

BDCM Series

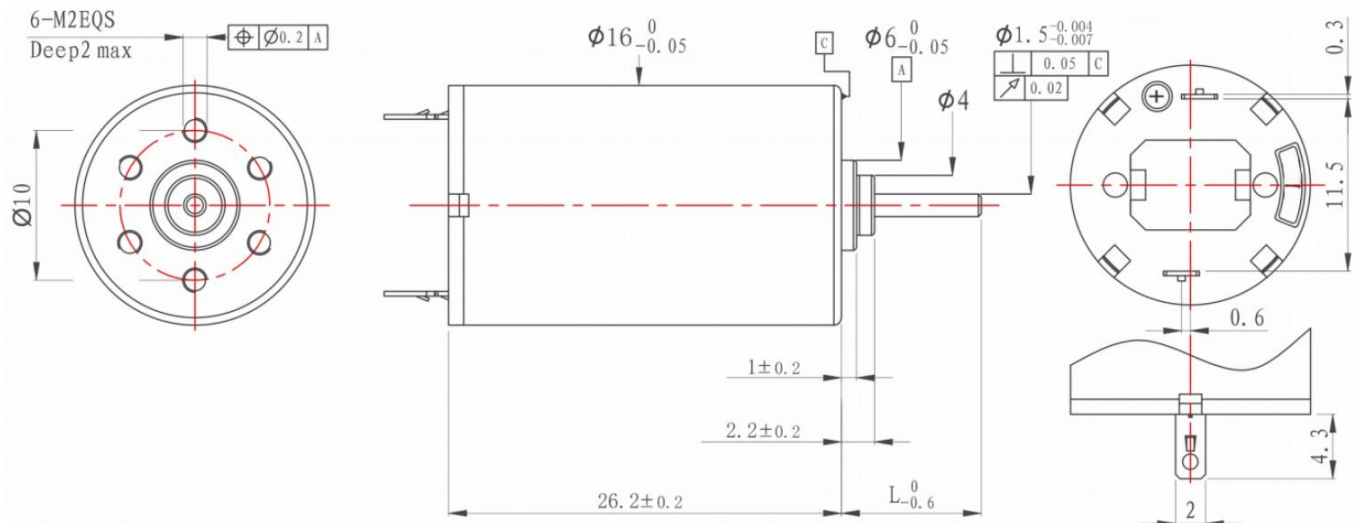
Coreless Precious Metal Brushed DC Motor



BDCM1625 Motor Data

4-8W

Motor Model	Unit	BDCM1625-01	BDCM1625-02	BDCM1625-03	BDCM1625-04
Value at Rated voltage					
At Nominal					
1. Nominal voltage	V/DC	3.7	6	12	24
2. Nominal speed	rpm	6800	7840	8640	8800
3. Nominal current	A	0.67	0.50	0.27	0.15
4. Nominal torque	mNm	2.5	2.8	2.7	3.0
Free Load					
5. No-load speed	rpm	8500	9800	10800	11000
6. No-load current	mA	50	20	15	6
At Max. Efficiency					
7. Max. efficiency	%	76.4	82.7	79.7	82.8
8. Speed	rpm	7565	8967	9774	10065
9. Current	A	0.39	0.22	0.14	0.07
10. Torque	mNm	1.39	1.19	1.28	1.29
At Max. Output power					
11. Max.output power	W	2.82	3.59	3.81	4.37
12. Speed	rpm	4250	4900	5400	5500
13. Current	A	1.60	1.23	0.66	0.37
14. Torque	mNm	6.34	6.99	6.74	7.58
At Stall					
15. Stall current	A	3.15	2.43	1.30	0.74
16. Stall torque	mNm	12.7	14.0	13.5	15.2
Motor Constants					
17. Terminal resistance	Ω	1.17	2.47	9.23	32.43
18. Terminal inductance	mH	0.105	0.210	0.510	1.320
19. Torque constant	mNm/A	4.09	5.80	10.49	20.67
20. Speed constant	rpm/V	2297.3	1633.3	900.0	458.3
21. Speed/torque constant	rpm/mNm	670.3	701.3	801.4	725.2
22. Mechanical time constant	ms	6.3	6.6	7.5	6.8
23. Rotor inertia	gcm ²	0.90	0.90	0.90	0.90
24. Number of pole pairs		1			
25. Number of phase		5			
26. Weight of motor	g	24			
27. Typical noise level	dB	≤40			

Motor Drawing (mm)**Φ16*L25mm****Technical Specifications**

1. Axial play: 0.05–0.15 mm
2. Sintered metal bearing load limits:
 - Max. axial load (dynamic): 0.5 N
 - Max. radial load (5 mm from flange): 1.5 N
3. Radial play: ≤ 0.012 mm
4. Ambient temperature range: -20 to $+80^\circ\text{C}$
5. Relative humidity: $<90\%$ RH at 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
2. Photoelectric encoder/magnetoelectric encoder

