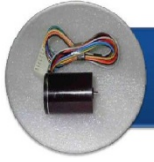
**BL2650IE****Report for Brushless Motor Testing Data Sheet****Series No: BL2650- IE- - P 2**

No.	Testing Item		Tested Values					Unit
1	Nominal voltage	U_N	12	12	18	18	24	V
2	Terminal resistance, phase to phase	R	6	4	8.9	6	4.8	Ω
3	Output power	P_{2max}	5.4	8.4	7.9	11.8	28.0	W
4	Efficiency	η_{max}	60	65	54	55	67	%
5	No-load speed	n_o	4640	6400	6500	7760	11840	rpm
6	No-load current	I_o	0.1	0.11	0.14	0.2	0.17	A
7	Stall torque	M_H	44.58	49.85	46.33	57.89	90.31	mNm
8	Friction torque	MF	2.35	1.90	3.45	4.13	3.18	mNm
9	Speed constant	k_n	407.02	553.63	387.97	461.90	510.70	rpm/V
10	Back-EMF constant	k_E	2.46	1.81	2.58	2.16	1.96	mV/rpm
11	Torque constant	k_M	23.46	17.25	24.61	20.67	18.70	mNm/A
12	Current constant	k_I	0.04	0.06	0.04	0.05	0.05	A/mNm
13	Slope of n-M curve	$\Delta n/\Delta M$	104.09	128.39	140.28	134.06	131.10	rpm/mNm
14	Mechanical time constant	τ_m	3.38	4.17	4.55	4.35	4.26	ms
15	Rotor inertia	J	3.10	3.10	3.10	3.10	3.10	gcm ²
16	Angular acceleration	α_{max}	143.80	160.80	149.47	186.73	291.34	10 ³ rad/s ²
17	Sensor		Hall Sensor					
18	Driver		DR24-1.5A					
19	Weight		106					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}	3.83	5.24	6.25	9.21	17.06	W
27	Efficiency	η_{opt}	60	65	54	55	67	%
28	Speed	n_{opt}	3576	5151	4727	5686	9619	rpm
29	Load Current	I_{opt}	0.54	0.67	0.65	0.95	1.08	A
30	Operating Torque	M_{opt}	10.23	9.73	12.64	15.47	16.94	mNm

Note:

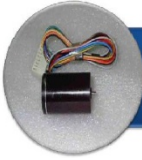
- (1) The I_o is pure current of motor in this data sheet that means it not included the driver's current.
- (2) This type of motor can be assemble for planetary Gearbox which type of IG32 and made from Shayang Ye Co., Taiwan, and please to see Gearbox' s sheet attached if you have need it.

**BL2650IE****Report for Brushless Motor Testing Data Sheet****Series No: BL2650- IE- - P 2**

No.	Testing Item		Tested Values				Unit
1	Nominal voltage	U_N	24				V
2	Terminal resistance, phase to phase	R	3.4				Ω
3	Output power	P_{2max}	38.6				W
4	Efficiency	η_{max}	62				%
5	No-load speed	n_o	15700				rpm
6	No-load current	I_o	0.32				A
7	Stall torque	M_H	93.91				mNm
8	Friction torque	MF	4.46				mNm
9	Speed constant	k_n	685.23				rpm/V
10	Back-EMF constant	k_E	1.46				mV/rpm
11	Torque constant	k_M	13.94				mNm/A
12	Current constant	k_I	0.07				A/mNm
13	Slope of n-M curve	$\Delta n/\Delta M$	167.18				rpm/mNm
14	Mechanical time constant	τ_m	5.43				ms
15	Rotor inertia	J	3.10				gcm ²
16	Angular acceleration	α_{max}	302.94				10 ³ rad/s ²
17	Sensor		Hall Sensor				
18	Driver		DR24				
19	Weight		106				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}	26.30				W
27	Efficiency	η_{opt}	62				%
28	Speed	n_{opt}	12279				rpm
29	Load Current	I_{opt}	1.79				A
30	Operating Torque	M_{opt}	20.46				mNm

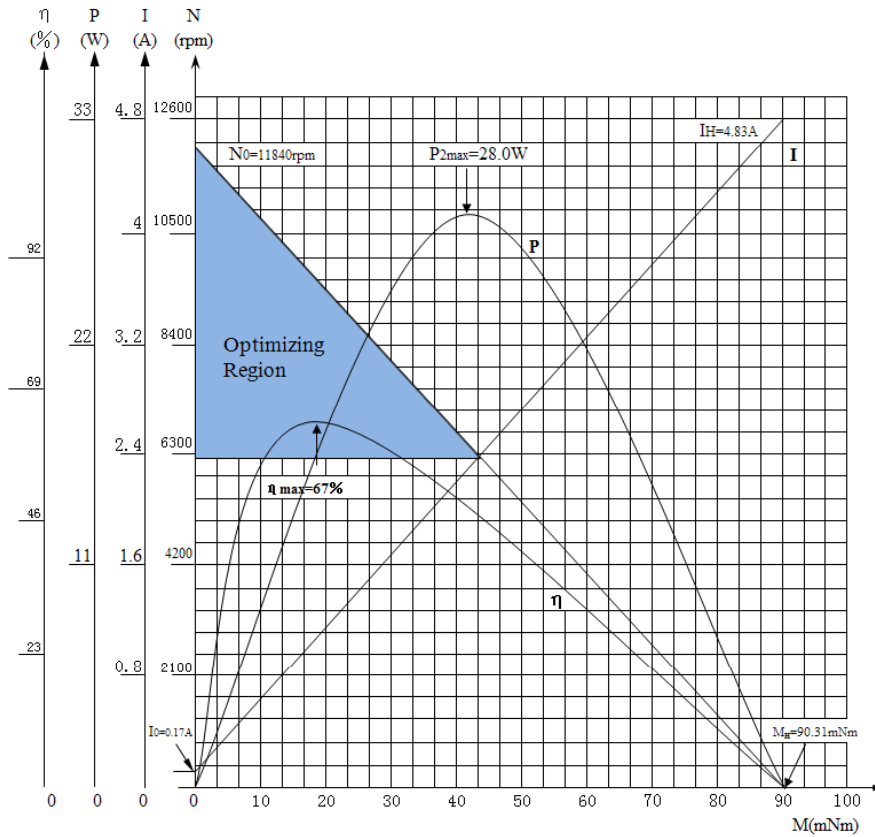
Note:

- (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.



BL2650IE

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

