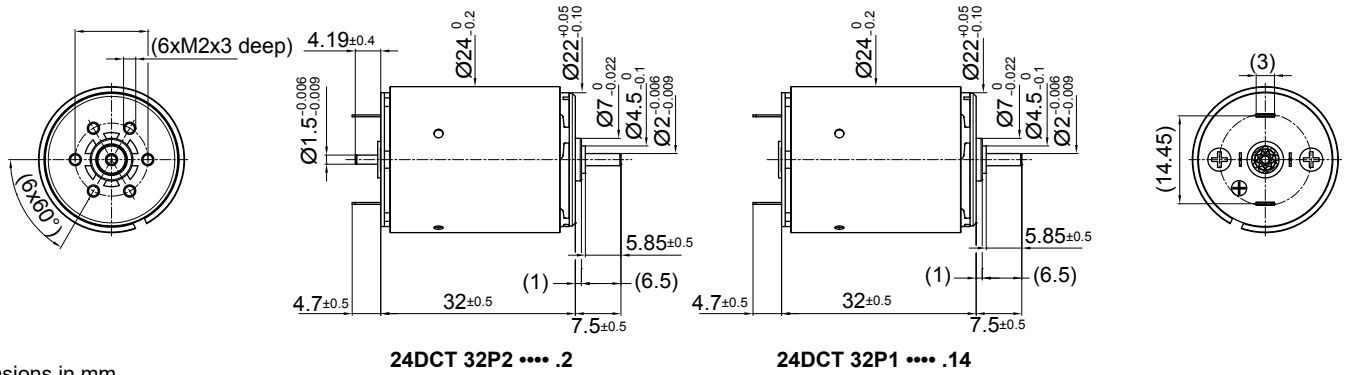


24DCT Athlonix™

Ø 24 mm • Precious metal commutation • 14.97 mNm



Dimensions in mm.

Electrical Data	Symbol	24DCT 32P1/P2 *						Unit
		226P	221P	216P	215P	213P	212P	
1 Nominal Voltage	V	3	6	9	12	15	18	Volt
2 No-Load Speed	n_0	5718	7365	6444	7641	7368	7370	rpm
3 No-Load Current	I_0	44.1	28.4	16.6	14.7	11.4	8.6	mA
4 Terminal Resistance	R	0.4	0.7	2.0	2.5	4.1	5.9	Ω
5 Output Power	P_{2max}	5.3	8.5	7.5	9.4	9.1	9.1	W
6 Stall Torque	mNm	40.6 (5.75)	63.07 (8.94)	60.34 (8.55)	71.54 (10.14)	70.38 (9.97)	70.35 (9.97)	mNm (oz-in)
7 Efficiency	η_{max}	86	89	88	89	89	90	%
8 Max Continuous Speed	$n_{e,max}$	10000	10000	10000	10000	10000	10000	rpm
9 Max Continuous Torque	$M_{e,max}$	12.86 (1.83)	14.15 (2.01)	14.81 (2.1)	14.81 (2.1)	14.96 (2.12)	14.97 (2.13)	mNm (oz-in)
10 Max Continuous Current	$I_{e,max}$	2.62	1.85	1.13	1.00	0.78	0.65	A
11 Back-EMF Constant	k_E	0.52	0.81	1.39	1.57	2.03	2.44	mV/rpm
12 Torque Constant	k_M	4.98	7.75	13.29	14.95	19.38	23.26	mNm/A
13 Motor Regulation	R/k^2	14.75	12.23	11.18	11.18	10.96	10.97	$10^3/Nms$
14 Friction Torque	T_F	0.22 (0.04)	0.22 (0.04)	0.22 (0.04)	0.22 (0.04)	0.22 (0.04)	0.22 (0.04)	mNm (oz-in)
15 Mechanical Time Constant	τ_m	6.97	5.87	5.34	5.28	5.20	5.16	ms
16 Rotor Inertia	J	4.73	4.80	4.78	4.72	4.74	4.70	g-cm ²

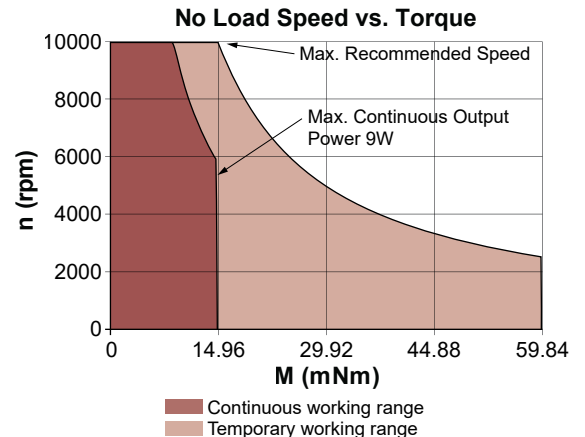
General Data				
18 Thermal Resistance (rotor/body)	R_{th1}/R_{th2}	6/22		°C/W
19 Thermal Time Constant (rotor/stator)	t_{W1}/t_{W2}	9/550		S
20 Operating Temperature Range:	motor rotor	-30°C to 85°C (-22°F to 185°F) 100°C (212°F)		°C (°F) °C (°F)
21 Shaft Load Max.: (5 mm. from bearing)	-radial -axial	With sleeve bearings 3 (10.79) 100 (359.6)		N (oz) N (oz)
22 Shaft Play:	-radial -axial	0.03 (0.0012) 0.15 (0.0059)		mm (inch) mm (inch)
23 Weight	g	72 (2.54)		g (oz)

