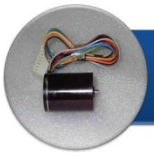


BL2644

Report for Brushless Motor Testing Data Sheet

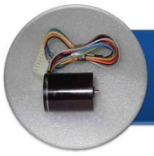
Series No: BL2644- - - P 2

No.	Testing Item		Tested Values					Unit
1	Nominal voltage	U_N	6	12	12	15	15	V
2	Terminal resistance, phase to phase	R	31	6	4	18	4	Ω
3	Output power	P_{2max}	0. 2	5. 4	8. 4	2. 8	13. 2	W
4	Efficiency	η_{max}	37	60	65	57	69	%
5	No-load speed	n_o	1020	4640	6400	4620	8490	rpm
6	No-load current	I_o	0. 03	0. 1	0. 11	0. 05	0. 11	A
7	Stall torque	M_H	7. 76	44. 58	49. 85	22. 83	59. 61	mNm
8	Friction torque	MF	1. 42	2. 35	1. 90	1. 46	1. 80	mNm
9	Speed constant	k_n	201. 18	407. 02	553. 63	327. 66	583. 10	rpm/V
10	Back-EMF constant	k_E	4. 97	2. 46	1. 81	3. 05	1. 71	mV/rpm
11	Torque constant	k_M	47. 47	23. 46	17. 25	29. 14	16. 38	mNm/A
12	Current constant	k_I	0.02	0.04	0.06	0.03	0.06	A/mNm
13	Slope of n-M curve	Δn/ΔM	131. 39	104. 09	128. 39	202. 37	142. 42	rpm/mNm
14	Mechanical time constant	τ_m	1. 51	1. 20	1. 48	2. 33	1. 64	ms
15	Rotor inertia	J	1. 10	1. 10	1. 10	1. 10	1. 10	gcm^2
16	Angular acceleration	α_{max}	70. 57	405. 25	453. 16	207. 54	541. 92	$10^3 rad/s^2$
17	Sensor		Sensorless	SL&HS	SL&HS	SL&HS	SL&HS	
18	Driver		DR1802	DR1802& DR3006	DR1802& DR3006	DR1802& DR3006	DR1802& DR3006	
19	Weight		106					g
20	Operating temperature range		−30～+85					
21	Commutation		Electronically commutation					
22	Ball Bearing		EZO & NMB					
23	Housing material		Aluminum, black anodized					
24	Magnet material		Sintered Nd-Fe-B					
25	Direction of rotation		Electronically reversible					
The Operating Data For η max of Customer's Specifications								
26	Output Power	P_{2opt}	0. 15	3. 15	4. 42	1. 69	6. 52	W
27	Efficiency	η_{opt}	37	60	65	57	69	%
28	Speed	n_{opt}	444	2946	4345	2803	6010	rpm
29	Load Current	I_{opt}	0.07	0.44	0.56	0.20	0.63	A
30	Operating Torque	M_{opt}	3. 32	10. 23	9. 73	5. 77	10. 36	mNm

Note:

(1) The I_0 is pure current of motor in this data sheet that means it not included the driver's current.

(2) This type of motor can be assemble for planetary Gearbox which type of IG32 and made from Shayang Ye Co., Taiwan, and please to see Gearbox' s sheet attached if you have need it.



