



BL4449IE

Report for Brushless Motor Testing Data Sheet

Series No: BL4449- IE- - P 4

No.	Testing Item		Tested Values				Unit
1	Nominal voltage	U_N	24	24			V
2	Terminal resistance, phase to phase	R	1.6	15.1			Ω
3	Output power	P_{2max}	80.88	7.93			W
4	Efficiency	η_{max}	60	49			%
5	No-load speed	n_o	23100	6180			rpm
6	No-load current	I_o	0.78	0.14			A
7	Stall torque	M_{Hl}	133.75	49.02			mNm
8	Friction torque	MF	7.34	4.73			mNm
9	Speed constant	k_n	1015.30	282.37			rpm/V
10	Back-EMF constant	k_E	0.98	3.54			mV/rpm
11	Torque constant	k_M	9.41	33.82			mNm/A
12	Current constant	k_I	0.11	0.03			A/mNm
13	Slope of n-M curve	$\Delta n/\Delta M$	172.72	126.08			rpm/mNm
14	Mechanical time constant	τ_n	38.98	28.45			ms
15	Rotor inertia	J	31.2	21.55			gcm ²
16	Angular acceleration	α_{max}	62.06	22.75			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}	58.00	6.79			W
27	Efficiency	η_{opt}	60	49			%
28	Speed	n_{opt}	17690	4259			rpm
29	Load Current	I_{opt}	4.11	0.59			A
30	Operating Torque	M_{opt}	31.32	15.23			mNm

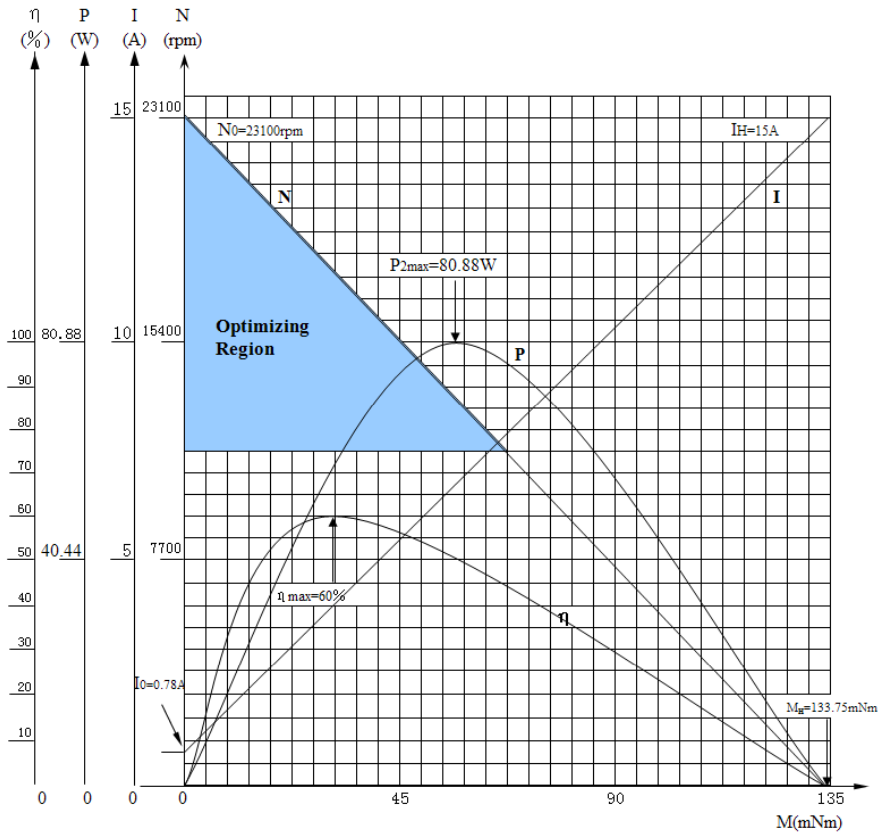
Note:

- (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