*Also available with ball bearing

Execution Table

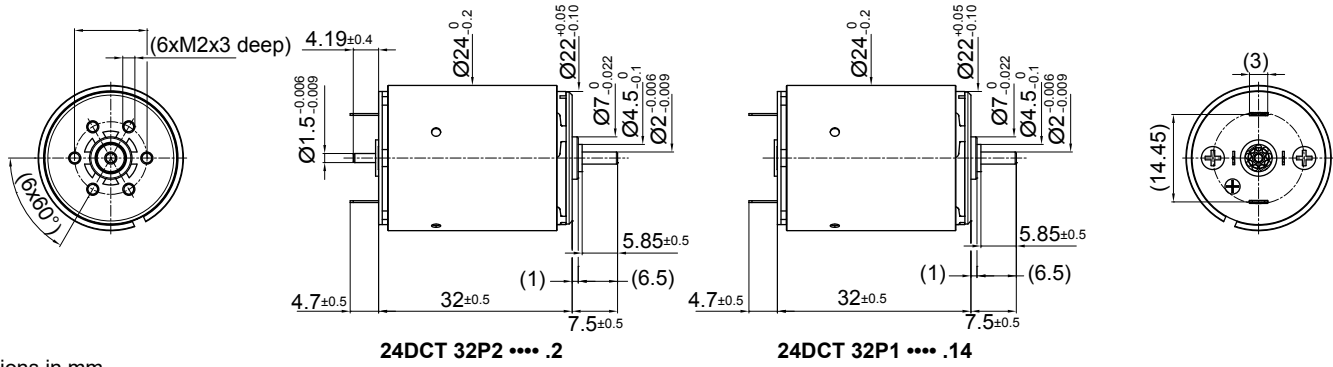
Gearbox	Single Shaft	MR2	E9
R22	4	5	6
K24	7	8	9
K27	1	2	3
R22HT	11	Upon Request	Upon Request

Note:
P1: standard commutation
P2: special commutation for double shaft version



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Dimensions in mm.

Electrical Data	Symbol	24DCT 32P1/P2 *					Unit
		215E	214E	213E	212E	210E	
1 Nominal Voltage	V	21	24	30	36	48	Volt
2 No-Load Speed	n_0	6980	7076	7837	7837	7631	rpm
3 No-Load Current	I_0	7.7	6.8	6.0	5.0	3.7	mA
4 Terminal Resistance	R	9.9	12.8	16.2	23.4	46.1	Ω
5 Output Power	P_{2max}	8.0	8.0	9.2	9.2	8.6	W
6 Stall Torque	mNm	60.64 (8.59)	60.51 (8.57)	67.38 (9.55)	66.95 (9.49)	62.1 (8.8)	mNm (oz-in)
7 Efficiency	h_{max}	88	88	89	89	88	%
8 Max Continuous Speed	$n_{e max}$	10000	10000	10000	10000	10000	rpm
9 Max Continuous Torque	$M_{e max}$	14.25 (2.02)	14.14 (2.01)	14.18 (2.01)	14.13 (2.01)	13.79 (1.96)	mNm (oz-in)
10 Max Continuous Current	$I_{e max}$	0.50	0.44	0.39	0.32	0.23	A
11 Back-EMF Constant	k_E	3.00	3.38	3.82	4.58	6.27	mV/rpm
12 Torque Constant	k_M	28.63	32.27	36.44	43.72	59.86	mNm/A
13 Motor Regulation	R/k^2	12.05	12.24	12.18	12.26	12.87	10 ³ /Nms
14 Friction Torque	T_F	0.22 (0.04)	0.22 (0.04)	0.22 (0.04)	0.22 (0.04)	0.22 (0.04)	mNm (oz-in)
15 Mechanical Time Constant	τ_m	5.80	5.78	5.77	5.76	5.75	ms
16 Rotor Inertia	J	4.81	4.72	4.74	4.70	4.47	g-cm ²

General Data				
18 Thermal Resistance (rotor/body)	R_{th1}/R_{th2}	6/22		°C/W
19 Thermal Time Constant (rotor/stator)	t_{w1}/t_{w2}	9/550		S
20 Operating Temperature Range:	motor	-30°C to 85°C (-22°F to 185°F)		°C (°F)
	rotor			100°C (212°F)
21 Shaft Load Max.: (5 mm. from bearing)	-radial	With sleeve bearings 3 (10.79)		N (oz)
	-axial	100 (359.6)		N (oz)
22 Shaft Play:	-radial	0.03 (0.0012)		mm (inch)
	-axial	0.15 (0.0059)		mm (inch)
23 Weight	g	72 (2.54)		g (oz)

*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	11	Upon Request	Upon Request

Note:
P1: standard commutation
P2: special commutation for double shaft version

