inch)
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Execution Table

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Note:  
G1: standard commutation  
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