



16DCP - Optimized performance ideal for a broad spectrum of applications.

- ✓ Cost effective motion solution
- ✓ Higher continuous torque
- ✓ Compact size
- ✓ Higher stall torque

Our DCP family of Athlonix Brush DC mini motors introduces the new 16DCP. 16DCP motors offer more price-to-performance options with a maximum continuous torque up to 2.63 mNm and Stall torque upto 4.06 mNm. Athlonix 16DCP motors are available in 2 variations, precious metal commutation and graphite commutation, both featuring an Alnico magnet inside. These motors are ideally suited for use in a broad spectrum of applications.

OUTPUT AND PERFORMANCE

- Max continuous torque up to 2.63 mNm
- Output power up to 1.4W

KEY FEATURES

- High continuous torque enhances power density of the overall composite
- Component standardization and design modularity ensures quick customization capability for samples across various applications
- Graphite commutation also available, with a unique constant force spring design ensuring consistent performance throughout the life of the motor
- Option of having REE coil which ensures extended life of the motor and provides an environment of intrinsic safety especially at high speed conditions

Medical: Infusion pumps, imaging machines, medical analyzers



Security & Access: Door locks, cameras, alarm systems

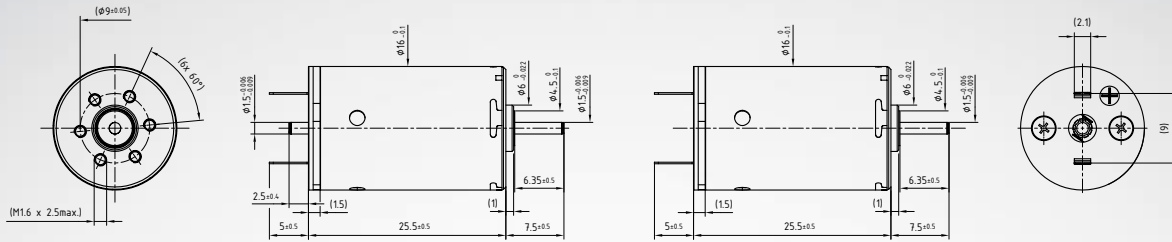


Other: Power hand tools



Others: Rotary tattoo machines





Dimensions in mm

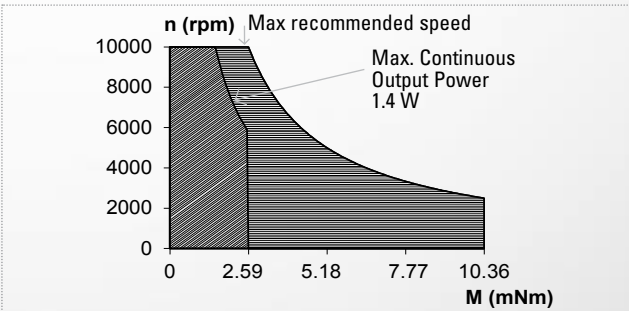
16DCP 26P1/P2 ** ***

Electrical Data	****	211P	208P	209E	205P	
1 Nominal Voltage	V	3	6	9	12	Volt
2 No-Load Speed	n_o	7727	8044	7904	7658	rpm
3 No-Load Current	I_o	19.4	10.1	6.6	4.8	mA
4 Terminal Resistance	R	3.3	12.1	30.7	51.4	Ω
5 Output Power	P_{2max}	1.4	1.4	1.3	1.4	W
6 Stall Torque	mNm	3.25 (0.47)	3.4 (0.49)	3.04 (0.44)	3.35 (0.48)	mNm (oz-in)
7 Efficiency	η_{max}	73	74	72	73	%
8 Max Continuous Speed	$n_{e,max}$	10000	10000	10000	10000	rpm
9 Max Continuous Torque	$M_{e,max}$	2.58 (0.37)	2.59 (0.37)	2.46 (0.35)	2.63 (0.38)	mNm (oz-in)
10 Max Continuous Current	$I_{e,max}$	0.73	0.38	0.24	0.18	A
11 Back-EMF Constant	k_E	0.38	0.73	1.11	1.53	mV/rpm
12 Torque Constant	k_M	3.63	6.98	10.63	14.65	mNm/A
13 Motor Regulation	R/k^2	248.57	247.65	272.02	239.14	$10^3/Nms$
14 Friction Torque	T_F	0.063 (0.01)	0.063 (0.01)	0.063 (0.01)	0.063 (0.01)	mNm (oz-in)
15 Mechanical Time Constant	τ_m	25.64	25.06	28.22	24.90	ms
16 Rotor Inertia	J	1.03	1.01	1.04	1.04	g.cm ²

