

BDCL Series

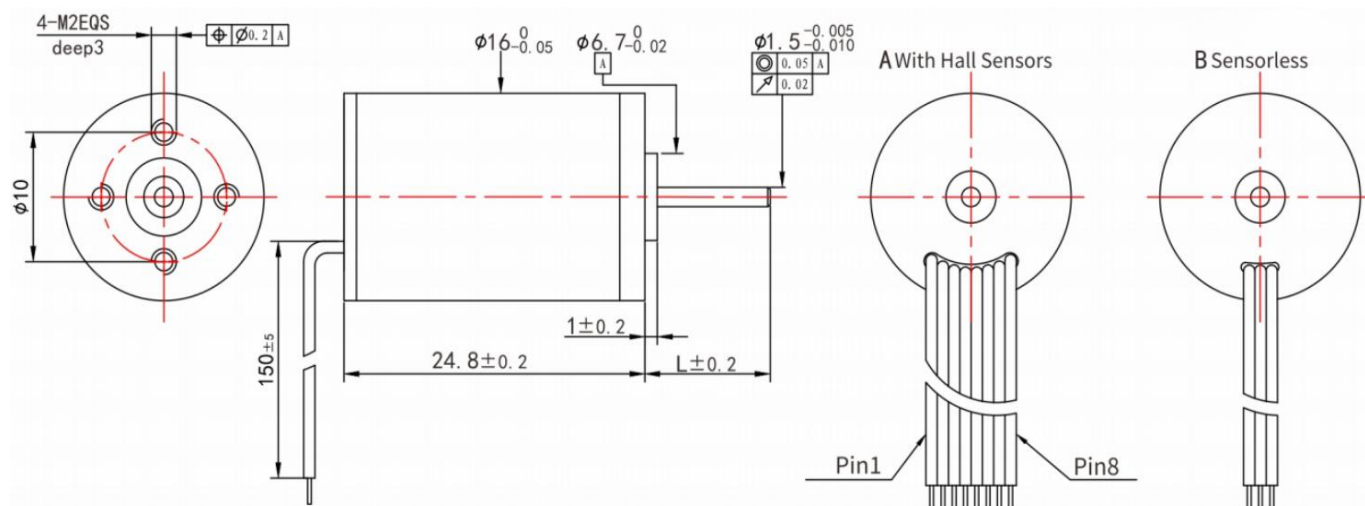
Coreless Brushless DC Motor



BDCL1624 Motor Data

1-3W

Motor Model	Unit	BDCL1624-01	BDCL1624-02	BDCL1624-03
Value at Rated voltage				
At Nominal				
1. Nominal voltage	V/DC	12	18	24
2. Nominal speed	rpm	11440	7900	9875
3. Nominal current	A	0.26	0.14	0.13
4. Nominal torque	mNm	1.54	1.78	1.69
Free Load				
5. No-load speed	rpm	14300	10000	12500
6. No-load current	mA	60	34	32
At Max. Efficiency				
7. Max. efficiency	%	58.4	56.8	55.8
8. Speed	rpm	11583	8000	10000
9. Current	A	0.254	0.139	0.126
10. Torque	mNm	1.5	1.70	1.61
At Max. Output power				
11. Max.output power	W	2.9	2.2	2.6
12. Speed	rpm	7150	5000	6250
13. Current	A	0.6	0.3	0.3
14. Torque	mNm	3.9	4.25	4.02
At Stall				
15. Stall current	A	1.08	0.56	0.50
16. Stall torque	mNm	7.7	8.49	8.03
Motor Constants				
17. Terminal resistance	Ω	11.11	32.14	48.00
18. Terminal inductance	mH	0.587	1.758	2.510
19. Torque constant	mNm/A	7.57	16.15	17.16
20. Speed constant	rpm/V	1192	556	521
21. Speed/torque constant	rpm/mNm	1852.4	1177.5	1556.4
22. Mechanical time constant	ms	7.03	4.47	5.91
23. Rotor inertia	gcm ²	0.36	0.36	0.36
24. Number of pole pairs		1		
25. Number of phase		3		
26. Weight of motor	g	25		
27. Typical noise level	dB	≤45		

Motor Drawing (mm)**Φ16*L24mm****Technical Specifications**

1. Axial play: 0.05–0.15 mm
 2. Sintered metal bearing load limits:
 - Max. axial load (dynamic): 0.8 N
 - Max. radial load (5 mm from flange): 8 N
 - Max. press-fit force (static): 10 N
 3. Ball bearing radial play: ≤ 0.015 mm
 4. Ambient temperature range: -20 to +80°C
 5. Relative humidity: <90% RH at 25°C
 6. Highest rotor temperature: 85°C
 7. Bearing options: ball bearing / sleeve bearing
- Values listed in the table are nominal*

Motor terminal definition

1. Without sensor:
 - 1 – Motor Phase A • 2 – Motor Phase B
 - 3 – Motor Phase C
2. Cables, connectors, and wire sequence can be customized.
3. The information above is for reference only. The final output terminal configuration is subject to the actual product.

Optional Parts

1. Planetary gearbox
2. Magnetolectric encoder

