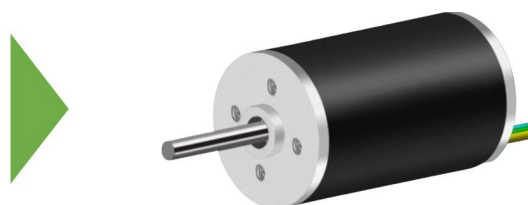


BDCL Series

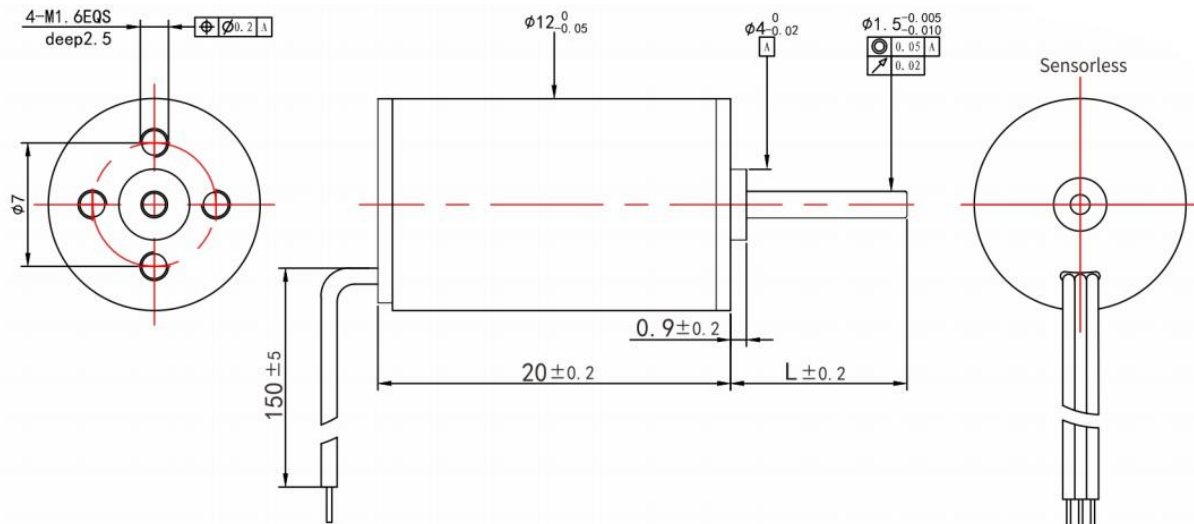
Coreless Brushless DC Motor



BDCL1220 Motor Data

1-1.5W

Motor Model	Unit	BDCL1220-01	BDCL1220-02	BDCL1220-03
Value at Rated voltage				
At Nominal				
1. Nominal voltage	V/DC	5	7.4	12
2. Nominal speed	rpm	21250	21080	21420
3. Nominal current	A	0.28	0.17	0.11
4. Nominal torque	mNm	0.32	0.33	0.34
Free Load				
5. No-load speed	rpm	25000	24800	25200
6. No-load current	mA	100	50	30
At Max. Efficiency				
7. Max. efficiency	%	52.2	57.8	59.1
8. Speed	rpm	17875	17732	20412
9. Current	A	0.442	0.284	0.131
10. Torque	mNm	0.6	0.6	0.43
At Max. Output power				
11. Max.output power	W	1.4	1.4	1.5
12. Speed	rpm	12500	12400	12600
13. Current	A	0.7	0.5	0.3
14. Torque	mNm	1.1	1.1	1.14
At Stall				
15. Stall current	A	1.30	0.87	0.56
16. Stall torque	mNm	2.1	2.2	2.28
Motor Constants				
17. Terminal resistance	Ω	3.85	8.51	21.43
18. Terminal inductance	mH	0.188	0.258	0.566
19. Torque constant	mNm/A	1.76	2.69	4.30
20. Speed constant	rpm/V	5000	3351	2100
21. Speed/torque constant	rpm/mNm	11817	11261	11048
22. Mechanical time constant	ms	12.67	10.26	10.07
23. Rotor inertia	gcm ²	0.10	0.09	0.09
24. Number of pole pairs		1		
25. Number of phase		3		
26. Weight of motor	g	9.5		
27. Typical noise level	dB	≤50		

Motor Drawing (mm)**Φ12*L20mm****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. Radial play: ≤ 0.015 mm
4. Ambient temperature range: -20 to +80°C
5. Relative humidity: <90% RH (25°C)
6. Maximum rotor temperature: 85°C

Motor terminal definition

1. Motor wire sequence(Without sensor):

- 1 — Motor Phase A
- 2 — Motor Phase B
- 3 — Motor Phase C

2. Customization notice:

Cables, connectors, and wire sequence can be customized. The information above is for reference only; the final output terminal is subject to the actual product.

Optional Parts

1. Planetary gearbox

