



BL3560IE

Report for Brushless Motor Testing Data Sheet

Series No: BL3560- IE- - P 2

No.	Testing Item		Tested Values					Unit
1	Nominal voltage	U_N	24	12	12	24	12	V
2	Terminal resistance, phase to phase	R	0.7	0.26	0.35	5.6	1.5	Ω
3	Output power	P_{2max}	195.29	126.15	96.77	23.83	22.47	W
4	Efficiency	η_{max}	71	62	68	65	67	%
5	No-load speed	n_o	21630	24000	15720	6700	6780	rpm
6	No-load current	I_o	0.88	2.1	1.03	0.16	0.26	A
7	Stall torque	M_H	344.87	200.77	235.14	135.86	126.57	mNm
8	Friction torque	MF	9.08	9.57	7.28	5.27	4.25	mNm
9	Speed constant	k_n	924.99	2095.34	1350.57	289.99	583.98	rpm/V
10	Back-EMF constant	k_E	1.08	0.48	0.74	3.45	1.71	mV/rpm
11	Torque constant	k_M	10.32	4.56	7.07	32.93	16.35	mNm/A
12	Current constant	k_I	0.10	0.22	0.14	0.03	0.06	A/mNm
13	Slope of n-M curve	$\Delta n/\Delta M$	62.72	119.54	66.85	49.32	53.57	rpm/mNm
14	Mechanical time constant	τ_m	23.41	44.61	24.95	18.41	19.99	ms
15	Rotor inertia	J	35.64	35.64	35.64	35.64	35.64	gcm ²
16	Angular acceleration	α_{max}	96.76	56.33	65.98	38.12	35.51	10 ³ rad/s ²
17	Sensor		Hall Sensor					
18	Driver		DR24					
19	Weight							g
20	Operating temperature range		-30~+85					
21	Commutation		Electronically commutation					
22	Ball Bearing		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}	106.15	86.07	56.10	15.07	13.44	W
27	Efficiency	η_{opt}	71	62	68	65	67	%
28	Speed	n_{opt}	18119	18760	12953	5381	5537	rpm
29	Load Current	I_{opt}	6.30	11.72	6.88	0.97	1.68	A
30	Operating Torque	M_{opt}	55.97	43.83	41.38	26.75	23.20	mNm

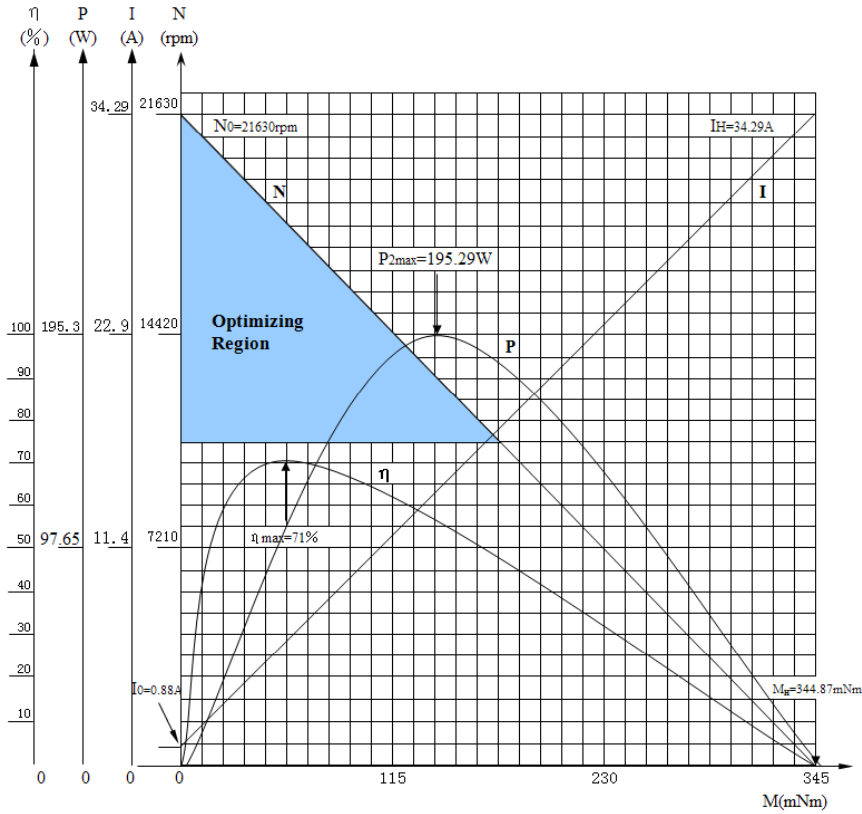
Note:

- (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.



BL3560IE

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

