

BL3056

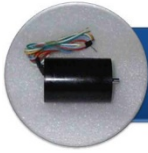
Report for Brushless Motor Testing Data Sheet

Series No: BL3056- - P 2

No.	Testing Item		Tested Values					Unit
1	Nominal voltage	U_N	12	18	24	24	24	V
2	Terminal resistance, phase to phase	R	2.1	5.5	12	5.5	4.7	Ω
3	Output power	P_{2max}	16.14	13.84	10.94	24.88	28.86	W
4	Efficiency	η_{max}	68	68	62	71	69	%
5	No-load speed	n_o	6000	3930	4310	5590	6660	rpm
6	No-load current	I_o	0.17	0.1	0.09	0.11	0.15	A
7	Stall torque	M_H	102.74	134.53	96.99	170.00	165.55	mNm
8	Friction torque	MF	3.15	4.24	4.57	4.40	5.01	mNm
9	Speed constant	k_n	515.33	225.21	188.05	238.94	285.90	rpm/V
10	Back-EMF constant	k_E	1.94	4.44	5.32	4.19	3.50	mV/rpm
11	Torque constant	k_M	18.53	42.40	50.78	39.97	33.40	mNm/A
12	Current constant	k_I	0.05	0.02	0.02	0.03	0.03	A/mNm
13	Slope of n-M curve	$\Delta n/\Delta M$	58.40	29.21	44.44	32.88	40.23	rpm/mNm
14	Mechanical time constant	τ_m	9.79	4.89	7.45	5.51	6.74	ms
15	Rotor inertia	J	16.00	16.00	16.00	16.00	16.00	gcm ²
16	Angular acceleration	α_{max}	64.21	84.08	60.62	106.25	103.47	10 ³ rad/s ²
17	Sensor		SL&HS		Hall Sensor			
18	Driver		DR1802&DR3006		DR3006			
19	Weight		200					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}	7.98	6.90	6.18	11.62	14.21	W
27	Efficiency	η_{opt}	68	68	62	71	69	%
28	Speed	n_{opt}	4237	2762	2803	4060	4713	rpm
29	Load Current	I_{opt}	0.97	0.56	0.41	0.68	0.86	A
30	Operating Torque	M_{opt}	17.99	23.88	21.05	27.34	28.80	mNm

Note:

- (1) The I_o 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.

**BL3056****Report for Brushless Motor Testing Data Sheet****Series No: BL3056- - P 2**

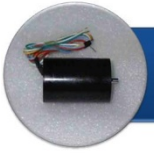
No.	Testing Item		Tested Values					Unit
1	Nominal voltage	U_N	24	24	24	24	24	V
2	Terminal resistance, phase to phase	R	3.5	2.8	2.3	1.5	0.9	Ω
3	Output power	P_{2max}	39.25	47.08	60.23	90.68	153.00	W
4	Efficiency	η_{max}	72	63	74	69	72	%
5	No-load speed	n_o	8470	8970	10080	17820	21120	rpm
6	No-load current	I_o	0.16	0.37	0.2	0.45	0.59	A
7	Stall torque	M_H	176.98	200.50	228.24	194.36	276.71	mNm
8	Friction torque	MF	4.23	9.05	4.46	5.62	6.26	mNm
9	Speed constant	k_n	361.35	390.61	428.21	763.99	899.91	rpm/V
10	Back-EMF constant	k_E	2.77	2.56	2.34	1.31	1.11	mV/rpm
11	Torque constant	k_M	26.43	24.45	22.30	12.50	10.61	mNm/A
12	Current constant	k_I	0.04	0.04	0.04	0.08	0.09	A/mNm
13	Slope of n-M curve	$\Delta n/\Delta M$	47.86	44.74	44.16	91.68	76.33	rpm/mNm
14	Mechanical time constant	τ_n	8.02	7.50	7.40	15.36	12.79	ms
15	Rotor inertia	J	16.00	16.00	16.00	16.00	16.00	gcm ²
16	Angular acceleration	α_{max}	110.62	125.31	142.65	121.48	172.94	10 ³ rad/s ²
17	Sensor		Hall Sensor					
18	Driver		DR3006					
19	Weight		200					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}	17.83	26.24	25.49	43.98	68.22	W
27	Efficiency	η_{opt}	72	63	74	69	72	%
28	Speed	n_{opt}	6228	5887	7632	12708	15659	rpm
29	Load Current	I_{opt}	1.04	1.74	1.43	2.65	3.92	A
30	Operating Torque	M_{opt}	27.36	42.59	31.91	33.06	41.62	mNm

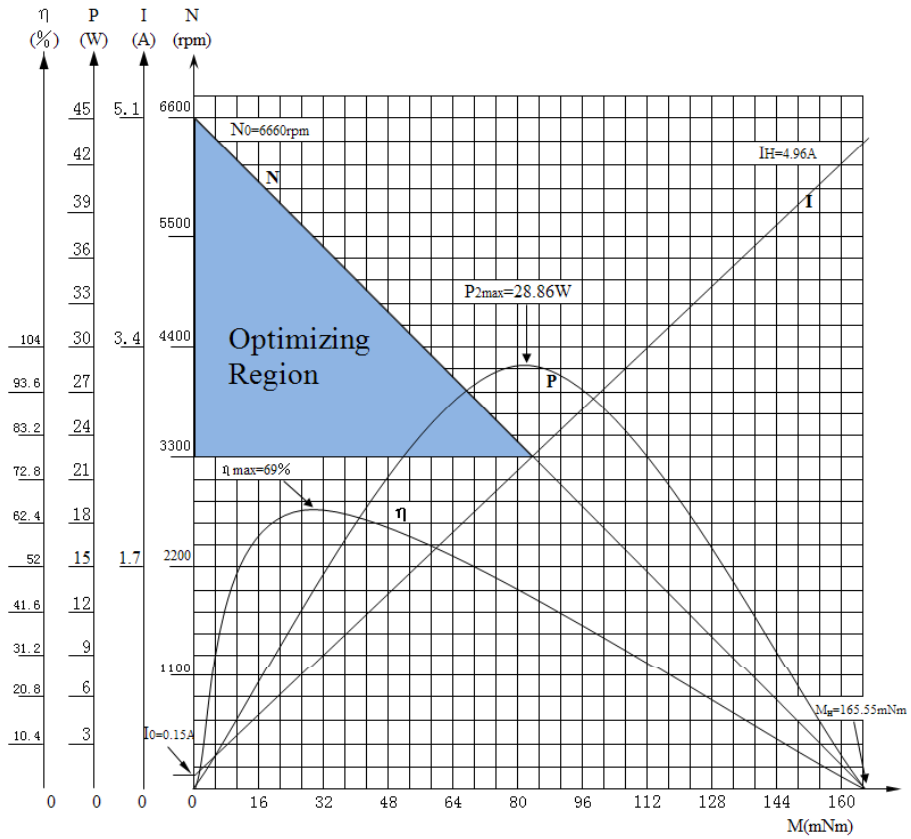
Note:

- (1) The I_o 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.



BL3056

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

