



BL4384IE

Report for Brushless Motor Testing Data Sheet

Series No: BL4384- IE- - P 2

No.	Testing Item		Tested Values				Unit
1	Nominal voltage	U_N	24	24	24	24	V
2	Terminal resistance, phase to phase	R	0.9	1.3	1.1	6.2	Ω
3	Output power	P_{2max}	155.95	105.08	126.39	21.58	W
4	Efficiency	η_{max}	79	70	75	66	%
5	No-load speed	n_o	8340	6630	7850	4260	rpm
6	No-load current	I_o	0.34	0.48	0.38	0.14	A
7	Stall torque	M_H	714.23	605.42	614.99	193.46	mNm
8	Friction torque	MF	9.22	16.16	10.90	7.26	mNm
9	Speed constant	k_n	351.99	283.62	332.88	184.16	rpm/V
10	Back-EMF constant	k_E	2.84	3.53	3.00	5.43	mV/rpm
11	Torque constant	k_M	27.13	33.67	28.69	51.85	mNm/A
12	Current constant	k_I	0.04	0.03	0.03	0.02	A/mNm
13	Slope of n-M curve	$\Delta n/\Delta M$	11.68	10.95	12.76	22.02	rpm/mNm
14	Mechanical time constant	τ_m	6.12	5.74	6.69	11.54	ms
15	Rotor inertia	J	50.04	50.04	50.04	50.04	gcm ²
16	Angular acceleration	α_{max}	142.73	120.99	122.90	38.66	10 ³ rad/s ²
17	Sensor		Hall Sensor				
18	Driver		DR24-1.5A				
19	Weight		510				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}	62.80	57.43	58.32	13.47	W
27	Efficiency	η_{opt}	79	70	75	66	%
28	Speed	n_{opt}	7392	5547	6805	3435	rpm
29	Load Current	I_{opt}	3.33	3.42	3.23	0.86	A
30	Operating Torque	M_{opt}	81.17	98.91	81.88	37.48	mNm

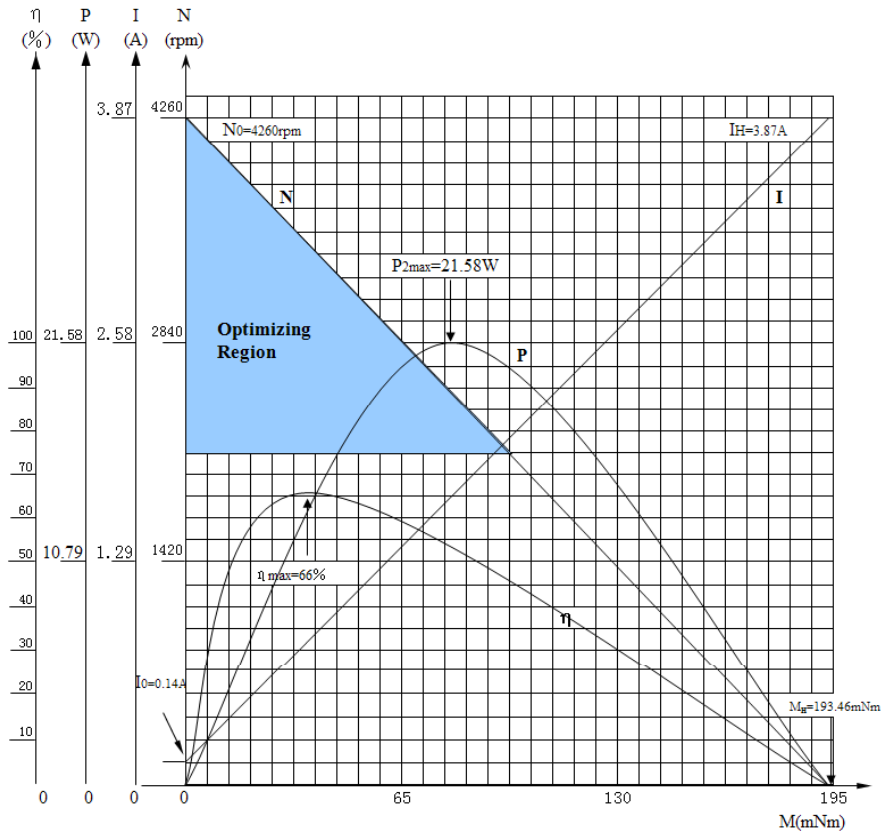
Note:

- (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 IG42 and made from Shayang Ye Co., Taiwan, and please to see Gearbox' s sheet attached if you have need it.



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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

