

E 60 Ø60 brushless 400W 无刷 400W

Order number

100374

100375

Motor parameters					
1	Nominal voltage 额定电压	U_N	V	48	48
2	Terminal resistance, phase to phase 相间电阻	R	Ω	0.345	1.03
3	Output power 最大输出功率	P_{2max}	W	403	235
4	Efficiency 最大效率	η_{max}	%	86	84
5	No-load speed 空载转速	n_0	rpm	5370	3100
6	No-load current 空载电流	I_0	A	0.733	0.304
7	Stall torque 堵转转矩	M_H	mNm	11800	6820
8	Friction torque 摩擦转矩	M_F	mNm	24	24
9	Friction torque coefficient 摩擦转矩系数	C_F	mNm/rpm	5.0E-03	5.0E-03
10	Speed constant 速度常数	k_n	rpm/V	112	65
11	Back-EMF constant 反电动势常数	k_E	mV/rpm	8.89	15.38
12	Torque constant 转矩常数	k_M	mNm/A	84.91	146.90
13	Current constant 电流常数	k_I	A/mNm	0.012	0.007
14	Slope of n-M curve 转速-转矩曲线斜率	$\Delta n/\Delta M$	rpm/mNm	0.46	0.46
15	Mechanical time constant 机械时间常数	τ_m	ms	3.98	3.98
16	Rotor inertia 转子惯量	J	gcm ²	831	831
17	Angular acceleration 最大角加速度	α_{max}	10 ³ rad/s ²	142	82
18	Thermal resistance 热阻	R_{th1} / R_{th2}	K/W	0.5 / 1.3	
19	Thermal time constant 热时间常数	τ_{w1} / τ_{w2}	s	33.9 / 2000	
20	Operating temperature range 工作温度范围		°C	-30 ... +85	
21	Shaft bearings 轴承			ball bearing, preloaded	
22	Shaft load max 轴载荷				
	- radial at 3,000/20,000rpm (5mm from bearing)		N	40/24	
	- axial at 3,000/20,000rpm (axial push-on only)		N	36/24	
	- axial at standstill (axial push-on only)		N	392	
23	Shaft play 轴间隙				
	- radial 径向	\leq	mm	0.015	
	- axial 轴向	\leq	mm	0.2	
24	Magnet material 永磁材料			Sintered Nd-Fe-B	
25	Housing material 外壳材料			Aluminum, back anodized	
26	Pole pairs 极对数		p	1	
27	Weight 重量		g	1050	
28	Direction of rotation 旋转方向			Electronically reversible	
Operating Data for η_{max} of Customer's Specifications					
29	Output power 输出功率	P_{2opt}	W	388	233
30	Efficiency 效率	η_{opt}	%	86	82
31	Speed 转速	n_{opt}	rpm	4960	2680
32	Load current 电流	I_{opt}	A	9.37	5.90
33	Operating torque 转矩	M_{opt}	mNm	747.0	830.0

Recommended values - mathematically independent of each other

34	max. operation speed 最高转速	$n_{e\ max}$	rpm	7000	4000
35	max. operation torque 最大转矩	$M_{e\ max}$	mNm	550	560
36	max. operation current 最大电流	$I_{e\ max}$	A	7.17	4.11

Recommended areas for continuous operation