BL2644

Report for Brushless Motor Testing Data Sheet

Series No: BL2644- - - P 2

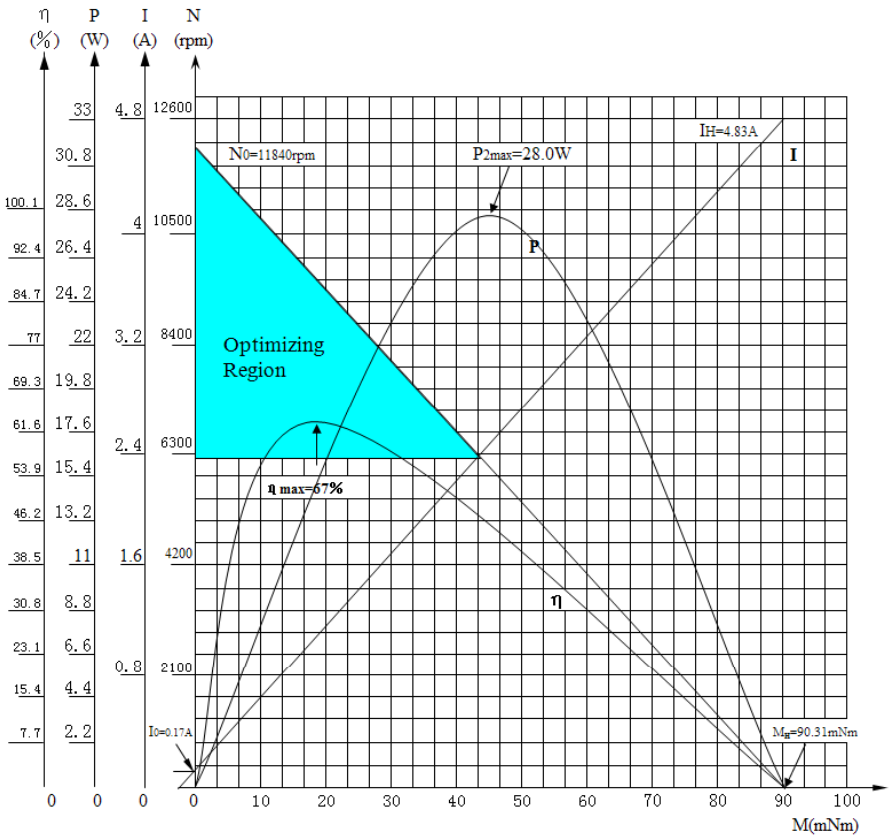
No.	Testing Item		Tested Values					Unit
1	Nominal voltage	U_N	15	16	18	18	24	V
2	Terminal resistance, phase to phase	R	3.6	3	8.9	6	4.8	Ω
3	Output power	P_{2max}	14.3	19.9	7.9	11.8	28.0	W
4	Efficiency	η_{max}	63	67	54	55	67	%
5	No-load speed	n_o	11640	11340	6500	7760	11840	rpm
6	No-load current	I_o	0.18	0.18	0.14	0.2	0.17	A
7	Stall torque	M_H	46.94	67.09	46.33	57.89	90.31	mNm
8	Friction torque	MF	2.12	2.34	3.45	4.13	3.18	mNm
9	Speed constant	k_n	811.04	733.51	387.97	461.90	510.70	rpm/V
10	Back-EMF constant	k_E	1.23	1.36	2.58	2.16	1.96	mV/rpm
11	Torque constant	k_M	11.77	13.02	24.61	20.67	18.70	mNm/A
12	Current constant	k_I	0.08	0.08	0.04	0.05	0.05	A/mNm
13	Slope of n-M curve	Δn/ΔM	247.98	169.03	140.28	134.06	131.10	rpm/mNm
14	Mechanical time constant	τ_m	2.86	1.95	1.62	1.54	1.51	ms
15	Rotor inertia	J	1.10	1.10	1.10	1.10	1.10	gcm^2
16	Angular acceleration	α_{max}	426.72	609.91	421.22	526.24	821.04	$10^3 rad/s^2$
17	Sensor		SL&HS	SL&HS	SL&HS	SL&HS	Hall Sensor	
18	Driver		DR1802& DR3006	DR1802& DR3006	DR1802& DR3006	DR1802& DR3006	DR3006	
19	Weight		106					g
20	Operating temperature range		−30～+85					
21	Commutation		Electronically commutation					
22	Ball Bearing		EZO & NMB					
23	Housing material		Aluminum, black anodized					
24	Magnet material		Sintered Nd-Fe-B					
25	Direction of rotation		Electronically reversible					
The Operating Data For η max of Customer's Specifications								
26	Output Power	P_{2opt}	7.97	10.27	5.02	7.41	14.47	W
27	Efficiency	η_{opt}	63	67	54	55	67	%
28	Speed	n_{opt}	7638	7824	3794	4577	8158	rpm
29	Load Current	I_{opt}	0.85	0.96	0.51	0.75	0.91	A
30	Operating Torque	M_{opt}	9.97	12.54	12.64	15.47	16.94	mNm

Note:

(1) The I_0 is pure current of motor in this data sheet that means it not included the driver's current.

(2) This type of motor can be assemble for planetary Gearbox which type of IG32 and made from Shayang Ye Co., Taiwan, and please to see Gearbox' s sheet attached if you have need it.

Operating Curve



Note:

(1)The I_0 is pure current of motor in this curve drawing that means it not included the driver`s current.

(2)We have suggested there has a optimizing region for this motor`s operating as hatched in drawing.

Drawing