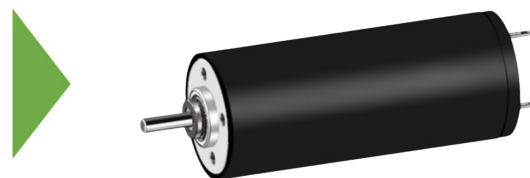


BDCM Series

Coreless Precious Metal Brushed DC Motor

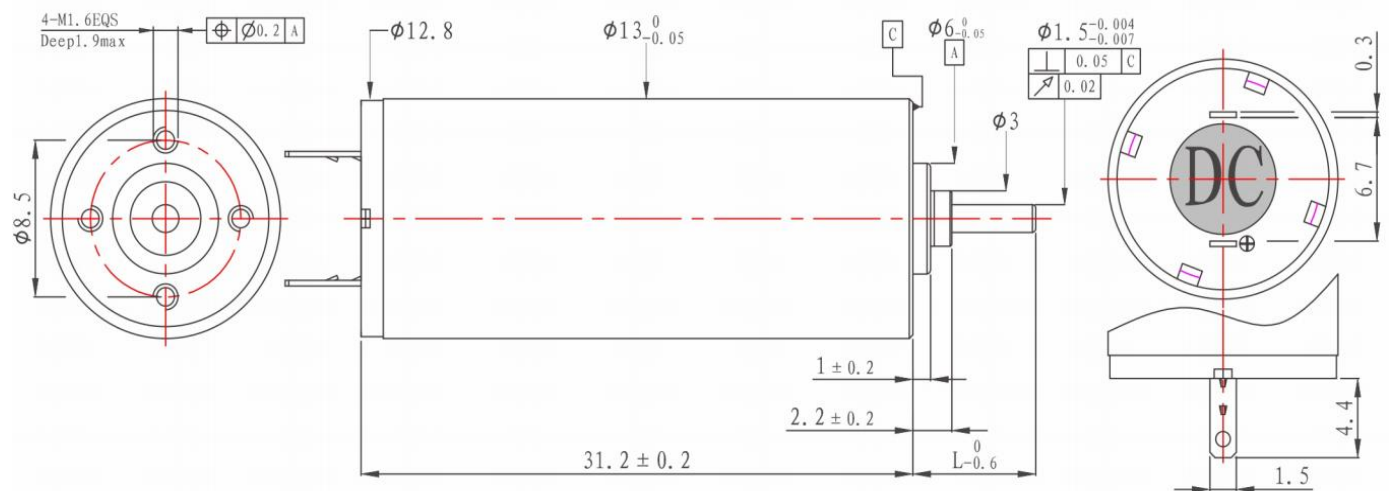


BDCM1331 Motor Data

2.5-4.5W

Motor Model	Unit	BDCM1331-01	BDCM1331-02	BDCM1331-03	BDCM1331-04
Value at Rated voltage					
At Nominal					
1. Nominal voltage	V/DC	3	6	12	24
2. Nominal speed	rpm	9600	8800	9280	12960
3. Nominal current	A	0.9	0.5	0.2	0.4
4. Nominal torque	mNm	2.1	2.4	2.0	4.1
Free Load					
5. No-load speed	rpm	12000	11000	11600	16200
6. No-load current	mA	45.0	30.0	18.0	12.0
At Max. Efficiency					
7. Max. efficiency	%	80.8	75.8	69.4	70.5
8. Speed	rpm	10920	9735	9918	13932
9. Current	A	0.4	0.3	0.2	0.3
10. Torque	mNm	0.9	1.4	1.5	3.7
At Max. Output power					
11. Max.output power	W	3.2	3.5	3.1	11.1
12. Speed	rpm	6000	5500	5800	8100
13. Current	A	2.22	1.22	0.56	0.77
14. Torque	mNm	5.1	6.0	5.0	10.5
At Stall					
15. Stall current	A	4.40	2.40	1.08	1.57
16. Stall torque	mNm	10.3	12.1	10.1	21.0
Motor Constants					
17. Terminal resistance	Ω	0.68	2.50	11.11	12.31
18. Terminal inductance	mH	0.05	0.12	0.27	0.75
19. Torque constant	mNm/A	2.36	5.12	9.60	13.78
20. Speed constant	rpm/V	4000.0	1833.3	966.7	675.0
21. Speed/torque constant	rpm/mNm	1166.1	910.0	1150.3	618.5
22. Mechanical time constant	ms	8.0	6.2	7.9	4.2
23. Rotor inertia	gcm ²	0.65	0.65	0.65	0.65
24. Number of pole pairs		1			
25. Number of phase		5			
26. Weight of motor	g	20			
27. Typical noise level	dB	≤38			

Φ13*L31mm



1. Axial play: 0.05-0.15 mm
2. Sintered metal bearing load limits:
 - Max. axial load (dynamic): 0.3 N
 - Max. radial load (5 mm from flange): 1.2 N
 - Max. press-fit force (static): 20 N
3. Radial play: ≤ 0.012 mm
4. Ambient temperature range: -20 to +80°C
5. Relative humidity: $<90\%$ RH at 25°C
6. Highest rotor temperature: 85°C

1. + Vcc
2. - GND

1. Planetary gearbox

