

BDCM Series

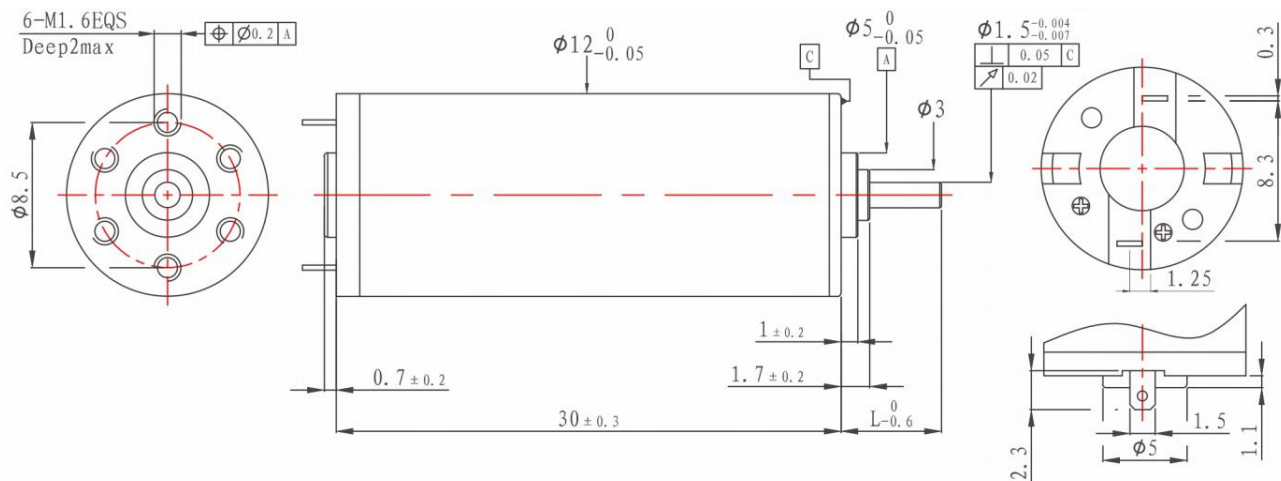
Coreless Precious Metal Brushed DC Motor



BDCM1230 Motor Data

1-3W

Motor Model	Unit	BDCM1230-01	BDCM1230-02	BDCM1230-03	BDCM1230-04
Value at Rated voltage					
At Nominal					
1. Nominal voltage	V/DC	6	12	15	24
2. Nominal speed	rpm	10800	9120	10800	12000
3. Nominal current	A	0.4	0.2	0.2	0.2
4. Nominal torque	mNm	1.4	1.5	1.8	2.7
Free Load					
5. No-load speed	rpm	13500	11400	13500	15000
6. No-load current	mA	22.0	16.0	15.0	8.0
At Max. Efficiency					
7. Max. efficiency	%	78.5	77.7	79.9	80.0
8. Speed	rpm	12150	10203	12218	13575
9. Current	A	0.189	0.092	0.089	0.090
10. Torque	mNm	0.7	0.8	0.9	1.3
At Max. Output power					
11. Max.output power	W	2.5	2.3	3.3	5.3
12. Speed	rpm	6750	5700	6750	7500
13. Current	A	0.9	0.4	0.5	0.5
14. Torque	mNm	3.5	3.8	4.6	6.7
At Stall					
15. Stall current	A	1.69	0.78	0.89	0.90
16. Stall torque	mNm	7.0	7.6	9.2	13.4
Motor Constants					
17. Terminal resistance	Ω	3.55	15.38	16.85	26.67
18. Terminal inductance	mH	0.25	0.59	0.65	0.98
19. Torque constant	mNm/A	4.19	9.91	10.49	15.11
20. Speed constant	rpm/V	2250.0	950.0	900.0	625.0
21. Speed/torque constant	rpm/mNm	1932.1	1495.9	1462.3	1115.5
22. Mechanical time constant	ms	5.7	4.3	4.5	3.2
23. Rotor inertia	gcm ²	0.28	0.27	0.29	0.27
24. Number of pole pairs		1			
25. Number of phase		5			
26. Weight of motor	g	17			
27. Typical noise level	dB	≤38			

Motor Drawing (mm)**Φ12*L30mm****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): 0.5 N
 - Max. press-fit force (static): 35 N
3. Radial play: ≤ 0.012 mm
4. Ambient temperature range: -20 to +80°C
5. Relative humidity: <90% RH (25°C)
6. Highest rotor temperature: 85°C

Values listed in the table are nominal.

Motor terminal definition

1. + Vcc
2. - GND

Optional Parts

1. Planetary gearbox

