

**BL5883****Report for Brushless Motor Testing Data Sheet****Series No: BL5883- - P 2**

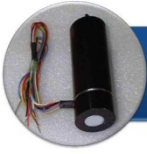
No.	Testing Item		Tested Values				Unit
1	Nominal voltage	U_N	24	24	24	24	V
2	Terminal resistance, phase to phase	R	3	2.4	1.7	1.2	Ω
3	Output power	P_{2max}	45.75	57.04	81.03	117.61	W
4	Efficiency	η_{max}	72	71	73	81	%
5	No-load speed	n_o	4110	5050	7300	6420	rpm
6	No-load current	I_o	0.19	0.25	0.31	0.2	A
7	Stall torque	M_H	425.16	431.42	423.97	699.76	mNm
8	Friction torque	MF	10.34	11.06	9.52	7.07	mNm
9	Speed constant	k_n	175.42	215.81	311.00	270.20	rpm/V
10	Back-EMF constant	k_E	5.70	4.63	3.22	3.70	mV/rpm
11	Torque constant	k_M	54.44	44.25	30.71	35.34	mNm/A
12	Current constant	k_I	0.02	0.02	0.03	0.03	A/mNm
13	Slope of n-M curve	$\Delta n/\Delta M$	9.67	11.71	17.22	9.17	rpm/mNm
14	Mechanical time constant	τ_n	11.34	13.73	20.19	10.76	ms
15	Rotor inertia	J	112.00	112.00	112.00	112.00	gcm ²
16	Angular acceleration	α_{max}	37.96	38.52	37.85	62.48	10 ³ rad/s ²
17	Sensor		Hall Sensor				
18	Driver		DR3006				
19	Weight		998				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}	20.92	26.56	36.03	38.69	W
27	Efficiency	η_{opt}	72	71	73	81	%
28	Speed	n_{opt}	3014	3673	5418	5255	rpm
29	Load Current	I_{opt}	1.22	1.56	2.07	1.99	A
30	Operating Torque	M_{opt}	66.31	69.08	63.53	70.33	mNm

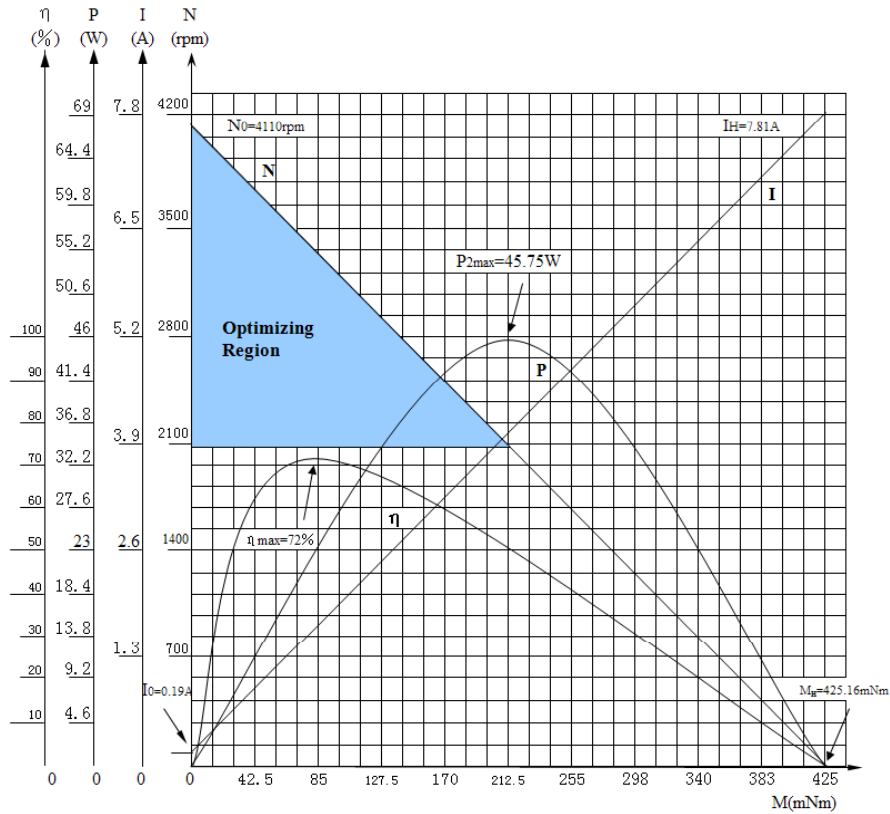
Note:

- (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.



BL5883

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

