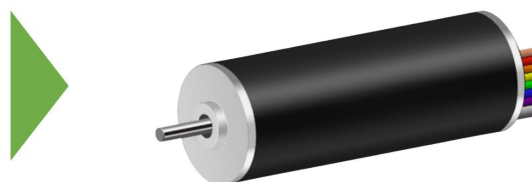


BDCL Series

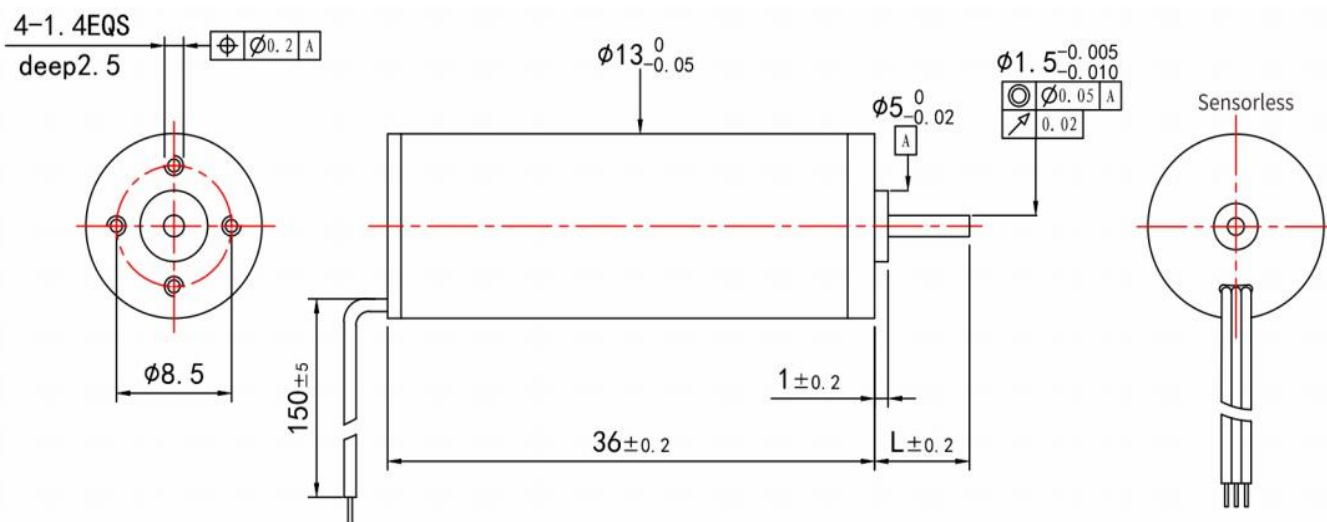
Coreless Brushless DC Motor



BDCL1336 Motor Data

6-14W

Motor Model	Unit	BDCL1336-01	BDCL1336-02	BDCL1336-03	BDCL1336-04
Value at Rated voltage					
At Nominal					
1. Nominal voltage	V/DC	9	12	18	24
2. Nominal speed	rpm	40920	40656	40710	40250
3. Nominal current	A	1.05	0.79	0.52	0.41
4. Nominal torque	mNm	1.42	1.42	1.33	1.5
Free Load					
5. No-load speed	rpm	46500	46200	46000	46000
6. No-load current	mA	250	196	150	100
At Max. Efficiency					
7. Max. efficiency	%	65.6	64.8	62.4	64.6
8. Speed	rpm	39060	38577	37950	38410
9. Current	A	1.314	1.013	0.719	0.513
10. Torque	mNm	1.9	1.95	2.03	1.98
At Max. Output power					
11. Max.output power	W	14.4	14.3	14.0	14.4
12. Speed	rpm	23250	23100	23000	23000
13. Current	A	3.6	2.7	1.8	1.4
14. Torque	mNm	5.9	5.91	5.80	5.99
At Stall					
15. Stall current	A	6.90	5.15	3.40	2.60
16. Stall torque	mNm	11.8	11.82	11.61	11.98
Motor Constants					
17. Terminal resistance	Ω	1.30	2.33	5.29	9.23
18. Terminal inductance	mH	0.028	0.050	0.115	0.210
19. Torque constant	mNm/A	1.78	2.39	3.57	4.79
20. Speed constant	rpm/V	5167	3850	2556	1917
21. Speed/torque constant	rpm/mNm	3926	3909	3963	3841
22. Mechanical time constant	ms	4.33	4.31	4.37	4.24
23. Rotor inertia	gcm ²	0.11	0.11	0.11	0.11
24. Number of pole pairs		1			
25. Number of phase		3			
26. Weight of motor	g	21			
27. Typical noise level	dB	≤55			

Motor Drawing (mm)**Φ13*L36mm****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. Ball bearing radial play: ≤ 0.015 mm
4. Ambient temperature range: -20 to $+80^{\circ}$ C
5. Relative humidity: $<90\%$ RH (25° C)
6. Highest rotor temperature: 85° C
7. Bearing options: Ball bearing / sleeve bearing

Values listed in the table are nominal

Motor terminal definition

1. Motor wire sequence (without sensor):

1 — Motor Phase A	2 — Motor Phase B
3 — Motor Phase C	
2. Motor wire sequence (with sensor):

1 — Hall Sensor A	2 — Hall Sensor B
3 — Hall Sensor C	4 — VHall, 3.5–25 VDC
5 — GND	6 — Motor Phase A
7 — Motor Phase B	8 — Motor Phase C
3. 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

