

BDCL Series

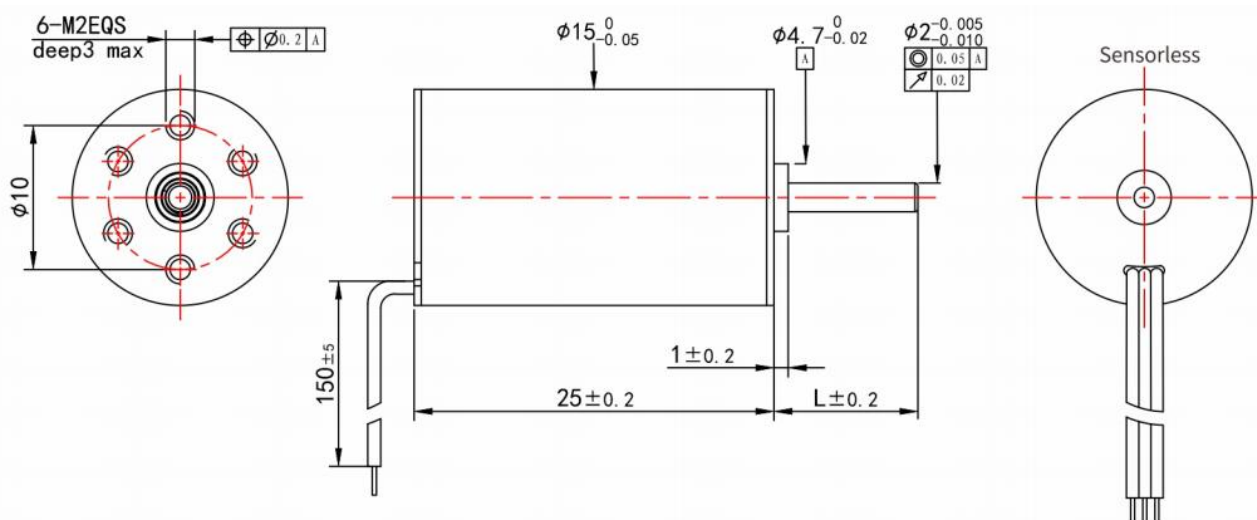
Coreless Brushless DC Motor



BDCL1525 Motor Data

25-65W

Motor Model	Unit	BDCL1525-01	BDCL1525-02	BDCL1525-03	BDCL1525-04
Value at Rated voltage					
At Nominal					
1. Nominal voltage	V/DC	9	12	18	24
2. Nominal speed	rpm	48870	60450	57468	54300
3. Nominal current	A	2.71	1.86	1.68	1.15
4. Nominal torque	mNm	3.49	2.72	3.71	3.47
Free Load					
5. No-load speed	rpm	54000	65000	63500	60000
6. No-load current	mA	480	300	280	220
At Max. Efficiency					
7. Max. efficiency	%	73.7	78.3	74.5	72.5
8. Speed	rpm	47250	58175	55880	52200
9. Current	A	3.420	2.642	2.046	1.491
10. Torque	mNm	4.6	4.07	4.69	4.75
At Max. Output power					
11. Max.output power	W	51.9	66.0	65.0	57.4
12. Speed	rpm	27000	32500	31750	30000
13. Current	A	12.2	11.5	7.6	5.1
14. Torque	mNm	18.3	19.40	19.55	18.27
At Stall					
15. Stall current	A	24.00	22.60	15.00	10.00
16. Stall torque	mNm	36.7	38.79	39.10	36.54
Motor Constants					
17. Terminal resistance	Ω	0.38	0.53	1.20	2.40
18. Terminal inductance	mH	0.011	0.017	0.038	0.074
19. Torque constant	mNm/A	1.56	1.74	2.66	3.74
20. Speed constant	rpm/V	6000	5417	3528	2500
21. Speed/torque constant	rpm/mNm	1472.0	1675.6	1624.0	1642.3
22. Mechanical time constant	ms	3.15	3.59	3.48	3.52
23. Rotor inertia	gcm ²	0.20	0.20	0.20	0.20
24. Number of pole pairs		1			
25. Number of phase		3			
26. Weight of motor	g	27			
27. Typical noise level	dB	≤55			

Motor Drawing (mm)**Φ15*L25mm****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 $+80^\circ \text{C}$
5. Relative humidity: $<90\% \text{ RH}$ at 25°C
6. Highest rotor temperature: 85°C
7. Bearing option: Ball bearing / Sleeve bearing
8. Note: Values listed in the table are nominal.

Values listed in the table are nominal

Motor terminal definition

1. Sensor type: Without sensor
2. Motor phase definition:

Pin 1: Motor Phase A

Pin 2: Motor Phase B

Pin 3: Motor Phase C

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

Optional Parts

1. Planetary gearbox