General Data

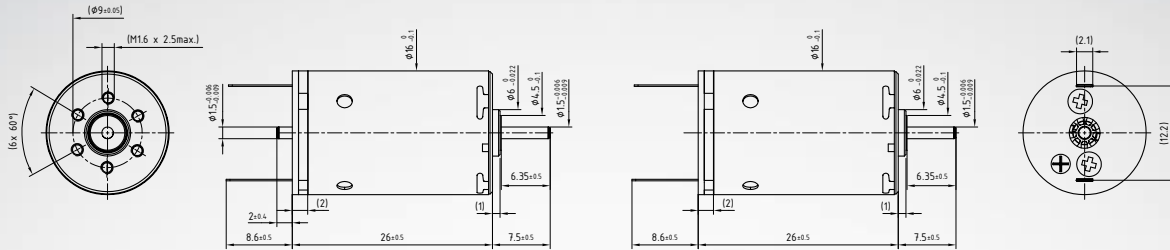
17 Thermal Resistance (rotor/body)	R_{th1} / R_{th2}	7/35				$^{\circ}C/W$
18 Thermal Time Constant (rotor/stator)	τ_{w1} / τ_{w2}	-30 $^{\circ}C$ to 85 $^{\circ}C$ (-22 $^{\circ}F$ to 185 $^{\circ}F$)				S
19 Operating Temperature Range:	τ_{w1} / τ_{w2}	100 $^{\circ}C$ (212 $^{\circ}F$)				$^{\circ}C$ ($^{\circ}F$)
	rotor	With sleeve bearings				$^{\circ}C$ ($^{\circ}F$)
20 Shaft Load Max:		1.5 (5.39)				
(5mm from bearing)	-radial	100 (359.6)				N (oz)
	-axial	0.03 (0.0012)				N (oz)
21 Shaft Play:	-radial	0.15 (0.0059)				mm (inch)
	-axial	23 (0.82)				mm (inch)
22 Weight	g					g (oz)

Execution Table				
Gearbox	Single Shaft	MR2	M Sense B	
R16	1	2	Upon Request	
B16	3	4	Upon Request	
BA16	3	4	Upon Request	



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

— Continuous Working Range
 - - Intermittent Working Range

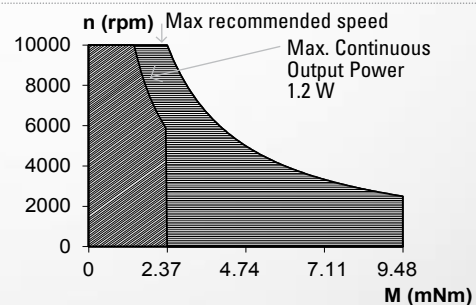


Dimensions in mm

16DCP 26G1/G2 **** . *

Electrical Data	****	211P	208P	209E	205P	
1 Nominal Voltage	V	3	6	9	12	Volt
2 No-Load Speed	n_o	7210	7543	7358	7179	rpm
3 No-Load Current	I_o	77.2	40.1	26.3	19.1	mA
4 Terminal Resistance	R	3.4	12.2	30.8	51.5	Ω
5 Output Power	P_{2max}	1.2	1.2	1.2	1.3	W
6 Stall Torque	mNm	2.94 (0.42)	3.16 (0.45)	2.82 (0.4)	3.13 (0.45)	mNm (oz-in)
7 Efficiency	η_{max}	50	51	49	51	%
8 Max Continuous Speed	$n_{e,max}$	10000	10000	10000	10000	rpm
9 Max Continuous Torque	$M_{e,max}$	2.33 (0.33)	2.36 (0.34)	2.25 (0.32)	2.42 (0.35)	mNm (oz-in)
10 Max Continuous Current	$I_{e,max}$	0.72	0.38	0.24	0.18	A
11 Back-EMF Constant	k_E	0.38	0.73	1.11	1.53	mV/rpm
12 Torque Constant	k_M	3.63	6.98	10.63	14.65	mNm/A
13 Motor Regulation	R/k^2	256.16	249.71	272.91	239.61	$10^3/Nms$
14 Friction Torque	T_F	0.25 (0.04)	0.25 (0.04)	0.25 (0.04)	0.25 (0.04)	mNm (oz-in)
15 Mechanical Time Constant	τ_m	26.42	25.27	28.31	28.31	ms
16 Rotor Inertia	J	1.03	1.01	1.04	1.04	g.cm ²
General Data						
17 Thermal Resistance (rotor/body)	R_{th1} / R_{th2}		7/35			°C/W
18 Thermal Time Constant (rotor/stator)	τ_{w1} / τ_{w2}		6/380			S
19 Operating Temperature Range:	τ_{w1} / τ_{w2}		-30°C to 85°C (-22°F to 185°F)			°C (°F)
	rotor		100°C (212°F)			°C (°F)
20 Shaft Load Max: (5mm from bearing)			With sleeve bearings			
	-radial		1.5 (5.39)			N (oz)
	-axial		100 (359.6)			N (oz)
21 Shaft Play:	-radial		0.03 (0.0012)			mm (inch)
	-axial		0.15 (0.0059)			mm (inch)
22 Weight	g		23 (0.82)			g (oz)

Execution Table				
Gearbox	Single Shaft	MR2	M Sense B	
R16	1	2	Upon Request	
B16	3	4	Upon Request	
BA16	3	4	Upon Request	



Note:

G1 : standard commutation

G2 : special commutation for double shaft version

— Continuous Working Range
 — Intermittent Working Range

AthlonixTM

Learn More.

Visit us at www.athlonix.com